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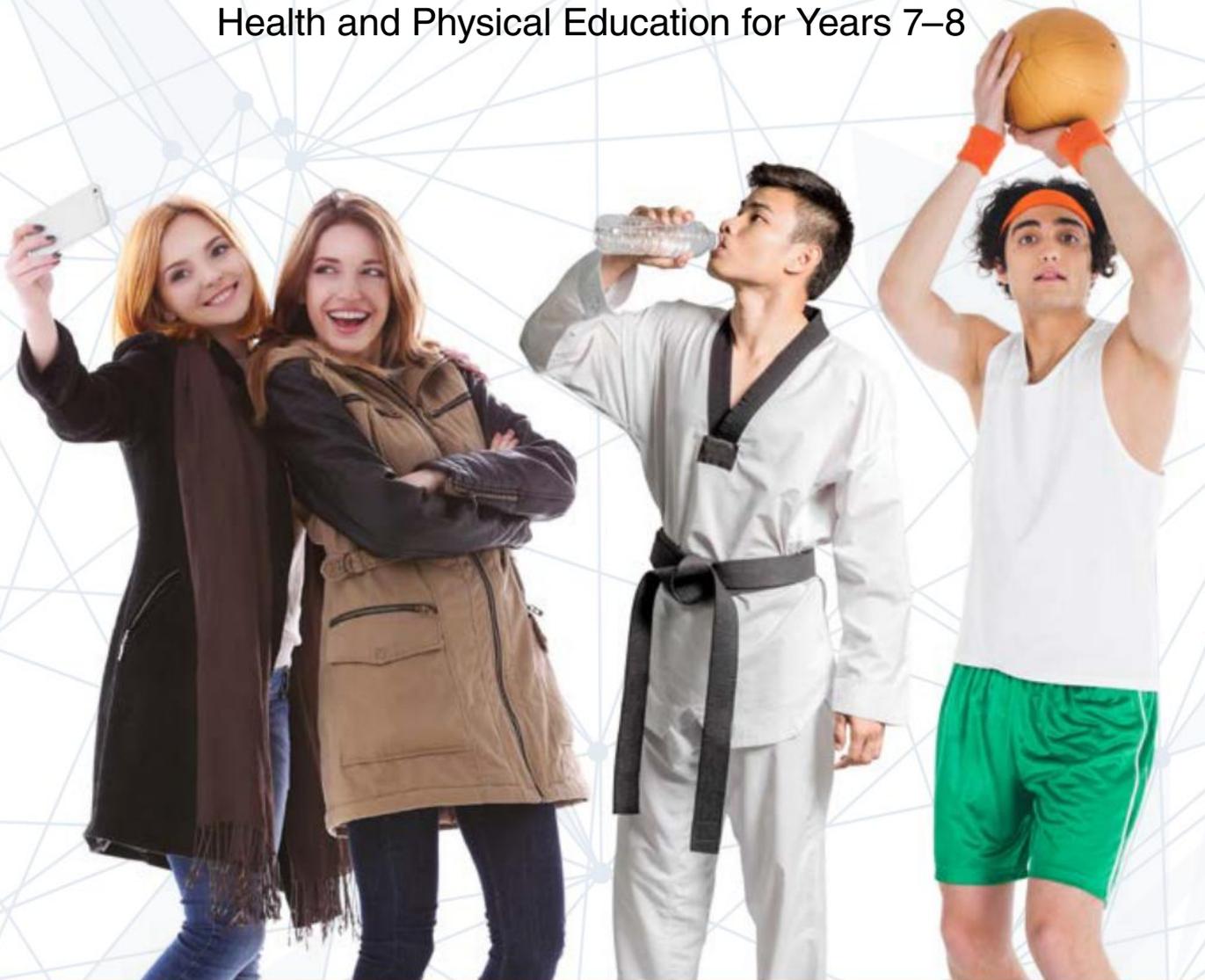
EXPLORING
HPE

Health and Physical Education for Years 7–8

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Introduction to Exploring HPE Years 7–8

Using Exploring HPE Years 7–8

Exploring HPE Years 7–8 reflects the dynamic nature of health, safety, wellbeing and participation in physical activity in the context of a diverse and rapidly changing society. It addresses a range of concepts by developing students' health and physical activity literacy.

Learning activity

Exploring HPE Years 7–8 features a series of learning and practical activities that address the major ideas of the course. The activities focus on key concepts to promote understanding of the content.

Internet activity

Exploring HPE Years 7–8 features internet-based activities that build upon skills and reinforce key concepts.

Case study

Exploring HPE Years 7–8 features case studies that apply key concepts to various situations. They emphasise key concepts to strengthen understanding of the content.

Digital resources

The following digital resources are available to complement this textbook.

Access to TitanOnline internet activities

Internet activities throughout this textbook direct the reader to log in to TitanOnline, Titan Education's digital learning platform. These activities supplement the text and engage students in critical thinking, research and analysis. By offering these activities online, any links and references that may change after publication, or become outdated, can be revised to remain current and relevant.

Digital textbook

The PDF version of this textbook is ideal for viewing on tablets and computers.

To receive access to digital resources, please email hpe@titaneducation.com.au with your school's details.

CHAPTER 1

Alcohol and other drugs

Understanding the impact of and affects that alcohol and other drugs can have on an individual's life is very important, especially as one develops from childhood into adulthood. Throughout adolescence, individuals may be faced with various challenges concerning drugs and alcohol. It is necessary for young people to have the skills to support their own wellbeing and the wellbeing of those around them.

The ability to critically examine social situations and make decisions concerning safety and wellbeing is essential. It is important to understand the short-term and long-term health impacts of drug use and abuse, as well as how it impacts on one's relationships and the wider community.

Focus areas

- Classifying drugs
- Prescription and non-prescription drugs
- Caffeine
- Nicotine
- Alcohol
- Cannabis
- Strategies for harm reduction

Classifying drugs

Drugs are chemical substances that alter functionality, either physically or psychologically, when introduced into the body. Drugs can be taken for medical conditions, such as paracetamol for pain relief. Drugs are taken by some people for recreational purposes; these are called psychoactive drugs. Psychoactive drugs, such as alcohol or cannabis, are used to affect the way a person behaves by altering how they think and feel.

Drug classifications

Drugs may be classified according to their legality (illicit or legal) or according to their effect on the body (depressants, stimulants and hallucinogens). Medication, a type of legal drug, can be further classified as prescription or non-prescription. Medicines are covered in detail from page 9.

Depressants

Depressants slow down messages to and from the brain by slowing down the activity of the nervous system. They make the body relax. These types of drugs include alcohol, cannabis, morphine, tranquillisers, inhalants and solvents. Using depressants can:

- decrease heart rate
- cause drowsiness
- slow breathing
- slow reflexes
- impair coordination, memory and speech
- cause confusion and difficulty concentrating.

Stimulants

These types of drugs include caffeine, nicotine, amphetamines (like speed or ice), MDMA (ecstasy) and cocaine. Stimulants act on the nervous system by speeding up the messages going to and from the brain. Using stimulants:

- increases pulse rate
- increases breathing
- increases alertness and concentration
- reduces fatigue
- reduces appetite
- can cause anxiety
- can cause hyperactivity.

Hallucinogens

Hallucinogens change an individual's perception of reality. Lysergic acid diethylamide (LSD), magic mushrooms, ecstasy, mescaline, and high doses of cannabis are all hallucinogenic drugs. These drugs can alter a person's feelings and thoughts as they have many different effects on the mind and the senses. This can change a person's perception of reality and cause them to hear and see things that are not actually there. These effects can have different influences depending on the person's state of mind, mood and the setting they are in. It is hard to predict how hallucinogens will impact an individual, but they may:

- cause confusion, difficulty concentrating and maintaining attention
- cause them to be in a risky situation and/or take risks they would not normally take
- cause them to be panicked, anxious or paranoid
- make them lose touch with reality (psychosis).

Figure 1.1:
Young people may use alcohol and other drugs to help them relax or forget about their problems.

Reasons for using drugs

People start to use drugs and continue using drugs for various reasons. Young people usually use drugs for the same types of reasons as adults:

- To socialise with peers.
- To improve their mood.
- Because their family or friends do it.
- To experiment.
- To help them relax or forget about their problems.
- To escape.
- To celebrate an occasion.
- For entertainment.
- For self-medication.
- To satisfy a dependency on drugs.

Internet activity

Log on to TitanOnline to complete Activity 1.1 to review an educational program assisting people affected by addiction.

Learning activity

1. Explain the term 'psychoactive' drugs and how they might impact a person's health status.
2. Provide examples of each type of drug classification.
3. Using the above list of reasons why people use drugs, propose strategies people could use as an alternative to drug use.
4. Explain the health risks of experimenting with drugs.

Factors that influence drug use

Protective and risk factors

There are many reasons that a person uses drugs and many issues can increase a person's risk of drug abuse. Protective factors can help people avoid the risk of abusing drugs. They are a range of strategies that young people can use to help deal with these risks and any threats they may be challenged with.

Risk factors are elements that increase the possibility of the abuse of drugs and have a damaging effect on the health and wellbeing of a person. Risk factors can influence drug abuse in many ways; by exposing young people to many risks, the likelihood of drug abuse increases. Some risk factors are more influential than others and can impact heavily in the teenage years.

Table 1.1: Protective factors.

Personal factors	▪ Self-esteem ▪ Confidence ▪ Self-control ▪ Family stability
Social factors	▪ Sense of belonging ▪ Supportive school staff and groups ▪ Positive role models
Environmental and cultural factors	▪ Drug education ▪ Reward/encouragement for involvement in school ▪ Supportive family lifestyle ▪ Community youth support services
Economic factors	▪ Anti-drug campaigns and advertisements ▪ Financial security ▪ Employment status

Figure 1.2:
A sense of belonging can help young people avoid the risk of abusing drugs.

Figure 1.3:
A supportive family lifestyle is a protective factor that can counteract a person's risk of drug use.

Table 1.2: Risk factors.

Personal factors	▪ Stress or agitation ▪ Low self-esteem and self-image ▪ Depression or anxiety ▪ Low confidence ▪ Loneliness
Social factors	▪ Pressure from peers ▪ Acceptability of drug use ▪ Discrimination and judgement ▪ Isolation ▪ Desire to fit in
Environmental and cultural factors	▪ Rural communities or low-resourced communities ▪ Availability of drugs ▪ Low academic achievement and poor involvement in schooling ▪ Family conflict and issues with home life ▪ Drug use by peers or family members ▪ Few support networks or youth
Economic factors	▪ Low in po ▪ High ▪ Few oppo

Figure 1.4:
Sudden unemployment can influence a person's likelihood of drug abuse.

Figure 1.5:
Loneliness can have a damagi
health and wellbeing of a perso

The impact of relationships on drug use

Relationships between friends, families, partners and peers influence decision-making and can affect behaviours. Healthy relationships provide support and acceptance and benefit self-worth. Most relationships begin well but breakdowns and conflicts can arise. If conflicts are not dealt with properly, it can cause an unhealthy and destructive relationship. Unhealthy relationships can have negative effects on an individual and can lead to poor habits and behaviours. Unhealthy relationships can have negative short-term and long-term effects on self-worth. Damaging relationships can leave one or both members of the relationship feeling depressed or stressed. These relationships can be detected through characteristics of selfishness, criticism, dishonesty, poor communication and, more critically: verbal abuse, physical abuse, sexual abuse and neglect. These relationships can cause individuals to try to ease their distress by using and/or abusing alcohol or drugs. A drug dependency can arise through these kinds of relationships and drug abuse can similarly cause a breakdown in relationships.

Healthy relationships usually have positive, happy and beneficial influences on all involved. Being in a healthy relationship can help encourage personal growth and give much-needed support during tough times. Good connections between people involve characteristics such as respect, understanding, communication, compassion, empathy and selflessness. A strong and positive relationship takes time and effort. Positive relationships can be developed by multiple people. Healthy relationships are important in helping individuals get through difficult situations and can help promote positive behaviours.

Figure 1.6: Relationships may influence someone to use or not use alcohol and drugs.

The effect of drugs on the human body

To make informed decisions about drug use, each individual needs to know the facts about the particular drug and the potential risks involved. For many people, the decision about whether to use or not use drugs can be confusing. Some effects of drug use may not become evident for some time and people may either ignore the risks or believe that they will manage their drug use more effectively in the future, when problems start to begin. Drugs can appear to be harmless at the beginning, with positive effects such as improved mood, a relaxed state of mind and increased creativity. These effects may seem desirable, but give false hope to users who quickly see the positive effects fade and the negative effects appear.

The effect of drugs on the brain

The use of psychoactive substances is intended to alter the functioning of the brain and can cause damage to the developing adolescent brain. The chemicals that are entered into the body affect the brain's communication system, which impacts on the way nerves usually send, receive and process information through the brain. The interference with these neurotransmitters can seriously affect the development of normal neural connections. The development of perceptual (feeling and intuition) skills can also be affected, as the use of psychoactive drugs can alter the perceptions of an individual. The behaviours developed when associated with the use of drugs and alcohol can cause habits to form in the wiring of the brain.

These habits that are developed during adolescent years can form habits that last throughout adulthood. Drug and alcohol abuse can have long lasting or permanent effects on an adolescent brain. This is because the teenage brain has more receptors that drugs bind to when they enter the body, causing cognitive functions such as memory, concentration and learning to be impaired for a longer period of time.

Figure 1.7:
Drug and alcohol abuse can have long lasting or permanent effects on an adolescent brain.

Internet activity

Log on to TitanOnline to complete Activity 1.2, to assess the different effects of drugs on the brain.

Drug use self-analysis

For individuals who are using drugs and are unsure of the effect on their general health, the following self-evaluation may help.

- **In general:** their drug use might have impacted on their life in ways they might not expect. What were things like before they started using? How does using affect their life now? How would they like things to be different in the future?

- **Their relationships:** are they finding that there has been any negative change in their relationships with family or friends? When drug use is an ongoing problem, conflict between friends, family members and partners can be more common and more damaging.

- **Safety:** do they ever find themselves in situations where they do not feel entirely in control of their actions? Being under the influence of drugs could put them at risk of being in danger in certain circumstances. Buying drugs or trying to get the money to buy drugs can also put them at risk of harm.

- **School:** do they feel they are managing their study commitments? They might not immediately notice the impact that their lifestyle is having on their study. Keeping up with their assignments and concentrating in class are two examples of how their study can be affected by drug use.

- **Dependence:** are they finding it difficult to function without taking drugs? When a person takes drugs there is a risk that they will become dependent on them. This means that they might feel like they cannot operate without it or that they are spending a lot of time and energy finding and using the drug. Another sign of dependence can be when they start taking more of the drug as a way to cope, or avoid, the symptoms related to the comedown.

- **Violence:** have they done something they would not normally do when not taking drugs? Some drugs, like alcohol, can increase the likelihood of acting in a violent way or being the victim of violence.

- **Stress:** feeling stressed instead of relaxed after taking drugs? A person might think that using certain drugs will help them relax and forget about the things that are causing them stress. However, changing the way the body and mind work with drugs is a stress in itself, and they could experience tension, anxiety, paranoia and other symptoms that only increase the feelings of stress.

- **Psychosis:** has anyone ever lost touch with what is real? A number of drugs can trigger psychosis, which is a mental disorder where a person loses touch with reality.

- **Depression:** has anyone ever felt depressed after taking drugs, or felt that taking drugs worsens existing depression? Feeling low after using some drugs (including alcohol) is common. This can be due to the effect of the drug itself or because of things that happened when they were using them.

- **Injuries and accidents:** ever had an accident after taking drugs? When a person is under the influence of drugs they might find themselves doing things that they would not normally do, which can increase their chance of getting hurt or having an accident.

- **Damage to internal organs:** have they considered the impact on their body? Heavy use of some drugs can damage the liver, brain, lungs, throat and stomach.

- **Risk of infectious disease:** have they considered the risk of disease through sharing drugs and drug paraphernalia? Sharing drugs and drug paraphernalia is a major risk for getting infectious diseases.

Source: Adapted from National Drugs Campaign (www.drugs.health.gov.au)

Figure 1.8:
Medications can be prescribed by a doctor or can be bought over the counter in supermarkets and pharmacies.

Prescription and non-prescription drugs (medicine)

Medicines are chemical substances used to prevent, stop or cure disease. They can help to ease or soothe symptoms and assist in the treatment of many illnesses and health conditions. In recent years, there have been many technological advances in medicine, which increasingly help the overall health and wellbeing of Australians and saves many lives. Medications can be prescribed by a doctor or can be bought over the counter in supermarkets and pharmacies.

Prescription medication

Prescription medication is medicine that must be authorised by a doctor or health practitioner before being supplied. Prescription medicine is catered to the needs of the individual, so they must have a prescription form that includes the:

- name of the person
- strength of the drug
- instructions for use, including dosage and frequency.

It is important that individuals understand what the medicine is doing for their health condition and are aware of any side-effects that might occur from taking it. This information can be provided by doctors or health practitioners, and instructions for use should be attached to any prescription medicines.

Non-prescription medication

Non-prescription medication or over the counter medicines are those that can be purchased commonly without needing authorisation from a doctor. These medicines are often for self-treatment of minor health issues or to ease symptoms. Some common non-prescription medicines include:

- cold and allergy remedies or treatments
- pain relievers
- diarrhoea or constipation treatments
- creams for rashes or itches.

These medicines are easy to access through supermarkets and pharmacies and can be very helpful when used appropriately. However, these medications can cause problems if they are abused or taken incorrectly.

Tips for medicine safety

- Medication should be stored safely and away from any younger siblings or pets.
- Parents and/or a doctor should be immediately told if a medicine is making a person feel worse or if it is causing side-effects such as rashes, swelling or vomiting.
- Young people should make sure that they have the right prescription and the medicine has not changed from the last time they had it (unless prescribed by a doctor).
- Always read the label, follow the instructions for use and take the medication exactly as prescribed.
- Never share a prescription with friends or family and never take someone else's medication, even if they have the same symptoms. Prescription medication is personally prescribed and can be very dangerous if taken by someone else.
- Keep the medicine in a labelled container and make sure to check expiry dates.
- Be careful not to mix medications, prescription or non-prescription, as it could have a negative side-effect or counteract prescription medicine. Be sure to ask a pharmacist or doctor if unsure.
- Be sure to ask a doctor or pharmacist if the medicine is likely to cause any problems or affect day-to-day tasks, such as the ability to concentrate, remain awake, operate machinery or tools, drive and attend school or work.

Figure 1.9:
Prescription medicine must be authorised by a doctor before being supplied.

Figure 1.10:
Always read the label of medications and follow instructions for use exactly.

Did you know?
Prescription drug abuse causes the largest percentage of deaths from overdosing.

Alternatives to taking medicines

Complementary and alternative health care

Alternative and complementary health care are practices that are natural and holistic in curing chronic health conditions. They are used with or as an alternative to treatments from doctors and healthcare professionals as a further option for treatment. The interest in alternative and complementary health care continues to increase as society becomes aware of the benefits they provide. There is increasing demand from consumers and these health care options have gained recognition and many are now subsidised through private health insurance. Wellness and healing can be promoted through a range of alternative therapies such as naturopathy, chiropractic, homeopathy, acupuncture and aromatherapy.

Naturopathy

Naturopathy is a natural and holistic remedy based on the idea that the body has the ability to heal itself. The body, mind and emotions are healed through gentle therapy techniques, using the power of nature to boost the ability for the body to heal itself. This restores balance in the body and helps cure and prevent illness. There are many treatments in naturopathy such as hydrotherapy, herbal and traditional medicine, massage and dietary advice.

Chiropractic

Chiropractic treatments work on the functioning of the spine and the relationship between the body's structures. Chiropractors usually perform manipulations and alterations to the spine and body parts to correct problems with alignment and pain to improve the functioning of the body. This promotes the body's natural healing powers, not only reducing pain but also relieving additional symptoms, for example a headache.

Acupuncture

Acupuncture is a healing system that improves overall wellbeing by inserting fine needles into the body at specific acupoints (point on the body where acupuncture is applied), which stimulates energy flow through the body. This creates balance of energy in the body, relieving pain and restoring overall health. This method offers relief from a range of health conditions such as asthma, allergies, arthritis and back pain.

Aromatherapy

Aromatherapy uses the healing powers from plants and aromatic plant oils, as well as essential oils, to enhance both emotional and physical wellbeing of the consumer. The oils that are applied through massage, inhalation and rubbed into body surfaces, promote healing through sense of smell, treating symptoms such as insomnia, digestive problems, stress and headaches.

Source: Better Health Channel (www.betterhealth.vic.gov.au)

Figure 1.11:
Complementary health care practices, such as aromatherapy, can be used with treatments from doctors.

Australian bush medicine

Before European settlement, Indigenous Australians did not have access to western medicines, treatments or services. For thousands of years, they have relied on traditional remedies, using resources from the environment to treat their ailments. Common illnesses and injuries included digestive complaints, headaches, eye infections, burns, stings and wounds.

In traditional Aboriginal culture, healing a sick or injured person was done through a combination of addressing the physical and spiritual components in a harmonious fashion. Plants were often used to treat illness and injury. Some were crushed, heated in liquid and applied directly to the skin. Others were boiled and drunk, or the steam from the boiling liquid was inhaled. Plants commonly used in Australian bush medicine include:

- tea tree oil
- eucalyptus oil
- desert mushrooms
- snake vine
- kangaroo apple
- goat's foot
- sticky hopbush
- stinging nettle
- lemongrass.

Medicinal practices from the Asian region

Traditional medicine is commonly used in China and is becoming popular in many western countries. Common traditional Chinese medicine includes herbal remedies, acupuncture and tai chi:

- **Herbal remedies:** plants, including leaves, seeds and flowers, are used to treat a variety of ailments. They are usually combined in traditional formulas and consumed as teas or powders.
- **Acupuncture:** as discussed earlier, acupuncture is the stimulation of nerve points throughout the body by the use of needles. The needles are placed in the body's lines of energy and are used to treat a range of physical and mental illnesses.
- **Tai chi:** is a holistic approach to wellbeing. It involves smooth rhythmical movements where the individual focuses on breathing and balance. Tai chi is used to develop total physical and mental harmony.

Did you know?

Witchetty grubs were not only a food source for Indigenous Australians, but were crushed into a medicinal paste and used to treat burns.

Internet activity

Log on to TitanOnline to complete Activity 1.3 to learn more about the traditional Asian practice of Tai Chi and its benefits.

Learning activity

1. Distinguish between prescription and non-prescription medicine and suggest reasons why access to some drugs are restricted.
2. Describe a range of questions you should ask your doctor or pharmacist before taking medicine.
3. Outline the health benefits of one alternative health practice.
4. Research a range of Australian bush medicines. For each one, outline how they are used and what ailment they treat.
5. Research traditional medicinal practices from an Asian country. Present your information using ICT.

Figure 1.12:
The amount of caffeine and other stimulants in energy drinks differs from drink to drink.

Caffeine

Caffeine is a naturally occurring substance that comes from the leaves and fruits of certain plants. It is a drug that is found in everyday food and drinks such as coffee, tea, cocoa (chocolate), energy drinks and some soft drinks.

Caffeine is a stimulant that acts on the brain and central nervous system; making an individual feel alert, refreshed and focused. It can also give people a temporary energy boost and enhance their mood. Caffeine works in the body the way adrenaline does. When we are scared or stressed, the adrenaline gland, located near the kidney, spurts adrenaline into the bloodstream. Similar to this, caffeine also works instantly, giving a burst of energy and increasing breathing and heart rates. It is not stored in the body, but can have effects for up to six hours.

Adolescents who consume caffeine usually do so by drinking 'energy drinks' such as Red Bull, Mother or V. Energy drinks contain large doses of caffeine and other stimulants such as guarana. The amount of caffeine and other stimulants in energy drinks differs from drink to drink. One energy drink may have a little amount of caffeine, or as much as a standard cup of coffee, and some can have much more. The short-term effects are different with each amount and many teenagers are drinking many servings of energy drinks at a time, which means they are getting too much for their developing bodies.

For teenagers aged 13–18, the amount of caffeine that is safe to consume is less than that of an adult. Caffeine consumption is popular amongst adolescents due to the marketing of energy drinks. The recommended amount of caffeine that is safe for teenagers to consume daily is no more than 100 mg. This is because of the importance of brain development, sleep and inexperience in the use of caffeine. This recommended amount is equivalent to:

- 1.3 shots of espresso coffee
- 1.25 cans of Red Bull
- 0.6 of a can of Monster Energy drink
- Three cans of Coca-Cola.

Caffeine content in food and drink

While caffeine occurs naturally in a range of food and drinks, the marketplace is being inundated with products that contain added caffeine. The amount of caffeine can vary considerably from product to product and even from brand to brand in similar products. Caffeine consumption over 400 mg per day is considered unsafe.

Table 1.3: Caffeine content of commonly available food and drink.

Food and drink	Caffeine content
Energy drinks	80mg per 250ml can
Instant coffee	60–80mg per 250ml cup
Brewed coffee	60–120mg per 250ml cup
Tea	10–50mg per 250ml cup
Coca-Cola	30–50mg per 375ml can
Chocolate	20–40mg per 100g bar
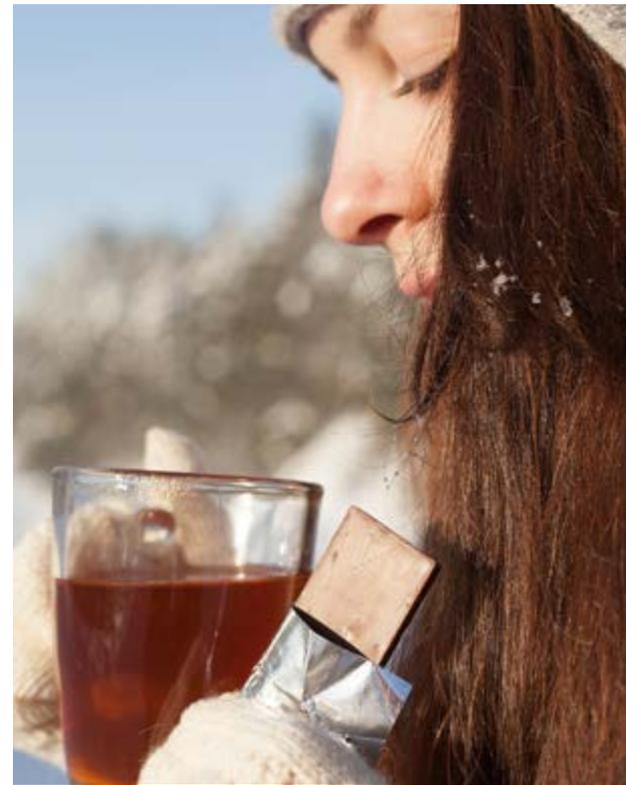
Figure 1.13:
Caffeine can be found in everyday food and drinks such as tea and chocolate.

Did you know?
Coffee can have three times the caffeine of tea or cola.

Internet activity
Log on to TitanOnline to complete Activity 1.4 to discover some hidden truths about caffeine.

Effects of caffeine on the body

Caffeine is the most widely used legal drug in the world. When consumed in moderation, caffeine has little detrimental effect on the body. A person who takes caffeine in small or moderate doses will incur little or no harm to their bodies. The body does develop a tolerance to caffeine, however, and larger doses may be necessary to obtain the stimulant effect that consumers are used to. With regular use, the body and mind may become dependent on caffeine. This means that people who usually consume a lot of caffeine may suffer withdrawal symptoms if they stop drinking it, and may experience headaches, fatigue, sweating and muscle pain. When taking higher doses than the recommended amount it is possible to experience a caffeine overdose. Caffeine affects the central nervous system of humans and can cause a range of short-term and long-term effects, depending on the amount consumed.

The short-term effects of caffeine can include:

- increased energy
- increased alertness
- increased body temperature
- increased frequency of urinating
- increased heart rate
- shaking/trembling
- headaches

- sweating
- restlessness
- irritability
- nausea
- blurred vision
- dizziness
- diarrhoea.

The long-term effects of caffeine can include:

- restlessness
- nervousness
- anxiety
- changes in sleep patterns (for example, insomnia)
- stomach problems
- muscle twitches
- hot flushes
- increased frequency of urination
- irregular or rapid heart rate.

Figure 1.14:
With regular use, the body and mind may become dependent on caffeine.

Case study

Henry Chin was just 17 years old when he almost died, after mixing caffeinated energy drinks with alcohol at a friend's party. Although the dangers surrounding consuming energy drinks by themselves are widely known, with safety guidelines recommending no more than two caffeinated beverages per day, Henry quickly exceeded that limit when adding alcohol to his drinks.

Alcohol is a depressant, meaning it slows down bodily functions. The initial effects can include feeling light-headed, having blurred vision, reduced concentration and slurred speech. With higher consumption, there may be difficulty walking, standing upright or staying awake. Energy drinks, on the other hand, are a stimulant and are full of caffeine and sugars. Energy drinks can cause an increased heart rate and pulse, shaking, insomnia, agitation and chest pains. When the two are mixed together, it is a recipe for disaster. The mixing of a depressant and a stimulant sends mixed messages to the brain and defence mechanisms that normally regulate over-consumption can be corrupted.

It was approximately 6.20pm when Henry began complaining of chest pain. Andrew Bowles, Henry's close friend, explained that Henry had been drinking all afternoon. "I think he was on his fifth or sixth when he started saying he could feel a pounding in his chest, and it was not going away," Andrew said.

Henry's other friends had told him to toughen up, and so he continued drinking. At 6.45pm, after consuming one or two more drinks, Henry dropped suddenly to the ground and was extremely short of breath. He quickly began sweating and was complaining of aches up and down his arms and legs and across his chest. Henry was having a heart attack. An ambulance was called and Henry was rushed to hospital. On the way, Henry suffered a second heart attack, but fortunately was able to be revived.

Henry's mother was not aware of how often he consumed energy drinks, but she had previously made it very clear that she disapproved of him drinking them around her. As far as Henry's brother knew, Henry did not always drink energy drinks, and had never combined them with alcohol before that night. But for some reason, that afternoon, Henry had decided to try something new. This decision nearly cost him his life.

1. Research real-life instances of people allegedly dying from overconsumption of energy drinks and mixers.
2. Discuss why mixing alcohol and energy drinks is dangerous.
3. Analyse current research on the short- and long-term effects of energy drinks and alcohol consumption. Discuss with a partner the key findings.
4. Research a specific brand of energy drink to find information on:
   a. Relevant health warnings.
   b. Marketing strategies or claims.
   c. The age group of targeted advertising.
   d. Ingredients and amount of caffeine contained in one serving.

Figure 1.15:
Cigarettes contain many chemicals, including 43 cancer-causing substances.

Nicotine

Smoking involves the burning of substances that an individual inhales. Although tobacco is the most common and poisonous component of most cigarettes, cigars and pipes, they contain approximately 4,000 other chemicals, including 43 cancer-causing substances. These include tar, nicotine, carbon monoxide, pesticides and ammonia.

- **Tar:** the main cause of lung cancer. It is a thick, black, sticky substance that coats the lungs. Tar can cause bronchitis and emphysema over time. Tar is inhaled in the form of small particles in smoke. These particles and other irritants cause the smoker to cough.
- **Nicotine:** the addictive drug found in tobacco. Nicotine is absorbed in the lungs and reaches the brain within seconds of being inhaled. Nicotine is so highly toxic that ingesting two or three drops of pure nicotine can kill an adult.
- **Carbon monoxide:** an extremely poisonous gas that is colourless and odourless. It is also found in the exhaust fumes of motor vehicles. Carbon monoxide is absorbed into the bloodstream more readily than oxygen. A high level of carbon monoxide increases the risk of circulation problems including heart disease and hardening of the arteries.
- **Pesticides:** used to kill weeds and other pests. Pesticides such as DDT and endrin are found in tobacco (although they are banned from agricultural use because of the health risks).
- **Ammonia:** a poisonous gas. It is commonly found in household cleaning products. Ammonia is added to cigarettes because it aids the absorption of nicotine. The more nicotine that is absorbed, the more addicted the smoker becomes.

Other substances contained in cigarette smoke include:

- cadmium (found in car batteries)
- several compounds known to cause cancer in laboratory animal testing, including lead
- burning agents
- artificial flavouring.

Statistics in 2020 show that smoking tobacco contributes to 22 per cent of cancer in Australia and remains the leading cause of cancer. One positive trend is that daily smoking rates have declined significantly over the past three decades. Other statistics include:

- Each year, smoking kills an estimated 15,500 Australians and costs Australia $137 billion in health and economic costs..

- In 2017, the Australian Institute of Health and Welfare (AIHW) released the 2016 National Drug Strategy Household Survey. It reported that about 3 million Australians (or 14.9 per cent) aged 14 or older were current smokers (either daily, weekly or less often than weekly) and 2.4 million smoked daily (12.2 per cent).

- Between 1991 and 2016, the never smoking rate has increased by 13 percentage points to the highest levels seen over the 25-year period (from 49 per cent to 62 per cent).

Source: adapted from www.aihw.gov.au

The health consequences of smoking

Tobacco smoke contains the addictive drug nicotine, which causes smokers to develop cravings and a need to continue to smoke. Each year tob... more than eight million deaths wo... one in eight of these people do n... smoke, but are killed by the effec... second-hand smoke.

Smoking impacts almost all bodil... is expensive and plays a significa... premature illness and death. Ove... 50 years, there has been significa... education and legislation to comb... incidence of tobacco smoking in...

The consequences of smoking oc... gradually, and over the long term... lead to serious health problems.

Internet activity

Log on to TitanOnline to complete Activity 1.5 to explore the risks of taking up smoking and ways to quit.

Figure 1.16:
The chemicals in smoke can cause seri... sensitive membranes in the nose, mouth...

Short-term effects of smoking

Nicotine and other chemicals in smoke can have numerous short-term effects on the body, including:

- **Bad-smelling clothes, hair and breath:** the odour of stale smoke sticks to people's clothing and hair and is usually hard to get rid of. It also leaves smokers with a condition of persistent bad breath.
- **Pale skin:** smoking prevents oxygen and nutrients from getting to the skin, causing it to look unhealthy and usually pale.
- **Reduces fitness levels:** the physical effects of smoking, such as increased heartbeat and shortness of breath, reduce athletic performance and maximal oxygen uptake, an important element for aerobic fitness.
- **Higher chance of illness:** the risk of catching illnesses such influenza is higher than that of a non-smoker. Some teenagers use cigarettes as a way to lose weight and are therefore lacking vital nutrients to develop and fight off illnesses.
- **Increased risk of injury:** the ability to produce collagen (connective tissue) is reduced, which increases the risk of common sports injuries, including damage to ligaments and tendons. It also slows the body's ability to heal itself.

Long-term effects of smoking

The long-term effects of smoking are much more severe. These limit a person's ability to function properly, be generally active and can be potentially fatal. Smoking can cause damage to many of the organs and systems of the body, as detailed in Table 1.4 on the following page.

Figure 1.17:
The risk of catching illnesses such influenza is higher in smokers than non-smokers.

Figure 1.18:
Smoking can contribute to diseases such as pneumonia, emphysema and lung cancer.

Table 1.4: Long-term effects of smoking on the body.

Heart	• Increased risk of coronary heart disease, stroke, peripheral vascular disease (damaged blood vessels) and cerebrovascular disease (damaged arteries that supply blood to the brain). • Causes fat deposits, which narrow and block blood vessels, increasing the likelihood of a stroke or heart attack. • Damages the lining of the coronary arteries, leading to clogging of the arteries. • Smokers have double the risk of having a heart attack and dying from coronary heart disease than non-smokers.
Lungs	• Causes injury to the airways and lungs, such as coughs, wheezing and asthma. • More likely to have upper and lower respiratory tract infections. • Can contribute to diseases, such as pneumonia (inflammatory disease of the lungs), emphysema (lung disease causing shortness of breath) and lung cancer.
Eyes	• Causes changes that can threaten eyesight. • Restricts the production of chemicals that help an individual see at night. • Increases risk of developing cataracts and macular degeneration (loss of vision).
Nose, mouth and throat	• The chemicals in smoke can cause serious irritation to sensitive membranes in these regions, causing the nose to run more and harsher coughing. • Can cause gum disease and damage sense of taste. • Increased risk of cancer in the lips, tongue, throat and oesophagus.
Skin	• Reduces the amount of oxygen to skin, causing it to age quicker by developing deep wrinkles and grey, dull skin. • The toxins from smoking cause cellulite (fat deposits under the skin).
Blood	• Makes blood thicker and increases the chance of developing blood clots. • Raises blood pressure by 10–15 per cent, making the heart work harder and increasing the risk of heart attack and stroke. • Damages the blood by having more carbon monoxide (CO) in the body and reduces oxygen in the blood.
Reproductive organs and fertility	• Causes damage to the blood vessels that supply blood to the penis and can increase the risk of erectile dysfunction for males (the inability to gain or keep an erection). • Can also cause damage to sperm and reduce the sperm count. • Smoking can reduce fertility for women, making it harder to get pregnant and have a healthy baby. It increases the risk of miscarriage, premature birth, stillbirth and sudden infant death syndrome (SIDS). • Increased risk of developing cervical cancer.

How to stay smoke-free

Smoking is a habit that is difficult to break. The body becomes reliant on the nicotine contained in tobacco smoke very quickly and a person can become addicted. The only way to avoid smoke-related diseases and live a healthier, happier life is to stay smoke-free.

There are many different ways to quit and give up smoking for good. It is not always easy and it is helpful to realise that the first couple of days are the hardest. It may even take a few times of trying to quit before an individual stops smoking altogether. There is lots of information, resources and support available to those who want to quit. Seeing a support centre and researching on the internet for helpful tips can assist in the process. It is important to have positive friends around, and to be around other people that are non-smokers. Having a supportive group of friends will help someone remain smoke-free. This can also mean avoiding situations and places where they know that they will be exposed to cigarettes and tempted to smoke.

If a young person finds themselves in a situation where they are tempted to smoke, or are being pressured by peers to do so, it is important to know how to use refusal skills and be assertive.

Figure 1.19:
It is important to know how to use refusal skills and be assertive.

Internet activity

Log on to TitanOnline to complete Activity 1.6 to investigate the impact that smoking can have on yourself and others.

Learning activity

1. Practise ways to communicate concerns about your health and wellbeing to a variety of support people.
2. Examine the health and financial benefits of quitting for life.
3. Draw a diagram of the body and label the long-term effects of smoking on the major organs and body systems.
4. Create a pamphlet that persuades smokers to quit. Include the health risks associated with smoking and ways to quit.
5. Create a visual representation of the way that tar builds up in the lungs of a smoker.

Smoking and the law

It is illegal to sell or supply tobacco products to young people under the age of 18. Anyone who sells or supplies cigarettes to someone under 18 can be heavily fined. A person who looks like they may be under 18 can be asked to provide valid identification when purchasing tobacco products.

State and territory governments are mainly responsible for smoke-free laws in Australia. Smoke-free laws protect people from second-hand smoke, encourage people to quit smoking and help to de-normalise smoking in the community

Most jurisdictions have introduced broader bans on smoking in enclosed public places such as restaurants and shopping centres, pubs and nightclubs and in cars with children. Some jurisdictions have also introduced bans on smoking in outdoor areas such as outdoor eating and drinking places, building entrances, sporting facilities and public beaches.

Each state and territory also has workplace health and safety legislation, which imposes a duty on all employers to provide, within reason, a workplace that is free of hazards to health for employees and those entering the premises. This includes smoke-free work environments.

The Australian Government has acted where it has had the power to do so. For example, smoking is prohibited in Commonwealth workplaces, aircraft, airports, interstate trains and federally registered motor coaches. In NSW, it is illegal to smoke within ten metres of a children's outdoor play equipment, spectating stands in any sporting environment, all public transport vehicles and platforms and within four metres of an entrance to a public building, such as a shopp

Source: The Depart

Internet activity

Log on to TitanOnline to complete Activity 1.7 to investigate the history and impact of smoking advertisements.

Figure 1.20:
It is illegal to supply
people under the ag

Introduction of tobacco plain packaging

All tobacco products sold, offered for sale, or otherwise supplied in Australia must be in plain packaging. Plain packaging is a key part of Australia's comprehensive package of tobacco control measures, which includes the following elements:

- Updated and expanded health warnings – the Competition and Consumer (Tobacco) Information Standard 2011, requires health warnings to cover at least 75 per cent of the front of most tobacco packaging, 90 per cent of the back of cigarette packaging and 75 per cent of the back of most other tobacco product packaging. Legislation to restrict internet advertising of tobacco products in Australia.
- Record investments in anti-smoking social marketing campaigns.
- The 25 per cent tobacco excise, increased in April 2010.
- Four staged 12.5 per cent increases in excise and excise-equivalent customs duty on tobacco and tobacco-related products.
- A reduction in duty free concessions for tobacco products.
- Stronger penalties for tobacco smuggling offences.

The objectives of the plain packaging measures are to:

- reduce the attractiveness and appeal of tobacco products to consumers, particularly young people
- increase the noticeability and effectiveness of mandated health warnings
- reduce the ability of the retail packaging of tobacco products to mislead consumers about the harms of smoking
- through the achievement of these aims in the long-term, as part of a comprehensive package of tobacco control measures, contribute to efforts to reduce smoking rates.

A review of the tobacco plain packaging in 2016 found that it:

- has helped to reduce smoking and passive smoking in Australia
- is having a positive impact
- is expected to continue reducing smoking rates.

Adapted from: The Department of Health (www.health.gov.au)

Figure 1.21:
Australian cigarette packaging must have warnings about the dangers of smoking.

Figure 1.22:
The City of Sydney has banned smoking in public places such as Martin Place.

Passive smoking

Smoking affects the non-smoking community, as passive smoking contributes to increased illnesses in society and pollutes the environment. Passive smoking refers to breathing in someone else's tobacco smoke. The smoke exhaled from a cigarette is called exhaled mainstream smoke and the smoke coming off a lit cigarette is called side-stream smoke. The mix of both mainstream smoke and side-stream smoke is known as second-hand smoke.

Second-hand smoke is a common cause of indoor air pollution, exposing the same chemicals and toxins to non-smokers. This unfiltered smoke can be more toxic than mainstream smoke as the particles can get deeper into the body and stay there longer. There are many health risks of passive smoking and there is no known safe level of exposure.

These health risks can include:

- irritation of the eyes and nose
- onset and/or worsening of asthma
- increased risk of lung cancer
- increased risk of coronary heart disease.

If a young person lives with or knows people that smoke, they may ask the smoker to:

- smoke outside away from them and other people that can be affected
- change their clothing and wash their hands after they smoke as particles stick to people and their clothes
- avoid smoking in the car so that the smoke does not get trapped in the confined space (note that smoking in cars with children is illegal in Australia).

It is also important for young people to take control and make decisions to remove themselves from other people's smoke and from environments where people are smoking. If they are unable to avoid this situation, they should go to a well-ventilated area or a smoke-free section.

Figure 1.23:
Second-hand smoke exposes non-smokers to the same chemicals and toxins that smokers inhale.

Did you know?
Regular exposure to second-hand smoke can equate to smoking 60–150 cigarettes per year.

E-cigarettes

An electronic cigarette (e-cigarette) is a battery-operated vaporiser that is designed to resemble a real cigarette. It delivers nicotine with flavourings and numerous chemicals in the form of vapour rather than smoke. Vaping (the use of e-cigarettes) is often endorsed as a safer substitute to smoking traditional cigarettes, which deliver nicotine by burning tobacco. However, at this stage, little is known about the health risks of using these devices.

The sale or possession of e-cigarettes containing nicotine is currently illegal in Australia. Sale of e-cigarettes without nicotine is permissible, conditional on the supplier making no claim that it is an aid to reduce or stop smoking. Table 1.5 compares and contrasts e-cigarettes with traditional cigarettes.

Did you know?
E-cigarettes originated in China in 2003.

Table 1.5: E-cigarettes vs. traditional cigarettes.

	E-cigarettes	Traditional cigarettes
What is it?	• Electronic cigarette • Some e- cigarettes sold overseas contain thousands of chemicals and nicotine but no tobacco • Looks similar to a regular cigarette	• Tobacco tightly packed and rolled into a paper cylinder with thousands of chemicals and nicotine • Pre-packaged cigarettes have an attached filter
How is it used?	• Put it in the mouth and inhale and the other end lights up • Breathe in vapour and nicotine, then exhale water vapour	• Light the tobacco and inhale the smoke through the filter • Breathe out burnt tobacco smoke
Cost	• Requires a battery, atomiser, cartridge, liquid nicotine solution, charger and the e-cigarette itself • Between $45-$90 and are re-usable	• Varies depending on brand, but a packet of 25 cigarettes costs approximately $40
Health risks	• Not known definitively yet, but effects of nicotine are known to cause cancer • Nicotine is addictive • Nicotine is an immunomodulator, which means it affects the body's ability to produce antibodies	• Cancer of lungs, mouth, nose, throat, oesophagus, pancreas, kidney, liver, bladder, bowel, ovary, cervix, bone marrow and stomach • Lung and heart diseases • Reduced blood circulation
Law	• E-cigarettes containing nicotine are not allowed to be sold in Australia • E-cigarettes not containing nicotine can be sold	• No smoking indoors in public areas • Must be over the age of 18 • No more than 50 cigarettes allowed into the country after a trip overseas

Figure 1.24:
It is common for pubs and clubs to pour drinks into standard size glasses that measure the correct amount of alcohol.

Alcohol

As a depressant drug, alcohol consumption reduces the body's abilities to process information at regular speed. The amount of alcohol consumed by an individual is calculated by testing an individual's blood alcohol content (BAC) by measuring a sample of breath or blood. Ethanol is the chemical that makes alcohol and is primarily consumed in distilled and fermented drinks such as beer, wine and spirits. The average amount of alcohol within the various types of drinks approximately include:

- from one per cent to six per cent in beer
- from 12 per cent to 14 per cent in wine
- from 40 per cent to 50 per cent in spirits.

The National Health and Medical Research Council (NHMRC) has devised the following Australian Guidelines to Reduce Health Risks from Drinking Alcohol:

- **Guideline 1 (lifetime risk):** For healthy men and women, drinking no more than two standard drinks on any day reduces the lifetime risk of harm from alcohol-related disease or injury.
- **Guideline 2 (single occasion risk):** For healthy men and women, drinking no more than four standard drinks on a single occasion reduces the risk of alcohol-related injury arising from that occasion.
- **Guideline 3 (children and young people):** For children and young people under 18 years of age, not drinking alcohol is the safest option.
- **Guideline 4 (pregnancy and breastfeeding):** For women who are pregnant, breastfeeding or planning a pregnancy, not drinking is the safest option.

Source: Australian Guidelines to Reduce Health Risks from Drinking Alcohol, NHMRC, 2009.

Standard drinks

One standard drink contains 10 grams of alcohol. The number of standard drinks per pre-packaged drink can be found on the drink's label. It is common for pubs and clubs to pour drinks into standard size glasses that measure the correct amount or contain a line to where the drink should be poured to. It can be challenging to monitor the number of drinks an individual consumes as not all purchased drinks are served as one standard drink size. For example:

- 425 ml of full-strength beer would be approximately 1.6 standard drinks
- 150 ml of red wine would be approximately 1.6 standard drinks
- 750 ml bottle of white wine would approximately contain 6.8 standard drinks
- 150 ml of champagne would approximately contain 1.4 standard drinks
- 30 ml of a spirit would approximately contain one standard drink.

The effect of alcohol on the body

The short-term effects of alcohol begin as soon as alcohol consumption begins and can diminish over time as it is processed primarily through the liver and exits the body. There is no way to hasten the alcohol being processed by the body and time is the only factor.

Short-term effects

Short-term effects include:

- slowed ref
- difficulty c
- decreased
- decreased
- reduced m
- slurred spe
- blurry visio
- heightened
- difficulty ba
- can cause
  (inability to
  what has h

Internet activity

Log on to TitanOnline to complete Activity 1.8 and test your knowledge on alcohol.

Did you know?

Most fruit and vegetables contain a small amount of alcohol.

Figure 1.25:
People under t
speech and ha

Long-term effects

Drinking large amounts of alcohol over a long time can cause damage to different parts of the body and body systems, including the heart, nervous system, liver, pancreas and immune system.

- **Heart:** Alcohol can affect the heart in different ways. Drinking can cause problems with the heart such as high blood pressure, cardiomyopathy (stretching of heart muscle), arrhythmias (irregular heart beat) and stroke.
- **Nervous system:** Effects of heavy drinking on the nervous system include brain damage, tremors, dementia and permanent nerve damage.
- **Liver:** Most of the alcohol consumed is broken down by the liver, so heavy drinking can have serious effects including fatty liver, hepatitis (inflammation of the liver), fibrosis (scarring of the deep tissue), cirrhosis (liver disease) and liver failure.
- **Pancreas:** Alcohol affects the pancreas by causing it to produce toxic liquids. This can cause the inflammation and swelling of blood vessels in the pancreas, leading to pancreatitis, which interferes with proper digestion.
- **Immune system:** Drinking causes the immune system to weaken and increases risk of disease. People who drink large amounts are more likely to catch infections or develop diseases like pneumonia (inflammatory disease of the lungs) or tuberculosis (infectious disease of the lungs). Drinking excessive amounts on a single occasion slows down the immune system and can make it more vulnerable to contracting diseases for up to 24 hours.
- **Cancers:** Drinking lots of alcohol over a long period of time increases the risk for developing cancers of the mouth, throat, liver and breast (for men and women).

Figure 1.26:
Drinking excessive amounts on a single occasion may induce vomiting.

Internet activity

Log on to TitanOnline to complete Activity 1.9 to evaluate the impacts of binge drinking.

Binge drinking

Binge drinking refers to the heavy consumption of alcohol over a short period of time. This can include drinking for the purpose of getting drunk or over indulging in periods of heavy drinking. Binge drinking involves many risks for individuals that are often unintentional, such as:

- starting or getting involved in a fight
- passing out or blacking out
- being unaware of what is around them, for example, losing valuable items
- being unaware of what they are doing, for example, having unwanted and/or unsafe sex
- falling over or having an accident.

It is important for individuals to stay in control of what they are drinking and how much they are drinking. If an individual does choose to drink, however, there are many ways they can avoid binge drinking:

- Set themselves a limit of how much they are going to drink and make sure they stick to it.
- Know how much alcohol is in their drinks.
- Have one drink at a time.
- Add water or ice into their drink to dilute the alcohol.
- Drink slowly.
- Eat something before they drink and while they are drinking.
- Have a glass of water or soft drink as a 'spacer' between each alcoholic drinks.

They should not take drinks from people they do not know, or put their drink down and leave it unattended.

Figure 1.27:
Binge drinking involves many risks for individuals, such as falling over and passing out.

Learning activity

1. Outline how many drinks in one three-hour session is considered to be binge drinking.
2. Explain the link between violence and risky drinking.
3. Brainstorm with a partner, the avoidance strategies that could be used when being pressured to binge drink.
4. Discuss the impacts of long-term alcohol misuse on the:
   a. heart   b. liver.
5. Create a short video clip that addresses the dangers of risky drinking.

The law on under-age drinking

The legal drinking age in Australia is 18 years. This means that people who are under this age are considered minors. Legislation states that minors are not allowed to buy, sell, possess or consume alcohol in public areas or on licenced premises such as bars or restaurants. Penalties apply to those who breach these laws. The maximum penalty for the consumption of alcohol on licenced premises or in a public area, or for buying (or attempting to buy) alcohol is $2200.

It is also an offence for persons under the age of 18 years to refuse to provide personal information such as name, address and date of birth, to an authorised officer. Individuals over 18 years of age, or businesses who attempt to obtain alcohol on behalf of or sell to minors, face fines of up to $11,000 and two years in prison.

Case study

Sally was part of the popular group at school, with plenty of good friends, and succeeded at whatever she attempted. But outward appearances can be deceiving, and while Sally looked cool and relaxed, on the inside she was struggling. Sally's father had passed away when she was young, which meant that she had to look after her younger siblings while her mum took on shift work to support the family.

But Sally, along with her friends, had been excited all week before Molly's 17th birthday party. They had a plan to get ready at Sally's house, as her mother was working late, and would be able to 'pre-load' thanks to an older friend with a couple of bottles of spirits. The night of the party started out okay, but things quickly deteriorated after the first few rounds of shots. At around 8.15pm, Sally started showing signs of intoxication when she slipped and hit her head in the bathroom. There was a small cut above her eyebrow, but the girls cleaned it up and continued getting ready and drinking. At this stage, her friends thought Sally had consumed about four drinks, but they could not be certain as no one was actually measuring the drinks.

Twenty minutes before they were meant to leave, Sally needed to lie down. By this stage, she had consumed about 12 shots. Sally had told her friends she was going to rest. Although they initially protested, they eventually agreed to let her 'power nap' before leaving. The rest of the girls continued drinking and dancing, looking forward to the party. Unbeknown to her friends, Sally passed out lying on her back on the lounge and vomited. Because of her level of intoxication, Sally did not wake up. The vomit blocked her airway and she had stopped breathing for 20 minutes without anyone noticing. Despite emergency services being called, Sally could not be resuscitated. She was pronounced dead on arrival at hospital.

The incident was investigated by the coroner, who found a number of factors had contributed to Sally's death. These included mental health issues, issues of self-medication and risky drinking, and a lack of suitable supervision by family or friends. The coroner noted that Sally's death served as a reminder to the community at large about why society has alcohol laws in place and of the consequences of under-age access to alcohol.

1. Define binge drinking and outline the damage it causes to the body.
2. Analyse why many young people may be inclined to drink at risky levels.
3. Evaluate what Sally's friends could have done differently to avoid Sally's death.
4. As part of health promotion for young people, address the issue of risky drinking by creating a:
   a. letter to parliament
   b. digital poster
   c. radio advertisement
   d. speech for a local high school.

   Each should address the issue of risky drinking as it affects young people, the associated health issues and relevant statistics to support your message.
5. Research five celebrities who have died choking on their own vomit after being intoxicated from alcohol.

Figure 1.28:
The immediate effects of cannabis can last two to three hours.

Cannabis

Cannabis, or marijuana, is the most commonly used illegal drug in Australia. It comes from the Cannabis sativa plant. It can be smoked or eaten, and comes in a variety of forms, such as dried plant leaves and flowers ('heads'), a crumbly, light-brown or dark-brown resinous material called 'hash', or a very potent oil called 'hash oil'. The chemical in cannabis that makes users feel 'high' is called THC (delta-9 tetrahydrocannabinol). THC is a psychoactive substance, which means that it travels in a person's bloodstream to the brain. It disrupts their brain's normal functioning and causes certain intoxicating effects. Cannabis use can cause drug-induced psychosis, trigger the first episode of a psychotic illness or make a pre-existing psychotic illness worse.

The effect of cannabis on the body

Cannabis is a depressant drug. Depressant drugs do not necessarily make a person feel depressed. Rather, they slow down the central nervous system and the messages going between the brain and body.

Short-term effects of cannabis use

Cannabis has different effects on different people. The effects can also vary according to the mood or atmosphere in which the person uses it. The immediate effects of cannabis can last approximately two to three hours and may include:

- a feeling of relaxation and wellbeing
- loss of inhibitions
- reduced concentration and memory
- distorted perceptions of time, space and distance
- increased heart rate
- drowsiness

- increased appetite
- increased talkativeness
- reddened eyes
- reduced coordination – this makes it dangerous to drive or operate machinery while under the influence of the drug
- anxiety and paranoia.

Larger doses or stronger forms of cannabis can increase these effects, and can also cause:

- confusion
- restlessness
- feelings of excitement
- hallucinations
- anxiety or panic

- detachment from reality
- nausea
- psychosis (severe mental illness where the person loses connection with external reality).

Long-term effects of cannabis use

Cannabis may have additional physical or mental effects on long-term users, including:

- the risk of asthma
- emphysema
- shortness of breath
- chest infections
- cancers of the throat, mouth and
- poor concentration

- memory loss
- learning difficulties
- depression of the immune system,

Cannabis smoke has a higher conc
cancer-causing (carcinogenic) ager
tobacco. Evidence suggests that ca
cancers of the lung and the digesti
the respiratory tract and the upper

Source: Better Health Channel (www.bette

Figure 1.29:
The effect of cannabis can vary according
or atmosphere in which the person uses it

Cannabis and the law

The laws that apply to cannabis use vary from state to state. Apart from medicinal marijuana, cannabis use remains illegal, although there is considerable debate surrounding the issue and some legislation has been changed as recently as 2020. Generally, offenders caught with small amounts for personal use are fined or warned. Offenders caught with large amounts, or caught cultivating a number of cannabis plants are charged by police and must attend a criminal court hearing.

Medicinal cannabis

The medical cannabis debate is about providing a small number of patients with an option for relief from chronic pain, seizures, nausea associated with chemotherapy and other symptoms from a range of conditions. It can make a significant difference to people who are unable to find relief any other way. Positive reports have been received from patients who have been suffering with cancer and multiple sclerosis. Currently, cannabis is a prohibited plant in Australia. Possession of large quantities, cultivation and selling it is considered a criminal offence in Australia and consequently the politics involved with medical cannabis use are complex. Medicinal cannabis can now be applied for and accessed as a medical treatment when conditional to the Special Access Scheme and Authorised Prescriber Scheme in Australia. Medicine cannabis has been prescribed for individuals with conditions such as:

- cancer
- neurological conditions
- extreme pain, especially that which may be experienced in palliative care.

Figure 1.30:
Cannabis is the most commonly used illegal drug in Australia.

Figure 1.31:
Medicinal cannabis can be prescribed for individuals with conditions such as cancer.

Learning activity

1. Outline the reasons why cannabis remains the most commonly used illegal drug in Australia.
2. Investigate and report on reliable online information about the link between cannabis use and increased risk of mental illness.
3. Research the law for cannabis possession in your state or territory.
4. Investigate recent findings that have come from clinical trials or recommendations from committee reports in Australia concerning medicinal cannabis.

Cannabis and the link to mental illness

Research suggests that cannabis use can make a person's existing psychotic symptoms worse. It may even bring on psychotic symptoms in people who are predisposed to psychosis if they have a personal or family history of psychosis.

Cannabis use can cause a condition known as drug-induced psychosis. Symptoms usually appear quickly and last a few days until the effects of the cannabis wear off. Disorientation, memory problems and hallucinations (seeing or hearing things that are not really there) are the most common symptoms. The effects of cannabis begin within minutes and can last several hours. However, for people with a psychotic illness (such as schizophrenia), the effects can be longer lasting and more intense. If someone has a predisposition to a psychotic illness, use of drugs such as cannabis may trigger the first episode in what can be a lifelong, disabling condition. There is increasing evidence that regular cannabis use precedes and causes higher rates of psychotic illness.

Psychotic illnesses are characterised by:
- **Delusions:** the person believes they have special powers.
- **Hallucinations:** the person hears voices or sees things that are not really there.
- **Thought disorder:** the person has difficulty organising their thoughts.

When people experience psychotic symptoms, they are unable to distinguish what is real. They lose contact with reality.

Cannabis use generally makes psychotic symptoms worse and lowers the person's chance of recovery from a psychotic episode. People with a psychotic illness who use drugs experience more delusions, hallucinations and other symptoms. They have a higher rate of hospitalisation for psychosis, and treatment is generally less effective for them.

Adapted from: Better Health Channel (www.betterhealth.vic.gov.au)

Figure 1.32:
Cannabis can slow down the messages going between the brain and body.

Figure 1.33:
Cannabis use can cause a condition known as drug-induced psychosis.

Figure 1.34:
Tobacco and alcohol are the greatest contributors to social and economic community harms.

Strategies for harm reduction

The Department of Health's harm reduction framework addresses issues caused by alcohol and other drugs by aiming to decrease their harmful effects on individuals and society. Individuals and communities can focus on harm reduction and encouraging healthy behaviour by designing strategies that take into account many health, social and economic factors.

Three strategies that are used in this framework are:

- **Supply reduction:** aims to interrupt the production and distribution of illegal drugs and control or regulate the availability of legal drugs.
- **Demand reduction:** aims to decrease the number of people using drugs and the demand for drugs, through education and treatment services.
- **Harm reduction:** aims to reduce the adverse health, social and economic harms for those who choose to use drugs. It works on the involvement of the whole community, catering strategies to individual needs. When focusing on alcohol and drugs, tobacco and alcohol are the greatest contributors to social and economic community harms.

Internet activity
Log on to TitanOnline to complete Activity 1.10 to evaluate harm minimisation strategies.

Sources of support

Drug prevention organisations

There are many organisations and support services for adults and youth to seek help with alcohol and other drugs. There are services and organisations both online and in centres that can be accessed.

The government runs services such as the Australian Drug Foundation (ADF), which is a national body that works on preventing the abuse of alcohol and other drugs in communities.

There are also many non-government organisations such as the Alcohol and Other Drugs Council of Australia (ADCA) that help provide a national voice for those who work to reduce harm in the alcohol and other drugs sector. Online national organisations for seeking information include the Australian Drug Information Network and support services such as Counselling Online (www.counsellingonline.org.au). Helplines such as Family Drug Support and Quitline are also readily available to assist individuals.

For information about services and organisations in their local area, young people can seek support from their teachers, school counsellor or school support service.

Family

Families play an important role in the prevention of drug use. By building protective factors in the family, it can help promote healthy and positive health behaviours. This can be achieved by establishing rules and standards for behaviour in the family and providing positive rewards and recognition for good behaviour. Providing quality time with the family and reducing family conflict can also promote a positive and supportive home environment. A strong sense of belonging should also be established by promoting communication within relationships in the family.

Schools

Schools can set up programs and c
services to improve student involver
This can include drug education, pe
behaviour management. These initia
healthy behaviours to reduce the ris
students the benefits of living a drug

Figure 1.35:
Drug ediucation initiatives can help student
develop healthy behaviours.

Community

Communities can run drug prevention initiatives and programs for teenagers and parents. This can include healthy lifestyle campaigns and providing information to the community through advertisements and booklets. These focus on supporting individuals and their families to build positive communication and healthy behaviours. Programs may also include helping those who abuse drugs and alcohol by providing information and support.

> **Learning activity**
> 1. Research the concepts of 'harm minimisation' and a 'strength-based approach' to drug education.
> 2. Design a drug education activity for school students that focuses on promoting positive health behaviours.
> 3. Research one community-run drug prevention initiative for teenagers and parents in your local area and identify its aims and/or goals.

Peer pressure and drug use

During teenage years, there are lots of decisions young people need to make as they are figuring out who they are and who they will be. In these years, teenagers are learning how to develop their own sense of identity and become independent from their parents or guardians. Peers are very important during this time in a young person's life. Having a group of friends can help young people face challenges with other people that are going through similar changes.

A feeling of peer pressure can occur when a young person is encouraged to behave in a way they normally would not, in a positive or negative way. Peer pressure can be experienced when teenagers are trying to fit in with another group, meet the expectations of peers or to follow trends. Where there is negative peer pressure involved, teenagers can see themselves in a situation where they feel they are forced to do something that they do not think is 'right'. The need to belong can also become an issue for teenagers. It involves doing something that they would not normally do or do not want to do, just because other people are doing it.

There are many strategies to help young people remove themselves from these situations and make the right decisions. Table 1.6 on the following page outlines a variety of strategies for dealing with peer pressure.

Figure 1.36:
Young people can refuse to participate by saying no in a confident way.

> **Internet activity**
> Log on to TitanOnline to complete Activity 1.11 to develop a quiz about peer pressure.

Table 1.6: Strategies young people can use to deal with peer pressure.

Avoiding the problem or situation	▪ Choose the right people to hang out with, who will understand how they feel about things such as under-age drinking, and will not pressure them to do things that make them feel uncomfortable. ▪ Avoid situations where they think they will be exposed to peer pressure, and always have a plan to remove themselves from that situation, such as organising a parent or sibling to pick them up. ▪ Spend time doing other activities that benefit their health and keep them busy. Finding a hobby, such as soccer or playing the guitar, will give them something to do instead of giving in to peer pressure.
Responding to peer pressure	▪ Refuse to participate by saying "no" in an assertive and confident way. ▪ Think of an excuse or explanation such as "I have to go to the doctors after this", "My mum is picking me up really soon and she will be able to smell the smoke on me" or "I don't find it cool to smoke." ▪ Change the subject so that the peer pressure does not continue after they have refused. They can do this by asking questions or remembering something they wanted to tell their peers about.
Developing skills to help recognise where there is peer pressure and how to respond	▪ Learn how to recognise if a situation is unsafe or has the risk of harm to themselves or their friends. ▪ By assessing the risks correctly, young people can work out how to effectively respond to it. This can include developing skills such as how effectively so

Internet activity

Log on to TitanOnline to complete Activity and evaluate common assumptions assoc peer pressure.

Figure 1.37:
It is safest to avoid smoking cigarettes or consuming alcohol altogether.

First aid and drug misuse

Drug and alcohol misuse, either accidental or deliberate, may lead to intoxication or poisoning. Knowing when a person affected by drugs has reached a point that they require medical assistance may be difficult sometimes. If in any doubt, call 000, even if the intoxicated person is under-age or has consumed an illegal substance – in many situations it can be a case of life or death. Legal and illegal substances are implicated in a significant number of hospital admissions, suicides, injuries and road accidents every week and it is important that first aid and medical assistance are provided promptly.

General guidelines for administering first aid to a drug-affected person are as follows.

- Avoid risk and only approach the casualty if it is safe.
- Follow the DRSABCD protocol.
- Call 000 for an ambulance.
- Be calm, reassuring and move the casualty to safety if necessary.
- Seek out the history of the incident or other useful information (for example, how much they have taken, what they have taken).
- Observation (monitor their vital signs frequently).
- Check for other injuries (for example, fractures or bleeding).
- If possible, keep a sample of vomit and any substances or containers for identification at the hospital.

First aid is covered in more detail in Chapter 6: Risk taking and safety.

Figure 1.38:
Legal and illegal substances are implicated in a significant number of hospital admissions each week.

Learning activity

1. Describe the influence that peers can have during the teenage years and why some young people handle peer pressure better than others.
2. Think about a situation where you (or a person you know) have been faced by peer pressure. Analyse how you responded to the situation and/or how you could have responded better.
3. Suggest a range of ways that an adolescent can say no to their peers to decline offers involving drugs.
4. Propose a range of first aid strategies for dealing with drug-affected people.

Revision questions

1. Identify the effects of the following types of drugs on the body:
   a. depressants
   b. stimulants
   c. hallucinogens.

2. Explain the different ways of accessing medicine in Australia.

3. Describe the different techniques used in alternative health practices.

4. Explain how alcohol and drugs can affect a teenager's brain.

5. Outline the dangers of mixing caffeine and alcohol.

6. Define the term 'binge drinking' and outline how you can use your personal strengths to avoid drinking at dangerous levels.

7. Outline how an individual can avoid drinking alcohol if they are invited to a party where under-age drinking will occur.

8. Report on the laws regarding cigarette packaging. Outline your opinion about this approach and whether you think it affects smoking rates.

9. Outline the effects that smoking has on the:
   a. heart
   b. lungs
   c. reproductive organs.

10. Explain the health risks associated with passive smoking.

11. Describe the reasons why people may choose to use e-cigarettes in preference to cigarettes and outline the dangers in using e-cigarettes.

12. Evaluate the resources available to people who are looking to quit smoking.

13. Explain how the process of addiction occurs, with specific reference to cannabis.

14. Describe the role of schools in promoting positive health behaviours.

CHAPTER 2

Food and nutrition

Food and nutrition play a major role in determining individual and community health status. It is important to understand the way in which diet and dietary choices impact upon an individual's wellbeing. This chapter will explore various components related to nutrition, including daily nutritional guidelines and recommendations, and how to attain the skills to make health-conscious decisions regarding food intake. Throughout this chapter, students will be engaged in a variety of learning activities that will provide them with appropriate strategies to be informed consumers; strategies which will inevitably assist them in their life after school.

Focus areas
- Health and nutrition
- Making healthy food choices
- Energy intake versus energy expenditure
- Making sense of dietary information

Health and nutrition

Food is necessary for the body to function, and good nutrition involves choosing the right foods and quantities to satisfy your individual needs. The type and amount you eat influences how efficiently and effectively your body functions. A strong link exists between dietary intake and health, and many diseases are directly related to diet and lifestyle.

Maintaining health involves many elements such as participating in regular physical activity, eating a balanced and nutritious diet and having an in-depth understanding of the body. An individual can prepare for a healthy life by understanding nutrition and creating healthy eating habits. This means including a range of 'colourful' fruit and vegetables as well as rice, grains, cereals, meats, fish, soy and legumes. Consuming these types of foods will help to prevent many lifestyle diseases such as obesity, colon cancer and bowel cancer.

Nutritional requirements across the lifespan

Food is necessary for the body to function, and good nutrition involves choosing the right foods and quantities to satisfy individual needs. The type and amount of food a person eats will influence how efficiently and effectively their body functions. A strong link exists between dietary intake and health, and many diseases are directly related to diet and lifestyle.

The best way to prepare for a long and healthy life is to get into the habit of having a tasty, varied diet. By choosing foods from a wide variety of sources, increases the chance of meeting the body's nutritional needs. It is important to include plenty of vegetables, cereals, grains, rice and fruits, as well as protein from meat and fish or vegetarian/vegan foods such as legumes and soy products. In maintaining a nutritious diet, a person will help prevent themselves from developing many lifestyle diseases, such as heart disease, cancer and diabetes.

Figure 2.1:
New mothers should be encouraged and supported to breastfeed.

Figure 2.2:
Children should consume only moderate amounts of sugars and foods that contain added sugars.

Through the different stages of life, people need different amounts and types of nutrients for healthy growth and development. This is also the case for the different sexes, with adolescent girls and boys needing different amounts of minerals such as iron and zinc. The recommended nutritional and lifestyle requirements for children, adolescents and adults are outlined below.

Children and adolescents

- In light of the importance of early nutrition, new mothers should be encouraged and supported to breastfeed.
- Consume sufficient nutritious foods for optimal growth and development.
- Young children should have their growth checked regularly.
- Physical activity is essential for children and adolescents.
- Enjoy a variety of nutritious foods.
- Eat a wide variety of vegetables, legumes and fruits.
- Eat cereals such as pasta, rice, breads, and noodles – preferably wholegrain.
- Include dairy products such as milks, cheeses, yoghurts and/ or vegetarian/vegan alternatives. Infants younger than two should not drink reduced-fat milks due to th requirements. However, older children and a should be encouraged to have reduced-fat
- Limit the intake of saturated fat, and modera of total fat. Low-fat diets are not suitable for
- Choose foods that are low in salt.
- Consume only moderate amounts of sugars that contain added sugars.
- Care for a child's food: prepare and store it
- Choose water as a drink. Alcohol is of cours recommended for children.

Figure 2.3:
Children and adolescents should consume sufficient nu foods for optimal growth and development.

Adults

- Eat according to energy needs, and be physically active to avoid gaining weight.
- Prepare and store food safely.
- Eat a wide variety of nutritious foods.
- Eat a wide variety of vegetables, legumes and fruits.
- Eat cereals such as pasta, rice, breads, and noodles – preferably wholegrain.
- Include poultry, fish, lean meat and/or vegetarian/vegan alternatives. Include dairy milks, yoghurts, cheeses and/or vegetarian/vegan alternatives. Reduced-fat varieties are ideal whenever possible.
- Drink plenty of water.
- Reduce intake of foods containing saturated fats and monitor intake of total fat.
- Pick foods that have low salt.
- For those who decide to drink alcohol, reduce intake.
- Monitor the amount of sugar consumed and watch for foods containing added sugars.

Source: National Health and Medical Research Council

Figure 2.4:
Adults who decide to drink alcohol should minimise their consumption.

Learning activity

1. Discuss how different circumstances and stages of life alter the required intake of nutrients.
2. Compare and contrast the nutritional requirements in each life stage, from a new born to adulthood.
3. Assess the dietary guidelines and nutritional requirements and formulate a guide of what to eat as an adolescent in a typical week.

Australian Dietary Guidelines and Australian Guide to Healthy Eating

Having and maintaining a healthy diet can be accomplished in many varied ways, but guidelines such as the Australian Dietary Guidelines and the Australian Guide to Healthy Eating provide a good starting point when considering food choices. Adhering to these guides is beneficial to all Australians. An individual also needs to consider what foods to eat or avoid, as well as looking at the role nutrient content plays in a healthy diet. A healthy diet is important for everyday wellbeing and it is directly influenced by the choices an individual makes when it comes to their diet. Healthy food choices allow a person to make informed decisions about their diet and can give them the means to live a life focused around wellbeing. Many outside factors, such as personal and social preferences, economic status as well as cultural and religious influences can affect food choices. These also include diet-based choices, such as vegetarianism or veganism.

Australian Dietary Guidelines

The principal guidelines below are outlined by the Australian Government. In connection with the Australian Guide to Healthy Eating, they provide a basis for a healthy diet and lifestyle.

- **To achieve and maintain a healthy weight, be physically active and choose amounts of nutritious food and drinks to meet your energy needs.** From children to adolescents and adults, all must eat nutritious foods to grow and sustain a healthy state. It is recommended that everyone is physically active every d

- **Enjoy a wide variety of nutritious f** by consulting the Australian Guide to from the major food groups. It is also and digestion.

- **Limit intake of foods containing sa added salt, added sugars and alco** and sodium content can be very dam healthy diet and it is important to avo where possible or consume them in s Many of these products can be subst variants or reduced-sodium items. It i to watch which drinks are being cons beverages such as soft drinks, energ even juices contain high amounts of s

- **Care for your food; prepare and st** Fresh and perishable foods such as f vegetables, as well as fresh meat and are important aspects of a healthy di large amounts of preservatives and s important for a person to include ther and to take care when storing and pr items. Make sure meat such as chick thoroughly cooked and refrigerated o them to not only be safe for consump aiding hygiene and getting the most o

- **Encourage, support and promote** Breastmilk is a hygienic, natural food and offers a range of health benefits Some mothers experience difficulties and an alternative is infant formula.

Source: Eat for Health (www.eatforhealth.gov.a

Figure 2.5:
Australians should enjoy a wide variety of nutri
five groups every day.

Figure 2.6:
The Australian Guide to Healthy Eating.
Source: Eat for Health (www.eatforhealth.gov.au/guidelines/australian-guide-healthy-eating)

The Australian Guide to Healthy Eating

The Australian Guide to Healthy Eating is a visual representation of what should be considered when choosing foods for a healthy diet. It has been developed by the Australian Government to show what amounts of each food group should be eaten in a day.

In this guide, the foods that people eat are divided up into five main categories, each with a recommended amount of consumption per week and examples of good choices for each. Ultimately, a person should be eating according to this guide, consuming a lot of fruit, vegetables, grains and moderate amounts of dairy and lean meats/alternative proteins. Staying away from sugary and fatty foods for the most part and choosing water as a drink are also wise considerations. This is something that is quite simple to remember and it allows a person to easily incorporate it into their daily diet. Simple measures are generally the most effective, and many schools are incorporating these systems into their canteens.

Learning activity

1. Construct a meal plan for a day that adheres to the Australian Guide to Healthy Eating and satisfies your personal choice.
2. Research bush foods and the nutrients they provide as a part of the Aboriginal and Torres Strait Islander Guide to Healthy Eating.
3. Explain why complex carbohydrates are recommended over simple carbohydrates.
4. Research the link between dietary choices and one lifestyle disease.

Food groups

For a healthy and balanced diet, an individual must understand and consider the five main food groups. All food groups supply the body with nutrients in various amounts and these must be consumed in order to remain healthy. Eating from the five foods groups allows a person to get the nutrients that they need and limit their intake of sugar, salt and saturated fat.

Fruit

Fruit is high in fibre and water, while being low in energy, which helps to stop overeating by creating a feeling of being fuller for longer. Fruits are also high in many vitamins, such as vitamins E and C and minerals such as potassium and magnesium, helping to both reduce the risks of cardiovascular conditions and lower blood pressure.

It is important to consume a wide range of different fruits for the best variety of nutrients, with seasonal availability providing the best-quality fruits at that time. One serve of fruit is equivalent to 150 grams or 350 kilojoules, which is roughly one medium-sized whole fruit, two smaller fruits such as apricots, or one metric cup of canned fruit. It is recommended that adolescents should have at least two serves of fruit a day.

Grains and cereals

Grains and cereals provide carbohydrates, protein and fibre and are important for a healthy diet. They also contain vitamins such as vitamin B and minerals such as riboflavin, iron, zinc, magnesium and phosphorous. These foods are derived from wheat, barley, oats, rye and corn, taking the form of anything from breakfast cereals to bread and pasta. Cereals fall into two categories – wholegrain and refined – with refined cereals having the bran and germ layers of the original grain removed. This tends to remove a lot of the original fibre and nutrients, so wholegrain items are more nutritious to consume than refined products such as white bread or rice.

It is recommended that adolescents consume five to seven servings per day. Each serving constitutes about 500 kilojoules; this is equivalent to one slice of bread, half a cup of pasta or rice, two-thirds of a cup of breakfast cereal or a quarter of a cup of muesli. It is suggested that a person should vary their servings depending on their energy needs, and consume a variety of different serving options throughout the day.

Lean meat and poultry – fish, eggs, tofu, nuts and seeds

This food group is an important part of a nutritious diet. It mostly provides high quantities of protein, along with iron and some fatty acids. It is important for an individual to eat a variety from this food group as each food contains various amounts of nutrients that are absorbed in different ways. The nutrients that are contained in meat are iron and zinc. These are absorbed into the body more easily than from nuts and seeds, although the vitamin C in nuts and seeds helps with the absorption of other nutrients that are contained in meat. Another important part of this category is fish, which contains nutrients that reduce the risk of dementia, stroke and macular degeneration. The recommendation is for at least two serves of fish per week.

A single serving from this food group contains around 500–600 kilojoules. This equates to around 65 grams of lean red meat, 100 grams of fish, 80 grams of chicken, 170 grams of tofu or 30 grams of nuts and seeds. It is suggested that an individual consumes one to three servings from this food group per day. The amount of red meat consumed in a week should be monitored, as overconsumption can increase the risk of health problems such as colorectal and renal cancer.

Figure 2.7:
Grains and cereals contain numerous vitamins and minerals.

Figure 2.8:
Meat or meat substitutes are an important source of protein, iron and zinc.

Milk, yoghurt, cheese and their alternatives

This group provides calcium primarily in a way the body can easily absorb it. Products also contain sizeable amounts of protein, iodine, vitamins A, B12 and D, riboflavin and zinc. It is important that people who are intolerant to lactose seek out alternatives (such as soy milk) to keep this food group in their diet. This group includes soy products fortified with calcium, as well as yoghurts, cheeses and full- or low-fat milk. Where possible, low- or reduced-fat products are suggested for people over the age of two as they provide the nutrients without adding extra saturated fat and kilojoules to the diet.

One serve from this category contains 500–600 kilojoules, which is 250 millilitres of milk or two slices of cheese. The same amount of calcium can be gained from alternative sources, such as 100 grams of almonds, 60 grams of sardines, 100 grams of salmon or 100 grams of firm tofu.

Vegetables, beans and legumes

Vegetables, beans and legumes such as chickpeas and kidney beans are foods that contain high amounts of magnesium, vitamin C and folate. These foods have been linked to the prevention of cardiovascular disease and promoting overall wellness.

A wide variety of vegetables are available all year round. Having a healthy diet means consuming a range of seasonal varieties of different colours that are fresh and of good quality.

Most adolescents should consume a minimum five serves of vegetables, beans and legumes a day, with a serving size of 100–350 kilojoules. This is the equivalent of half a cup of green or orange vegetables, a half a cup of beans, a cup of raw leafy salad vegetables, half a potato or a medium-sized tomato. Varying intake is the key to getting all the nutrients possible.

Australians, on average, do not eat enough:

- vegetables and legumes/ beans (including soy)
- fruits
- reduced-fat milk, yoghurt, cheese
- wholegrain cereals
- fish, seafood, poult nuts and seeds
- red meat (young females only).

Australians, on average, also overconsume:

- starchy vegetables (such as potatoes, corn, pumpkin)
- refined cereals
- high- and medium-fat dairy foods
- red meats (adult males only)
- food and drinks high in saturated fat, added sugar, added salt, or alcohol (such as fried foods, most take foods from quick service restaurants, cakes and biscu chocolate and confectionery, sweetened drinks).

Adapted from: Eat for Health (www.eatforhealth.gov.au)

Figure 2.9:
A healthy diet includes a range of seasonal vegetables of different

Learning activity

1. Discuss the benefits of and choices that go into maintaining a healthy diet.
2. Identify a range of circumstances that will have an influence on an individual's food choices.
3. Discuss the importance of each food group's inclusion in a well-balanced diet.
4. Construct a table showing each of the food groups, their nutrients and recommended intake.
5. Research the dietary issues causing the obesity epidemic in Australia and suggest strategies to address these issues.

Nutrients, vitamins and m

The nutrients in a balanced, varied diet, contain vit and minerals that are essential to sustain life and m good health.

Nutrients

Nutrients are essential for the proper functioning of the body. If an individual does not consume an adequate amount of nutritious foods, they may experience deficiencies of essential nutrients, meaning the body will not function as it should.

Carbohydrates

Carbohydrates, which include dietary fibre, starch a sugar, are known as the most important energy sou body. Simple carbohydrates are refined sugars that the body such as vitamins and fibre. Complex carbo found in cereal, grain, bread and vegetables. These starch and fibre, which can cause the body to feel f beneficial for the body as it helps with the eliminatio

The main function of carbohydrates is to provide the They help build strength by generating energy. Carl sucrose and glucose, which the body absorbs and energy. Simple carbohydrates such as sugar, honey processed quickly. Complex carbohydrates such as legumes and grains are processed more slowly and release of energy into the body.

Figure 2.10:
Simple carbohydrates are refined sugars that are found in mos

Protein

Protein and water make up most of the body tissue. The muscles, organs and some hormones are made up mostly of protein. Protein is a long chain of amino acids. Amino acids have 22 different varieties: 14 of these are regarded non-essential, as the body can create them, and eight are essential amino acids which the body needs to get from food. Common sources of protein include fish, meat, chicken, eggs and cheese.

Protein is involved in the functioning of almost all cells. Protein helps defend the body from antigens, promotes muscle contraction and movement and coordinates certain bodily activities. Without protein, the body would be unable to repair, regulate or protect itself. Protein helps keep skin, hair and nails healthy and is crucial for overall health.

Fat

The body only needs small amounts of fat in the diet. These are a part of the chemical group known as lipids. Saturated fats can be found in animal products, such as cheese or eggs, and can be linked to health problems such as high cholesterol and a higher risk of heart disease. Monounsaturated fats are contained in foods such as avocado, nuts and olives. Polyunsaturated fats are contained in foods such as fish, nuts, soy beans and polyunsaturated margarine. These fats are suggested to help lower cholesterol levels.

Like carbohydrate and protein, fat is an essential energy source for the body. Fat makes up parts of the brain, protects the joints and helps to absorb various vitamins and minerals. Fat provides insulation and protects vital organs. 'Good' fats are essential and come from foods such as olive oil, almonds, walnuts and avocado.

Dietary fibre

Dietary fibre is derived from plant foods such as fruit, vegetables, nuts, cereals and legumes (for example, lentils, beans and peas). It is the element of these foods that cannot be digested by the body. Other foods such as dairy products, meat, fish, eggs and dairy products do not contain any fibre.

Dietary fibre helps to keep the digestive system healthy and fully functioning. Fibre has many other benefits; it is proven to reduce the risk of diabetes, lowers blood cholesterol and helps with weight control.

Figure 2.11:
Eggs are a common source of protein.

Figure 2.12:
Dietary fibre helps to keep the digestive system healthy and fully functioning.

Water

The body contains a substantial amount of water, with around 85 per cent of the brain, 80 per cent of blood and 70 per cent of muscle being water. To ensure the body functions effectively, an individual needs to maintain an ideal level of water in the body. Water is lost through sweat, urine and faeces.

Water helps to relieve and prevent a range of health concerns such as headaches, asthma, allergies, muscle pain, bloating and constipation. Water helps to maintain muscle tone, alleviate weight loss and promote healthy skin. Water also works to regulate body temperature, remove toxins and waste from the body, lubricate joints and protect body tissues and organs.

Vitamins

Vitamins are organic compounds that are essential for the body in small quantities. They are found in the food consumed and help the body function effectively. There are two different types of vitamins: fat soluble and water soluble. Fat soluble vitamins such as vitamins A, D, E and K can be stored in the body for when they are required. Water soluble vitamins, such as vitamins C and B travel through the bloodstream and through urination.

Vitamins that are essential for the body help with the promotion of normal cell functioning, growth and development. Different vitamins have specific functions, for example:

- **Vitamin A:** maintains healthy teeth, bones and skin.
- **Vitamin C:** assists in the absorption of iron in the body and helps to sustain normal connective tissue.
- **Vitamin E:** a key element in the formation of red blood cells.

Figure 2.13:
To ensure the body functions effectively, an individual needs to maintain an ideal level of water in the body.

Figure 2.14:
Vitamins are essential for the body in small quantities.

Figure 2.15:
The body requires minerals to help it function effectively.

Minerals

Minerals are substances that are inorganic. The body requires them in small amounts and obtains them from plant and animal foods that an individual consumes. The minerals that are essential for the body to function effectively include calcium, fluoride, iron, magnesium, potassium, sodium and zinc. These minerals are important to maintain cellular fluid composition, energy creation and healthy maintenance of the body's tissues.

Minerals build and maintain the structures in the body. Each mineral has its own specific function, for example:

- **Calcium:** build bones and teeth, helps heart action. Calcium is found in dairy products such as milk, cheese, leafy green vegetables, broccoli, nuts and some fish.
- **Fluoride:** maintains bones and teeth. Fluoride is found predominately in water and is an ingredient of most toothpastes to prevent tooth decay.
- **Iron:** assists to regulate blood and oxygen transportation. Iron can be found in foods such as meats, beans, whole grains and dried fruits.
- **Magnesium:** important for hormone regulate and energy creation. Magnesium can be found in foods such as green leafy vegetables and nuts.
- **Potassium:** regulates fluids in the body and muscles membrane potentials. Potassium can be consumed by eating bananas, most vegetables and pulses.
- **Sodium:** helps balance electrolytes. Although reducing the total amount of sodium consumed through the diet is optimal, it is important to still consume small amounts which can be found in breakfast cereals, processed meats, cheese and most savoury discretionary foods.
- **Zinc:** assists carbon dioxide, insulin storage and healing wounds. Zinc is found in foods such as meat, shellfish and milk.

Case study

Melanie is a professional dancer. She trains five days a week, for at least two hours. She is also a dance teacher. She teaches dance for three hours before she trains herself every week night. She wakes up early to take her dog for a walk and has a quick banana smoothie on her way back. She gets ready for school (she is a teacher) and buys a salad on the way to work for lunch. She eats a protein bar on the way to dance and has a sports drink and pasta for most of her dinners. On the weekends, she usually eats out for most of her meals. Melanie doesn't like the taste of especially sugary or sweet foods, and she is very cautious of the amount of carbohydrates and trans fats she eats. She has been vegan for six years and is extremely fit and healthy.

Figure 2.16:
A healthy diet maintains ideal body weight.

Tyler is all about his meat. Sausage and bacon roll for breakfast, chicken schnitzel for lunch and dinner at the club; usually ribs or a T-bone steak. Tyler hates vegetables, and he hates salad. He doesn't mind, however, the hot chips or the salads that come with his schnitzel burger. Tyler is a bricklayer and works long hours. He starts early and gets paid well, so he has never seen the need to prepare lunch or breakfast. Rather, he buys it. Tyler's job is very physically demanding and he gets most of his weekly physical activity done during this time. Tyler starts early and finishes late, and says the thing that gets him through the day is his morning and afternoon energy drinks. Consuming these two drinks equates to approximately one litre. On a Saturday and a Sunday, he will have three energy drinks a day.

Figure 2.17:
An unhealthy diet can lead to lifestyle diseases such as diabetes.

1. Compare and contrast the diets of Melanie and Tyler.
2. Research and estimate their energy intake per day.
3. Assess whether they are meeting the recommended guidelines.
4. Suggest ways Tyler can improve his diet.
5. Design strategies to help Tyler overcome bad habits and follow the suggested improvements. For example, if the suggestion is to stop drinking energy drinks, provide specific tips on how to achieve this goal.
6. Suggest ways Melanie can ensure she has adequate protein in her diet.

Food allergies and intolerances

Some individuals cannot eat certain foods because it makes them sick. They may be allergic to a certain food or type of food, such as peanuts, shellfish or cow's milk. Alternatively, their bodies may be unable to digest a type of food, such as the gluten that is found in wheat.

A food allergy occurs when the immune system produces antibodies to identify and neutralise foreign intruders in the body like bacteria, viruses and toxins. For people with a food allergy, the immune system will identify otherwise harmless foreign bodies (certain foods) as harmful and tag them for an immune response. This response releases chemicals into their body and creates an inflammatory response. This can result in digestive distress, respiratory distress, skin inflammation or in severe cases, an anaphylaxis response.

It is important to realise that food allergies are not the same as food intolerances. Food allergies cause a response in the body's immune system. Food intolerances are not related to the immune system; they are simply the body's inability to properly digest a particular food.

The foods that are responsible for most allergic food reactions in Australia are:

- eggs
- shellfish (lobster, crab, prawns)
- fish
- cow's milk
- peanuts
- tree nuts (almonds, cashews, walnuts)
- soy
- sesame
- wheat.

Figure 2.18:
An EpiPen injection may be required to reduce an anaphylaxis response.

Did you know?
About three per cent of infants are affected by peanut allergies.

Peanut allergies

Peanuts are a common source of food allergy among children and adults. Peanut allergy reactions can be immediate and severe, and often involve an anaphylaxis response. Symptoms of a reaction to peanuts, as with all food allergens, include breathing difficulties, runny nose, skin redness, lips swelling, itching, tingling and throat tightening. Peanuts, peanut oil and peanut butter can hide unexpectedly in many foods and are common in many takeaway shops and restaurants that use deep frying. Foods that are otherwise free of nuts may become cross-contaminated by sharing utensils or cooking procedures. Products other than food, such as some skincare products and make-up, also use peanut oil. Strategies to avoid accidental exposure to peanuts include having correct policies at schools, keeping people informed of the allergy, only eating foods with known ingredients, preparing own food, becoming educated about food labelling and not sharing food.

Lactose intolerance

Lactose is the type of sugar found in dairy products. Lactose intolerance occurs when a person has difficulty or is unable to digest the milk sugars from a range of dairy products. Caucasians rarely develop this condition and many babies are wrongly assumed to be lactose intolerant. Lactose intolerance is more common among Australian Aboriginal people and people from Africa, the Middle East, Asia and some Mediterranean countries. Symptoms of lactose intolerance include pains in the abdominal region, bloating, gas and diarrhoea.

Products that may include hidden dairy ingredients and should be avoided if a person is lactose intolerant include:

- milk chocolate
- muesli bars
- pancakes
- biscuits and cakes
- custard
- scrambled eggs
- quiche
- cheese sauce.

For individuals who are lactose intolerant, the following foods may be appropriate to consume as substitutes:

- non-dairy milks such as almond, soy or rice milk
- tofu
- broths
- fruit sorbets
- beans and lentils
- quinoa.

Figure 2.19:
Dairy-free substitutes are available for people with lactose intolerance.

Gluten intolerance

Gluten is a protein that is found in wheat and some other grains to which some people have adverse reactions. The severity of the reaction can range from gluten intolerance to the auto-immune condition known as coeliac disease.

Symptoms of gluten intolerance include diarrhoea, bloating, abdominal pain, joint pain, muscular disturbances, headaches and vertigo. Fortunately there is an abundant range of gluten-free food choices available to purchase in grocery stores as well as in fast food outlets and restaurants. Fresh fruits and vegetables and predominately gluten free, however pre-packaged foods may contain small traces of gluten and the ingredients lists should be checked prior to consumption. Some examples of foods that are readily available in gluten free forms include:

- breads
- pastas
- grains and flours
- unprocessed meats
- plain milks
- biscuits.

Figure 2.20:
Many restaurants and cafés now have gluten-free options on their menus.

Learning activity
1. Propose a range of strategies for adolescents to maintain healthy food habits.
2. Research the school's policy for dealing with peanut allergies.
3. Describe how to administer an EpiPen.
4. Analyse the implications and behavioural changes that are necessary if a person has a serious food allergy.
5. Choose a food allergy and design a health promotion campaign to raise awareness about it.

Food additives

There has been a recent focus on 'food nasties' – the preservatives and additives found in modern food. There has also been a trend towards food companies excluding these additives from their products, to match consumers' requests.

Food can be preserved using different manufactured chemicals that prevent decomposition. In Australia, common chemicals used include nitrates and sulphates, which work towards preventing the growth of bacteria and oxidation of food. There is much controversy in relation to the use of preservatives in food, as they can cause a range of health concerns and adverse effects. In children, preservatives can significantly affect their behaviour and mental functioning. Different countries around the world have banned or limited the use of different preservatives.

Additives are coded according to worldwide standards and restrictions. When assessing the content of a food, it is important to identify preservatives and additives so, if necessary, chemically-enhanced foods can be avoided.

Common approved chemical preservatives in Australia include sodium nitrite (250), benzoic acid (210), propyl-p-hydroxy-benzoate (216), sulphur dioxide (220) and ammonium acetate (264). Australian food labels are required to list the full name or INS number of any food additive found in the product.

Figure 2.21:
Soft drinks have a range of additives, including artificial colours, artificial flavours and preservatives.

Internet activity

Log on to TitanOnline to complete Activity 2.1 to learn about the negative effects of food additives.

Making healthy food choices

Most people are informed about what makes up a healthy diet, but still find it difficult to make healthy choices. Our modern, busy lifestyles often make it hard to resist tempting treats or takeaway options, which often provide poor nutrition.

Influences on food choices and eating habits

For many families, modern day life is characterised by working more hours and spending less time preparing food. Meal times are commonly fragmented – people often eat at different times and in different places – frequently outside the home, with a heavy reliance on snack and convenience foods. Convenience foods have become part of modern day living for some people with demanding and hectic lifestyles. The food industry has responded to this demand, with every sector developing some form of new convenience product. An increasing number of technological advances have changed the way food is produced, manufactured and distributed. Computer-based control systems, sophisticated processing and packaging systems, and logistics and distribution advances have helped to increase efficiencies, ensure product quality, improve food safety and reduce costs.

There has been a rise in ethical consumerism, with consumers intentionally buying or avoiding products, based on their personal or moral beliefs. For food purchases, this may involve selecting foods that minimise harm to, or exploitation of, humans, animals and the environment. Examples of ethical foods include those produced by cruelty-free, organic or sustainable means, or by fair trade. Conversely, other products believed to be associated with unethical behaviours may be boycotted. Many companies and products now provide information relating to various ethical business practices, such as environmental sustainability, to gain ethical accreditations and recognition in the marketplace.

There has been a growing interest in food as a source of entertainment. Television cooking programs have become popular, glossy cookbooks frequently make the bestseller lists and some chefs have become celebrities. Food companies and supermarkets have capitalised on this as a marketing opportunity and have actively promoted their products through these media. New trends are also emerging, such as the 'slow food' movement that challenges the dominance of standardised, industrially produced food. The movement strives to respect and preserve regional cuisines, along with encouraging traditional farming practices.

Source: Adapted from Australian Institute of Health and Welfare (www.aihw.gov.au)

Food choices are something that can be easily influenced by outside factors, forming habits from the groups that people eat with such as family and friends to the cultures in which they were brought up in.

Many of these influences can have an effect on the way people choose what to eat. The diversity of factors varies from person to person. Often individuals are unaware of these factors influencing food choices and eating habits.

Eating as a family

Eating as a family is an important part of growing up, playing a major role in food choices and eating habits throughout life. Family meals make up the basis of what a lot of people see as 'normal' choices for a meal. There are many benefits to eating together as a family. Firstly, home-cooked meals are more nutritious and wholesome than fast food, takeaway or pre-packaged meals. These foods will be tailored to the food choices made by parents and their families, bringing a wide range of food choices. The processes of having meals at home with the family are also important, building skills from purchasing ingredients and handling food items to their storage and preparation. It also helps adolescents to learn basic cooking techniques to ensure they can continue with these healthy eating habits outside of the home.

Peer groups and healthy eating

Peer groups have quite a large effect on adolescents, able to subtly but dramatically influence the choices of many young people. It may be by simple peer pressure or in more passive ways, but there are many things that can cause food choices formed within a home environment to change dramatically when out with friends.

Whether it is healthy or unhealthy foods, people tend to eat differently when presented with a group scenario. A lot of the time, this can seem out of a person's control if it includes group-made decisions. This can lead to, and reinforce, unwise food choices if occurring on a regular basis. It is important to remember that people should always feel they can have a say in these discussions and ultimately have the power to make their own decisions for personal consumption.

If a person has any issues with food choices, there are several different things they can do to look after themselves and even their peer group's decisions. Simple things such as choosing healthier items on the menu when eating out or suggesting alternative venues can help when presented with these options. Other options include bringing snacks to share at gatherings or simply eating beforehand.

Figure 2.22:
Home-cooked meals are a lot more nutritious and wholesome than fast food.

Figure 2.23:
People tend to eat differently when presented with a group scenario.

Strategies for a healthy, balanced diet

An important part of a healthy, balanced consumption of food is to set up strategies to ensure that a person remains fit and healthy. From portion sizing and drink choices, to exercise and dieting, there are many ways to ensure that a person's daily habits are helping them to maintain their health.

Minimising fats, sugar and salt

Diets that are high in fats, sugar and salt are associated with obesity, heart disease, stroke and increased risk of cancers. It is recommended that intake of saturated fats, sugar and salt be limited or avoided wherever possible.

Fats

Fats are an energy dense nutrient, containing more kilojoules than other nutrients. Fats are an important nutrient to consume within a balanced diet, but knowing which foods contain the various types of fats to consume is important in maintaining a healthy lifestyle. Fats are divided into two primary groups of saturated and unsaturated.

Saturated fats and trans fats are not recommended t[...] large quantities as they can increase low-density lipc[...] cholesterol. Foods containing saturated and trans fat[...] consumed regularly. These fats can increase the risk[...] Saturated fats can be found in the following foods:

- high sugar confectionery foods, such as lollies
- some meats, such as bacon and pork
- fried foods, such[...]
- processed foods[...] biscuits and cake[...]

In contrast, saturated fats, which include monounsatu[...] polyunsaturated fats, increase high-density lipoprotei[...] in the body, which assist to reduce LDLs in the body.[...] Consuming some unsaturated fats can help to impro[...] health and lower blood pressure. Unsaturated fats ca[...] found in the following foods:

- avocado
- nuts
- olive oils
- some fish, such as salmon and tuna
- some seeds, suc[...] chia and hemp
- olives
- eggs.

It is recommended that adults consume between 10–20 per cent of the total energy intake from variou[...] foods containing unsaturated fats. Unsaturated fats will assist to regulate body temperature and maintain[...] skin and nails.

Figure 2.24:
Saturated fats can be found in processed foods, such as donut[...]

Figure 2.25:
It is recommended that Australians consume no more than 50 grams of sugar per day.

Sugar

Some sugars such as fructose, glucose and sucrose are naturally occurring nutrients. Sugars are simple carbohydrates that can be classified into three different categories depending on their number of molecules; monosaccharides, disaccharides and polysaccharides, containing one, two and more than 10 molecules respectively. These natural sugars can be found and consumed in foods such as fruits and milk.

Foods can also contain added, man-made sugars. Added sugars have more than 42 names and are produced in both liquid and solid forms. Dextrose, molasses, nectars and rice syrup are just some of the various names added sugar can be disguised as on product labels. Consume too much sugar and the body stores it as fat, increasing the risk of obesity and diabetes. Most added sugars lack nutritional benefits and should be reduced. Unfortunately, the Australian population consumes a significant amount of added sugar, primarily from sweetened drinks such as fruit juices and soft drinks. Young adults between 18–24 years of age are reported to consume the most added sugar through drinks, with some Australians consuming 60 per cent of their total nutrient as added sugars. On average one can of soft drink can contain approximately 15 teaspoons of sugar. Added, refined sugar has a high glycemic index (GI) which can increase the risk of type 2 diabetes.

It is recommended that Australians consume no more than 50 grams of sugar per day and prioritise consuming the sugar through fresh fruits as they also contain high amounts of other valuable nutrients such as fibre.

Salt

Salt is a chemical compound (electrolyte) made up of sodium and chloride. It is commonly used to preserve and flavour foods, and is the main source of sodium in the diet. A small amount of salt is important for good health as it helps to maintain the correct volume of circulating blood and tissue fluids in the body. However, most people consume much more sodium than they need for good health.

Research about sodium intake in Australia indicates:

▪ The average Australian consumes around three times more sodium than they need for good health. The National Health and Medical Research Council (NHMRC) advises that Australian adults should aim to consume no more than one teaspoon (four grams) of salt a day (or 1,600 mg of sodium a day) to prevent chronic disease.

▪ Generally, infants and children need less salt than adults. The NHMRC and Heart Foundation advise that all Australians should at least reduce their salt intake to less than one and a half teaspoons (six grams) of salt a day (about 2,300 mg of sodium a day) as a first step towards reaching the recommended levels. Salt intake above one and a half teaspoons is associated with high blood pressure, which is a risk factor for kidney disease and cardiovascular disease (such as heart disease and stroke).

▪ Around 75 per cent of the salt in the diet comes from processed foods. An individual cannot see the added salt in processed foods, which means often they are unaware of the amount of salt they are having. Dietitians and nutritionists recognise that it may be difficult for many people to reduce their salt intake to the ideal level because foods available to the population generally contain too much salt.

▪ Many healthy, everyday foods – such as vegetables, fruit, most dairy and fresh meats – contain minimal salt. Many foods – wholegrains, meat and dairy products – naturally contain small amounts of sodium, while highly processed foods tend to contain large amounts.

▪ Some foods contain more than expected. For example:
  – A meal sandwich has only 30 per cent less salt than a Vegemite sandwich, because most of the salt comes from the bread.
  – Sea salt, onion, celery or garlic salts are not low-sodium substitutes.
  – A bowl of cornflakes has about the same amount of salt as a small packet of plain chips.
  – Some sweet biscuits contain as much or more salt than savoury biscuits.
  – Ricotta, cottage, mozzarella and Swiss cheeses are lower in salt than most other cheeses.

Source: Better Health Channel (www.betterhealth.vic.gov.au)

Meal sizes and portion control

Portion control is essential when it comes to weight control loss, making sure to not overeat and to listen to bodily sign as the feeling of being full. These are feelings that people r to be able to recognise. Knowing this allows people to mak accurate and informed choices about how much food, and food, they need to consume.

Many people also tend to eat quickly, with distractions suck as the television taking their focus away from the process of eating. This can lead to overeating, especially if distractive behaviours occur regularly. Thinking about approaches to the way a person eats – not just what they eat – is one of the major factors that helps people keep to a healthy and balanced diet.

Figure 2.26:
Confectionary such as lollipops contain high amounts of sugar.

Healthy snacking

Most people like to have something to eat between meals to keep appetite at bay. An individual also needs to consider the healthy options available when choosing snacks, meals and drinks. Making smart snack choices can maintain energy levels and avoid the 'crashes' in energy that are associated with snacks of simple carbohydrates and those high in sugar. Some tips for healthy snacking include:

- Avoid biscuits – they are high in kilojoules and usually contain saturated or trans fats.
- Make fresh food choices wherever possible – pack them in the lunch box so they are readily available.
- Limit coffee and tea to the recommended levels.
- Stay clear of added sugars.
- Beware of foods such as banana bread, which sound healthy but are poor choices.

Figure 2.27:
Making smart snack choices can maintain energy levels and avoid crashes in energy.

Energy and soft drinks

One thing that is often overlooked when discussing healthy, balanced diets is the role that drinks play in a diet. It is important to drink a large amount of water throughout the day, but many other drink choices can be quite sugary and unhealthy, sometimes without even seeming to be. Sugary drinks especially, including water-based beverages with added sugar, are high in kilojoules, which can generally lead to weight gain and obesity. These types of drinks include energy drinks, non-diet soft drinks, fruit drinks, sports drinks and cordial. The high sugar and kilojoule content of these drinks can cause a problem when consumed regularly. It has been found that consuming one can of soft drink a day could lead to a weight gain of 6.75 kilograms over a year, if it was not offset by exercise or diet.

Overconsumption of energy and soft drinks can also lead to an increased risk of many health issues such as diabetes. Sugary drinks can be quite damaging to teeth as the acid in the products affects tooth enamel. It can cause gradual wear on teeth, which contributes to tooth decay, a disease that is prevalent in Australia. Maintaining regular oral hygiene is important to counteract the effects of gradual decay. Adolescents are high consumers of these drinks – in particular, soft drinks, sports drinks and energy drinks. Older age groups also purchase these drinks in high quantities. Although these drinks are not extremely harmful when consumed in moderation, individuals must be aware of how much they are consuming and avoid these drinks when creating a nutritious, balanced diet. It is also significantly easier and quicker to consume high amounts of kilojoules through drinks rather than food that needs to be eaten.

Learning activity

1. Reflect on what influences a person's eating habits. Compare your list with a partner.
2. Research two healthy recipes you could confidently cook for your family in the next week.
3. Analyse the effect that peer groups have on personal food choices.
4. Outline a healthier food choice from the menu of your favourite fast food outlet.

Canteen foods

School canteens play an important role in providing healthy food options for students. Food that is served in school has become an area of priority for government who recognise that eating patterns established in childhood carry over to adulthood. The aim is to advocate healthy snacks, foods and drinks as well as educating young people about nutrition and promoting healthy food choices. One way the government has gone about this is by educating students about the healthy foods available to them at the school canteen. A system that follows the same design as a traffic light is used. It categorises food items into green, amber and red. Green foods are those that are most healthy and a lot of them should be eaten, amber foods are to be eaten occasionally and red foods are those that individuals should avoid.

Green

Green foods and drinks are to be sold every day the canteen is open and should be readily available to all students. They should be the majority of what is stocked and presented to students as the best choices for food.

These green food choices are:

- high in nu
- wholegra
- fresh, fro
- milk, yog
- lean mea
- plain wat

Did you know?

During the 1700s, the Earl of Sandwich gave his name to the sandwich: two slices of bread with a filling in between.

Figure 2.28:
Fresh fruit is
(healthy) cho

Amber

Amber foods and drinks should be selected only occasionally, as they have moderate levels of saturated fat and/or added sugar and/or salt and can, in large serve sizes, contribute excess kilojoules. They can be offered to students but not pushed as repeat purchase items.

These choices:
- are less nutrient-rich than green choices
- may contain higher amounts of energy, saturated fats or salt
- include items with added sugar such as some cakes, muffins and pastries
- include full-fat yoghurts, cheese and dairy; and processed meats.

Red

Red foods should very rarely be sold. Generally, their sale is restricted to one or two occasions per term. For the most part, the best decision is that they should not be sold in school canteens at all due to their poor nutritional value.

These choices are:
- very low in nutrients
- high in kilojoules, saturated fat and salt
- artificially sweetened
- deep-fried foods
- filled or iced cakes and pastries
- juices with less than 99 per cent real juice
- soft drinks, energy drinks and sports drinks
- drinks with added caffeine or guarana.

This strategy is designed to keep canteens healthy and promoting nutritious diets in school, by offering foods that are predominantly green. It also gives students information on how to eat amber foods in a healthy way, while reducing the influences that can lead to unhealthy food choices throughout life.

Figure 2.29:
Amber choices are less nutrient-rich than green choices.

Figure 2.30:
Red foods, such as deep-fried foods, should be avoided.

Learning activity

1. Reflect on a range of your favourite snacks. Suggest alternatives or ways to make them healthier food choices.
2. Conduct a review of your school canteen and rate the foods and drinks on offer for nutritional value.
3. Create an everyday menu and special occasion menu for the school canteen.

Using technology to improve dietary choices

Technology use is increasingly common among people of all ages, and many people use their phones or tablets when they are out and about. The popularity and availability of apps on smart phones has allowed people to do many things that they have not been able to do previously, including the ease with which an individual can maintain a healthy, balanced diet. There are many diet and nutrition trackers that can help individuals log their nutritional intake, shop for healthy foods, work around food allergies, analyse the ingredients of certain foods and choose a healthy eating plan. Most apps can be downloaded for free; some require individuals to purchase them. Some healthy eating apps include:

- **Fooducate:** allows people to scan the barcode of a food product and be provided with its nutritional information in a simple, easy-to-understand form.
- **Wholesome, Healthy Eating:** designed to make healthy eating fun, appealing and easy. Provides diet analysis and recommendations to improve the diet.
- **Lose It!:** a nutrition logging app aimed at people who want to watch what they eat. By adding an individual's height and weight, it will give them a recommended daily kilojoule intake. Individuals then enter what they eat and the app gives them a nutrition summary. The app also includes an exercise logging feature.

Figure 2.31:
Diet and nutrition trackers help users log their nutritional intake and choose a healthy eating plan.

It is now extremely easy to purchase an array of healthy foods. Most large grocery chains allow individuals to order groceries online and either pick-up in store of get them delivered to their home. When browsing the apps, consumers are given detailed information about each product including nutritional information, ingredient list and allergen advice as well as quantities required for various recipes.

Learning activity

1. Construct a weekly plan for weight loss, including a balanced diet and an exercise plan.
2. Discuss some simple strategies to maintain portion control.
3. Compare the nutritional information of popular soft drinks, energy drinks and sport drinks.
4. Design a poster promoting water as the preferred drink of choice, aimed at a target audience of secondary school students.
5. Research a nutrition app for a smart phone (other than those mentioned previously). Describe the advantages and disadvantages of using this app.

Marketing impact on dietary choices

The subtle influence of advertising works in a variety of ways. Promotion of images that do not equate to the truth, but are presented in ways that appear to be 'truthful'. So, people are convinced that buying a particular product will make them happy or younger or more attractive; it must be so because the advertisements 'prove' it.

Repetition of messages that stress minor differences between products, for example, Coca-Cola and Pepsi Cola, can influence unconscious decisions on what becomes a preferred product. Even if consumers dislike some annoying advertisements, the constant repetition of messages can still influence their purchasing actions.

The internet has provided even more opportunity through websites that feature content aimed at children. Marketing on the internet employs a variety of techniques to appeal to an audience, including advertorials, competitions, product discounts and 'advergames'. Advergames are advertiser-sponsored video games that embed brand messages in colourful, fun, fast-paced adventures, which are created by companies for the explicit purpose of promoting their brands.

Indeed, advertising has effectively broadened to include a comprehensive range of activities: television advertising; marketing on the internet; product placement in television programs and films; computer and videogames; peer-to-peer or viral marketing; supermarket sales promotions; cross-promotions between films and television programs; use of licenced characters and spokes-characters; celebrity and influencer endorsements; marketing in children's magazines, outdoor advertising; print marketing; sponsorship of school and sporting activities; marketing on mobile phones; and branding on toys and clothing.

The range of advertising techniques used to engage and persuade children to eat unhealthy food include:

- targeting emotions and feelings, which include fun, humour, happiness, success, winning and popularity
- production techniques such as animation, magic, adventure, violence, catchy jingles and songs and fast pacing (that is, showing action at three times the usual rate)
- premium offers – giveaways, competitions and prizes
- product endorsement by celebrities, influencers and children's characters.

Adapted from: Parliament of Australia (www.aph.gov.au)

This marketing has an impact on the way people form their personal choices and habits as well. It can even subconsciously drive people to certain items with appealing packaging and memorable slogans or jingles. While some of the more obvious and extreme ways companies have tried to do this have been policed, consumers need to be wary of how their views on food can be influenced by the media that they view on a daily basis.

Figure 2.32:
Product endorsements by influencers is a form of marketing.

Dietary tips for adolescents

There are many ways for a person to keep their diet on the right track without huge changes to their normal lifestyle. From simple choices such as changing meeting places to learning new ways to prepare food, maintaining a healthy diet can be enjoyable and rewarding. Tips for maintaining a healthy lifestyle:

- If possible, cut back on or completely avoid drinks such as soft drinks, energy drinks and sports drinks. Sugar-free choices may seem healthier, but they should also be left out of regular diet due to the acidic nature of carbonated drinks, deteriorating tooth enamel. Try to drink as much water as possible and add fruit slices to mix up the taste.

- Keep plenty of fruit around the house to eat when peckish.

- Skipping breakfast is something to avoid; an individual should ensure they eat something with plenty of minerals, vitamins and fibre to stop over-snacking on less healthy foods at morning tea. Wholegrain cereals, yoghurt, wholegrain toast and porridge are great, healthy choices for breakfast.

- Lunch and dinner are equally important meals, so avoid the temptation to skip either.

- Cooking with family and helping out in the kitchen is a great way to learn new things about food and to maintain healthy food practices. As a person can see what goes into their meals, they can see how to keep meals healthy as well as come up with their own ideas.

- Keep portion control in mind and stick to it. Eating slowly and without distractions, such as television, will help to prevent overeating.

- Avoid adding extra salt or sugar to food and drinks.

- Fast food is reasonable to have on occasion but try to choose some of the healthier options on the menu. The majority of fast food choices tend to be high in fat, sugar and salt. This can be damaging to health if eaten regularly. Options where sandwiches, wraps and salads can be built and personalised by each consumer are ideal.

- If a person finds themselves eating out of home a lot with friends, try to suggest varied and healthy meeting places. Changing a trip to a takeaway store or fast food place in favour of a sushi restaurant or sandwich shop can give people opportunities to try new things and eat healthily without too much effort.

Figure 2.33:
Cooking with family and helping out in the kitchen is a great way to learn new things about food.

Figure 2.34:
Try to drink as much water as possible and add fruit slices to mix up the taste.

Energy intake versus energy expenditure

To maintain a healthy weight, individuals can evaluate and balance their 'energy in' and 'energy out'. While there can be several factors involved, generally, an increase in body weight is a result of an imbalance between the amount of energy a person consumes through food and drink and the amount of energy expenditure through physical activity and metabolism. Most of what a person eats and drinks provides their body with energy. If an individual consumes more energy than what they expend through physical activity and metabolism, the excess energy is then stored as body fat.

Each day, the body takes on fuel through the food that is eaten. This fuel is constantly burned throughout the day as the person moves around. The more that an individual moves around, the more energy and 'fuel' they will burn. At the completion of the day, if the body has energy left over then it is stored on the body as fat. However, if a person uses more energy than they have consumed, the body will use stored fat as its energy source, resulting in a loss of body weight. A balance of energy intake and expenditure will result in a stable body weight.

Carbohydrates, proteins and fats are converted into energy in different quantities. Vitamins and minerals are not converted into energy but are essential nutrients for functioning the body. Alcoholic drinks provide energy to the body but are non-essential and do not contain significant nutrients. The energy consumed from food is measured in kilojoules (kJ) as follows:

- One gram of protein = 17 kJ.
- One gram of fat = 37 kJ.
- One gram of carbohydrate = 17 kJ,
- One gram of dietary fibre = 8 kJ.
- One gram of alcohol = 29 kJ.

Exercise burns energy at different rates. Common exercises and the amount of energy they burn per minute include:

- brisk walking = 23 kJ/min
- jogging (light to moderate) = 55 kJ/min
- running (moderate to high) = 68 kJ/min
- swimming = 34 kJ/min.

Learning activity

1. Identify how long it would take to 'burn off' the following foods when jogging.
    a. Chocolate muffin (710 kJ).
    b. Two slices of meat lover's pizza (1,764 kJ).
    c. Mars bar (1,020 kJ).
    d. 50 gram packet of potato chips (1,065 kJ).
2. Identify how long an individual would have to carry out the following exercise to 'burn off' a Hungry Jacks Ultimate Double Whopper (5085 kJ).
    a. Swimming.
    b. Rowing.
    c. Running.
    d. Stationary exercise bike.

Case study

Stephanie Gilmore is an Australian surfer who has had amazing achievements to date, including winning seven world championships in the Women's ASP world tour. To stay fit and healthy, and perform at such an elite level, Stephanie knows exactly what fuel her body needs.

For breakfast, Stephanie has water and an 'Up & Go' before going for a surf for an hour. On returning, she makes a fresh smoothie with lots of raw foods including strawberries, mango, banana, almond milk, chia seeds and a greens supplement. She follows this with a long black coffee.

For an early snack, Stephanie eats toast with avocado and tomato. She adds coconut oil, lemon, salt and pepper for extra flavour. She has a late lunch at around 2 pm, which generally consists of various salads. Her favourite salad is beetroot and walnut. This includes fresh greens, beetroot, walnut, feta, cucumber, vinegar and salt and pepper.

If she is feeling hungry, Stephanie will have a snack between lunch and dinner, which consists of celery and dip and a peppermint tea.

Stephanie says she loves to cook as much as possible and loves to cook dinner. One of her favourites is a Moroccan fish stew with brown or wild rice. If she has dessert, she'll have a glass of red wine and some dark chocolate.

Figure 2.35:
Stephanie Gilmore.

1. Outline the difference in nutritional needs of a professional athlete and an adult with a sedentary lifestyle.
2. Research the type of foods favoured by professional athletes like Stephanie Gilmore and explain the link between diet and performance.
3. Create a suitable menu for a day that would satisfy the energy needs of a professional athlete such as Stephanie Gilmore.
4. Create a personal menu based on the dietary needs for a week. Make sure this is attainable. Consider personal training requirements.

Obesity

Australia is unfortunately one of the most overweight developed nations in the world. Obesity is associated with a wide range of health disorders that commonly affect Australians. Obesity occurs when fat is stored in the body when the energy (kilojoules) of the food and drink an individual consumes is greater than the energy that their body uses for activities or when resting. These small differences over a long period of time will cause a person to become overweight or obese. Rates for obesity in Australia have more than doubled in the past 20 years.

One way of classifying if a person is overweight or obese is through using the body mass index (BMI). For adults, BMI is calculated by dividing a person's weight in kilograms by their height in metres squared (m^2). For example, a person who is 1.65 metres tall and weighs 64 kilograms would have a BMI of 23.5. Individuals who have a BMI of 25 or more are classified in the overweight range. Those who have a BMI of 30 or more are classified as obese. Calculating BMI for children and adolescents is different to this formula used for adults. Due to the rapid growth spurts and associated variations in body fat that occur during childhood and adolescence, BMI calculations are more complex and take into account gender and age as well as weight and height.

Common chronic conditions and diseases that are associated with obesity include:

- insulin resistance
- high blood pressure
- particular cancers such as breast, endometrial and colon
- musculoskeletal problems such as osteoarthritis and back pain
- cardiovascular disease
- atherosclerosis
- stroke
- type 2 diabetes
- gall bladder disease
- sleep apnoea.

Understanding these factors during both childhood and adolescence is important as 80 per cent of children who are obese will grow up to be obese adults. Factors known to increase the risk of obesity include:

- genes
- eating more kilojoules than an individual uses
- socioeconomic factors
- birth factors
- inactivity
- modern living
- technology.

Figure 2.36:
If a person uses more energy than they consume, the body will use stored fat as its energy source.

Figure 2.37:
BMI doesn't distinguish between fat and muscle, so it's not always an accurate reflection of overall health.

Did you know?

It takes 20 minutes for the brain to receive the message that the stomach is full.

Fad diets

A healthy lifestyle involves making positive choices and looking at all areas of wellbeing – the focus should not just be on weight. The aim of weight loss is to decrease a person's net energy intake while maintaining an adequate intake of protein, carbohydrate and other nutrients.

While many 'fad diets' claim rapid weight loss, the loss of body fat should be a long-term goal. For most overweight or obese people, consistent weight loss of between one and two kilograms per week is a suitable goal, and they can achieve this by reducing their daily energy intake and increasing their physical activity levels.

In losing weight healthily, people should focus on losing fat rather than on losing lean muscle mass. A person should set a sensible goal, have realistic expectations and make changes to their lifestyle.

One of the best ways for a person to get started with weight loss is to note down what they eat over the course of a few days, as well as how much exercise they do. This can be put into a diet tracking tool online, where a person can see what they should cut down on or consume more of. They can then make changes accordingly, to put themselves on track to a healthier diet and life.

Figure 2.38:
A healthy lifestyle involves making positive choices and looking at all areas of wellbeing.

Internet activity

Log on to TitanOnline to complete Activity 2.2 to compare a Paleo diet with the Australian Dietary Guidelines.

Paleo diet

The Paleo diet is currently a popular diet in Australia. It promotes consumption of food such as lean meat, fish, poultry, seafood, fruit, nuts, seeds and non-starchy vegetables. Foods such as grains, legumes and some dairy products are avoided. One advantage of this diet is it eliminates many processed foods from the diet. Examples include white bread, refined and sugary cereals and processed meat such as salami.

However, the Paleo diet eliminates many calcium-rich products such as dairy foods. Legumes, which are high in protein, fibre and carbohydrate and help lower cholesterol, are also removed from the diet.

Atkins diet

Even though the Atkins diet was first developed in the 1960s, it remains very popular today. The Atkins diet involves restricting the amount of carbohydrates throughout an individual's diet. The particular diet involves various stages with particular limits of carbohydrates that can be consumed. The purpose of the Atkins diet is for the body to utilise stored fat as the primary energy source. Following the Atkins diet, individuals would consume high amounts of foods such as lean proteins, seafood, eggs, full-fat diary, nuts, seeds, and high-fat fruits such as avocados. People would limit grains, cereals, processed discretionary foods, fruits and starchy vegetables.

Figure 2.39:
The 5:2 diet includes two fasting days, where individuals only consume foods amounting to less than 2090 kilojoules.

5:2 diet

The 5:2 diet is a form of intermittent fasting. For five days of the week individuals eat a conventional diet. On the two other days, individuals only consume foods amounting to less than 2090 kilojoules. The diet appeals to a wide range of individuals considering it is not concerned with the particular food and ingredient choices, but rather how much is consumed. However, following the 5:2 may result in an individual easily over consuming foods on the 'normal' or unrestricted days.

Keto diet

The ketogenic diet (keto diet) focuses on high fat consumption with minimal consumption of carbohydrates. The eating pattern puts the body into a metabolic state called ketosis, where the body utilises fat as a primary source of fuel. Supporters claim the diet reduces blood sugars and insulin levels and results in many health benefits. There are several versions of the diet that are promoted in the media, with different variations around the ratio of carbs to protein. Detractors warn that the diet could lead to kidney stones, constipation and nutrient deficiencies.

Dukan diet

French doctor and nutritionist, Pierre Dukan, created a diet that promises rapid, sustained weight loss by following four dietary phases. Phase 1 involves eating primarily lean protein, oat bran and drinking water. Phase 2 includes unlimited amounts of non-starchy vegetables. Phase 3 includes vegetables, one piece of fruit, two slices of whole-grain bread, and one serving of hard cheese. The final stage involves eating whatever one chooses, with the exception of one day where you eat as per Phase 1.

Making sense of dietary information

There is such a wide variety of food, food services, food advice and trendy diets being promoted, it is often difficult to navigate through the information and make sense of what we read and hear in the media. Whether purchasing foods to cook at home or dining out at a restaurant, having a sound understanding of nutrition, food misconceptions and advertising tricks can empower a person to make healthy, informed food choices. When sourcing information online about food, individuals should review who the particular information is written or provided by. The following questions can assist an individual to determine the accuracy and validity of information:

- Does the author have any credible training, such as being an accredited nutritionist or dietician?
- Is the information backed up by large scale studies or medical advice?
- Does the information provide alternate sources and recommendations of further websites for information?

Governments generally provide reliable sources of information. Social media platforms are not regulated by any governing bodies and allow anyone to write information that may not be accurate or appropriate for the general population. It is common for influencers on social media to endorse various products online in order to attain financial benefit.

Food packaging and nutritional information panels

The way that food comes packaged and the labels on that packaging are important when considering what to buy and eat. This information is controlled under government legislation such as the Food Standards Code. Food Standards Australia New Zealand develops the code, which is applied at state level through government agencies such as Food Safety for each state and territory. This authority also enforces the Food Act 2003 to help make sure that packaging and labels do not mislead consumers.

Figure 2.40:
It is common for influencers on social media to endorse various products online in order to attain financial benefit.

Figure 2.41:
It's important to check the expiration date on packaged food, particularly meat and dairy items.

Did you know?

In 2001, Pizza Hut made a delivery to the International Space Station at a cost of $1 million.

Food labels

Food labels in Australia must comply with the Food Standards Code and are legally required to display certain information. This information includes the:

- name and/or description of the food
- identification of the 'lot' number (food recall information)
- name and Australian street address of the supplier of food (food recall information)

- list of ingredients
- date mark
- nutrition information panel
- country of origin of the food
- warning and advisory statements.

Source: Food Standards Australia & New Zealand (www.foodstandards.gov.au)

While the above list is just for packaged foods sold at stores, larger restaurants and fast food chains are required to display energy content, that is, the amount of kilojoules in the product, on menus and signs so consumers can make informed decisions about product choices.

Nutrition information panels

Nutrition information panels on products are key to letting consumers know the contents of a food or drink. Packaging should show a table with servings per pack, serving size and the average quantity of nutrients based on per serving and per 100 gram portions.

Consumers should see the contents of a product and sometimes even the percentage of a person's recommended daily intake they provide (based on an average adult diet). Using this and knowing how to read the panel allows consumers to make wiser choices as to what foods to purchase and consume in order to maintain a healthy diet.

Modern technology has made it easier for consumers to get accurate information on foods, even when labels are unclear or not on the packaging. Apps for smart phones and tablets can provide fast, up-to-date information on products while being very easy to use. '8700' is a government app that works to help individual consumers make healthier food choices by not only providing the nutrition information for more than 3,000 products, but also including an ideal daily kilojoule figure calculator.

Some food and drink are exempt from foods and vegetables do not commor labels that state the breakdown of ing but often provide information stating l particular fruit and vegetable they pro tea, coffee and foods made and purc the same time, such as meals in a re do not require product and nutritional information labels.

Figure 2.42:
Bottled water may not have a nutritional infor but will usually included other information, su number or country of origin, on its label.

How to read a nutrition information panel

Always look at the 'per 100 grams' column to enable effective comparison between various foods. The 'per serve' column provides an approximate value of nutrients that will be consumed when the size portion is consumed.

- **Fat:** look for products with less than 10 grams of fat per 100 grams.
- **Sugar:** product with less than 10 grams of sugar per 100 grams is acceptable. If a product contains fruit allow 20 grams of sugar per 100 grams.
- **Fibre:** 30 grams of fibre is required each day. Compare products and choose the high-fibre product. If a product contains three to six grams of fibre per serve then this is considered a high-fibre product.
- **Salt:** try to choose 'low salt' or 'reduced salt' products where possible. Look for products with less than 300 milligrams per 100 grams or choose products that are as close to this as possible.
- **Energy:** compare the kilojoules per serve or per 100 grams.
- **Ingredient list:** the ingredient list is structured so that the main ingredient of the product is listed first and the ingredient listed last is contained in the product least. For example, whole wheat (99 per cent), salt, vitamins (B1, B2, niacin, folate). The defining ingredient for a product is also given as a percentage of the total product in the ingredients list.

Source: Queensland Health (www.health.qld.gov.au)

Figure 2.43:
Consumers should always look at the 'per 100 grams' column to enable effective comparison between various foods.

Learning activity

1. Compare the nutritional information panels of various yoghurts. Pay particular attention to the levels and types of fats, sugar and salt. Identify products you believe are healthier options.
2. Analyse your diet and rate yourself in regard to sugar intake. Suggest strategies that could help you minimise your consumption of sugar.

Packaging claims

Claims of nutrition content are those that are made about the certain ingredients, nutrients or substance that are in foods. This includes claims such as 'low fat' or 'great source of calcium'. Claims such as these need to meet certain criteria to be deemed true. For example, the claim 'great source of calcium' means that the product would need to contain more calcium than the amount that is specified as the standard amount for that product.

General level health claims refer to a nutrient or substance in a food and its effect on health function. They must not refer to a serious disease or to a biomarker of a serious disease. For example, it is acceptable to say 'calcium is good for bones and teeth', but it is not acceptable to say 'calcium is necessary to avoid osteoporosis'.

High level health claims refer to a nutrient or substance in a food and its relationship to a serious disease or to a biomarker of a serious disease. For example, diets high in calcium may reduce the risk of osteoporosis in people 65 years and over. An example of a biomarker health claim would be that phytosterols (plant sterols similar to cholesterol) may reduce blood cholesterol.

Adapted from: Food Standards Australia New Zealand (www.foodstandards.gov.au)

Other common packaging claims that are often used to attract buyers to purchase the item in comparison to another includes:

- lite, low or free of a particular nutrient such as fat, sugar or salt
- baked not fried
- reduced MSG or cholesterol
- lean
- good source of fibre
- contains real fruit
- no artificial flavours
- 100 per cent natural
- organic
- contains antioxidants.

Even though food labels are regulated by guidelines and laws, deceptive packaging can still mislead the consumer. It is important that individuals are educated and informed to make wise choices when purchasing packaged foods.

Figure 2.44:
Supermarkets often have 'health food' aisles filled with products that claim to provide greater health benefits.

Figure 2.45:
A fruit juice may use health claims such as 'no artificial flavours' or 'organic' to distinguish itself amongst competitors.

Revision questions

1. Identify the five main food groups outlined in the Australian Dietary Guidelines and the Australian Guide to Healthy Eating. Include a brief overview of each group and how much should be consumed.

2. Outline the principal guidelines of the Australian Dietary Guidelines. Identify how these key ideas promote a healthy diet and lifestyle.

3. Determine the main nutritional requirements of adolescents. Discuss how these differ from the requirements of younger children, adults and athletes.

4. Identify the adjustments a person should make to their diet when participating in vigorous sports.

5. Evaluate the information that must be printed on all food labels under the Food Standards Code and identify why it is important to enforce this code.

6. Food advertising and claims can sometimes be misleading. Outline how an individual would go about assessing the legitimacy of claims and making wise choices.

7. Describe a range of advertising and marketing strategies employed by fast food companies that target children to buy their products.

8. Discuss some of the major influences that can play a part in personal food habits and choices. Identify how a person can combat negative influences and maintain healthy practices.

9. Analyse how the Australian diet has evolved and diversified since the early 20th century.

10. Discuss the traffic light system for food choices in school canteens. Briefly summarise each category.

11. Describe some health conditions that excessive sodium intake has been linked to.

12. Outline the essential nutrients required by the body. For each one, include a description and explain its function.

CHAPTER 3

Healthy relationships

A young person's relationships with their parents, siblings, extended family, friends and others are the basis of a happy, healthy life. Having good relationships relieves stress, builds self-esteem, improves mental health and allows a person to lead a better, longer life. Developing healthy relationships relies on good communication and trust. People in positive relationships respect the rights of others and show affection, support and encouragement to each other.

Focus areas
- Types of relationships
- Healthy relationships
- Negative relationships (including bullying)
- Valuing diversity
- Discrimination

Types of relationships

In childhood and adolescence, relationships with family, friends, teachers and peers are important as they each play a different, but significant role. However, relationships can be complex and difficult to maintain, especially as young people are changing and developing. During adolescence, new relationships with people will often form and some teenagers may even experience a more intimate relationship.

Some relationships are long lasting, such as the relationships individuals share with their parents, siblings, and life-long friends, whereas others may be short-lived due to conflict, changes in friendship groups or changes in circumstances, such as a change in school or sporting team.

Families

Family structures are diverse and
time. The most common family ty

- A nuclear family is the most cor
  structure in Australia. It involves
  and raising children together.

- A single-parent family is one pa
  and raising children alone.

- An extended-family unit is wher
  of the family, other than the par
  in the same house and have a
  relationship with children.

- A blended family includes partn
  any children from previous relat
  as well as any additional childre
  have together.

- A foster family has custody and
  care for children whose parents
  unable to care for them.

- A childless family is a couple
  without children.

Families form the foundation of s
and provide the protection, love a
support that children need to grow
healthy, happy adults. In many wa
the family dynamic and the value
they promote contribute to the typ
attitudes and behaviours young p
have in their lives.

Figure 3.1:
Relationships within families are importa

Friends

One of the most important relationships a young person will have is with their friends. As children grow older, the importance of friendship becomes even more important as independence grows and parental influence lessens. A young person might feel comfortable discussing some things and doing things with friends that they wouldn't with family. Good friends don't judge or put their friends down. They should be there in the good times and be supportive through the bad times. A person's peer group becomes a strong influence on attitudes, behaviours and values that develop during the formative adolescent years.

Figure 3.2:
Good friends should be there in the good times and be supportive in the bad times.

Intimate relationships

Adolescence is the time of life that many young people experience their first close relationship that involves physical intimacy or sexual feelings. This many come at a time when an individual is unprepared and inexperienced in negotiating the rights and responsibilities that are necessary in a healthy, intimate relationship. It is important that young people come to understand if they are ready to enter into a close, romantic relationship and not be influenced by peer pressure or an idealised version of romance as is portrayed on television and the wider media.

Figure 3.3:
Young people should not enter into a close, romantic relationship before they are ready.

Online relationships

Technology is becoming increasingly important in the lives of adolescents, who are typically using technology to communicate with friends, family members, and strangers and pursue romantic interests. While much of this communication is with individuals with whom they know personally, often the engagement is with strangers via social media, gaming, blogs and forums. At best, these online relationships can foster social engagement and be a way to share common interests and information. At worst, it can be a dangerous environment where predatory behaviour is common.

Although young people may find online relationships convenient and often less confronting than 'real life' interactions, it is important to maintain a balance and develop skills that foster safe, healthy relationships in both environments.

Internet activity

Log on to TitanOnline to complete Activity 3.1 to assess the challenges you can face when making new friends.

Did you know?

Social activities account for 91 per cent of all mobile internet use.

Figure 3.4:
Starting secondary school is a time where new friendships are made and developed.

Healthy relationships

Healthy relationships make a person feel safe and happy. While healthy relationships are not necessarily always 'perfect', and from time to time might experience conflict, they generally make a person feel good about themselves and the time spent together.

Forming healthy friendships

Starting secondary school is a time where new friendships are made and developed. It may be scary or intimidating for young people without the support or company of old friends who understand them, but making new friends can be an exciting experience. Old friends are important for young people to have and it can be difficult to start at secondary school with different people, particularly if most of their old friends are at other schools. Young people may feel self-conscious and lose confidence when making new friends, as they may feel nervous about whether or not they will fit in.

There are many ways to help ease the stress and find people who share the same interests. One way is to join extra-curricular activities through the school such as drama groups, dance groups, music clubs, gaming clubs and sports teams. It's possible to ease oneself into a friendship by participating in enjoyable activities.

Things that can help young people make friends more easily are:

- thinking about what they are going to say
- starting conversations
- being interested in others and what they have to say
- being themselves
- being friendly, smiling and acknowledging people
- being confident
- having positive self-talk.

Belonging to a peer group is an important part of adolescence for social and mental health. Groups to belong to can include a group of friends, a sports team, a hobby group or people that live in the same area. Groups can be formed through enjoyment of similar things or values, such as music, hobbies and sports. Having a positive group of friends can provide a great support network and offer encouragement, advice, comfort and companionship. A peer group can also be a big influence in how a person behaves, and contributes to a positive sense of self. A peer group can be helpful through the growth of a young person's identity and feelings of acceptance and inclusion. By expressing feelings to friends that they trust, it can help young people build self-esteem and mental and emotional health. When someone has no one they can talk to, they risk feelings of loneliness and depression.

Growing up is all about learning about oneself, in comparison to the world around us. A person's friends and peers can be both positive and negative influences. In the desire to fit in and belong to various friendship groups, young people can be pressured into doing things they may not feel comfortable as being right, safe or healthy in order to feel accepted by those they feel are important. This is known as peer pressure.

Positive peer pressure can involve increasing an individual's confidence and exposure to new experiences, such as going t... negative peer pr... people engaging... behaviours. Dev... individual's valu... them to proactiv...

Did you know?

Figure 3.5: Belonging to a peer group is an important part of adolescence.

Rights and responsibilities

To achieve and maintain a positive relationship, it is important that both people know their rights and responsibilities.

In any relationship, everyone has rights. Everyone has the right to:

- feel safe
- be respected
- say 'no'
- change their mind at any time
- express thoughts, feelings and opinions freely
- spend time with other people
- be treated fairly and equally.

Just as someone has rights in relationships, they also assume responsibilities. Everyone has the responsibility to:

- be considerate
- be honest
- take care of themselves
- not threaten or harass
- listen
- avoid causing harm
- provide support.
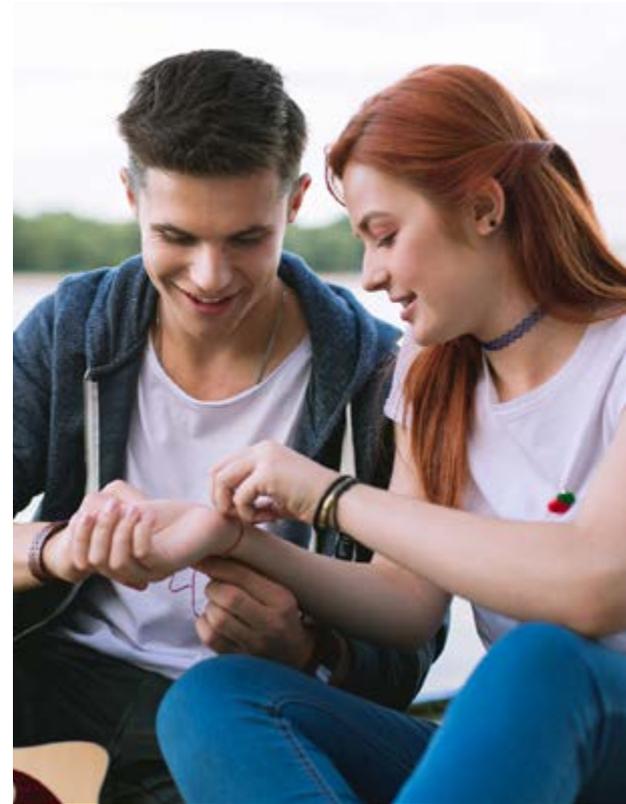
Figure 3.6:
Everyone has the right to express their thoughts, feelings and opinions openly.

Developing independence

Gaining independence and the ability to be independent is an important aspect of growing up. It is common for teenagers to want increased freedom. However, gaining increased freedom brings new responsibilities for individuals that can initially be challenging to manage and adapt to. It can be beneficial for teenagers and parents to develop some limits when increased independence is being given to teenagers. Setting rules and abiding by them, helps to develop trust and eventually leads to greater responsibility. Some ways that teenagers can develop independence while still living at home can include:

- completing regular chores at home, such as hanging out washing or drying up
- scheduling appointments by themselves
- beginning a local part-time job
- getting to and from school by themselves.

When gaining independence, learning how to effectively make healthy and safe decisions is another important consideration. Gaining independence is all about having to make decisions by oneself. The environments in which these decisions will need to be made will begin to change and influence young people. Learning to be able to think through the potential outcomes of situations in determining actions and choices is a positive element to increasing independence.

Managing changing relationships

Throughout life, individuals make many relationships and connections with other people. Relationships with friends, family and parents can go through changes and tensions, especially during the teenage years. It's important to know how to manage and deal with changes and possible breakdowns in relationships.

Relationships with family may change as young people go through adolescence. They may distance themselves from their parents and seek more independence. They may also feel like their family doesn't understand them, start to have differing opinions on things and prefer to spend more time with their friends. This can cause tension and conflict to arise as it is a difficult time for both parents and adolescents. It is important to remember that parents are acting in the best interests of their child, even though it may not alway

- discuss the issue in a calm matter
- try and negotiate an agreement where
- listen and try to understand what pare
- follow through with the agreements so

Relationships with friends can change o They may grow into deeper friendships affection, trust and respect or may grow Reasons for changes in relationships ca lost communication, disagreements, spe time with other people and having less in than previously.

These changes in relationships are a no growing up. A healthy friendship should individual to become a stronger person, themselves freely and be accepted for w are. Friends should also respect and list their friends' opinions, and be supportive encouraging. It is not uncommon for frie to experience difficulties from time to tim sometimes relationships will not be repa Learning to manage changing relationsh coping with failed relationships is an imp life skill.

Figure 3.7:
Relationships with friends can change over time as they grow older.

Learning activity
1. Think about three relationships that you share with others. For example, your relationship with your mother, father, sibling, friend, coach, teacher. Write down four qualities that these relationships possess.
2. Explain the importance of rights and responsibilities in relationships.
3. Make a list of all the groups and clubs that are available for students to join at your school and think of an idea for a new group or club.

Communication and relationships

Effective communication is important in establishing and maintaining positive relationships. It is also important to understand how the type of communication style can lead to miscommunication and misunderstandings. An individual should aim to communicate assertively and avoid an aggressive, passive-aggressive or passive style of communication. To build healthy relationships, communication needs to be clear, direct and respectful. There should be an atmosphere where problems and conflict can be discussed without harm or abuse.

Styles of communication

There are many different ways to communicate and each person has their preferred way of communicating. The type of communication a person chooses might vary depending on the situation or the audience. They may choose to communicate verbally, non-verbally (e.g. using body language) and/or in writing. Whichever communication method is used, there are four main styles of communication: passive, passive-aggressive, aggressive and assertive.

Figure 3.8:
Assertive communicators tend to have high self-esteem.

- **Passive communication**: a style in which individu[...] avoid expressing their opinions or feelings. They fa[...] to protect their rights or identify and meet their nee[...] Passive communication is usually caused by low self-esteem. Passive individuals allow grievances and annoyances to mount and are prone to outbursts and blowing events out of proportion. After the outburst they feel shame, guilt and confusion, and return to being passive.

- **Passive-aggressive communication:** a style in which individuals appear passive on the surface but act out anger in a subtle, indirect way. Passive-aggressive communicators feel incapable of dealing directly with the object of their resentments. They often manipulate others to get their own way and often appear honest but make underlying snide comments or sulk when things don't go their way.

- **Aggressive communication:** a style in which individuals express their feelings and opinions and advocate for their needs in a way that violates the rights of others. Aggressive communicators are ver[...] and/or physically abusive. This form of communicat[...] is usually caused by low self-esteem and feelings of powerlessness.

- **Assertive communication:** a style in which indivi[...] clearly state their opinions and feelings, and firmly advocate for their rights and needs without violating rights of others. Assertive communicators tend to h[...] high self-esteem. They value themselves, their time[...] their needs. They advocate for themselves while being very respectful of the rights of others.

Communication using technology

Young people are increasingly using modern modes of technology to communicate and interact with each other. Interpersonal communication is important in establishing and maintaining relationships. For communication to be effective, it must be clear. Modern society has seen a communication evolution and the developments have shown, more than ever, that the world is a global village. While technology has seen landline phones, letters and faxes replaced by mobile phones, text messages, emails and social networking, it is still important to use words that communicate effectively and avoid misunderstandings.

maintaining positive relationships.

Internet activity

Log on to TitanOnline to complete Activity 3.2 and test your emotional intelligence by completing the online quiz.

Did you know?

Emotions are in fact contagious. It is proven that a person will unconsciously copy the emotions of those around them.

Other effective strategies to enhance communication

Promote empathy

Learning to be empathetic towards others is another key strategy that improves communication. Empathy involves looking at situations through the perspective of another. An empathetic person tries to consider and understand what another individual is feeling and thinking in regard to a certain situation. Individuals can demonstrate empathy in various ways, including cognitively, emotionally and compassionately. A compassionate, empathetic individual is said to demonstrate their understanding in the most practical manner. For example, they sit on the sideline of a sporting game to ensure that another player gets equal time on the field.

Be conscious of non-verbal communication

Communication of an idea, thought or instruction does not solely occur from verbal communication methods. Non-verbal behaviour and position can also significantly influence how the message is communicated and received by the other individual. By crossing arms or placing hands on hips when communicating, suggests either aggression or a direct instruction, whereas if the hands remain behind the back or gently to the side, it suggests that the communication is more open to interpretation by all involved.

Be a good listener

It is a great idea to put as much effort into listening as it is into thinking about what is to be a reply. If a person listens as well as talk, they avoid misunderstandings and show respect for what others are saying. It makes people feel valued and understood.

Learning activity

1. Discuss some reasons why relationships can begin to change during the teenage years.
2. List some of your own ways to keep a friendship healthy and stay in touch with friends that you don't see very often.
3. Create two scenarios where a parent and teenager are having a disagreement. Provide ways to resolve the conflict and make both parties happy.
4. Create a script with dialogue between friends to show passive, passive-aggressive, aggressive and assertive communication.
5. For the passive, passive-aggressive and aggressive dialogue in the previous question, choose an assertive alternative.
6. Compare and contrast popular modes of communication today and in your parents' generation when they were your age.
7. Explain the advantages and disadvantages of acknowledging there is a problem in a relationship.

Figure 3.10:
Negative relationships are when an individual does not feel safe and secure.

Negative relationships

Negative relationships are when an individual does not feel safe and secure. Rather than feeling respected, trusted and safe, negative relationships leave individuals feeling a range of emotions such as hurt, anxious, fearful and worried. Negative relationships can involve emotional, physical, psychological or sexual abuse. Negative relationships may look, sound and feel like the following statements:

- Legitimate concerns are never or rarely addressed.
- The person is made to feel bad or wrong for being true to themselves and feel pressure to change.
- One or both people in the relationship are dismissive of the other's feelings.

- Disagreements are met with blame, angst and aggressive interaction.
- Always being critical about every situation and rarely observing or highlighting positive characteristics or experiences.
- Rather than complimenting the person, there are always complaints.

Some negative relationships are extremely serious, such as domestic violence. Domestic violence involves an abuse of power within a relationship. More women are reported to experience domestic violence from intimate partner relationships than males. However, hundreds of thousands of females, children and men are required to seek homeless services each year due to experiencing domestic violence. Violence towards another person is attributed to prior violence abuse or observation of another close relative, substance and drug abuse, environmental location and monetary availability.

Managing conflict

When people spend a lot of time together, some level of conflict is almost inevitable. Some arguments might be over the smallest thing and others may stem from issues that are more important. Avoiding the conflict or ignoring problems might be appropriate in some situations, but over time it can harm relationships if underlying issues are not addressed.

Feelings of anger and resentment often surface during conflict and it is easy for a person to say or do something that they regret when they settle down and think of the issue more calmly. If a person finds their anger becoming a problem, they could try the following techniques to manage the conflict:

- Discuss problems before they grow into bigger issues.
- Explore their true feelings about the issue and analyse why it is having this effect on them.
- Express their feelings to the other person, letting them know how the issue is affecting them.
- Consider a cooling off period or time out to let emotions return to normal before discussing the issue further.
- Listen to the other person and consider their side of the argument.
- Acknowledge their contribution to the problem – there is nearly always two sides to every argument.
- Work towards a positive solution to the problem.
- Avoid words or actions that hurt people.
- Remember there is zero tolerance for violence and abuse.
- Seek help if necessary.

Figure 3.11:
Remember there is zero tolerance for violence and abuse.

Figure 3.12:
It's important to discuss problems before they grow into bigger issues.

Internet activity

Log on to TitanOnline to complete Activity 3.3 to review the video and learn how to manage common family conflicts.

Case study

Ms Grields loves group work. Everyone loves group work; only thing is, Ms Grields chooses the groups. "Group one, two, three, four. Group one, two, three, four. How did you two end up in the same group? Separate now." Normally I wouldn't get worked up about group work. As Mum said to me, "It takes all kinds of people to make the world go round. You won't have to work with them forever, so try and make the most of the situation. Just get through the next few years and you won't have to see them again, if you don't want to." I know she's right, but it doesn't make it any less frustrating.

Every time we have group work, there's always about four or five of the mean kids pressuring me to go with them, because they want me to do all the work and they can have a free ride to a good mark. That is unless of course it's PE, then no one wants anything to do with me.

In my group this time there is Jason – he is hardly ever at school and says straight up that he is not doing anything. At least I know not to wait for his part. Then there's Amber. Amber is one of the popular girls; it's so hard to have a conversation with her. Just last week, I asked her to open the window and it took about 10 minutes for her to understand what I was asking. Last, but not least, is Paul. Every time we are being allocated groups, I look around and there are at least five other people whispering under their breath, "Not Paul, not Paul, not Paul." Unfortunately, it was my turn.

No one offers any suggestions about what topic to do our assignment on, and no one has any input into what sorts of information we should be using. Paul flirts with Amber and Amber rambles on in sentences that make no sense or is otherwise texting on her phone under the desk. And Jason walked out straight after he informed us he wouldn't be helping.

The assignment is due in two days, and no one has contributed their parts. I approach Ms Grields, and her advice to me is this: "Learn how to work with them, Tom. What are you going to do when you get a real job and have to work with your colleagues?" I think to myself, 'Well, Ms Grields, I suspect when I get a real job, I won't be working with 14-year-olds that are more interested in Candy Crush and themselves than getting paid!'

It's the day of our presentation. Amber rang me crying last night, saying she hadn't done her part yet because she didn't understand it. I haven't slept. Jason is not here. I expected as much. And the part Paul did is completely, 100 per cent word for word from Wikipedia. I stand my ground and tell him in the morning that he will have to redo it, only to have him punch me in the arm and tell me to shut my mouth and fix it myself.

1. Discuss the issues that are occurring in the case study.
2. Evaluate what Ms Grields could do differently in this situation.
3. Discuss how Tom could have approached this situation differently.
4. Explain why it is important to be mindful of our peers and our differences.
5. Suggest ways conflict could be better managed in this situation.

Power in relationships

When all people involved in a relationship are aware of their own and others rights and responsibilities, the relationship is likely to be positive in nature and even be productive during more challenging times. An imbalance of power in a relationship can lead towards domination and or submission. When power is negatively exerted it can lead to individuals attempting to manipulate or coerce another individual, possibly influencing them into behaviours not of their choice. An imbalance of power in a relationship does not always signify an unhealthy relationship. For example, the ability of parents to set boundaries and influence the behaviours of their children as they grow is necessary and can be very beneficial. Even in adult relationships, power dynamics are rarely completely equal, although the imbalance of power can often creep into a relationship and unless identified and addressed can lead to problems.

An uneven power balance may be occurring if a person is experiencing any of the following emotions or behaviours:

- Concern that they cannot express opinions and thoughts.
- Constantly feeling as though they are only trying to meet the other person's demands and have limited time to take care of themselves.

- Their point of view is always thought to be wrong or irrelevant.
- Feelings of isolation.
- Constantly apologising for the majority of

Bullying

Bullying is the repeated behaviour towards som them feel inadequate and belittled. It is perform bring someone down. Bullying involves a perso that they have more power or influence over, in victim feel weak or helpless.

There are many different forms of bullying, inclu

- **Physical bullying:** involves behaviours where to physically dominate a person, including hitt and punching.
- **Verbal bullying:** involves the bully using dem towards a person. It can include teasing, nam insulting, discriminating remarks and verbal a
- **Covert/indirect bullying:** is often the subtles and is hard to recognise. It is used to cause humiliation and isolation from social groups. Types of covert bullying may include spreadin rumours, excluding, threatening, blackmailing and giving nasty looks or gestures.

Figure 3.13:
Physical bullying involves behaviours where the bully attempts to physically dominate a person.

Strategies to reduce bullying

To overcome and prevent bullying, it's important to deal with not only the victim and the bully, but to also take into consideration peers, parents, schools and the community. Firstly, there are many strategies victims can employ to help deal with bullying. These include:

- **Walk away and ignore them:** Bullies thrive on the reaction that they get from their targets and knowing that they have control over victims' emotions. Walking away and ignoring the bully shows them that their target is not vulnerable and not interested in what they have to say.

- **Think about what is controllable:** Individuals should distinguish between what they can and can't control in the situation. They cannot control a bully's actions and behaviours but it is possible to control how they react towards and feel towards the bully's actions. They should practise feeling confident and doing things that make them feel happy.

- **Talk to someone:** Talk to a friend, parent, teacher or trusted adult. It can help to have someone that can give support and talk through the situation. Victims should also report the bully to a responsible adult.

- **Get help:** If bullying causes someone to be constantly sad or worried, it may be time to seek further help. This can mean finding a local counsellor, psychologist, mental health service or youth service. It can help the victim de-brief, feel happier, and have some solutions.

Another important aspect of reducing bullying is the role of the bystander. A bystander is a person that sees the bullying happening or knows about the bullying. Instead of looking on and not taking action – or even worse, encouraging the bully – a bystander should be supportive and help take action against the bullying. A bystander may also seek help and support for the victim. A person can become a supportive bystander by:

- not being involved in bullying behaviours
- not encouraging bullying
- not spreading rumours
- not forwarding offensive photos
- report the bullying to a trusted adult, teacher or school executive.

Figure 3.14:
Types of covert bullying may include spreading rumours or excluding victims.

Figure 3.15:
A bystander should be supportive and help take action against the bullying.

Did you know?

In just under 90 per cent of bullying situations, there are witnesses who do nothing to help the victims.

Cyberbullying

Cyberbullying involves bullying that is done through the use of technology such as text messaging, social networking and forums. Cyberbullying can take various forms – someone who is known by the victim may target them online secretly, a bully may remain anonymous while targeting someone or the bully may spread rumours among a large number of people online. This type of bullying includes behaviours such as sending abusive texts or messages, sharing private images, imitating another person's identity and representing them in a negative way and posting hurtful messages on social media. Cyberbullying can have serious implications for the victim's wellbeing. They may begin to have lower self-esteem due to constant feelings of sadness, loneliness and worthlessness. They can go through periods of feeling guilty, as if it is their fault, and ashamed that it is happening to them. Victims may often feel afraid, scared and unsafe when in situations where they could potentially be attacked by a bully. They may withdraw from normal routines such as school to avoid being bullied.

How to deal with cyberbullying

- Confide in a trusted person about what is happening. Talk to a parent, friend or teacher about the issue.
- Resist the urge to retaliate with the same type of behaviour – it only escalates the problem and gives the bully a sense of satisfaction.
- Use filters to block the communication and maintain appropriate privacy settings.
- Collect evidence such as screenshots, messages, emails and conversation threads and report the issue to authorities.

Witnessing cyberbullying

If a person becomes aware of cyberbullying, they should not become part of the problem. Refuse to post comments or foster the online conversations. Do not forward or share information that may hurt or offend and report the bullying to someone that can help if necessary. If a person feels confident to call out the bully face to face, give them a clear and assertive message that their behaviour is hurtful and must stop. Remember to provide emotional support for friends that are being cyberbullied.

Figure 3.16:
Young people should not reveal personal information when using social media.

Internet activity

Log on to TitanOnline to complete Activity 3.4 to research supportive actions to address cyberbullying.

Internet activity

Log on to TitanOnline to complete Activity 3.5 to apply various strategies to resolve a cyberbullying incident.

Avoid being a cyberbully

If a person is using technology to communicate and experiences comments or images that upset or anger themselves or their friends, it can be easy to fall into a trap of feeling the need to retaliate. A person might mistakenly think it will make them popular or accepted by having a laugh at another person's expense. They might even be trying to hurt someone on purpose, in order to feel powerful or superior. These actions might seem innocent or a person might claim that they are 'just joking', but they can really affect other people's feelings and mental health status.

By making other people feel upset, excluded or scared, the perpetrator is not only affecting them, but is also showing the world what kind of person they are. There are better ways to gain respect, popularity, strength and social status. People have the right to be part of positive conversations, regardless of differences in opinion. If a person has inadvertently cyberbullied someone, they should consider apologising and commit to accepting the rights of others in the future.

Cybersafety

To stay protected online, there are some important safety tips young people should consider:

- Ensure that all social networking 'friends' are known and trusted.
- Do not reveal personal or financial information when using social networking sites.
- Always effectively log off from sites when on shared computers.
- Frequently change passwords and ensure they are hard to guess by including a series of numbers and letters.
- Privatise social media settings.
- Do not accept communications or webcam requests from unknown or untrustworthy people.
- Remember that posting a photo to a friend on Facebook means it is on the internet and anyone can access it.
- Realise that anyone forwarding links is responsible for its content.

Learning activity

1. Discuss some short-term and long-term effects that bullying can have on teenagers.
2. Research Australian bullying statistics and write down four statistics that stand out to you.
3. Think of a situation that you have been in, have seen or have heard about that involves bullying. Write down the steps you would take to deal with the situation and seek help from others.
4. Identify behaviours that could be described as cyberbullying.
5. Describe what is meant by the term 'online reputation'. How is a positive online reputation formed and maintained?
6. Research a range of support services available to people that are suffering bullying or cyberbullying. Describe the types of services they provide.
7. Outline the advantages and disadvantages of using social media platforms such as Instagram and Snapchat.

Case study

Kasey met Tim on Facebook through her best friend, Jayla. Kasey and Tim quickly began talking daily, and pretty soon they confessed they had feelings for each other. As the months progressed, Kasey and Tim begun sharing personal details about each other, including fights they had with their friends and families. Kasey and Tim were sending each other private photos of themselves, and continued developing their relationship online.

After about three months of talking, Tim suddenly disappeared and stopped contacting Kasey. He deleted his Facebook account, and his phone number was no longer connected. Kasey was heartbroken, because she thought Tim really cared about her.

About a week later, Kasey arrived at school to find everyone whispering and pointing at her. Kasey quickly became withdrawn when people began making cruel comments about her as she walked past them. That night, she discovered the photos that she had sent to Tim had been posted anonymously to a local Facebook group, along with information she had told him, in confidence, about her friends and family. Kasey was mortified. Her parents and friends were in this group, not to mention all the strangers who had now seen private photos of her.

Kasey's friends and family stopped talking to her and she was miserable. Kasey confided in a teacher about what had happened, who took her to the police station. The police tracked the IP address Tim was using back to Jayla's house and discovered that Tim did not actually exist – Jayla had made him up. Jayla was charged with possessing and distributing child pornography.

Kasey's friends and family soon moved on from the drama and Kasey's life returned to normal. But things were far from normal for Jayla – apart from the legal issues she was dealing with, Jayla lost a lot of friends because they couldn't trust her anymore or forgive her. Jayla tried going back to school, but when she found herself on the receiving end of bullying, she made the decision to change schools and get a fresh start. After paying the price for her mistake, she knew she would never do anything like that again.

1. List the behaviours that would be considered cyberbullying in this case study.
2. Analyse how you would have acted if you were:
   a. Kasey
   b. Jayla
   c. one of their mutual friends.
3. Discuss what services Kasey could have accessed when she was being cyberbullied.
4. Assume the role of a teacher who wanted to address this problem on a school-wide basis. To raise awareness about cyberbullying, create an initiative that outlines:
   - a catchy slogan
   - strategies to use if you experience cyberbullying
   - safe ways to use social media
   - support systems in place to help you if you need it.
   - online rights and responsibilities.

Figure 3.17:
There are a range of support services available for people who are experiencing negative relationships.

Accessing health resources and services

Having the skills and courage to seek help when relationships are not working well can be a difficult task. If relationships are dysfunctional or violent, people may fear they will be in danger if their partner finds out they have sought help. There is the associated shame and embarrassment when others find out that their lives may not be quite as good as they were making out. Victims of domestic violence may feel isolated and have pressure placed upon them to sever relationships with those who would normally be sources of support, such as family and friends. All these factors come at a time when they are feeling low in confidence and experiencing high levels of stress.

There are a range of support services available for people who are experiencing negative relationships. The services provided include counselling services, phone help lines, resources, blogs and forums. Many of these resources and services provide anonymous discussion or chat forums. Popular support services include:

- Kids Helpline
- Lifeline
- Office of the Children's eSafety Commissioner
- Reach Out
- Bullying. No Way!
- Digizen

- National Centre Against Bullying – Alannah and Madeline Foundation
- White Ribbon Australia
- Relationships Australia
- Family Relationships Online
- Family and Relationship Services Australia

Valuing diversity

Diversity refers to the coming together of people that are different from one another. These differences can involve races, nationalities, religions, ages, sexual orientations, body sizes and abilities. Celebrating difference and diversity means recognising that people with differences bring a variety of skills, attitudes, experiences, ideas and perceptions that benefit society. It values these differences that each person brings to a nation.

Australia's cultural diversity

Australia is a very diverse country. With just less than 26 million residents, the population continues to grow by around 370,000 people per year, either being born or coming to live in Australia. Although more than half of the current population were born in Australia, a significant number of those people who have moved to Australia to live are from England and New Zealand, closely followed by people from China and India. Approximately half of the population indicates that either they or one of their parents were born overseas. New South Wales is the most common state in Australia where migrants choose to live, followed by Victoria and Queensland.

The 2016 Census (which surveys the Australian population to gather information on the population's demographics) indicated that more than 300 ancestries and languages are both identified with and spoken by Australian residents. Just under three per cent of the population identify as Aboriginal and Torres Strait Islander and Christianity is the most common religion practised.

Key characteristics of the typical Australian cultural identity demonstrate the diversity of the population. These characteristics include the concepts of mateship and 'a fair go', and a particular fondness for barbecues and 'the great outdoors'. As a nation, there is also a significant sporting history and love for sports such as rugby league, tennis, soccer, Australian football and cricket. The Melbourne Cup, for example, is commonly referred to as 'the race that stops a nation'.

The nation's diversity is further demonstrated by the variety of popular cuisines available. Meat pies and Vegemite may be 'typical Australian' foods, but Chinese, Italian and Thai cuisines are among the most popular food options available.

Figure 3.18:
Australia is a very diverse country.

Figure 3.19:
There is a significant sporting history and love for sports in Australia.

Internet activity
Log on to TitanOnline to complete Activity 3.6 about celebrating multiculturalism in Australia.

Did you know?
There are over 300 different languages spoken in Australian homes.

The value of inclusion

An inclusive approach to all aspects of life ensures that the Australian culture and identity continue to positively grow. There are many legislations, policies and principles that have been brought in to support inclusion, diversity and equality for all Australians and ensure that individuals cannot be discriminated or disadvantages against based on differences such as age, ethnicity, culture or heritage. Particular overarching social justice principles and other legislations aim to increase fairness, opportunity and collaboration. These are particularly broad to enable effective application to the many different facets of life.

Individual regulatory and governing bodies are created to implement these national legislations, policies and principles. Sport Inclusion Australia aims to promote inclusive practice in sport, with particular relevance to disability and ability, from beginning grassroots and community organisations through to professional and elite levels. A key aim for Sport Inclusion Australia is to ensure that inclusive practises are implement in a cohesive manner, where clubs and organisations provide the same opportunities for participation. Their policies are based upon inclusion, respect, ability and integrity. Sporting organisations, such as Gymnastics Australia, Swimming Australia, Bowls Australia and Cricket Australia are among many sporting organisations that have pledged to work with Sport Inclusion Australia to promote inclusion within their programs. Each organisation has developed specific key goals that work towards achieving inclusion in their relevant organisation. For example, Tennis Australia has identified the goal to increase participation levels that will primarily involve more programs being run at schools to encourage young people to become involved in sport.

Other particular examples of inclusive strategies in sport include reducing membership costs for young people. Unfortunately, the cost of participating in organised sporting programs is a significant barrier for young people. When finances for organisations can be sought from sponsorships rather than players, reduced fees and other associated costs for uniforms encourage greater participation. Furthermore, uniforms that are sensitive towards cultures and particular religious beliefs and timetables that are flexible also are strategies used to promote inclusivity. At the professional level, ensuring that competition and play conditions are equal between female and male leagues is an area that receives heightened media coverage as sporting codes develop inclusive regulations and guidelines. In 2017, Australian Football League Women's (AFLW) commenced. In 2018, the National Rugby League (NRL) began a female premiership and State of Origin. They also have a devised an Inclusion Framework, which scaffolds how the sporting code intends to implement policies structured around inclusion, positivity, unity, discipline to remove discrimination and disadvantage for all stakeholders. Equal prize money is received in both male and female divisions at the Australian Open Tennis tournament and the top Australian soccer teams, the Matildas and Socceroos, also now receive equal pay from raised revenue.

Internet activity

Log on to TitanOnline to complete Activity 3.7 by reviewing the video and promoting inclusion in your community.

A connected community

Within a community there are likely shared values, attitudes and some particular routines accepted as normal. Communities often provide individuals with a sense of place and belonging. When individuals feel valued and connected throughout their local community, they are likely to increase involvement and contribution towards organisations and events offered. A connected community looks like one where variety is embraced and communication is of relative ease. Local communities connected by shared interests in sport are likely to receive a greater number of people willing to volunteer to officiate games, team administration, fundraising initiatives and other important aspects of sport. Developing initiatives lead by individuals of varying age groups from the community is valuable and effective way to promote and raise awareness of inclusion and diversity.

Strategies to develop inclusivity

Developing inclusive strategies in sport and education to continue to improve already devised structures and policies is important to ensure that complacency does not arise. Some strategies that can be encouraged at in sport at all levels can include:

Foster a growth mindset

A growth mindset involves looking for opportunities of improvement, rather than routinely continuing with established rules and behaviours. In order to develop inclusivity, there is a need to actively seek out ways that organisations and sporting bodies can change or alter existing rules and regulations. Change can often be met with uncertainty and is often viewed as a challenge. However, to evolve and match the increasing diversity of the Australian population, it is important to look for ways that greater inclusive practises can be established.

Promote empathy

Learning to be empathetic towards others is another key strategy that improves inclusivity. Empathy involves looking at situations through the perspective of another. An empathetic person tries to consider and understand what another individual is feeling and thinking in regard to a certain situation. Individuals can demonstrate empathy in various ways, including cognitively, emotionally and compassionately. A compassionately empathetic individual is said to demonstrate their understanding in the most practical manner. For example, they sit on the sideline of a sport game to ensure that another player gets equal time on the field.

Learning activity
1. Explain how connected communities promote resilience.
2. Describe how being part of a connected community is invaluable during difficult times, such as the COVID-19 pandemic, natural disasters and recessions.
3. List the benefits Australians enjoy because of the diverse cultural heritage of the population.

Discrimination

Discrimination is defined as the unjust treatment of people or groups of people based upon perceived differences. Discrimination has a damaging impact on relationships, whether that be in a school setting, workplace or in interpersonal relationships.

Discrimination and the law

In Australia, there is an abundance of laws and acts that describe the rights for all individuals against discrimination based on someone's age, race, disability and gender. For example, the Disability Discrimination Act 1992, prevents individuals being discriminated against according to a physical, intellectual, psychiatric, sensory, neurological and learning disability, disorder, illness or disease.

Each law or act covers multiple areas, such as education, leisure, sports organisations and public places. Discrimination of any kind is not acceptable, but most forms can be demonstrated direct or indirectly. Direct discrimination occurs when an individual is not allowed to participate or engage in an activity because of a particular characteristic, such as their age or sex. Indirect discrimination occurs when a particular instruction, although applied to everyone, negatively affects a particular population group.

Racism

Racism is defined as hatred, prejudice or discrimination directed at a person or group of people because of their ethnicity or the colour of their skin. Racism can be overtly or covertly demonstrated, but is not acceptable for anyone. Racism does not only involve unfair treatment from or towards an individual – organisations can contribute to racism occurring where certain population groups are prevented from being treated with dignity and equality in comparison to others. Population groups that commonly experience racism include Aboriginal and Torres Strait Islander peoples, people with culturally and linguistically diverse heritage, migrants and refugees. Racism is reported to commonly occur in sporting contexts, public transport and within the media.

Figure 3.20:
An example of indirect discrimination would be if the only way to enter a public building is by a set of stairs or escalator.

Figure 3.21:
Racism is hatred or prejudice because of ethnicity or skin colour.

Discrimination and health harms

The many forms of discrimination are commonly attributed to a lower health status, in particular poorer mental, physical and social health. Anxiety, increased stress, loneliness and depression are frequently reported to be experienced by individuals who are discriminated against. In some cases, options for medical treatment is reduced for individuals of certain population groups. The education individuals are provided with also significantly impacts the health of an individual. Education has a significant link to finances and health literacy individuals utilise to determine choices made later on in life. When limited to comprehensive education, individuals often remain disadvantaged further on throughout life.

Figure 3.22:
Anxiety, increased stress, loneliness and depression are experienced by individuals who are discriminated against.

Case study

In 2019, professional rugby player Israel Folau found himself the centre of media attention and a widespread public debate about the issue of discrimination and homosexual vilification. Citing his strong religious beliefs, Folau posted his views on homosexuality to Instagram, including comments such as 'hell awaits homosexuals'. He also posted a video of a sermon he had delivered, which linked the severe droughts and bushfires experienced in parts of Australia to the same-sex marriage legislation introduced in 2017.

The social media posts resulted in his employer, Rugby Australia, terminating his contract. Folau took his employer to court, in an unfair dismissal case based on his rights to religious freedom and expression.

The issue was settled out of court in a confidential agreement.

1. Analyse this case and comment on the wider community debate about religious and homosexual discrimination.
2. Describe the health harms that can result from discrimination.
3. Investigate and describe different ways a person can deal with discrimination or sexual vilification.

Disability

Unfortunately, relationships for people with disabilities can be extremely challenging. Societal stereotypes, prejudice and predetermined assumptions commonly lead to individuals suffering discrimination because of their learning, physical or intellectual disability. It is common for most people to make assumptions based upon another individual's face value, or what they can visibly see. However, it is important that individuals consider the thoughts and feelings of people with disability in a similar manner to the way in which they would approach any relationships with people without disability.

Some examples of positive ways a person can interact with all individuals living with disability include:

- smiling, greeting and treating them normally
- provide assistance to anyone who appears to be in need
- have an open mind to their abilities and understand they will have their own capabilities and strengths
- avoid being judgemental or having preconceived ideas about any individual
- ensure they have access to the opportunities available to the wider community.

Figure 3.23:
Societal stereotypes and prejudice commonly lead to people with disability suffering discrimination.

Learning activity

1. Investigate support systems that could help people with disability who are experiencing discrimination.
2. Describe the health impact of discrimination on people with disability.
3. Explain why people with disability commonly experience greater exposure to discrimination than other members of the community.

Revision questions

1. Outline one strategy that you believe would be effective in dealing with bullying.

2. Outline strategies that you would use to keep yourself from harm should you find yourself in a negative relationship.

3. Investigate the changing nature of peer and family relationships as young people become more independent and evaluate strategies they use to manage these changes.

4. Identify scenarios and associated thoughts and feelings that might alert us to a potentially unsafe situation.

5. List individual support networks and external support services for anyone suffering from domestic violence.

6. Explain the benefits of positive relationships and examine their impact on their own and others' health, safety and wellbeing

7. Outline the characteristics of respectful relationships.

8. List five helpful tips for resolving conflict between close friends.

9. Describe online and social protocols young people should use to enhance relationships and protect their own safety and wellbeing.

10. Identify barriers to seeking help and propose strategies to overcome these barriers.

11. Identify individuals, groups, places or activities to which you feel a strong sense of belonging and explain how these help you to feel supported and connected.

12. Analyse how extended family structures in different cultures support and enhance health, safety and wellbeing.

13. Outline some of the skills and strategies needed to communicate and engage in relationships in respectful ways.

14. Explain the impact of power in relationships and identify and develop skills to challenge the abuse of power.

15. Explore how influences such as intolerance, ethics or self-esteem affect power in relationships in either a positive or negative way.

CHAPTER 4

Adolescer
sexual hea

Adolescence can be an exciting, but challenging period of a young person's life, with many physical, emotional and social changes occurring. An exploration of these changes and how to handle them, as well as a clear understanding of the female and male reproductive systems, will help young people navigate this stage of the life span.

Focus areas

- Challenges of adolescence
- Reproductive systems
- Sexual health

Challenges of adolescence

In the process of developing into an adult, young people start to think about what makes them different and unique as a person. Identities change from both inside and outside influences, including peers, family, gender, media, school, culture and body image. During adolescence, there tends to be a shift between the influence that parents have on a person's identity, to the strong influence of peers and friends.

Developing personal identity

Personal identity is the concept a person has of themselves and evolves throughout life. The teenage years are an important time for young people in understanding who they are and who they want to be. There is a shift from the child version of oneself to the grown-up version, allowing the development of personal identity.

The development of a strong, individual sense of self is an important task during the teenage years. Adolescence is a time when young people start to think about who they are and how their personal identity affects them. Identity refers to one's sense of self, both as an individual and as a part of wider groups and society. It also includes how a person will present themselves to others. Personal identity is associated with the physical, social and mental changes that occur during puberty, as well as the development in thinking patterns and personality.

Adolescents may start to view themselves differently and think about the issues and possibilities in their future. They may also begin to challenge and change the identity that they have had previously. Identity often changes in relation to who they are spending time with, such as family and friends, meaning that someone may portray multiple identities in order to fit in. When developing their personal identity, adolescents need to ask themselves questions relating to their self-perception, their life goals and paths, their expectations and hopes for the future, and the new rights and responsibilities that they hold. During the teenage years, a person must work towards creating a balance between the connections that they share with others and discovering their uniqueness, individuality and true personal identity.

Figure 4.1:
The teenage years are an important time for young people in understanding who they are and who they want to be.

Figure 4.2:
Age-related milestones, such as getting a driver's licence, provide opportunities that impact personal identity.

Some of the factors that impact personal identity include:

- **Perception of physical appearance:** managing and becoming familiar with the body's natural changes that occur throughout compares themselves with oth

- **Cultural background:** the bel strong influence on personal id

- **Abilities:** a person's ability to whether they be sporting, acad important to the opinion they h

- **Family:** family provides a stru adolescents to assume roles a potential. Families can encoura by providing experiences that for growth.

- **Religion:** for many young peo play an important role in formin personal identity.

- **Media:** traditional media influe as they compare their appeara those portrayed in movies, ma Increased use of social media young people have greater acc computers. Adolescents comm how others perceive them and

- **Age:** age-related milestones, s first job, getting a driver's licen like starting high school, provi personal identity.

- **Peers:** peers heavily influence behaviours, likes and dislikes f adolescence. Peer group relat strongest influences on perso

Figure 4.3:
Adolescents commonly place a signific
others perceive them and how they are

Changes with puberty

Human bodies are constantly changing and growing throughout their life span, with the time of greatest change occurring throughout the teenage years. This is due to the changes that occur during puberty.

Puberty is the period in which a person moves from childhood to adolescence. Changes usually begin between the ages of 10 and 14 for females, and 11 and 15 for males. Each person is different and some may start puberty earlier or later, depending on the genes they have inherited from their parents and the environment they are exposed to when growing up. The main changes that occur during puberty are physical changes that prepare the body for reproduction, known as primary sexual characteristics. These changes include the onset of menstruation and ovulation for girls, and the production of sperm for boys. Changes also occur in the body that are not directly associated with the ability to reproduce, but are an indicator of sexual maturity. These are known as secondary sexual characteristics and include the development of breasts for girls, and the deepening of voice for boys.

As the body matures, the brain releases a hormone called the gonadotropin-releasing hormone (GnRH) that triggers the changes of puberty. When the hormone reaches the pituitary gland in the brain, it tells the gland to release high levels of the puberty hormones luteinising hormone, follicle-stimulating hormone and growth hormone into the bloodstream. These hormones travel to different places in the body depending on gender.

In males, the hormones travel to the testes and cause them to begin making sperm and testosterone. The testosterone causes the development of male sexual characteristics and changes in physical appearance such as the 'Adam's apple' and facial hair.

In females, the hormones travel to the ovaries and cause the production of the hormones oestrogen and progesterone. Oestrogen assists the body to begin menstruation and develop female sexual characteristics such as the widening of the hips. The hormone progesterone also causes the onset of ovulation and breast development.

Learning activity

1. Design an informative pa
   prevention and treatment

2. Research the term 'rites
   describe how it is used in

3. Outline the hormones tha
   changes and discuss the

Figure 4.4:
Puberty usually begins earlier in fem
in males.

Mental and emotional changes

The hormones that create changes in the way the body looks also make changes on the inside of the body, affecting how a person thinks and feels.

Mental changes occur when teenagers begin to feel strong emotions or start to feel things that they are not used to. This can cause 'mood swings', where these feelings can be unpredictable and change rapidly from positive to negative. This is due to the shifting levels of hormones and changes in the body. It is important to remember that these emotions are an aspect of growing up and developing personalities. Young people tend to become overly sensitive or more self-conscious. The body is going through many changes and it is common to be uncomfortable with these. A person's body may be changing differently to others and can cause them to feel sensitive about their physical appearance.

Handling emotions

Positive and negative emotions are both normal. These emotions tell individuals something about the way they feel about a situation. It is important to notice the feelings and accept why they are felt. It is common that adolescents will begin feeling emotions that they haven't felt before. They may also experience extreme emotions that are difficult to manage. Developing a familiarity and understanding of emotions happens through emotional change and maturity.

Building emotional awareness can help handle these emotions as they occur. Once the feelings are familiar and the ability to recognise the emotions felt has been gained, adolescents need to know how to deal with them. There are many ways to cope with emotions in a positive and healthy way. These can include:

- expressing feelings safely and honestly
- looking for the positives in any situation
- taking time out from the things that are upsetting or causing stress
- talking to friends or family about feelings
- taking a walk to relax
- writing down feelings
- talking to the school counsellor or support advisor.

Figure 4.5:
Young people tend to become more self-conscious during puberty.

Figure 4.6:
There are many ways to cope with emotions in a positive and healthy way.

It is important to calm down and have a clear mind before acting on these feelings. As young people develop, they begin to understand how to better manage these emotions and how to react accordingly. When emotional maturity has developed, individuals should be able to:

- know what their feelings are and why they are feeling them
- know how to respond to emotions responsibly
- make good decisions
- be resilient
- solve problems effectively
- be optimistic and motivated
- express themselves appropriately and respectfully
- control impulses.

Social changes

With all the changes happening, young people will begin to search for their identity, figure out who they are and their place in the world. Teenagers usually do this by seeking more independence and responsibilities, and spending time with friends rather than family. They are also likely to search for new experiences, which can include experimenting with more risk-taking behaviours. Teenagers also start to think more about what is right and wrong, and develop individual values, beliefs and morals. This means that they also begin to take responsibility for their actions and decisions. Communication options also begin to grow in different ways, such as social media and mobile phones, which connect teenagers with their peers.

Figure 4.7:
As young people develop, they begin to understand how to better manage their emotions.

Learning activity

1. Discuss a few social changes that you have noticed in the behaviours of yourself and your peers over the past two years.
2. Explain the importance of knowing how to deal with the changes that occur during puberty.
3. Explore how personal, social and cultural factors influence the way teenagers respond to different situations.
4. Propose strategies to help teenagers manage their emotions when responding to a challenging situation.

Physical changes

Some physical changes associated with puberty are experienced by both male and female bodies. In addition to these changes, there are some gender-specific changes.

Universal changes

Growth spurts

A growth spurt is the quick and sudden process of growing taller during puberty. It is usually easy to tell when a growth spurt is occurring, as shoes may suddenly become too small or long sleeves become too short. This is one of the first changes during puberty, and lasts for about three or four years. At the peak of immense growth, males can grow about 10 centimetres and girls can gain about nine centimetres. By the end of puberty, most boys will be taller than girls. The body will not get much taller after the growth spurt in puberty and will be stable during adult life.

Hair growth

During the stages of puberty, hair will begin to grow in various places that it didn't grow previously. Boys and girls will both notice hair growing on their arms, legs and underarms. Pubic hair – hair growing on and around the genitals – will also begin to develop. The hair will become thicker and longer throughout puberty. Most boys will also notice hair growing on their face and chest.

Sweating

The hormones that the body produces through puberty affect the sweat glands in the skin, and the body starts to produce more perspiration. The glands that produce sweat can cause body odour – causing a pungent aroma to develop with increased perspiration. The armpits in particular may smell bad as lots of sweat glands are located there. To reduce the smell, adolescents should take a shower every day or night and use deodorant to help mask body odour.

Figure 4.8:
By the end of puberty, most boys will be taller than girls.

Figure 4.9:
The body starts to produce more perspiration during puberty.

Figure 4.10:
Pimples tend to disappear and skin gets clearer by the end of the teenage years.

Skin/acne

Acne is a common part of the puberty process that is triggered by the release of hormones. The hormones make the sebaceous glands inside the pores start producing too much oil. Most of these glands are located on the face, chest, back, arms and shoulders and they cause skin and hair to become greasier. The build-up of oils can cause breakouts on the skin, developing whiteheads or blackheads.

- Whiteheads are caused by dead skin cells and oil, creating a small white lump on the surface of the skin. Whiteheads can spread under the skin and rupture, spreading the inflammation over the skin and causing acne. It's important not to squeeze whiteheads, as it can cause damage to the skin such as scarring and can assist in spreading the infection (which will create more pimples).
- Blackheads are enlarged pores that are plugged with dead skin cells and oil. The blackness of the pimple is not dirt, but is caused by the skin follicle itself.

To help clear the skin, or to help prevent acne, wash the skin morning and night and avoid using make-up or cover-up cosmetics. If serious acne occurs, a doctor can provide medication or treatments to help get rid of the infection causing acne. Pimples tend to disappear and skin gets clearer by the end of the teenage years, as the body is producing less puberty hormones and oil levels return to normal.

Did you know?

The age that young people experience the start of puberty has dropped about four years in the last century.

Body shape

As the adolescent body grows taller, it will also change in shape. Changes in shape will be different for each individual and will develop gradually throughout puberty. Body shape and growth will depend on genes and genetic make-up, amount of physical activity and diet.

- As males grow taller, their shoulders will broaden and muscle mass will increase due to the release of testosterone from the testes. Testosterone will also cause changes like the lengthening and widening of the penis and growth in the testicles.
- Female bodies will become curvier. As they grow, their pelvic bones widen and they may gain weight on their hips. Females will also notice that their breasts will begin to develop.

Voice

Changes in the voice will occur in both males and females as the size of the voice box changes. This can be seen especially in boys. Due to growth in the voice box, also known as the lump in throat called the 'Adam's apple', their voice will become lower, deeper and more adult sounding. Boys may experience cracks or squeaks during this period (known commonly as a teste pop), where the voice will change pitch very quickly. This will settle down over time when the vocal chords become fully devel   .

Male changes

During adolescence, boys
of their sexual organs and
Erections can be caused b
sexual or arousing though
sometimes it can just hap
reason. They can also be
– during a dream, a male
may have an erection and
ejaculate semen known as
'wet dream'.

Internet activity

Log on to TitanOnline to complete Activity 4.1 comparing the changes for females and males during puberty.

Did you know?

Scans have shown that there is a difference in the way female and male brains develop during puberty.

Figure 4.11:
Most boys will notice hair growing on their face and chest during puberty.

Female changes

Breast development is a physical change that occurs during puberty. Breast tissue with milk ducts form as the body prepares itself to nurse and feed its potential offspring. Breast development usually begins with the areola (the flat area around the nipple) becoming enlarged and/or appearing swollen. This is the breast tissue forming underneath the nipple. It is natural for the breasts to also be slightly tender and uncomfortable as they develop. Breasts usually continue growing until 17 or 18 years of age, at which point they reach adult size. One breast may grow somewhat quicker than the other, although most of the time they end up evening out. At the end of breast development, each woman's breasts are individual, growing to be various shapes and sizes.

The start of menstruation, commonly known as a period, is a major change for girls during puberty. Menstruation is a 'cycle' of hormones and body changes that signal the body's ability to reproduce. It can begin in some girls as early as age 10, while others may not begin menstruating until they are 15 years old. A menstrual cycle lasts about an average of 28 days, although it is common to have a shorter or longer cycle. During a cycle, an egg leaves the ovaries during a process called ovulation. The uterus builds up a thick lining of blood vessels and liquids to prepare for a possible pregnancy. If a female becomes pregnant, this lining will nourish a fertilised egg. If an egg is not fertilised, which is the case for most women, the lining passes out through the vagina. This is the menstrual period.

An average period will last for around five days of bleeding, but it is common for it to last around seven to 10 days during the first year or so of menstrual bleeding. It can even go for as little as two or three days until the cycle becomes regular. Some women experience symptoms such as abdominal cramps, bloating, acne, back pain and rapid mood swings throughout menstruation. Women usually stop menstruation around the age of 45–55, meaning that they can no longer fall pregnant. This is called menopause. Menstruation also stops during pregnancy, and sometimes stops while a mother is still breastfeeding.

Figure 4.12:
Some women experience abdominal cramps during menstruation.

Learning activity

1. Create a table and label the headings: boys and girls. Under each column, write down the different physical changes that will occur for each sex.
2. Propose some strategies to improve personal hygiene during puberty.
3. Design a pamphlet for pre-teens that prepares them for the changes that will occur during puberty. Remember to include an explanation of puberty and the changes that occur to the body.
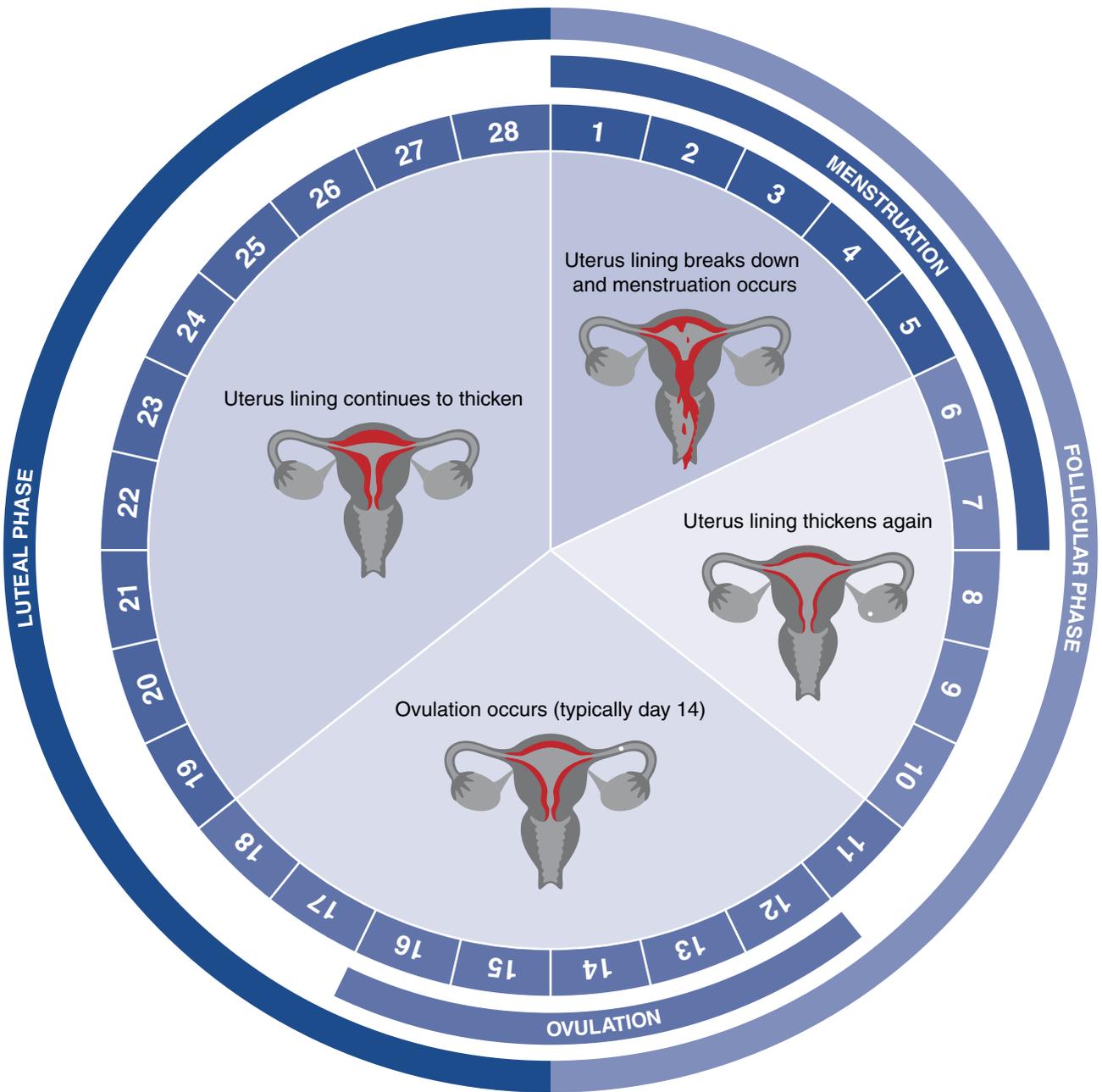
Figure 4.13:
A typical menstrual cycle.

Menstruation fact sheet

What period products should I use?

There are lots of different products to help absorb menstrual flow. A thin panty liner or a pad, changed regularly (to suit flow and comfort level) is usually used when a person begins menstruation. Pads sit inside a person's underwear and absorb blood flow outside of the body. A tampon is a little device, about the size of a pinky finger, that is inserted inside the vagina to absorb blood flow inside the body. There are also reusable alternatives, like menstrual cups (also known as period cups) and absorbent period underwear, which are more eco-friendly options designed to be reused over and over.

Common menstrual problems

Some of the more common menstrual problems include:

- **Premenstrual syndrome (PMS):** Hormonal events before a period can trigger a range of side effects in women at risk, including fluid retention, headaches, fatigue and irritability. Treatment options include exercise and dietary changes.

- **Dysmenorrhoea:** Painful periods. It is thought that the uterus is prompted by certain hormones to squeeze harder than necessary to dislodge its lining. Treatment options include pain-relieving medication and the oral contraceptive pill.

- **Heavy menstrual bleeding:** If left untreated, this can cause anaemia. Treatment options include oral contraceptives and a hormonal intrauterine device (IUD) to regulate the flow. Previously known as menorrhagia.

- **Amenorrhoea:** Absence of menstrual periods. This is considered abnormal, except during pre-puberty, pregnancy, lactation and post menopause. Possible causes include low or high body weight and excessive exercise.

Toxic shock syndrome

Toxic shock syndrome (TSS) is a rare and potentially life-threatening illness that is thought to be caused by infection with certain types of bacteria, including Staphylococcus aureus and Streptococcus pyogenes. Women who have are menstruating are most likely to get TSS, as it is thought to be associated with tampon use. The underlying mechanisms are not fully understood, but one theory is that the bacteria naturally present in the vagina can over-grow in the presence of a blood-soaked tampon. However, one third of women who get TSS when they have their period are found to have no causative bacteria in their vaginas. Given the number of women worldwide who regularly use tampons, TSS is a very rare condition. Suggestions of what individuals can do to reduce the risk are outlined below:

- Maintain personal hygiene during menstruation periods.
- Only wear tampons during a menstrual period.
- Use pads instead of tampons overnight.
- Avoid using super-absorbent tampons.
- Consider using pads or panty liners during the last day or so of a period, when the flow is light.

- Change tampons regularly (at least every four hours). Wash hands thoroughly before and after inserting the tampon.
- Only unwrap the tampon if it is going to be used immediately. Do not handle the tampon more than necessary.
- Be gentle when inserting and removing tampons. Avoid applicator tampons, as the applicator may scrape the vaginal walls.

Source: Better Health Channel.

Dealing with changes

Emotions can run high during puberty when all these changes are occurring. Knowing how to deal with these changes effectively ensures a smoother and easier transition into adulthood.

Some things that young people can do to help cope with the changes in puberty include:

- Understand that everyone goes through puberty and is struggling with similar changes. It can help to talk to friends about what is going on, but remember that it can be an uncomfortable subject for some people.
- Get lots of information regarding puberty and changes from reliable sources. Understanding what is going on in their body and knowing what to expect can help them deal with changes.
- Talk with parents or trusted adult about their concerns. Adults have been through it all before, can listen to their struggles and offer some great advice.
- Exercise regularly. Exercising at least twice a week can help clear the mind and keep the body healthy. It can also help with managing moods and stress by regulating the puberty hormones.

Personal hygiene

Good hygiene is an important element of preventing disease. A large number of bacteria and living micro-organisms live on the surface of the skin. Good personal hygiene practices are essential in order to prevent the bacteria from having an adverse effect on the body, potentially affecting health status. Effective hygiene is essential for everyone, in order to keep themselves clean, healthy and disease free. Good personal hygiene commonly involves the following steps:

- Regularly washing hands and always using high grade soap or disinfectant.
- Covering the face when coughing or sneezing. It is best to cough or sneeze into a tissue that can be disposed of, and then thoroughly wash hands with soap or disinfectant after.
- Staying at home or avoiding contact with other people when feeling unwell.
- Brushing teeth after each meal to help protect against dental diseases and reduce bad breath.
- Washing clothes after regular use and hanging them in the sun to dry.
- Having regular showers at least once a day, particularly after exercise.
- Wearing deodorant.

The importance of good hygiene was highlighted by the COVID-19 pandemic, where correct hand washing was promoted as one of the most effective strategies to minimise the transmission of the virus. The simple step of washing hands regularly and properly saw reduced transmission of COVID-19, as well as other viruses such as influenza.

Figure 4.14:
To lessen the smell of body odour, adolescents should take a shower every day or night and use deodorant.

Figure 4.15:
The main changes that occur during puberty are physical changes that prepare the body for reproduction.

Reproductive systems

During adolescence, there are many physical changes occurring that provide the ability to reproduce. Human reproduction is the biological process in which children are conceived. Conception occurs as a result of sexual activity and the male and female reproductive systems working together. It is important that young people are informed about their bodies, issues surrounding sexual health and how each reproductive system functions.

Males and females each have unique reproductive systems. The differences between the female reproductive system and the male reproductive system are in their shape and structure.

Internet activity
Log on to TitanOnline to complete Activity 4.2, researching the various stages of pregnancy.

Did you know?
The oldest person to give birth was 74 years old. She became pregnant through IVF.

1: Vagina
2: Fallopian tube
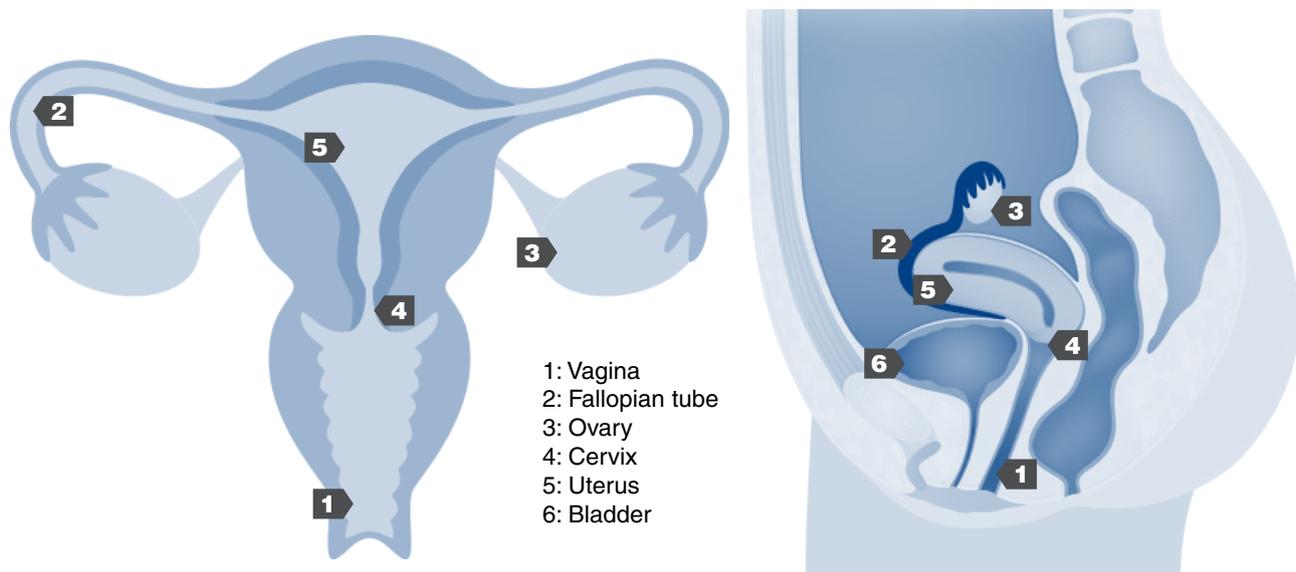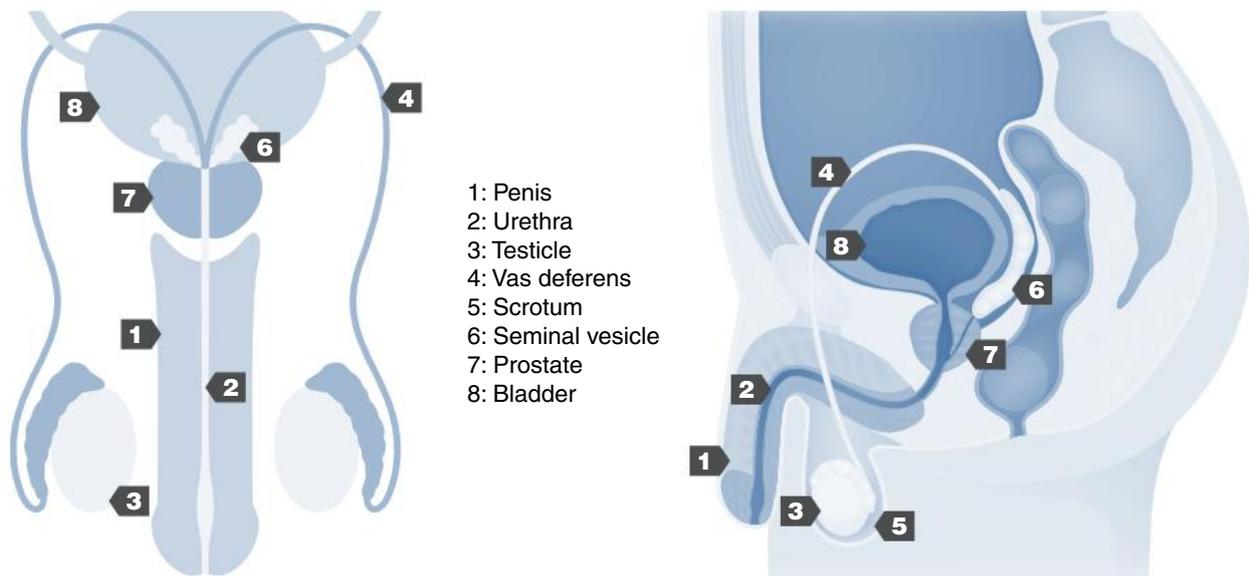3: Ovary
4: Cervix
5: Uterus
6: Bladder

Figure 4.16:
The female reproductive system.

Female reproductive system

The female reproductive system is located inside the pelvis. The female genitals, known as the vulva, are located on the outside of the body. The vulva is located between the legs, covering the opening to the reproductive organs inside the body such as the vagina. The fleshy area above the top of the vulva, called the mons pubis, is where pubic hair grows. At the joining of the labia folds is a small sensory organ, about the size of a pea, called the clitoris. The vagina is the muscular, hollow tube that leads to the sex organs on the inside of the body. It has several roles in human reproduction, facilitating sexual intercourse, childbirth and menstruation. At the top of the vagina is a muscular opening called the cervix, connecting the vagina to the uterus. The uterus, also known as the womb, is where a foetus develops. It is shaped like an upside-down pear and is approximately the size of a clenched fist, which expands to accommodate a growing baby. The lining of the uterus is called the endometrium, which thickens during the menstrual cycle. The fallopian tubes are located at the upper corners of the uterus, connecting them to the ovaries. Fallopian tubes are approximately 10 centimetres in length and very narrow at the uterus connection point. They gradually broaden as they get closer to the ovaries, where they are significantly wider (similar in shape to a funnel). There are many finger-like extensions at this point to connect the fallopian tube to the ovary, known as fimbriae. The ovaries are two oval-shaped organs that produce, store and release ova (eggs) into the fallopian tubes. Once the egg is in the fallopian tube, the process of fertilisation can occur. The tiny hairs in the lining of the fallopian tubes push the egg down the passage and into the uterus.

1: Penis
2: Urethra
3: Testicle
4: Vas deferens
5: Scrotum
6: Seminal vesicle
7: Prostate
8: Bladder

Figure 4.17:
The male reproductive system.

Male reproductive system

Unlike the female reproduction system, the male genitals and reproductive system are all located on the outside of the body. The two testicles, also known as testes, produce sperm and testosterone. The testes are oval-shaped and held in a loose pouch of skin outside the pelvis called the scrotum. Inside the scrotum, alongside the testes, is the epididymis. The epididymis is a set of tightly-coiled tubes where sperm is stored and matured. A long, muscular tube called the vas deferens connects the epididymis to the rest of the male reproductive system. It transports sperm to mix with seminal fluid, producing semen. There are two glands that produce components of seminal fluid: the seminal vesicles and the prostate gland. The seminal vesicles are attached to the vas deferens and to the side of the bladder. The prostate gland surrounds the ejaculatory ducts that are connected to the urethra. The urethra is the tube that carries semen through the penis and outside the body, as well as carrying urine from the bladder. The penis is made up of a spongy tissue that can expand and contract, filling up with blood and causing an erection. The penis is made up of the shaft, which is the body of the penis, and the glans, which is the tip of the penis and is very sensitive. At the end of the glans is the opening where the urethra ends and the semen and urine exit the body. An uncircumcised penis has a fold of skin, called the foreskin, covering the glans at the tip of the penis. Many boys, however, have gone through circumcision, which is a procedure performed during the first few days after birth that removes this fold of skin.

Learning activity

1. Outline the physical characteristics that you have inherited from each parent.
2. Research in-vitro fertilisation (IVF) and report on the procedures and success rates.
3. Explore the various ways organisms reproduce, including examples of asexual reproduction.

Sexual health

Puberty is the time when the body is transforming from a child into an adult and preparing males and females for reproduction. During this time, individuals experience growth spurts, mood changes, emotional changes and alterations in body size and shape.

It is also the time where young people may begin to feel sexually attracted to someone else, and romantic relationships may develop. The age when individuals feel comfortable forming such relationships and exploring sexuality will vary markedly depending on a wide range of circumstances. Making the right decisions at the right time, without coercion, is extremely important for each individual.

In addition, it is important to know when the law permits a person to consent to sex. Although it varies in some states, in most states of Australia the legal age of consent for sex is 16. The age of consent is the age at which a person can legally agree to have sex. Having sex with a person under the age of consent is illegal, even if consent was given. It is also against the law to force anyone to have sex against their wishes, regardless of age.

Safe intimate relationsh

An intimate relationship is a close personal rela frequent interaction and emotional attachment relationship often features the following charact

- Individuals have confidential knowledge of on
- Individuals feel affection for one another.
- Individuals trust and respect one another.
- Individuals are committed to the relationship

A healthy relationship is marked by mutual resp effective communication. During adolescence, intimacy develops. Each individual develops fee different times and in varying degrees. A perso a long-term relationship during high school, or want an intimate relationship until sometime in case, they will need to make a range of decisio intimate relationships.

Safe sex means taking measures to protect bot the transmission of infections. Obviously, the sa abstinence from a sexual relationship until a pe emotionally to handle the responsibilities of suc For some people, safe sex means committing t developing trust that neither partner will have o For many sexually active people, safe sex invol to prevent sexually transmissible infections.

Figure 4.18:
During adolescence, the ability to feel intimacy develops.

STIs and blood-borne viruses

STIs (sexually transmissible infections) are passed from an infected person to a non-infected person through sexual contact or the exchange of body fluids. Many people who have an STI do not have any obvious symptoms or signs. So it is important to know the facts about STIs and how they are spread and always practise safe sex. Blood-borne viruses are transmitted via the blood or other bodily fluids that contain blood. Common STIs in Australia include the following:

- **HIV/AIDS:** Human Immunodeficiency Virus (HIV) reduces the body's ability to fight infection and can develop into the Acquired Immune Deficiency Syndrome (AIDS). The virus lives in blood, semen, breast milk and vaginal fluid.
- **Chlamydia:** A bacterial infection that commonly targets the reproductive organs. It can be treated with antibiotics.
- **Genital herpes:** A virus caused by the Herpes Simplex Virus that can appear as sores around the mouth or genitals. Herpes can be treated with antiviral medication.
- **Genital warts:** A virus caused by the Human Papillomavirus (HPV) that can appear as small lumps. Warts can be treated with creams and prevented by the HPV vaccine.
- **Gonorrhoea:** A bacterial infection that commonly targets the reproductive organs. It can be treated with antibiotics.
- **Syphilis:** A bacterial infection that travels throughout the blood stream that can develop into painful sores or bodily rashes.
- **Pubic lice:** Small insects that lay eggs at the base of human public hairs. Lice are commonly treated using creams.

Figure 4.19:
For many sexually active people, safe sex involves the use of condoms to prevent sexually transmissible infections.

Figure 4.20:
Blood-borne viruses are transmitted via the blood or other bodily fluids that contain blood.

Learning activity

1. Design a five-point preventive health plan, on an ICT platform of your choice, to aid young people in the protection against STIs.
2. With a partner, brainstorm important communication skills when negotiating consent in intimate relationships.

Figure 4.21:
It is very important to learn the skills necessary to access health information from different sources and determine what is most useful.

Accessing health resources and support services

Being able to access accurate information is always important to health, but never as important as it is during the significant changes that occur during adolescence. The advice a young person gets from friends might be well intentioned, but they may lack the experience to give advice that is reliable and accurate. Similarly, online information can range from helpful, relevant information from reliable sources, to misleading and sometimes harmful advice. The information about adolescence presented in the various forms of the media can likewise be confusing and misleading. It is very important to learn the skills necessary to access information from different sources and determine what is most useful.

In most cases, the adults in a young person's life are a great source of information and advice. Trusted adults such as parents, extended family and teachers can give advice from a perspective of someone who has already experienced adolescence and dealt with the challenges and opportunities. Family members can also assist in arranging access to a range of other valuable support services.

Support services

There are a range of support services available for people to improve their knowledge and understanding of issues they might face throughout puberty. The most readily available services are in the school setting, where students have access to counsellors, year advisors and teachers. The family doctor is one of the best sources of information and advice and they can be trusted to be discreet and advise of other support networks that are appropriate, such as:

- Health Direct
- Better Health Channel
- Puberty Get The Facts
- ReachOut Australia
- Australasian Sexual Health Alliance.

Revision questions

1. Explain why good hygiene practices are even more important than normal during adolescence.

2. Identify the feelings that can be experienced due to the changes that occur during adolescence.

3. Investigate the challenges and opportunities that come as a result of increasing independence during adolescence.

4. Explain how your personal identity may change during adolescence.

5. Explain how personal identity can differ in various contexts, such as when you are online, at school, or at home.

6. Analyse how the physical changes that occur during adolescence can impact friendship groups.

7. Create a Venn diagram to outline the different physical changes that occur to boys and girls during puberty.

8. Outline strategies that are useful when reviewing the accuracy and reliability of online resources.

9. List health services that can support a young person who is experiencing change and challenges.

10. Identify barriers that can hinder young people from accessing the support services available to them.

11. Develop strategies to overcome each of the barriers that you identified in the previous question.
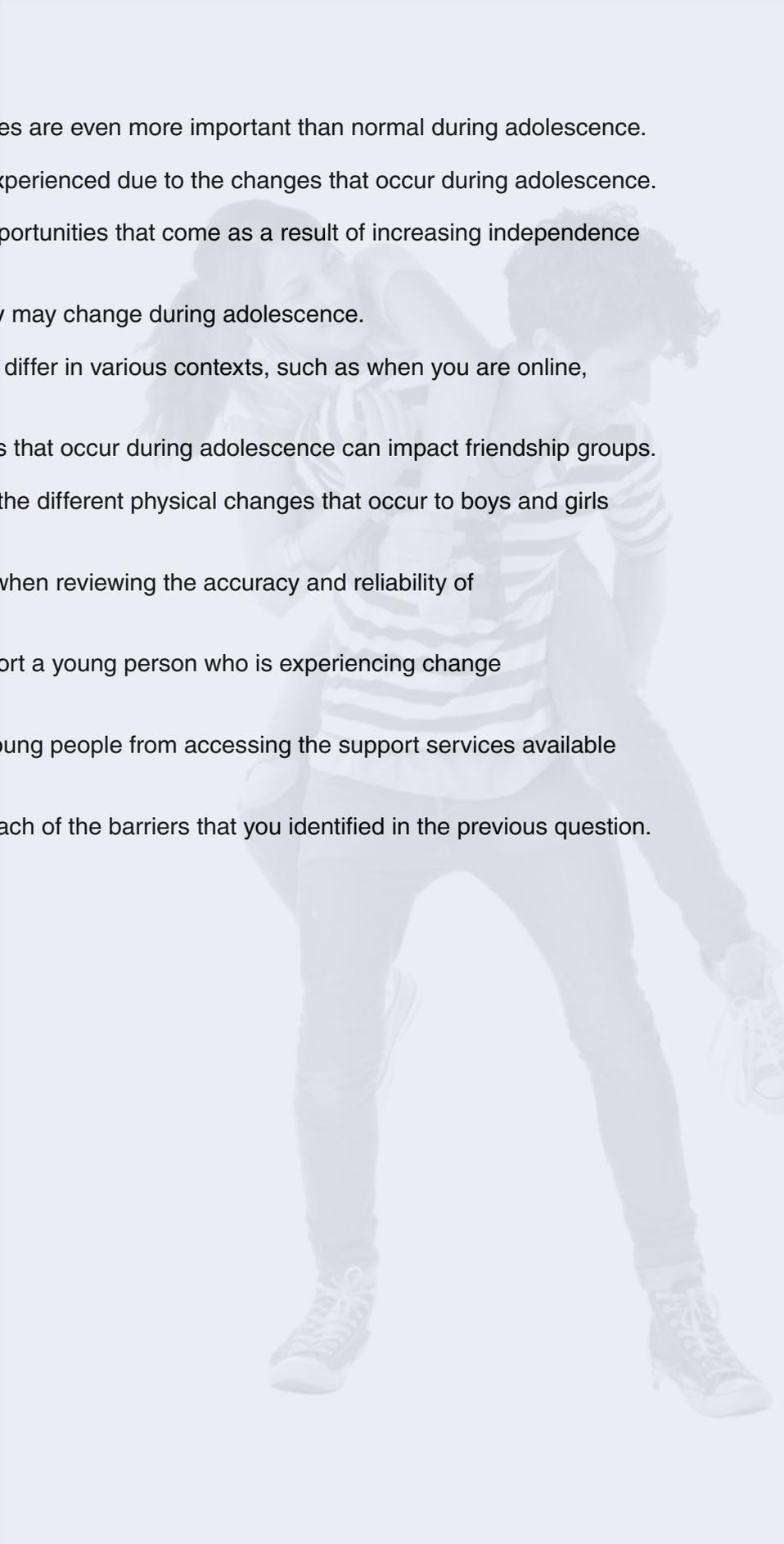
CHAPTER 5

Mental health and wellbeing

Mental health and wellbeing affects all people. It concerns the feelings, thoughts and emotions individuals encounter on a daily basis. It is normal to experience 'low points' or feelings of sadness and grief – these are part of life. What matters is how individuals deal with these feelings and what can be done to feel happy again.

Throughout life, particularly adolescence, there are many challenges individuals will face. Being resilient and developing one's self-worth and self-esteem will make this transition from childhood into adulthood less daunting. Understanding how mental health and wellbeing can be enhanced and strengthened at an individual and community level is important. It is also important to develop knowledge, understanding and skills to manage one's own mental health and wellbeing, as well as to support that of others.

Focus areas

- Components of health
- Looking after yourself
- Mental health issues
- Improving mental health

Components of health

The World Health Organization (WHO) defines health as physical, emotional, social, cognitive and spiritual wellbeing, not merely the absence of disease. A person's health changes all the time, depending on the situation they are in and people they are around. For example:

- Physical health may change from optimal when well to poor when sick.
- Mental health can change by the stress caused by exams, but is generally short-term.
- Social health may change when isolated from a peer group.

The components of health are all interrelated. Maintaining a balance between them and taking a holistic approach to health helps people enjoy a healthy and meaningful life. The components of health are detailed in the following text:

- **Mental health** is a state of wellbeing in which every individual realises their own potential, can cope with the normal stresses of life, can work productively and is able to make a contribution to their community.
- **Physical health** is defined as factors that affect your physical self. These include hereditary factors, diet, physical activity, illness and disease, disability and your physical environment (including where you live, school/work environment and the amount of pollution).
- **Social health** relates to the way you interact with other people. It includes family, friends, peers, social media and strangers. Your social health includes the influence of individuals and groups, either directly or indirectly, through various channels (such as the media).

Figure 5.1:
A person's health changes all the time, depending on the situation they are in and people they are around.
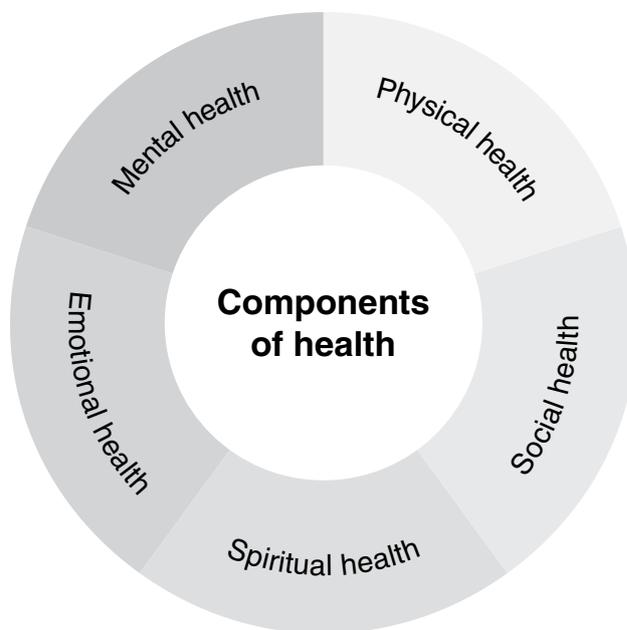

Figure 5.2:
The components of health.

- **Emotional health** is the capacity to express emotions and adapt to a range of demands. It is experiencing a wide range of emotions, both positive and negative, and displaying the appropriate emotion when an event unfolds (such as displaying sadness or grief when dealing with loss).
- **Spiritual health** is the sense of purpose and meaning in life. It may be the belief in a higher force or Supreme Being and often provides a sense of meaning. It often includes belief in the values of hope, purpose, faith and peace.

Wellbeing

Wellbeing is not just the absence of disease or illness. It is a complex combination of factors that include a person's physical, mental, emotional, spiritual and social health. Wellbeing is strongly linked to happiness and life satisfaction. Wellbeing can be described as how an individual feels about themselves and their life.

The factors that enhance wellbeing include:

- a happy intimate relationships with a partner
- a network of close friends
- an enjoyable and fulfilling career
- enough money
- regular exercise
- a nutritional diet
- sufficient sleep
- fun hobbies and leisure pursuits
- spiritual or religious beliefs
- healthy self-esteem
- an optimistic outlook
- realistic and achievable goals
- a sense of purpose and meaning
- a sense of belonging
- the ability to adapt to change.

Source: Better Health Channel.

Figure 5.3:
Hobbies and leisure pursuits enhance a person's sense of wellbeing.

Figure 5.4:
Wellbeing is strongly linked to happiness and life satisfaction.

Learning activity

1. Define each component of health in your own words.
2. Provide an example of something that positively impacts on each component of health.
3. Provide an example of something that negatively impacts on each component of health.
4. Identify a range of factors that could improve your wellbeing.

Figure 5.5:
A person's mental health status is interrelated with other components of health, including physical health.

Looking after yourself

It is important that each individual takes care of themselves so that they reach their potential and get the most out of life. While many factors contribute to a person's health status, the best health outcomes result when a person takes personal responsibility for their own health. Often it can be as simple as making a few lifestyle changes, while for more serious mental health challenges, a person might need to look for professional help to improve their overall mental health and wellbeing.

Mental health status of young Australians

Surveys that investigate the prevalence of mental disorders in Australians have established that:

- 45 per cent of Australians aged 16–85 will experience a high prevalence mental disorder, such as depression, anxiety or a substance use disorder in their lifetime.
- Almost 14 per cent of children and adolescents aged four to 17 years had experienced a mental health disorder in the previous 12 month period.

Source: Adapted from AIHW Australia's health 2018

Mind-body-spirit connection

A person's mental health status is interrelated with other components of health, and looking after one's mental health also means looking after one's physical, social, emotional and spiritual health. Some people describe this as the mind-body-spirit connection, which is not a new concept. Many cultures, such as Indigenous Australians, have for many years utilised the relationship between one's mind, body and spirit (or soul) to view health in a holistic manner.

The mind-body-spirit connection aims to improve an individual's mental health. For example, there are suggested links between the importance of creating and fostering a healthy mind to provide a solid foundation for developing a healthy physical body. In reverse, a healthy physical body enables individuals to complete activities and tasks that promote a happy and positive mental health. The brain is a very powerful tool that can be utilised to transform people's health. Creating a conscious awareness of feelings, thoughts and emotions is an effective way to begin developing or strengthening a mind-body-spirit connection. Some examples of practical strategies could include the following:

- Starting to write in a daily journal. Individuals may write down their daily feelings, long-term goals.
- Plan a short medita location an individu play quiet instrumer
- Identify when feelin a period of time and
- Read a book about
- Paint or draw some
- Immerse in nature. simply listen to the

The mind-body-spirit an individual to live a acknowledging the im dimension and comp to the overall mental individual. There are events that promote t including the Mind-Bc festival, various busin essential oils and oth and services are adv seminars, workshops

Figure 5.6:
Creating a conscious awareness of feelings,
thoughts and emotions is an effective way to begin
strengthening a mind-body-spirit connection.

Sense of belonging

Developing a connection or sense of belonging to a place, person or experience is an extremely valuable and appreciated feeling. Belonging is experienced when an individual feels as though they are an important part of a relationship or experience. Belonging is a fundamental psychological human need as identified within Maslow's Hierarchy of Needs.

It often takes time to create a sense of belonging within relationships, groups or experiences. Feeling a connection and personal sense of value within these experience often does not often occur instantly. The feeling of connection and value between individuals is often built upon knowing and understanding similarities and differences in one's perception and understanding of a shared experience or event.

Individuals find belonging through a variety of different ways. Many people find value in developing close friendships to increase their sense of belonging. Other people find it important to join sporting clubs, religious organisations or even virtual social media groups to develop the feelings of connectedness and comfort of fitting in to a particular group. Technological advancements and the array of social media platforms do present a challenge when individuals attempt to find a sense of belonging. The idea of virtual friends and peers is often not sustained or develop into deep, trusted relationships that is necessary to fulfil the human need to belong.

As the feeling of belonging to a particular person or group is extremely valued, it is important to consider how one can replicate that same feeling to other people. For example, rather than judging an individual for the faults or excluding them because of their beliefs in different ideas or values, spark a quality debate to fully understand where the individual's ideas and values have developed from and what unique experiences or knowledge they may be able to bring to the relationship.

Without the sense of acceptance individuals are likely to feel lonely and unappreciated. Some people report that they feel isolated or invisible. It is therefore important to take initiative to make others feel welcomed, accepted and important. If everyone attempts to encourage one another it should reduce the overall costs of loneliness that is associated with higher rates of mental illnesses.

Individuals can demonstrate inclus behaviours by:

- consciously using inclusive rathe exclusive language
- introducing themselves and bein associate with others
- consider and ask for the opinion:
- have regular group discussions r one person making decisions
- highlight the accomplishments or accolades other people have attained.

Figure 5.7:
Many people find value in developing clos friendships to increase their sense of belc

Figure 5.8:
Mindfulness encourages people to appreciate and experience life as it occurs.

Mindfulness

One popular method of coping with stress is mindfulness. Mindfulness focuses on training oneself to pay attention to everyday aspects of life. A mindful person:

- focuses on the present
- doesn't dwell on the past, especially if something didn't go as planned
- doesn't think about what might be going to happen in the future
- focuses their attention on their surroundings and what's happening around them
- is not judgemental about themselves or others.

Mindfulness encourages people to appreciate and experience life as it occurs. Many people spend too much time thinking or worrying about things that have happened previously, or thinking or worrying about something that may happen in the future. This causes an individual to overlook and appreciate or enjoy the present.

When an individual is mindful, it allows them to:

- clear their head of negative thoughts
- slow down their thoughts
- slow down their nervous system
- concentrate
- be more aware of themselves, their body and the environment
- relax
- manage stress.

The impact of body image and self-esteem on mental health and wellbeing

Body image includes the way an individual perceives their own body. A positive body image may make an individual feel happier and more self-accepting. Body image is not about attaining a specific shape or size, but rather about an individual being satisfied with the body they have.

Negative body image can influence an individual's self-worth. If an individual thinks negatively about their body, they will inevitably feel less comfortable and may feel less valuable, which impacts on their self-worth.

Body image – females

It is common in western society for women to believe they are larger and fatter than they really are. Only one in five women is satisfied with their body weight. Nearly half of all women of normal weight overestimate their size and shape. A distorted body image can lead to self-destructive behaviour, like dieting or binge eating. Approximately nine out of 10 young Australian women have dieted at least once in their lives.

A poor body image can promote an unhealthy lifestyle. The urge to other potentially dangerous weight loss methods (such as fasting laxatives) is almost always prompted by feeling unhappy with bod or size. Even 'moderate' dieting increases the risk of developing eating disorder among girls. If a woman feels self-conscious abo appearance, she may avoid exercising because it might mean ex her body shape to the public eye. Alternatively, she might overex a bid to lose weight quickly. Some studies indicate that a young body image is the single largest influence on her self-esteem. If s thinks she looks unattractive or fat, her self-confidence drops an can impact on other areas of her life. Some of the factors that co to a negative body image in females are:

- being teased about appearance in childhood
- growing up with dieting parents, or one who was unhappy with their body shape
- a cultural tendency to judge people by their appearance
- peer pressure among teenage girls to be slim, go on diets and compare themselves with others
- a tendency in women's media to push fad diets and weight loss programs
- media and advertising images promoting thinness as the ideal
- well-meaning public health campaigns that urge people to lose weight.

Adapted from: www.betterhealth.vic.gov.au/health/healthyliving/body-image-women

Figure 5.9:
Nearly half of all women of normal weight overestimate their size and shape.

Body image – males

Issues regarding body image affect men as well as women. Around one in four Australian men in the healthy weight range believe themselves to be fat, while 11 per cent of men are on a weight loss diet at any given time.

Many males also feel the need to meet the muscular male stereotype portrayed in the media. This desire to fit the media-portrayed ideal masculine image of lean muscularity means that overexercising and the use of dangerous and illegal drugs (like steroids) are increasing.

It's estimated that about 45 per cent of western men are unhappy with their bodies to some degree, compared with only 15 per cent some 25 years ago. Research suggests that homosexual men, models, dancers and athletes may be particularly vulnerable to poor body image or feeling insecure about their bodies. This is because they are more likely to be in situations where they may be judged (or believe they will be judged) according to their appearance.

A negative body image encourages a range of self-destructive behaviours, including:

- **Fad dieting:** around 11 per cent of Australian men are dieting at any given time. Those diets are not always nutritionally sound
- **Eating disorders:** around one third of people with an eating disorder are male.
- **Exercise dependence or 'exercise addiction':** it's possible to become addicted to exercise, either psychologically or physically.
- **Steroid abuse:** young men, gay men, elite athletes, competitive bodybuilders, men who train with weights, and security guards are some of the male groups most at risk of using performance and image enhancing drugs to promote muscle growth or reduce body fat.

Some of the factors that may contribute to a negative body image in males are:

- teasing in childhood and adolescence (being called too thin, too weak or too fat)
- peer pressure among teenage boys to be physically 'tough' and 'strong'
- a cultural tendency to judge people on their
- the emphasis on male sports players as role models for boys
- advertising campaigns and media coverage featuring idealised male images
- promotion by society of the 'ideal' man as always being strong, lean and muscular
- well-meaning public health campaigns that urge people to lose weight.

Source: www.betterhealth.vic.gov.au/health/healthyliving/body-image-men

Internet activity

Log on to TitanOnline to complete Activity 5.1 to review strategies to increase positive perceptions of body image

Figure 5.10:
Young men may feel the need to meet the muscular male stereotype portrayed in the media.

Figure 5.11:
Media images are often airbrushed and not a true representation of people.

Developing positive body image

Having a distorted body image, which in most cases is an image of being overweight, can lead to trying fad diets and extreme eating patterns that can negatively affect health status. To improve body image, a person should try the following strategies:

- Recognise that they are valuable and their worth can never be simply based on their appearance. Any efforts to improve overall health will provide ongoing benefits for how they look and feel.
- Strive to reach their full potential and develop the skills and talents that make them unique. They should acknowledge their achievements and celebrate successes.
- Remind themselves that media images are often airbrushed and not a true representation of people, as 'perfection' is promoted for the purpose of increased sales.
- Aim to maintain a high level of nutritional health, rather than following fad diets that are more damaging than good for the body. Counting nutrients is more effective than counting kilojoules.
- Be aware that people come in different sizes and shapes. Attaining the stereotypical 'perfect body' is an unrealistic goal and usually leads to frustration and disappointment.
- Shake off any negative feelings that they may have about the way others perceive and interact with them.
- Learn to identify stress and the way it may make them feel about themselves. When they are feeling stressed they should try exercising to experience the natural 'feel good' chemicals known as endorphins. It can help to decrease stress and at the same time make them feel energised and relaxed.

Influence of the media

Mainstream media has for many years presented unrealistic beauty standards in television shows, movies and magazines, using extremely thin female models, muscular male models and digitally altered images to portray what is meant to be normal. Issues of celebrity worship and reality television have further blurred the viewer's image of normality. Edited social media images and influencers have invaded everyday life of young people. Even the expansion of fitness blogs on the internet have the unintentional potential for harm, if followers experience feelings of inadequacy when they do not get the results they see onscreen. If the viewing environment is flooded with unrealistic images, it is understandable that individuals will compare themselves to the images and may feel their own body doesn't meet the standard.

Internet activity

Log on to TitanOnline to complete Activity 5.2, investigating success strategies relating to body image.

Internet activity

Log on to TitanOnline to complete Activity 5.3 to evaluate how the media influences people's perceptions of body image.

Fortunately, it's not all bad news. Although marketers and advertisers use the various forms of media to exploit or even create low self-esteem and poor body image, there remains a lot of content that can have a positive effect on body image. Young people should seek out music, movies and books that inspire and motivate them. Spend less time on the phone and engage in other activities that bring enjoyment without the focus on appearance. Resist the urge to compare appearances with others, especially those that are seen in the media. People should be selective in the types of social media and mainstream media they engage with, choosing those that portray realistic images and characters.

Learning activity

1. Provide a definition of body image. Compare your definition with a partner and discuss how body image impacts a person's mental health.
2. Discuss how the media can influence body image.
3. Create a collage using digital magazines of images in the media that influence body image. Annotate your collage and present to the class or in small groups.
4. Create a fact sheet on eating disorders affecting adolescents.
5. Compare and contrast the way that the 'ideal' male and female body image is promoted by different cultures.
6. Write an article for a teen magazine on the importance of maintaining a healthy body image. Include tips to help adolescents maintain a positive perception about their appearance and outline the physical benefits that can be achieved through nutrition and exercise.
7. Research and report on the relationship between:
   a. disordered eating and body image
   b. anabolic steroids or other performance-enhancing drugs and body image
   c. a healthy lifestyle and body image.

Figure 5.12:
Individuals with high feelings of self-worth are less likely to suffer doubt and guilt when dealing with a life challenge.

Resilience

Resilience is a word used to describe a person's ability to bounce back, manage or deal with a difficult situation effectively, rather than letting it get them down for extended periods of time. Unfortunately, life has its ups and downs, and there will inevitably be times where one feels hurt, scared or unstable. Being resilient does not mean an individual is exempt from these feelings. Rather than letting it get to them and negatively affect their health, resilient people have coping mechanisms in place that help them deal with these issues or negative events.

Adversity involves any situation or event that is uncomfortable, unpleasant, challenging and even distressing. Throughout the life span, individuals may go through various adversities. During adolescence in particular, there are many different challenges to encounter. Everyone will face some of these, such as the transition from primary school to high school, going through puberty and physical changes and development. Other challenges, that not everyone will have to face, include things such as bullying, a breakdown in the relationship with parents, parental divorce or the death of a loved one. It is important to recognise that everyone will face adverse situations. An individual may feel completely alone, but there is always someone to speak to in order to deal with the situation.

It is important to think of the different components of health when building resilience, because the challenges faced throughout life will impact certain areas of life more dramatically. For example, a scenario where an individual in very good physical health without a sense of spirituality develops a serious illness that takes away their mobility. This person may become withdrawn and wonder why something like this has happened to them. If they had focused on their spiritual health, they may have been better equipped to deal with the injury and perhaps have been able to turn to a religious entity or spiritual connection they have.

Resilience is an ideal skill to develop from a young age, as it will dramatically assist an individual when they face challenges in adult life. There are many things that young people can do to work on improving their resilience, including:

- **Positive thinking:** practise seeing the positive side or the good in situations, even if they are little or trivial. This will help an individual if something more serious was to occur. For example: a scenario where a young person misses the regular bus to school and has to catch the public bus, which will make them late. Negative thinking would include thinking they will get in trouble, they won't get to catch up with friends before class, and they won't have anyone to sit next to or talk to. Positive thinking would include thinking it's not the end of the world, they will see their friends in class or at recess, they will explain to the teacher, and they can take this opportunity to read over some notes or finish of

- **Practise working in a team:** be individuals the skills to know how to accept help from others. This throughout life there will be situa handle on their own. Similarly, be help their self-esteem, which will on resilience.

- **Deal with stress:** it is important what makes them stressed, such too many expectations put on the know the signs of their stress, su getting agitated or snapping at p help to know the things that help such as taking three deep breath having someone hug them or exe By understanding these three thi being conscious of when they en into a state of stress, a person is equipped to handle and diffuse t stressors, making them more res

Figure 5.13:
It is more difficult for an individual's body fight illnesses and diseases if they don't e nutritious, balanced diet.

- **Learn from the past:** After a conflict or stressful situation, debriefing and talking about it rather than ignoring it. It is important for adolescents to use their past experiences as learning opportunities to help them make better decisions in the future.
- **Make meaningful connections:** Establishing a support network of trustworthy people, including a trusted family doctor, can be a vital source of support and advice. Having people around who genuinely care helps an individual in times of need, making difficult situations easier to deal with. In order to have people who genuinely care about them, the individual needs to respect and build on their relationships. Nurture positive relationships, and distance and disengage from negative relationships.
- **Set goals and have a backup plan:** setting goals is important as it gives one something to work towards, which helps prevent feelings of being 'stuck in a rut' or feeling like life isn't going anywhere. It is equally important for an individual to have backup plans, in case they are unable to reach their goals. Practise problem-solving to gain confidence in your ability to meet challenges head-on.
- **Be flexible:** being able to adapt when situations suddenly change is very important in relation to resilience. An individual will experience events they have no control over, and no warning of, throughout their life. Being flexible and taking the lead will help others in times of sudden change as well. For example, try having some money put aside just in case of emergency.
- **Eat healthy and stay active:** a body is like a car; it will start to deteriorate if it isn't fuelled by the right sources or used regularly. It is more difficult for an individual's body to fight illnesses and diseases if they don't keep active, exercise regularly, or eat a nutritious, balanced diet.
- **Develop self-esteem and sense of self:** individuals with high feelings of self-worth are less likely to suffer doubt and guilt when dealing with a life challenge.

Learning activity

1. Define resilience in your own words.
2. Discuss the difference you would expect to see between a person who is resilient and a person who isn't.
3. Create a scenario depicting a person with poor resilience skills going through a hard time. Swap with a partner and provide advice for the person to better handle the situation.
4. Create a list of words that could be associated with positive coping skills.
5. Create a list of words that could adversely affect coping.
6. Reflect on a time you have used positive coping skills. In pairs, discuss what happened.
7. Create a resource outlining what resilience is and how it can be used to help with mental health and wellbeing. Your resource could be one of the following:
   - newspaper article
   - blog post
   - pamphlet
   - article for a teen magazine.

   Remember to present your resource appropriately for the medium you use and the audience you are targeting. For example, the language used in a newspaper article will vary from the language used in a teen magazine.

Stress management

Stress is a normal emotional response when a person is faced with a situation they feel is challenging or overwhelming. Individuals respond to stressful situations in different ways. For some, stress heightens their performance and sense of achievement. For others, it may be debilitating and cause paralysing fear. One person's perception of what is stressful may vary considerably from another person's perception. Generally the more significant the event or situation, the more stressful it becomes. There is an established link between fear of failure and stress. Some stresses come from external factors, such as work, school, relationships, and other stresses may come from within, such as self-talk, thoughts and feelings.

Stress is not necessarily harmful. It is in fact a part of everyday life and without stress, people would not be motivated to make decisions, take action, develop skills or challenge themselves to improve. Without stress, people would not deal well with dangerous situations. The fight or flight mechanism that humans use instinctively to deal with danger is based upon stress causing the body to increase pulse and respiration rates, tense muscles and raise alertness.

Stress can be harmful to health if it is not managed properly. Long-term stress has the potential to cause physical illness such as raised blood pressure, heart disease, diabetes and mental illness such as anxiety and depression.

Figure 5.14:
Stress can be harmful to health if it is not managed properly.

Figure 5.15:
Staying connected with friends and family can help minimise stress.

Learning how to effectively deal with stress is a great life skill. To deal with stress more effectively, it helps to investigate personal stressors and how to react to them. Try to:

- understand the triggers that cause personal stress
- understand circumstances that can and cannot be controlled
- prepare for future events that may cause stress
- learn and practise activities that relieve stress
- maintain optimal health through diet, exercise and relaxation
- stay connected with friends and family
- find enjoyment in every day.

Learning activity

1. Evaluate different strategies an individual can incorporate into their day when they wake up, during the day and before going to bed to minimise stress.
2. Create your own unique progressive muscle relaxation procedure for use at home.
3. Create a whole-school approach to managing stress. Include strategies for teachers, students and the wider community.

Practical activity

Progressive muscle relaxation (PMR) is an effective technique to respond to anxiety and reduce muscle tension. Often, a person does not realise how tense their muscles actually are until they try to relax them.

PMR is a simple technique; however, it requires practise to receive optimum benefits. It is a process of progressively working through the body, tensing and releasing each muscle group throughout the body in turn.

- Your teacher or student volunteer will guide you through the process.
- It is important to find somewhere comfortable where you can lay down and close your eyes.
- When instructed, tense the muscle group described. Ensure tension can be felt, but not pain. Keep the muscle tensed for five seconds, then relax it for 10 seconds.
- On completion of the PMR session, discuss how the muscle felt when relaxed. Consider how the exercise made you feel and whether you feel less tense.

The following instructions will be given verbally as each class member participates in a PMR session.

Hands and arms

1. Make a fist with your right hand. Focus on the tension from the elbow to the hand. Squeeze your fist for five seconds. Release and gently lay your arm down. Relax your forearm for 10 seconds.
2. Make a fist with your left hand. Focus on the tension from the elbow to the hand. Hold your fist for five seconds. Release and gently lay your arm down. Relax your forearm for 10 seconds.
3. Keeping both arms straight, sc and then release and relax.

Face and neck

4. Raise your eyebrows and focu your eyes. Hold your raised ey Release and relax for 10 seco
5. Squeeze your eyes tight shut a around your eyes and cheeks. five seconds. Release and rela
6. Open your mouth as wide as y jaw tightening. Hold your mout Release and relax for 10 seco
7. Face forward and pull your hea look up at the ceiling. Focus o the back of the neck. Hold you for five seconds and slowly bri loose, resting position for 10 s

Figure 5.16:
Muscles of the eyes and mouth are targe

Figure 5.17:
It is important to find somewhere comfortable where you can lay down and close your eyes.

Shoulders, back and hips

8. Raise your shoulders to your ears and focus on the tightness in your shoulders. Hold your shoulders up for five seconds and slowly release the tension by dropping your shoulders into a resting position for 10 seconds.

9. Push your chest forward and your shoulder blades back and focus on the tightness in your upper back and shoulder blades. Hold your shoulder blades back for five seconds and drop your shoulders into a relaxed posture for 10 seconds.

Feet and legs

10. Tighten your right thigh and focus on the tension in that area. Tighten your thigh for five seconds and slowly release into a resting position for 10 seconds.

11. Slowly pull your toes on your right foot towards you and focus on the tension in your calf muscle. Hold your toes for five seconds and slowly release for 10 seconds.

12. Curl your toes on your right foot downwards and focus on the tension in your foot. Hold your toes for five seconds and slowly release for 10 seconds.

13. Tighten your left thigh and focus on the tension in that area. Tighten your thigh for five seconds and slowly release into a resting position for 10 seconds.

14. Slowly pull your toes on your left foot towards you and focus on the tension in your calf muscle. Hold your toes for five seconds and slowly release for 10 seconds.

15. Curl your toes on your left foot downwards and focus on the tension in your foot. Hold your toes for five seconds and slowly release for 10 seconds.

Loss and grief

Experiencing a loss is often a very challenging time for anyone to go through. When a loss occurs, the emotion that most individuals experience is grief. People grieve in different ways and to different extents. Like most emotions, it is normal for individuals to grieve and the particular ways in which that occurs is linked to a number of factors including individual characteristics, prior experiences and current support systems.

Some examples of various situations or events that individuals may consider a loss and trigger feelings of grief can include:

- the loss of a friend, family member of close relative
- the loss of a pet
- having to move schools away from friends
- loss of a job or not being successful in a job application
- family separation.

Common feelings and emotions associated with loss include:

- feeling numb
- feeling out of control
- feeling as though you are on an emotional roller coaster with extreme highs and lows
- feeling sad, stressed and/or confused
- feeling guilty.

Research suggests that there are five common stages that individuals will go through when experiencing grief and loss. These stages involve denial, anger, bargaining, depression and acceptance. Closely following the event or situation, an individual is likely to feel as though what has occurred is not real and deny the situation. Common feelings of anger usually follow the initial stage and the anger can be directed at themselves or others. After the extreme feelings of anger dissipate, an individual usually will mentally bargain with themselves and the situation in order to attempt to revert their life back to normal. Because more often than not an individual cannot physically change the situation, it is common for a stage of depression or prolonged sadness to be experienced. The length of each stage will be unique to each individuals experience; however acceptance is classified as the final stage. An individual may never completely forget or overcome the experience or situation, but learning to manage the new way of life will eventually occur.

Figure 5.18:
A family separation can trigger feelings of loss and grief.

Figure 5.19:
It is important not to expect an individual to simply 'get over' a significant loss,

During these times it can be challenging for a person to go about the usual routines of daily life. It is also normal for individuals to not want to participate in things that they would normally enjoy such as sports training or social interaction. It is also common for individuals to neglect their own health throughout challenging times. Maintaining a healthy diet and exercising are likely to become less of a priority. Even though an individual may feel a sense of hopelessness, it is important to recognise and understand the ways to effectively manage feelings associated with grief and loss. Not all suggested will be appropriate for every individual, but depending on the circumstances, some of the following strategies will help an individual to effectively manage and move through a challenging time in their life.

- Talk to trusted people.
- Reduce negative self-talk – understand the new feelings are part of a natural process and don't feel pressured to quickly get over the situation.
- Start something new that has no connection to the loss experienced.
- Express feelings verbally or through journaling or creative writing.

Young people might not have experienced a significant loss, but someone close to them may need their support. In this case it can be important and valuable to know strategies to assist the other person who is grieving. Some ways that a person can be supportive and help someone who is grieving include the following:

- Volunteering time to catch up and chat, more importantly listen to how the person is feeling and any concerns that might have arisen. It is important not to expect an individual to simply 'get over' a significant loss, forget about it or feel fine within a short period of time to experiencing the event.
- Asking the individual if there are ways to assist them, such as cooking a meal, helping with assessments or walking the family pet.
- Regularly contacting the individual to demonstrate that they are important.

Figure 5.20:
People grieve in different ways and to different extents.

Figure 5.21:
Mental health issues are just like any other illness – they are not a form of intellectual disability or brain damage.

Mental health issues

Mental health is about the mind and how effectively and successfully a person functions. A person with positive mental health feels happy, capable and competent. They are able to handle normal levels of stress, maintain satisfying personal relationships and recover from difficult situations.

A mental health issue, on the other hand, is a term used to describe any health problem that significantly affects how a person feels, thinks, behaves, and interacts with other people. Society has become more aware of a wide range of mental health issues that were unidentifiable in the past. Because mental health issues have been under-researched and not considered to be real until recently, there has been a negative stigma around those who suffer from mental disorders. Stigma or labelling is a term used to describe a process where a person is perceived to be or treated different. Negative stigma takes many forms and often still occurs when dealing with mental health issues. Mental health issues, however, are just like any other illness – they are not a form of intellectual disability or brain damage.

Mental health issues such as anxiety and depression are common. Mental health disorders such as schizophrenia and bipolar disorder are less common, but more severe. They require the support of mental health specialists to provide guidance regarding medication and effective treatment.

Did you know?
Mental health issues are more common than diabetes, heart disease or cancer.

Anxiety

Feelings of anxiousness are unavoidable at certain times throughout life – everyone will experience stress and anxiety.

Anxiety is characterised by feelings of uncertainty mixed with nervousness, fear and worry. Sometimes feeling anxious is necessary because it helps people respond to situations in an appropriate way. For example, in an unsafe situation such as walking home late at night, an adolescent may begin to feel worried because someone is walking close behind them. This anxiety could influence them to run, or call a parent so they have someone on the phone. Without this fear or worry, an individual could be in unsafe situations without realising and could get hurt. Anxiety crosses over from a logical emotion to a mental health issue when an individual's feelings of anxiousness arise from situations that wouldn't normally cause anxiety and do not go away, or make day-to-day life very difficult.

While each anxiety condition has its own unique features, there are some common symptoms including:

- **Physical:** panic attacks, hot and cold flushes, racing heart, tightening of the chest, quick breathing, restlessness, or feeling tense, wound up and edgy.
- **Psychological:** excessive fear, worry, catastrophising, or obsessive thinking.
- **Behavioural:** avoidance of situations that make you feel anxious, which can impact on study, work or social life.

These are just some of a number of symptoms that a person might experience. They're not designed to provide a diagnosis – a doctor is needed for that – but they can be used as a guide.

Source: www.beyondblue.org.au/the-facts/anxiety/signs-and-symptoms

Figure 5.22:
Anxiety is characterised by feelings of uncertainty mixed with nervousness, fear and worry.

Internet activity

Log on to TitanOnline to complete Activity 5.4 to investigate the symptoms of various anxiety disorders.

Learning activity

Visit www.beyondblue.org.au and search for 'types of anxiety'. Read the information and select three different types. Create three scenarios that each show a different type of anxiety. Swap the scenarios with a partner and complete the following:

- Identify the type of anxiety present in this scenario.
- Highlight the symptoms/signs the person is experiencing.
- Analyse what they are doing to seek help.
- Evaluate what they could do to receive further support.

Case study

Dear Diary,

I wished so hard to not be here anymore, to not be stuck here with the thoughts in my head that leave me debilitated every time there's a crowd, or I walk past a mirror, or there's a traffic jam. I remember when life was care free, when anxious meant shy and when I would smile freely without feeling like the elephant in the room.

It never used to be this bad, but lately it's been really hard to get through each day. I wake up and wish for it to be night time again so I can crawl up into my little cocoon. I wished so hard the breeze picked me up and carried me to where I am now, this beautiful place. There's no other person here, just me. I can walk without my hands and feet sweating, without the hairs on the back of my neck standing up, without getting short of breath and worrying that I'm standing out too much, or people are looking at me. If only I could stay in dream land forever.

Words can't quite explain what this disease actually does, or how badly it impairs me every day. Think about the hardest decision you've ever had to make. Now imagine every single choice you had to make was that intense. That is my constant. What sock to put on first. What to spread on my toast. Which seat to choose on the school bus. These and every other choice I have to make on a daily basis scare me, and my skin starts to itch and my heart starts pumping really fast, it feels like my chest could rip open at any moment.

Choices and change are meant to be opportunities for growth, but all they give me is insomnia and panic attacks. Therapy isn't working. I don't want medication. I want to be better, to feel like me again but I don't want chemicals dancing in my brain, tricking me to feel a certain way.

"Mary, it might be our last option. Please don't rule it out." Mum wants me to go on this new pill my psychiatrist has been raving about. No way. She never used to cry in front of me, but she says it's too much for her now and she breaks down in front of me all the time. I know she finds it hard to love me anymore. I'm angry, I'm sad, I suck the life out of all our family occasions. I wish she would stop smothering me, I feel like I'm choking on the good days, and the bad days are even worse.

My friends have decided it's easier not to deal with me anymore. Everyone who had the choice of being around me has gone, it's just my family left and that's because they have to. And even then their love seems to be fading, and their once patient and nurturing support has dried up. I can tell they think I'm difficult. I wish I was easier to be around.

1. Identify the signs and symptoms Mary is facing.
2. Research and report on anxiety treatments that work for people with anxiety like Mary.
3. Discuss how anxiety and other similar mental health issues can impact an individual's day-to-day life.
4. Write a response to Mary's diary entry, reassuring her and giving her the advice and support she needs.

Depression

Depression is one of the most common types of mental illnesses present today. There are different types of depression, but generally it involves feelings of sadness for extended periods of time. Signs and symptoms of depression vary depending on the person, but often include:

- sadness
- lack of motivation
- tiredness
- overeating/undereating
- mood swings
- withdrawal
- poor self-esteem
- stress
- irritability
- change in sleep patterns.

There are different factors that influence an individual's likelihood of developing depression. Depression can be brought on due to genetics, abuse, death of a loved one, alcohol and drug abuse, as a side effect of certain medications or other life stressors such as divorce, moving, job loss and financial struggles.

Figure 5.23:
Depression generally involves feelings of sadness for extended periods of time.

Internet activity
Log on to TitanOnline to complete Activity 5.5 to conduct a digital report on depression.

Learning activity
1. There is sometimes a misconception that mental issues, such as depression, are something that should be managed simply by 'toughening up' and 'pulling yourself together'. Outline the advantages of seeking help from others rather than trying to cope alone.
2. Outline strategies that might encourage a young person who is suffering from depression to discuss their feelings with people who may be able to help.
3. Describe the reasons why people with mental health issues may resist help and try to keep their illness confidential.

Eating disorders

Eating disorders pose a very serious threat to health. They can be kept hidden by the individual for extended periods of time without suspicion. It is really important that eating disorders do not go undetected as they have the power to negatively impact all components of health, which can seriously impair an individual's wellbeing. Eating disorders can develop for a number of reasons, but it is important to understand that they are not a diet, or a choice, or just a stage someone goes through. They are an illness and appropriate treatment should be received by those who suffer from eating disorders.

There are three common eating disorders; binge eating disorder, anorexia nervosa and bulimia nervosa.

- **Binge eating disorder** involves overeating without any control. During and after a binge eating episode, an individual may have strong negative feelings such as sadness, anger or guilt. Although they are feeling these emotions, they still lack the ability to control their binge. The binge is not brought on because the individual is hungry, and does not stop once an individual is full.

- **Anorexia nervosa** has two types. Restricting anorexia involves severely limiting one's food intake.
Purging anorexia also involves limiting intake but also involves practising behaviours to prevent weight gain such as vomiting, using laxatives or other diet pills and extended periods of exercise. People with anorexia are often underweight, may look pale or have sunken eyes and may suffer tooth decay. Other health concerns include poor circulation, constipation/diarrhoea, anaemia, low blood pressure and slow heart rate.

- **Bulimia nervosa** is similar to binge eating disorder; however, after a binging episode the sufferer will purge or vomit in order to get rid of the food they have just consumed. The sufferer will feel guilt after binging, hence the purge. An individual who suffers from bulimia nervosa may have stomach and intestinal ulcers, persistent sore throat, abdominal pain, heartburn, and grazed or bruised knuckles from purging. They can also have an obsession with weight and body image, depression, weight fluctuations and be secretive and private about food consumption.

Figure 5.24:
It is important to understand that eating disorders are not a diet, or a choice.

Figure 5.25:
People with anorexia can be underweight, may look pale or have sunken eyes.

Case study

HEALTH ISSUES

Manorexia: it's not just a girl thing

By Dr Rohan Charles

While eating disorders and the quest for perfection are often associated with girls and young women, research suggests the quest for the perfect body is increasingly crossing gender lines to affect boys and young men. The prevalence of eating disorders such as anorexia, bulimia and binge eating is growing among males.

Although pop culture has traditionally influenced women, the focus has noticeably widened in the past 20 years to include men. Imagery portraying the 'perfect man' can be found in many forms of media, specifically online and in television and film. Social media platforms are plastered with versions of 'perfect men', such as the Instagram accounts of Chris Hemsworth, Cody Simpson and Australian Men's Health.

Because research on eating disorders in Australia is limited, it is difficult to know exactly how many people are affected by them. However, statistics suggest that males account for up to one in four Australians with anorexia, and approximately 40 per cent of people with a binge eating disorder. Experts believe the rate may be actually be much higher, with a significant proportion of males not admitting to their disorders.

Year 11 student Eric Anderson did access help and support, after admitting to drastically changing his diet and exercise patterns as a result of the pressure from society and the media. Eric had lost almost 20 kilograms over six months, bringing his weight down to only 55 kilograms.

"I had cut down on food, eliminated all carbohydrates and ate only protein and vegetables. At one point, I had tripled the amount of exercise I was doing. But then I started getting tired more easily and felt cold all the time," Eric said.

"So I talked to my doctor and, after she diagnosed me with anorexia, I began to see a psychologist and nutritionist to improve my condition," he said. "I was embarrassed because nobody really thinks eating disorders affect guys."

Awareness of eating disorders in men is growing, however, thanks to celebrities such as Zayn Malik, Russell Brand and Australian musician Daniel Johns who have spoken out about their own battles with the illness.

1. Define the following in your own words:
   - anorexia nervosa
   - bulimia nervosa
   - binge eating disorder.
2. Brainstorm reasons why men are more reluctant to seek help regarding eating disorders.
3. Identify a range of signs that may indicate a male is suffering from an eating disorder.
4. Identify where males suffering from an eating disorder can access help.

Improving mental health

Addressing the mental health status of the Australian population is a multi-faceted process. While individuals can develop skills and behaviours that foster good mental health practices, there will inevitably be times when people need to turn to others for help. Governments, health professionals and service providers work hand in hand with family and friends, trying to help people in their time of need. For some people who suffer long-term mental health issues, the treatments may involve a combination of lifestyle changes, medication and psychological treatment.

There is no reason for anyone with a mental health concern to miss out on the opportunity to experience a full and happy life. With the right medical treatment and support, steps towards achieving positive mental health can make all the difference. In the same way, people who are not experiencing a mental health issue need to continue taking care of their own positive mental health. There are 10 actions that enhance positive mental health:

1. Communicate regularly with supportive family members and friends.
2. Find opportunities to develop unique skills and abilities.
3. Be kind and forgive quickly rather than holding long-term grudges or bitterness.
4. Eat healthy food and exercise on a daily basis – as a lifestyle choice.
5. Take time to manage stress by making small goals to complete tasks and reflect on positive accomplishments.
6. Spend more time on relaxation and leisure activities to unwind from a hectic lifestyle.
7. Pursue hobbies to add enjoyment to life.
8. Communicate regularly with a local doctor and manage all aspects of physical health.
9. Allow enough time for adequate sleep each night.
10. Make a conscious effort to think positively rather than dwelling on any negative thoughts.

Figure 5.26:
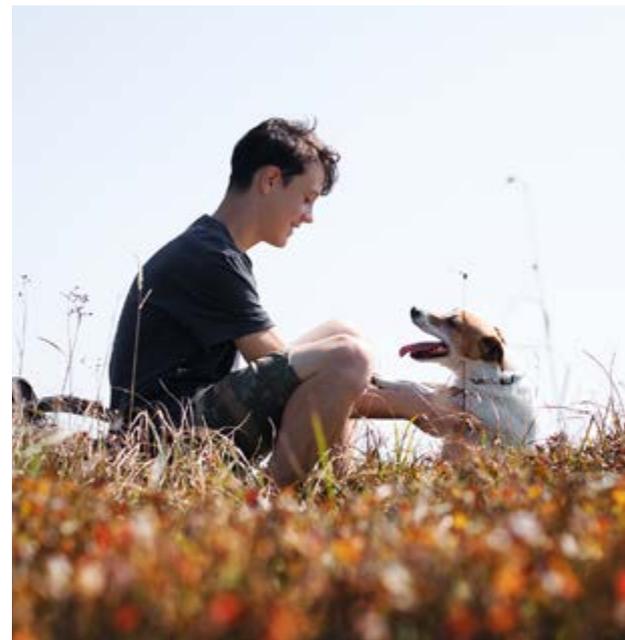People with mental health concerns can have a full and happy life.

Figure 5.27:
People who are not experiencing a mental health issue need to continue taking care of their own positive mental health.

Figure 5.28:
Informal support can be as simple as a hug or a 'shoulder to lean on'.

Networks and services for support

Seeking help for oneself, a friend or loved one is very important. Whether a situation doesn't seem very serious (like an argument with another peer at lunch time) or seems very serious (like suspecting a friend has depression), it is important to seek help.

It is important for an individual to feel supported when facing a mental issue, even when they are trying to maintain positive wellbeing. Luckily, in Australia there are many avenues people can use to access either formal or informal types of support.

Informal support

Informal support can be provided by relatives, friends or neighbours. It is the type of support where an individual receives advice and feels comfortable discussing issues they might not want to discuss with a stranger. Informal support can be as simple as a hug or a 'shoulder to lean on'. There are many things people can do to help loved ones who are going through a tough time, particularly if they are affected by a mental issue. Whether helping as a friend, partner, sibling, parent, child or even neighbour, the following list is very important when supporting others:

- Learn about the mental health issue to offer better advice.
- Make their life easier – help with things like housework, organising schedules and carpooling.
- Listen.
- Encourage them to seek professional help.
- Acknowledge that mental health issues are real, not just a bad mood or irrational behaviour.

Internet activity

Log on to TitanOnline to complete Activity 5.6 to plan practical strategies you could apply when in a situation where a friend is feeling unwell emotionally.

Formal support

Formal support comes in the form of government agencies and community agencies. It can be ongoing or periodic and might be a service that is provided. For example, if a woman is in a car accident preventing her from working and providing an income for her family, the government might help support her. Similarly, if a man has an illness or a disease, a community organisation such as a community church or youth group might fundraise for him or give him emotional support.

There are a range of formal support services available for people with mental health issues. These include:

- **Preventative health services:** are aimed at protecting, promoting or preventing mental health issues. These services are provided by government-funded services as well as community organisations. Services include health checks, advice, support information and health promotion.
- **Primary and community health services:** include care from general practitioners (GPs), allied health professionals, pharmacists and other practitioners and are the first point of contact with the health system for most patients with a mental health issue.
- **Hospital services:** are provided in both public and private hospital facilities. Services provided include screening, treatment and counselling services.
- **Specialised services:** are delivered in a variety of settings within Australia, including hospitals, private practice in the community and specialist services delivered or arranged by community healthcare services. Services provided include screening, treatment and counselling services.

Networks of support for promoting mental health and wellbeing

There are many national a
strategies and organisatio
by mental health issues, e
some of these support ne

- **Black Dog Institute:** w
- **Beyond Blue:** www.bey
- **SANE Australia:** www.
- **ReachOut:** http://au.rea
- **Kids Helpline:** www.kic

Learning activity

Create a script for a rad
people to visit the Beyo
information on mental h

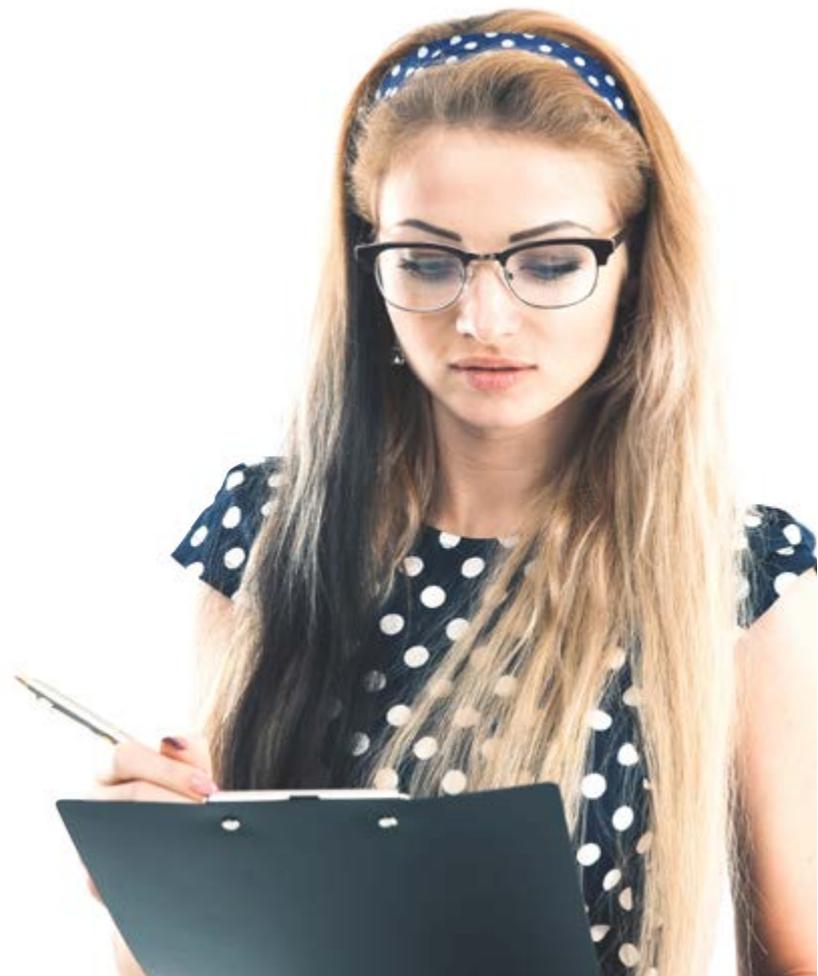**Figure 5.29:**
Counselling is a specialised f

Accessing support

Most mental health issues can be overcome with the right support and treatment. There are many formal and informal support services available as discussed previously. However, individuals suffering from a mental health issue may be experiencing such levels of despair, anxiousness and fear, that they may find it difficult to navigate their way to the best options. There is also the community stigma that is associated with mental health and many people may avoid treatment in the hope of keeping their problems private. Fortunately, there are many helplines and online support services that can help people take the first step to engaging with the right types of support for their particular needs.

Mental health promotion

Mental health promotion is not just the responsibility of governments or individuals; it should be a coordinated effort by all stakeholders. This involves the individual, government and non-government sectors, professional and community groups.

Health promotion is the process of enabling people to increase control over, and to improve, their health. It aims to influence the social and economic factors that determine mental health. Factors such as education, employment, working conditions and income can be addressed by relevant stakeholders. Governments and health providers can promote mental health through appropriate health services. Health promotion also strengthens the skills and knowledge of individuals, to support their efforts in maintaining good mental health and meeting the day-to-day challenges of life.

Figure 5.30:
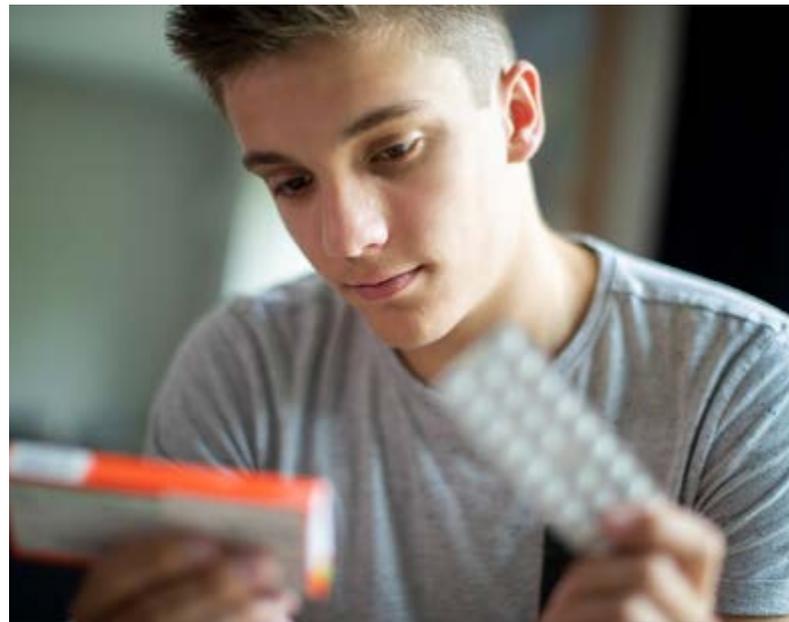Most mental health issues can be overcome with the right support and treatment.

Figure 5.31:
Mental health promotion enables people to increase control over, and to improve, their mental health.

Internet activity
Log on to TitanOnline to complete Activity 5.7 to review a health promotion initiative.

R U OK?

An example of a mental health promotion initiative is R U OK?Day, which is a nationally recognised day of action in September, where people are encouraged to connect with friends and to sincerely ask how they are going. This day of action was first promoted in 2009 by Gavin Larkin, after his father had taken his own life in 1995. The objective is to provide valuable support for anyone in the community who may be silently suffering with a mental health issue, in order to prevent the incidence of suicide.

Learning activity

1. Through a range of business-related actions, business owners can show their support for people in the community who may be suffering with depression or feeling overwhelmed by unvoiced issues of concern. Research the locations of local cafés and liaise with the owners to gather support for the following promotion:

    Buy one smoothie, get one free! Have a healthy chat on us. Connect with a friend and ask, "R U OK today?"

    (Alternatively, fictional names of cafés may be used, or the concept could be promoted through the school canteen.) Design a creative pamphlet to promote this concept and adapt it to include the details of each participating café. On the pamphlet, outline the purpose of R U OK?Day. Project the image of the pamphlet on a screen so that it is visible for all students to analyse. Refer to the processes used to develop an effective, eye-catching result. Report and evaluate the responses that were received by café owners as they were invited to support the needs of the local community, by reminding people to ask each other, "R U OK?"

2. Research four different support networks available for young people suffering from depression or anxiety and answer the following:
    - How can friends/family encourage someone to se
    - What support networks are available?
    - How can these support networks be accessed?
    - What service do they provide?
    - Identify barriers to seeking support.
    - Propose strategies to overcome these barriers.

Figure 5.32:
R U OK?Day aims to provide support for anyone in the community wh
may be silently suffering with mental illness.

Destigmatising mental illness

Stigmas only negatively accentuate uninformed and judgemental opinions for a person already dealing with a negative experience or situation. Negative stigma is damaging for a number of reasons, as it can:

- make people think what they are going through is not a real illness
- make people embarrassed to seek help
- encourage discrimination
- create unfair stereotypes
- worsen an individual's mental health issue
- lead to withdrawal and poor self-worth.

Providing support for individuals who are experiencing difficulty is essential to their recovery and return to a positive sense of wellbeing. Being able to show compassion to individuals with mental health conditions is valuable and important considering approximately 20 per cent of the Australian population have and most likely will experience a mental health condition throughout their lifetime.

There are many ways to erase the stigma surrounding mental illness in the community. Some of these things include:

- **Using terminology correctly:** it is inappropriate and insensitive to use specific words out of context, especially words concerning mental illness.
- **Education:** mental health issues are becoming more and more prevalent. Young people should research common mental health issues, to educate themselves and increase their awareness. They can then use this knowledge to help educate others. Knowledge can help diffuse misconceptions and minimise assumptions. This is also important because some individuals will choose to be associated with their particular diagnosis, while others would rather not be known for having a mental health condition.
- **Advocacy:** if someone is perpetuating a negative stigma around mental health, it should be discouraged and discussed with them.

Figure 5.33:
Negative stigma about mental health can lead to withdrawal and poor self-worth.

Internet activity

Log on to TitanOnline to complete Activity 5.8 to review the negative stigma faced by people with a mental health issue.

Learning activity

Explain what you believe are the stigmas surrounding mental health and how they may prevent a person from seeking appropriate help.

Revision questions

1. Research the impact mental health issues have on the Australian economy.

2. Discuss ways an individual who doesn't follow a set religion can develop their spiritual health.

3. Discuss how the components of health are interrelated, providing two different examples.

4. Write a definition of body image. Propose reasons why body image impacts on self-worth and vice versa.

5. Define adversity. Describe common traits of people that have overcome adversity.

6. Reflect on a situation where you weren't happy.
   a. What made you unhappy?
   b. What sort of behaviours changed when you were in this unhappy state?
   c. What did you do to fix the situation/make yourself feel happy again?
   d. What would you do differently next time?

7. Define 'stigma' and outline how stigmas surrounding mental health impact on individuals and the wider community.

8. Outline the barriers that hinder people from accessing support for mental health problems.

9. Differentiate using examples between formal and informal support.

10. Why do governments spend money on health promotion for mental health rather than all resources being put into treatment services?

11. List six strategies you would use if you are feeling stressed.

12. Research Beyond Blue and outline the ways you could help a friend experiencing mental health issues.

13. What risks to mental health do media stereotypes present?
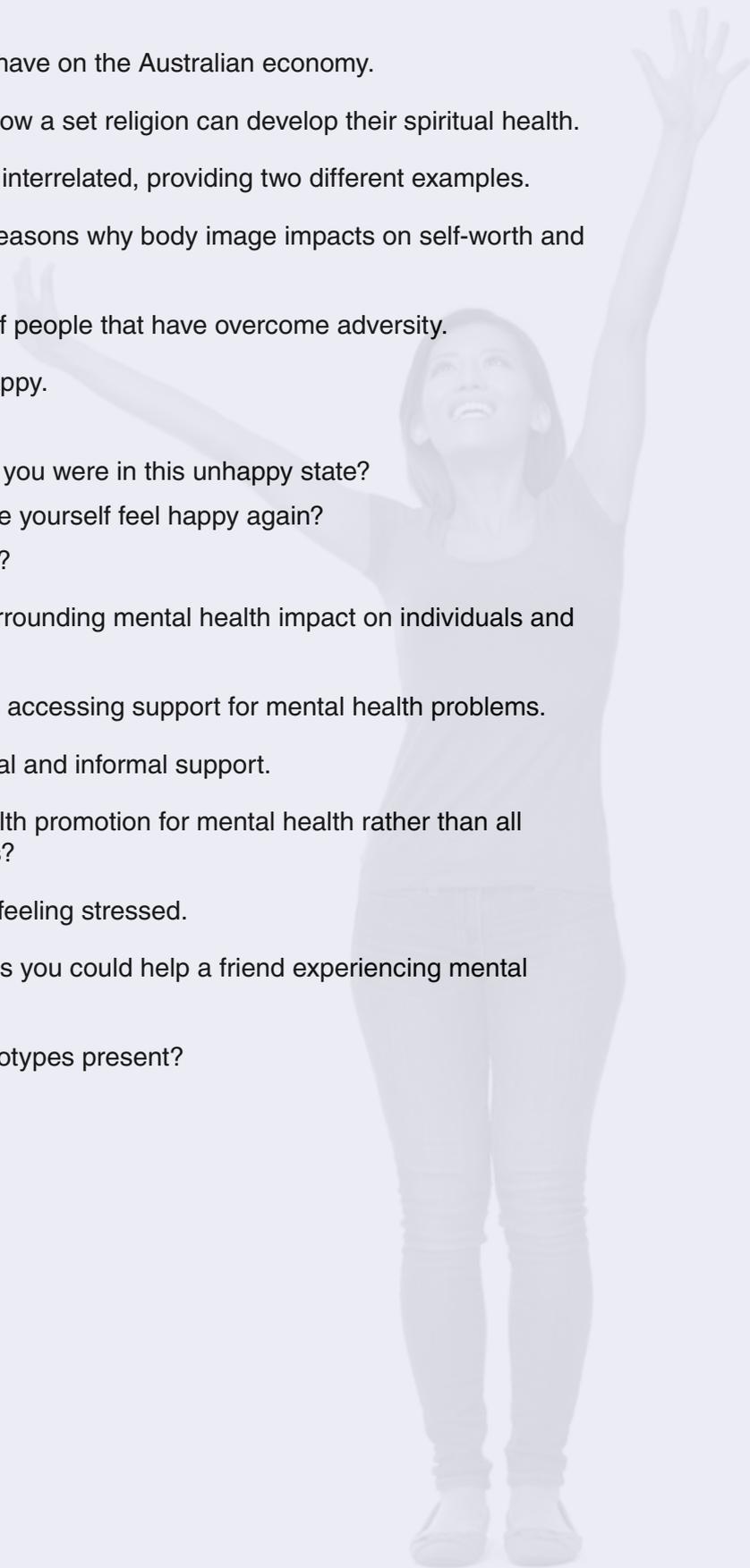
CHAPTER 6

Risk-taking and safety

Testing boundaries and taking some risks is a natural part of growing and learning. Being able to distinguish between risks that can be undertaken without the likelihood of serious danger and those that are likely to lead to emotional harm, injury or death, is an important life skill. There are many contexts that present everyday risks for young people, including personal safety issues, water environments, road environments and exposure to the sun, which are studied in this chapter.

Being able to manage risk and challenge effectively means young people can have fun while still being able to have a feeling of safety. Should accidents happen, it is essential that bystanders have appropriate first aid training to provide help until emergency support becomes available.

Focus areas

- Personal safety
- Water safety
- Sun safety
- Road safety
- First aid

Personal safety

It is very important that young people are able to recognise unsafe situations and have the skills and knowledge to ensure their own personal safety. As young people grow and become more independent, they become increasingly responsible for their own safety. As they interact more independently in the community, they will encounter more risk and must make good decisions and deal with situations that have the potential for harm. The skills and knowledge young people need to develop to look after their personal safety include risks that are present around the home, when they are online or risks that they might encounter out in the community. Around the home, safety issues involve being aware of poisons, fire safety, home security and online safety. In the community, young people may face dangers on the road, violence, bullying and recreational dangers.

Positive and negative risk-taking

Risk is a part of everyday life, yet the chance of misfortune or injury is rare. Most things in life have an element of risk, yet risk can be positive or negative.

- **Positive risk:** Risk-taking can be an opportunity for new challenges and learning. It may help a person set new limits for themselves and empower them to improve and set higher standards for themselves.
- **Negative risk:** Young people often engage in risky activities that have a negative result. Unsafe sex, drug use, violence and illegal activities are examples of risk-taking behaviours that can have long-term negative effects on a young person.

Factors influencing risk-taking behaviour

The factors that influence the level to which a person engages in risk-taking behaviour are varied. For some it may be to have a personality that inherently enjoys the adrenalin and danger. For others it may be the need to break the rules, test the boundaries and break free from behaviours that their parents want them to adopt. Lack of knowledge or skills can increase the likelihood of risk, with engagement in education and health promotion being a significant factor.

The most common factor that impacts young people and their risk-taking is the behaviour of their peers and peer pressure to conform. It is vital that young people develop the skills of assertiveness and have the confidence to make their own decisions, trust their own instincts and avoid situations if they choose.

Figure 6.1:
Young people often engage in negative risk-taking behaviours.

Figure 6.2:
Engaging in dangerous activities, such as not wearing a helmet while skateboarding, can cause bodily harm.

Risk-taking – the consequences

There are many consequences that young people may come across when participating in risk-taking activities. These implications can be categorised into three areas:

Health

Risks can have implications on both mental and physical health in different ways. Health is a vital aspect of an individual's wellbeing and when disturbed, it can impact a person's life dramatically. For example, engaging in dangerous activities such as 'playing' in traffic, jumping from high distances or not wearing a helmet while skateboarding or scootering can all cause bodily harm. Other dangerous activities that can have negative consequences on health can include intoxication from alcohol or drugs and unprotected sex.

Social

A person's social life is governed by the friendships they make and their presence, personality and reputation in the social world. Relationships can break down and reputations can be damaged as a consequence of engaging in activities that have a negative risk. This could hinder future opportunities such as employment for a person. Behaviours may include acting recklessly when intoxicated with alcohol or drugs, or sending a naked image that is leaked onto the internet.

Legal

There are many legal implications for a young person who breaks the law. These can include a fine, criminal conviction and record or imprisonment. Criminal conviction and/or imprisonment can affect future employment opportunities and impact upon a person's reputation and social status.

Assessing risk situations

When evaluating risk, the first step is to identify risk environments. A risk assessment involves a number of steps aimed at reducing or eliminating potential risks. Using this approach will help a person make safe and responsible choices when considering partaking in risk situations.

Risk assessment

Risk assessments are essential in today's society, particularly with an increase in litigation (people being sued). A risk assessment involves investigating all the factors contributing to the activity and determining the level or chance of something going wrong. Risk assessments can help identify potentially unsafe locations and behaviours and discuss ways to avoid or manage the risk.

Common features of a risk assessment include:

- **Identify:** Identifying potential risks.
- **Severity:** Determining the severity of the risk or the level of impact that the potential risks pose.
- **Likelihood:** Determining the likelihood of the risk occurring.
- **Plan:** Establishing a risk-management plan.
- **Evaluate:** Regularly evaluating the process. It is important not to rely on a pre-activity assessment alone, but continue to be aware of changing circumstances throughout the activity.

Figure 6.3:
Risk assessments are essential for dangerous activities such as skydiving.

Once a list of potential risks has been ide[...] determine the severity of the risk. The seri[...] classified as follows:

- **Very high:** This could include death, dis[...] implications. An event with catastrophic i[...] going on a long overnight hike in remote[...] inadequate prior experience, would be c[...]
- **High:** This could include long-term serio[...]
- **Medium:** This could include a moderate[...] treatment and some financial implication[...] would be classified as having medium ri[...] organised, mainstream sports.
- **Low:** This could mean there is minimal li[...] and there may be possible minor financi[...]
- **Very low:** This means that injury is unlik[...] marginal implications would be classified[...] going for walk around the park.

The third step in risk assessment is to det[...] likelihood of the identified risks occurring. [...] risk occurring can be classified as:

- **Very likely:** The identified risk is very likely to occur at some stage.
- **Likely:** The identified risk is likely to occur at some stage.
- **Medium:** The identified risk might occur at some stage.

- **Unlike[...]** The id[...] unlikel[...]
- **Very u[...]** The id[...] very u[...]

Planning involves establishing long- and s[...] plans to address identified risks. Wheneve[...] risks should be eliminated or minimised. F[...] prove difficult to manage, planning should[...] awareness and contingency planning.

The final step in risk management involves[...] evaluation and checking of policy and con[...] to ensure that risks are being managed in[...] appropriate and effective manner.

Figure 6.4:
Risk assessments can help players to minimise or [...] sports such as rugby.

Online safety

People are likely to use the internet for a range of different reasons and wireless internet now makes it possible to use the internet nearly anywhere a person goes. There are many risks that are associated with internet usage, such as fraud, identity theft and the misuse of personal information.

Social networking sites are becoming increasingly popular among young people as a means of communication, sharing photos and organising social events. It's often common practice to ask a new friend, "Are you on Facebook, Instagram or Snapchat?", which represents the desire to find and share information online. There is also an increase in online shopping, where people enter their personal information onto the internet.

This is why it is extremely important to know how an individual can support themselves online. Tips for remaining safe when using the internet include:

- Assess social networking 'friends' to ensure that the people that an individual is connected with are people that they personally know and trust.
- Do not reveal any personal or financial information when using social networking sites, or to people that are not known.
- Be sure to effectively log off from sites when on shared computers.
- Frequently change passwords – ensure they are hard to guess by including a series of numbers and letters.
- Do not accept files or webcam requests from people that aren't known or can't be trusted.
- Privatise social networking settings.
- Individuals should be aware of what they are posting online. Posting a photo to a friend on Facebook means it is on the internet and anyone can access it.
- Forwarding links of hurtful material has consequences for the sender even if they are not the original creator of the material.

Learning activity

1. Explain how the concept of 'personal safety' may have changed for adolescents from your parent's generation to yours.
2. Distinguish between positive and negative risks. Assess some of the risks you have taken in your life. Outline some that have had positive outcomes and some that have had negative outcomes.
3. Explain both the positive and negative consequences of risk-taking for your age group.
4. Research the Daniel Morcombe case and outline the behaviours that should be used to promote personal safety.
5. Define assertiveness and explain how can it be used to avoid risky situations involving peer pressure.
6. Develop a 'top five tips safety plan' that you can take into any risky situation to keep yourself and others safe.

Water safety

Going to the beach can be a great experience, but for hundreds of Australians each year, it can be deadly. It is important to act responsibly at the beach and be aware of potential hazards such as rips, plunging waves and bluebottles.

Some beach safety facts include:
- Coast drownings account for approximately one-third of all drownings.
- Males account for about 90 per cent of drowning fatalities.
- Australian lifesavers rescue about 10,000 people each summer.
- Australian lifesavers provide first aid to about 25,000 people each summer.

Water environments

In Australia, a large proportion of the population lives close to aquatic-based activities. Swimming and other water sports and leisure activities are a major part of the Australian identity. Water safety involves the precautions that are taken around various water environments to ensure safety. To promote water safety, it is important to understand potentially unsafe water environments.

Water environments around Australia include:
- beaches
- lakes
- swimming pools
- rivers
- creeks
- waterfalls

In these types of water env
- submerged objects, such
- unclear waters
- water depth
- slippery surfaces or colla
- low temperatures, wind c
- animals, such as sharks,
- rips, currents and undert
- unstable sand banks
- unsafe or changing weat when boating
- unreliable boating equipr missing safety equipmen overloaded boats.

Figure 6.5:
It is important to act responsibly
be aware of potential hazards.

Beach safety

Australian beaches are a beautiful and vibrant place where many people enjoy spending their time. They can also be very dangerous when unattended due to unpredictable wave and currents, so it is essential to know how to take care of an individual's safety while at the beach.

Beaches are safest when there are lifeguards on duty watching out for the safety of the swimmers. When swimming at a patrolled beach, it is important to swim between the red and yellow flags. These flags determine the area that lifeguards have selected as the safest area of the beach for that specific day. When in the water, a swimmer should choose a reference point that appears on the land, such as a towel or one of the flags, to check if they are drifting away from the original area. It can be helpful to have a 'buddy' or another person to go swimming with, in case of an emergency and to look after each other in the water.

Pool safety

Swimming pools are the most common area for accidents to occur for a child. In this area, there are safety rules that help minimise the risk of harm. These include having a pool gate that fits pool safety standards and making sure that this gate is always shut and locked. Children should always be supervised when near a pool. It is important that they do not run around the pool and push others in the pool area.

Public pools are patrolled by a lifeguard but have certain rules that swimmers must follow to ensure their safety. These include reading all safety signs and obeying the lifeguard's instructions, swimming in areas according to the level of confidence and ability; for example watching for deep areas, avoiding diving into shallow water, pushing anyone into the pool and not running near the pool.

Inland waterway safety

Rivers, lakes and dams are not patrolled by a lifeguard. Lakes can look calm and safe, although they can be very dangerous and have strong currents. It is important to look out for warning signs and look out for boats. Do not swim near any boat ramps or in boating areas. Never swim in fast-flowing water, and check the temperature before jumping in as it is often much colder underneath the surface of the water. Be aware of sharp rock edges, and trees, branches and rubbish.

Figure 6.6:
Beaches are safest when there are lifeguards on duty.

Figure 6.7:
When swimming in rivers, be aware of sharp rock edges, branches and rubbish.

Did you know?
The world's longest beach is in Brazil, stretching 252 kilometres.

Internet activity
Log on to TitanOnline to complete Activity 6.1 and evaluate the implementation of various swimming pool regulations.

Figure 6.8:
An individual who is in a dangerous situation should shout out for help and raise their arm straight above their head.

Survival techniques

There are many survival techniques that will help individuals when in a threatening situation in the water. Each technique will allow an individual to stay alive until they receive assistance from lifesavers. These include:

- **Floating:** This technique is used in a survival situation to conserve the individual's energy. It involves the person lying in a horizontal, diagonal or vertical position and moving as little as possible. Individuals should also try and keep their head out of the water.
- **Personal flotation device:** This is a device that is worn on the body in order to assist with flotation. This includes life jackets, buoyancy vests or buoyancy garments. Individuals should not remove this device when they are awaiting assistance.
- **H.E.L.P or huddle:** This is a strategy that individuals use that involves a person keeping their arms and legs as close to their body as possible in order to reduce body heat loss.
- **Remove clothing:** Individuals can remove extra clothing or any heavy outer garments in order to reduce weight and conserve energy. However, at least one layer should be left on in order to conserve body heat.
- **Signalling for help:** This strategy involves an individual who is in a dangerous situation shouting out for help and raising their arm. Their arm should be straight above their head and in a clenched fist. While signalling for help, they should tread water or scull to keep afloat.

When caught in an accident or emergency situation, it is important that a person knows what to do. This involves learning and practising the survival skills that can help save an individual and those around them. These skills include treading water, survival backstroke and survival sidestroke.

Treading water

Treading water is a popular survival technique and is a skill that everyone should learn, as it can help to avoid drowning. The technique for treading water is outlined below.

Body
- The body stays upright with the head above the surface.

Legs
- Legs can be moved in a variety of ways. The most popular technique is the rotary kick.
  - Rotate both legs in a different direction; similar to an egg beater.
  - The timing should be exact; as one leg kicks out, the other is moving back to the body.

Arms
- Use a sculling motion:
  - Extend arms out to the side of the body.
  - Move arms horizontally, back and forth in a circular motion.

Tips
- The body should hardly be moving up and down.
- The torso should not move while the legs and arms are working.

Figure 6.9:
Everyone should learn how to tread water, as it can help to avoid drowning.

Survival backstroke

Survival backstroke is a lifesaving skill that requires minimal energy. The technique for survival backstroke is outlined below.

Body
- Lie flat on the back, face up. Keep horizontal in the water.

Legs
- Use a breaststroke-style kick:
  - Keep knees under the water to help float.
  - Kick the legs apart, bring the legs together and whip them back in, in a circular motion.

Arms
- Extend the arms sideways under the surface and bend the elbows.
- Flatten and relax hands, circling them outwards and then inwards.
- Continue sculling the arms.

Tips
- Practise the breaststroke kick by submerging the bottom half of the body in water and holding onto the side of the pool.
- Practise the technique by lying with the back in the water, face up and holding a flotation device.
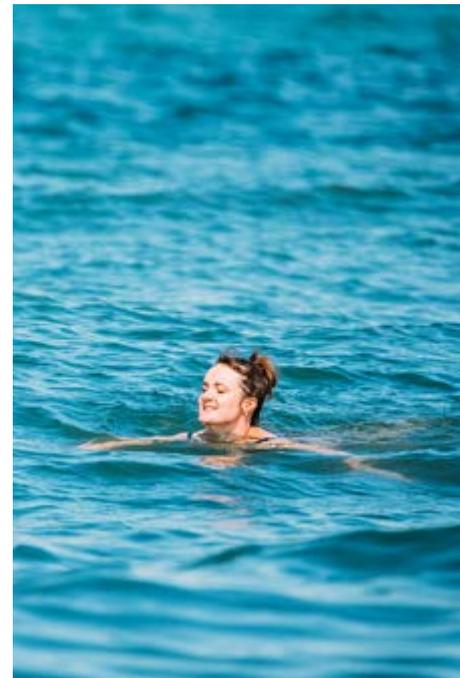

Figure 6.10:
Survival backstroke is a lifesaving skill that requires minimal energy.

Survival sidestroke

Survival sidestroke is used for long-distance swimming; for example, swimming back to shore when someone is tired or has drifted out too far, as it allows greater endurance for the swimmer. The technique for survival sidestroke is outlined below.

Body

- Lie on the side of the body and extend the lower arm above the head with the palm face down.
- The side of the head is in the water.
- The top arm is resting down the body near the thigh.

Legs

- Scissor kick the legs:
  - Bend both legs at the knees and hips with one leg in front of the other.
  - Point the toes, straighten the left leg out forwards and sweep it backwards in a circular, kicking motion.
  - Bring the legs together, glide and repeat with the right leg.

Arms

- Pull the left arm downwards so it extends out from the shoulder.
- The right arm raises to the chin and then pulls back out to the side of the body, using the palm to move the water.

Tips

- Swap the sidestroke to the other side of the body when one side becomes tired.
- Sidestroke is effective when it has been

Hypothermia

Hypothermia occurs when the body's temperature below 35°C. The human body has a number of sy that maintain a constant core temperature of arou 37°C. A person does not have to be in very cold water temperatures to be at risk of hypothermia. Some situations can cause the body to lose more heat than it can generate. These situations can include prolonged exposure to cold conditions, being in cold water for a long time or spending excessive time in wet clothes.

Hypothermia can be divided into three stages: mild, moderate and severe. The signs and symptoms of hypothermia depend on the body temperate of the different stages.

Figure 6.11:
Wearing a layer of clothing helps prevent heat loss while in t

For mild hypothermia (35 to 32°C), signs and symptoms include:

- paleness
- cool skin
- shivering
- numbness in the extremities
- sluggish responses, drowsiness or tiredness
- increased breathing and heart rate.

For moderate hypothermia (32 to 28°C), signs and symptoms include:

- decreasing conscious state
- urinary incontinence
- shivering may stop
- slowing heart rate, breathing rate and dropping blood pressure.

For severe hypothermia (below 28°C), signs and symptoms may include:

- unconsciousness and no response
- slowed and irregular heart rate before stopping if the person gets too cold
- rigid muscles
- no response to light in the pupil of the eye
- pulse and breathing may be present but hard to detect.

If a person is suffering from any stage of hypothermia, there are some tips to prevent further heat loss and lessen the symptoms:

1. Do not massage or rub the person.
2. Keep the person still to avoid cardiac arrest.
3. Move the person out of the cold – if this is not possible, protect them from wind, cover their head and remove any wet clothing.
4. Try to warm the person – make sure they are dry and use any available heat source, such as heaters, hot water bottles or heat packs, to begin warming the person. Do not immerse them in cold water.
5. Have them drink warm, non-alcoholic beverages, except if they are vomiting.
6. Do not leave the person alone.
7. Continually monitor breathing – if breathing stops follow the DRSABCD action plan immediately.

Source: Adapted from the Better Health Channel.

Figure 6.12:
Dry towels can be used to warm a person with symptoms of hypothermia.

Figure 6.13:
Hypothermia can occur in non-water environments.

Learning activity

1. Create a sign to display on the beach that highlights safety precautions to take. The sign should be easy to read and suitable for people of all ages and nationalities.
2. Explain how to have a safe and fun time around water.
3. Discuss what is meant by the term 'inland water safety'.
4. Provide a definition for the term 'hypothermia'.
5. Discuss survival techniques for a swimmer in distress.

Sun safety

Australians suffer from one of the highest rates of skin cancer in the world. Each year, around 1,200 Australians die from what is almost a preventable disease. During summer, Australia is closer to the sun than most other countries, resulting in higher ultraviolet (UV) intensity. The incident rates for skin cancers are rising in both males and females. The continued increase in skin cancer is due to many years of doing little to protect our skin. In the past, individuals did not know the value of covering up their skin or using sunscreen. As a result, older Australians are now developing skin cancers.

Both long-term sun exposure and sunburn cause skin cell damage, which can lead to the development of skin cancer. Severe sunburn increases the chances of developing melanoma. In fact, five doses of sunburn while a person is young can double an individual's risk of developing this deadly disease later in life. Mild sunburn or tanning is also not ideal. There is no safe way for a person to expose themselves to th[e sun] increasing the risk of skin cancer.

Some important preventative metho[ds to reduce] a person's risk of developing skin ca[ncer include:]

- avoiding sun exposure
- avoiding sun-sensitising creams a[nd medications]
- using sunscreen
- wearing a hat and sunglasses
- performing regular self-examinatio[ns]

Did you know?
Fruits such as tomatoes, watermelon, guava and grapefruit can promote natural sun protection.

Figure 6.14:
Severe sunburn increases the chances of developing melanoma.

Skin cancer

Hereditary factors play an important part in susceptibility to skin cancer. Skin type is genetic. If an individual's parents have fair skin, they are likely to have fair skin also, and will have a greater risk of skin damage due to exposure to the sun. Most people have moles and freckles. However, if a person has a great number of freckles or moles (more than 50 moles), they are at risk of skin damage.

Moles or freckles that grow, change shape or colour, bleed or ulcerate, or new spots that appear, should be treated with suspicion. Individuals should have their doctor check out any unusual spots as soon as possible as early detection is crucial. The sooner a skin cancer is identified and treated, the better the chance of avoiding surgery, potential disfigurement or even death.

The three main types of skin cancer are melanoma, basal cell carcinoma and squamous cell carcinoma.

Did you know?

By the time they are 70, two in three Australians will be diagnosed with skin cancer.

Internet activity

Log on to TitanOnline to complete Activity 6.2 by investigating statistics surrounding skin cancer in Australia.

Melanoma

Melanoma is the least common but most dangerous type of skin cancer. Most skin cancer deaths are from melanoma. The moles or spots typically change size, shape and colour. They may also have an uneven outline.

There are over 15,000 new cases diagnosed each year. In 2018, there were close to 1500 deaths from melanoma of the skin. It is possible to prevent at least 80 per cent of melanomas in Australia. Melanomas may be treated through a number of drugs and medication or surgery.

Basal cell carcinoma

Basal cell carcinoma (BCC) is the most common type of skin cancer. If left untreated, the cancer can damage nearby tissues and organs. The spots grow slowly over months and years. They can be shiny, pearly nodules or red patches like eczema.

Three in 10 Caucasians will develop a BCC within their lifetime. In 80 per cent of cases, BCC is found on the head and neck. The majority of cases can be successfully treated through surgery, chemotherapy, immunotherapy or radiation. BCC can also be removed by cryotherapy (using liquid nitrogen to rapidly freeze the cancer off), curettage (scraping) or cautery (burning).

Squamous cell carcinoma

Squamous cell carcinoma (SCC) is less common than BCC but grows faster and can spread to other parts of the body. The cancer may look like an ulcer or reddish skin patch that is growing, bleeding on the lip or a lesion with hard, raised edges. Males are affected by SCC at twice the rate for females. The vast majority of cases can be successfully treated before serious complications occur through surgery or topical medication.

Figure 6.15:
It is important that individuals choose a sunscreen that best suits their skin type and activity they will be performing.

Choosing sunscreen

Sunscreen is one of the most common forms of protection against the sun. There are many different sunscreens on the market including creams, lotions, milks, gels and sprays. Sunscreens differ in price, quality and their sun protection factor (SPF). It is important that individuals choose a sunscreen that best suits their skin type and activity they will be performing.

When choosing or buying sunscreen, an individual should:

- Choose a sunscreen that is a broad spectrum (SPF 30+ or SPF 50+). Broad spectrum means the sunscreen filters both UVA and UVB rays, which both penetrate deep into the skin.
- Choose a sunscreen that is water resistant.
- Only use sunscreen which is in date.
- Store sunscreen according to the instructions, usually below 30°C.

When applying sunscreen, an individual should:

1. Apply it to clean, dry skin.
2. Apply it 20 minutes prior to being in the sun.
3. Reapply it every two hours, or more often if sweating.
4. Apply more than half a teaspoon of sunscreen to each arm and the face and apply more than one teaspoon to each leg, the front of the body and back of the body.
5. Accompany sunscreen with sun-protective clothing, such as a hat and sunglasses.

If the sunscreen irritates the skin, choose a different type or brand.

Heat illness

Our bodies typically regulate temperature – keeping it at an average between 36 and 37°C. The body regulates temperature by sweating and radiating heat through the skin. In some circumstances, such as hot weather, high humidity and vigorous exercise, our bodies are unable to regulate temperature. This can lead to a range of heat-related illnesses including heat cramps, heat exhaustion and heats stroke.

Heat cramps

Heat cramps are strong, involuntary muscular contractions. Individuals suffering from heat cramps experience muscle pains and spasms, typically in the abdomen, arms and/or legs. Pains and spasms are commonly sporadic and disappear on their own. The cause of the heat cramps is related to electrolyte problems. When experiencing heat cramps, individuals should restore their electrolytes by drinking appropriate fluids. Commercially available fluids include products such as Gatorade and Powerade. These drinks provide adequate dietary salt intake and replace fluid volume that has been lost.

Heat exhaustion

Heat exhaustion is less severe than heat stroke. Individuals suffering from heat exhaustion have lost too much fluid, causing the body to overheat. Heat exhaustion typically occurs when people who are not well-adjusted to hot, humid environments are exposed to them for an extended amount of time. Symptoms of heat exhaustion include excessive sweating, heat cramps, headaches, weakness, nausea and elevated core temperature. Treatment includes applying cool water to the skin; resting in a cool, shaded area; and avoiding alcohol and caffeine.

Heat stroke

Heat stroke occurs when the core body temperature rises to about 40.5°C and the body's internal systems start to shut down. Heat stroke is a life-threatening medical condition. The body's cooling system stops working and the core temperature of the body rises to the point where brain damage or damage to other internal organs may occur.

Heat exhaustion can lead to heat stroke, and infants and the elderly are more likely to have this problem. Symptoms associated with heat stroke are unconsciousness, flushed skin, elevated blood pressure, hyperventilation and dangerously elevated core temperature. Heat stroke is a medical emergency and requires immediate medical assistance.

Learning activity

1. Research current statistics on skin cancer. Create a report on the incidence, mortality and trends for skin cancer.
2. Explain why protection from the sun remains important even on cloudy days.
3. List the five ways to protect yourself from the damaging effects of the sun.
4. Provide a definition of the three following cancers:
   a. melanoma
   b. basal cell carcinoma
   c. squamous cell carcinoma.

Road safety

Road safety relates to measures and rules that are in place to reduce the risk of injury or death on the road. Everyone should be aware of these methods and follow the rules in order to ensure their safety when using roads. This includes bike riders, pedestrians and cars.

Pedestrian crossings

A pedestrian crossing is an area of the road that is identifiable by parallel white stripes, which run length-wise along the road. Pedestrian crossings may feature a crossing sign and/or flashing lights. A driver approaching the pedestrian crossing must drive at a speed that they allows them to stop safely before the crossing if required. Drivers must give way to any pedestrian on the pedestrian crossing. Pedestrians must always cross at the crossing if one is available.

More and more pedestrian crossings feature zig-zag white lines prior to the crossing, to warn drivers that they are approaching a pedestrian crossing. As a pedestrian, individuals should never assume a driver intends to stop for them. Wait until all vehicles have stopped before beginning to cross.

There are many other safety mechanisms designed to protect pedestrians while crossing the road. These include:

- **Children's crossings:** crossings that operate before and after school hours.
- **Pedestrian fencing:** fencing that is put in along busy roads to ensure pedestrians can only cross at the designated crossing.
- **Raised pedestrian crossings:** crossings that are placed on a slight speed bump so that oncoming drivers have better vision of the crossing.
- **Pedestrian bridges:** bridges that are placed over the top of a busy road so that pedestrians can safely cross to the other side.

Figure 6.17:
Pedestrians should never assume a driver intends to stop for them

Don't walk signals

Many traffic signal systems cater for pedestrians, especially on metropolitan main roads. Some crossings feature a push button that connects to the traffic lights, allowing pedestrians the time they need to cross the road safely.

Pedestrians push the round metal buttons that beep, increasing in speed and changing pitch when pedestrians are permitted to cross the road. The signal systems feature three pedestrian signals, which communicate different information to pedestrians.

- The green walk signal communicates to pedestrians that they should cross with care.
- The red flashing don't walk signal communicates to pedestrians they should complete crossing. Pedestrians should not begin to cross when the signal is being displayed.
- The red don't walk signal communicates to pedestrians they should not cross. When this signal is on, traffic has the right of way and pedestrians must press the metal button and wait for the green walk signal to reappear.

Texting pedestrians

Too often, people are seen with their heads down, changing songs, texting someone or remaining clearly engaged in conversation while crossing the road, sparing only a glance at the cars around them. Sometimes pedestrians using devices don't take the time to look at the traffic situation properly, particularly when they are stepping out onto a crossing.

Sadly, distraction can lead to serious injury or death. This can be the case for pedestrians and drivers if simple and smart choices are not made to focus on the traffic and people around them.

According to the Australian Road Safety Strategy, there were 160 pedestrian deaths on Australian roads in 2019. It is not known how many of these deaths were due to distraction by mobile technological devices. There are reports, however, of people accidentally stepping out in front of approaching cars while keeping their eyes down to focus on their mobile phone.

Bike safety

Riding a bike is a great way to get around. It is in environmentally friendly and a great way to be pl Bike riding is a leisure activity for many young pe is important to make sure their bike is safe. Youn under 16 years of age are permitted to ride on fo but must give way to pedestrians.

Safety equipment

The use of safety equipment significantly reduce the risk of injury. Bike riders should check that their bike is working properly and fitted with all appropriate safety equipment. Important safety requirements for riding a bike include:

- **Working brakes:** so that a person can slow down or stop quickly when needed.
- **White light:** located on the front of the bike, to make it easier to be seen at night or in poor visibility.
- **Red light and reflectors:** located on the rear the bike to make it easier to be seen at night or poor visibility.
- **Bell or horn:** so it can be used as a warning d
- **Helmets:** help to protect the head from injury.
- **Bright clothing:** to make it easier for other roa see the person.
- **Mudguards**: to help keep the bike rider dry fro

Figure 6.18:
The use of safety equipment significantly reduces the risk

Cycling road rules

Bikes are vehicles, so if an individual rides their bike on a public road it is important to have a good understanding of the road rules; in particular, those related to bike riders.

- **Side of road:** Ride on the left side of the road.
- **Roundabouts:** A person can turn from the left hand lane. When passing each exit, the person must give way to any vehicle leaving the roundabout from that exit.
- **Bicycle lanes:** When a bicycle lane is marked on the road, cyclists must use it.
- **Bus lanes, bus only lanes and transit lanes:** A person can ride in the transit lanes and bus lanes, but not in a bus only lane.
- **Side by side:** Cyclists are allowed to ride two abreast, but no more than 1.5 metres apart.
- **Footpaths:** Young people under 16 years of age may ride on a footpath. Any accompanying adult may also ride on the footpath.
- **Helmet:** All bicycle riders must wear a correctly-fitted helmet approved for bike riding.
- **Traffic lights and signs:** A person must obey all traffic lights and signs.
- **Signalling:** Give hand signals to turn left or right.
- **Give way:** A cyclist must give way to pedestrians and other vehicles when entering and crossing a road.

Figure 6.19:
All cyclists must wear a correctly-fitted helmet approved for bike riding.

Did you know?
There are twice as many bikes in the world as there are cars?

Internet activity

Log on to TitanOnline to complete Activity 6.3 to evaluate the importance of road safety from the viewpoint of a cyclist.

Learning activity

1. Propose strategies to make riding a bike as safe as possible.
2. Select two road rules related to bike riders and discuss.
3. Highlight precautions pedestrians can take to remain safe.
4. Research statistics surrounding Australian pedestrians and discuss.
5. Create a draft for a road safety campaign based on texting while driving. Include statistics and strategies to minimise road safety injuries.
6. Discuss reasons why governments should invest in promoting safe road use.

Car safety

Car accidents can cause serious injury and may even be fatal. It is important to understand how to be a safe driver to reduce the risk of being involved in a car accident and maintain personal safety. There are safety features fitted into a car such as seatbelts, electronic braking systems (EBS) and anti-lock braking systems (ABS) and airbags, but it is up to the driver to ensure that they follow the road rules and are sensible when driving a vehicle.

Young drivers and risk

Young drivers, under the age of 25, have the highest rate of car accidents worldwide. There are many factors that create a risk for young drivers on the road. These include:

- **Inexperience:** Young people have less familiarity with driving on roads, which means they are not as experienced to deal with hazards.
- **Risk-taking behaviour:** This includes speeding and drink driving.
- **Alcohol:** Drinking and driving are a deadly mix and increase the risk of an accident.
- **Poor hazard perception:** Not accurately assessing hazards can cause a young person to put themselves in a risky situation.
- **Passengers:** The likelihood of a crash increases when a driver carries passengers, specifically friends.
- **No seatbelt:** Not wearing a seatbelt can prove fatal in a car crash.
- **Fatigue:** Young drivers may drive when they are feeling tired, causing an increased risk of them making mistakes or even falling asleep at the wheel.

Figure 6.20:
Young drivers, under the age of 25, have the highest rate of car accidents worldwide.

Internet activity

Log on to TitanOnline to complete Activity 6.4 to explore why young people take risks.

Figure 6.21:
There are a range of restrictions placed on young, inexperienced drivers.

Strategies to promote safe road use

Due to a high number of injuries for young drivers under the age of 25, there are many restrictions that are put in place to promote safe road use. The restrictions are implemented through specific licence types that are given to young and inexperienced drivers. These licences are classified as learner and provisional licences. There are also restrictions that are placed on full-licenced drivers in order to promote safety.

A learner licence is a restricted driving permit given to a person who is learning to drive. Their restrictions include:

- **Supervision:** A learner must be supervised by an Australian full-licenced driver, sitting next to them in the front passenger seat, every time they drive a vehicle.
- **Display of L plates:** L plates must be displayed clearly on both the front and back of the vehicle and the whole letter must be able to be seen.
- **Blood alcohol concentration (BAC):** There must be no alcohol in a learner driver's system when they are driving a vehicle.
- **Speed limit:** A learner driver must not exceed 90 or 100 kilometres per hour, depending on the state or territory the learner is from.
- **Seat belts:** All occupants of the vehicle, including the driver, must be wearing a seatbelt at all times.
- **Mobile phones:** Learner drivers must not use a mobile phone while the ignition is switched on. This includes hands-free functioning. Music and audio functions, as well as driver's aids, are also illegal.

A provisional driver licence is broken up into P1 licence (red P plates) and P2 licence (green P plates). The P1 licence is given to a driver who has completed the learner driving requirements and a hazard perception test and driving test. Progressing to a P2 licence varies depending on the state or territory in which you live. Their restrictions include:

- **Display of P plates**: P plates must be displayed clearly on both the front and back of the vehicle and the whole letter must be able to be seen.
- **Blood alcohol concentration:** There must be no alcohol in a provisional driver's system when they are driving a vehicle.
- **Speed limit:** The speed limit for a provisional driver will vary depending on the state or territory in which you live.
- **Seat belts:** All occupants of the vehicle, including the driver, must be wearing a seatbelt at all times.
- **Mobile phones:** P1 and P2 drivers must not use a mobile phone while the ignition is switched on. This includes hands-free functioning. Music and audio functions, as well as driver's aids, are also illegal.
- **Vehicles:** A provisional driver must not drive a vehicle with eight or more cylinders and certain turbocharged vehicles.
- **Peer passengers:** Australian states and territories place restrictions on provisional drivers driving at night and with passengers.

A full licence is given to someone who has completed the P2 requirements and has passed a driver's qualification test. They can then proceed onto a full, unrestricted driver licence. Full-licence drivers must not have a BAC of more than 0.05 while driving, must not exceed speed limits and all vehicle occupants must wear a seatbelt.
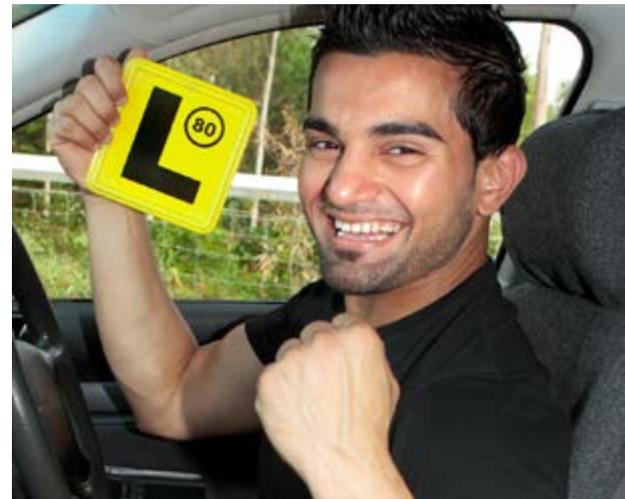

Figure 6.22:
Learner drivers must display L plates at all times when driving.

Figure 6.23:
All vehicle occupants, including the driver, must wear a seatbelt.

Internet activity

Log on to TitanOnline to complete Activity 6.5 and develop your understanding of important safety measures for road users, as well as procedures you will take to attain and maintain your licence.

Road safety campaigns

Health promotion encourages individuals to make their own decisions with the skills, knowledge and understanding of ways to safely live within their communities. Promoting individuals to live healthy lives comes at much less of a cost than governments having to cure or treat serious disease, injury and illnesses caused by poor health choices or risk-taking behaviours.

Road safety campaigns are examples of health promotions aimed at addressing risk-taking behaviour and common causes of injury and death. Road safety campaigns are primarily used to educate all road users about unsafe choices and potential consequences of engaging in risk-taking behaviours on the road. Examples of national road safety campaigns include:

- 'Towards Zero', a long-term national campaign with the broad goal to have zero fatalities on Australian roads.
- 'Don't tune out – stop, look, listen and think', established by The Pedestrian Council of Australia, educated people about the dangers of distractions, such as mobile phones and listening to music, for pedestrians. It was designed to help pedestrians make safe and responsible choices.

Road safety campaigns have also been developed by each Australian state and territory, some of which are detailed in Table 6.1.

Figure 6.24:
Road safety campaigns aim to educate all road users.

Internet activity

Log on to TitanOnline to complete Activity 6.6 to report on the effects of mobile phone use on driving.

Did you know?

Vehicle accidents account for nearly half of all hospitalisations of young people.

Table 6.1: Australian road safety campaigns.

Campaign	Purpose
When you're on the phone, you're driving blind (VIC)	To encourage drivers to keep their eyes on the road at all times and not look at their phones. A driver that looks at their phone for two seconds, while travelling at 50km/h, will travel 28 metres. While travelling at 80km/h, they will travel 44 metres.
#Liftlegend (QLD)	To prevent drink driving. Encourages an individual that has been drinking to use anyone that is under the legal BAC to give them a lift home. This could include mum, dad, wife, husband, boyfriend, girlfriend, best mate, Uber driver, bus driver or even a work mate.
Don't trust your tired self (WA)	To encourage individuals to take regular breaks when driving. Fatigue can have similar affects as a low blood alcohol concentration, and it is important that drivers get adequate sleep before long trips.
Get caught long after the high is gone (SA)	To educate drivers about the dangers of drug driving, the effects of illicit drug use and how long they stay in the body.

First aid

First aid refers to the emergency treatment that is given to a person that is injured or suddenly ill. A rescuer or first aider must help the patient quickly, calmly and correctly in order to save the casualty's life and to prevent their condition from worsening. First aid should begin immediately and should continue until emergency services or medical help arrives.

The aims of first aid care are to:

- Perform a basic first aid management assessment.
- Apply the DRSABCD principles of resuscitation – danger, response, send for help, airways, breathing, CPR and defibrillator.
- Recognise and treat various conditions such as burns, choking, shock, diabetes and asthma.

Assessing emergency s

Before starting any treatment, it is important to u and careful assessment of the situation. Individu get help from bystanders to assist with the treatn such as calling for medical assistance, comfortin collecting necessary supplies, controlling traffic a bleeding. When it comes to first aid, assessing th Individuals should make sure they call for help e

Incidents that involve traffic, fire, electricity or wa aider's own life at risk so it is important to make s is safe before approaching. First aiders should w the risk of danger to themselves, the casualty an For example, in a road accident the possible dar oncoming traffic, vehicle fire, fuel or gas leaks an

Some questions that the first aider should ask th assessing a situation are:

- What are the present or potential dangers to th casualty and bystanders?
- Is there any protective clothing or equipment a
- Is it safe to approach the casualty?
- What has caused the accident or situation?
- How many casualties are there and how old ar
- What injuries are suspected?

Did you know?

Approximately five per cent of the people who receive CPR will survive.

Internet activity

Log on to TitanOnline to complete Activity 6.7 to

Figure 6.25:
First aid should begin immediately and should continue un

Priority assessment and management procedures

The first aider needs to act quickly but calmly. They need to survey the situation to plan their overall strategy. Life-threatening situations must be treated first. It is important to remember that each second a person is not breathing or has no heartbeat brings them closer to the risk of brain damage and death. Once life-threatening situations have been managed, other, less critical situations can be treated.

DRSABCD

The DRSABCD action plan is used to assess patients with life-threatening injuries and allows an individual to determine if immediate first aid is required. It can also allow a first aider to keep a casualty alive before medical services arrive.

D – Danger

Ensure the area is safe for first aiders, bystanders and the casualty. If not, do what is possible to remove or minimise the danger. For example, if the casualty is lying in the middle of a road, send one or more bystanders to direct traffic around the incident.

R – Response

A response, or lack of, indicates the level of consciousness of the casualty. Individuals can check for a response by asking the casualty their name or squeezing their shoulders. A good technique for gauging the casualty's response is by using the 'COWS' technique. COWS stands for:

- Can you hear me?
- Open your eyes.
- What's your name?
- Squeeze my hand.

COWS is a good technique to use because it tests different senses, such as speech, hearing, sight and touch. If there is a response, the first aider should work to keep the casualty comfortable and constantly monitor and reassure them. Depending on the response, or if there is no response, the first aider should continue to the next step of the DRSABCD action plan.

Figure 6.26:
CPR is delivered at a rate of 30 compressions to two breaths.
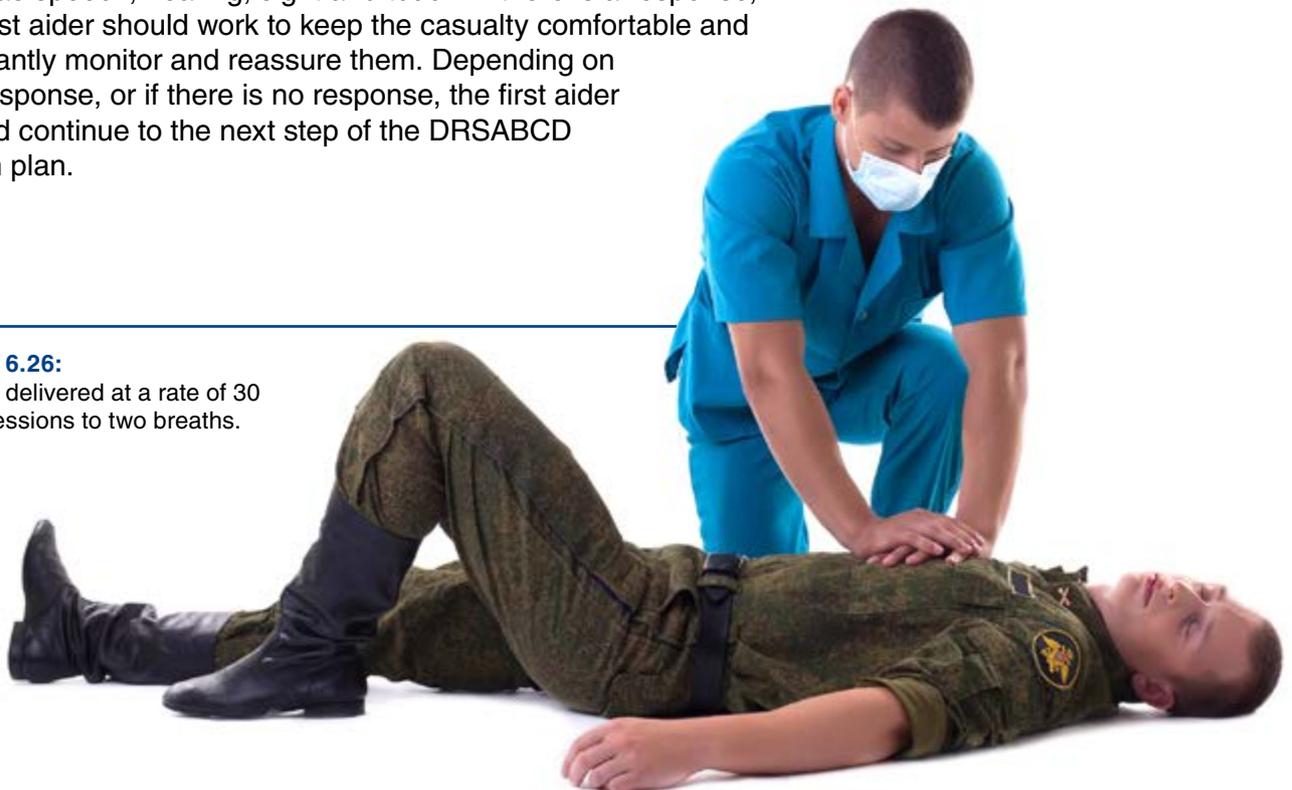
S – Send for help

Call triple zero (000) for an ambulance or ask a bystander to make the call. Mobile phones can call 112 for emergencies. Important information that emergency services will ask for include the exact location, the condition of any casualty (or casualties), details of what has happened and any extra information that is known of the casualty.

A – Airway

Put the casualty in the recovery position (on their side). When the casualty is in the recovery position, tilt their head slightly backwards and down towards the ground. This will help to clear and open the airway. Be sure to remove any foreign objects that may be in the mouth with fingers.

B – Breathing

The first aider must check for breathing. They can do this by looking, listening or feeling. If the casualty is breathing, ensure they are in the recovery position and monitor their breathing. If the casualty is not breathing begin CPR.

C – CPR

If there are no signs of life in the casualty, the first aider must begin cardiopulmonary resuscitation (CPR) immediately after giving two initial breaths. CPR is a combination of techniques, including chest compressions, which are designed to pump the heart to get the blood circulating and deliver oxygen to the brain.

The first aider must complete 30 compressions at a rate of two compressions per second. Follow this with two breaths. Repeat the cycle and continue until help arrives or the casualty recovers. Once CPR has commenced, the first aider must continue until qualified help arrives or the first aider has reached physical exhaustion.

D – Defibrillator

Apply a defibrillator if available and follow the voice prompts. A defibrillator is a device that admits a dose of electrical energy to the heart in order to get the heart to begin beating.

Common injuries and illnesses

When attempting to identify or treat an injury, it is important to identify the signs and understand the symptoms that may occur with that injury. A sign is something that can be physically seen, such as very pale skin or severe bleeding. A symptom is something that the injured person describes feeling such as blurred vision, nausea or an aching muscle.

Figure 6.27:
DRSABCD action plan.
Image source: St John
Ambulance, WA.

Bleeding

Cuts, abrasions, contusions and lacerations may cause bleeding. Bleeding causes the body's blood pressure to drop and, if left unchecked, can result in shock and eventually death. The steps for the management of external bleeding are:

1. Follow DRSABCD.
2. Lay the casualty down, ask them to rest and restrict movement. Remove or cut their clothing to expose the wound.
3. Apply direct pressure over the wound using a pad or the hands (use gloves if available). Instruct the casualty to do this if possible.
4. Squeeze the wound edges together if possible.
5. Raise and support the injured area about the level of the heart. Handle gently if a fracture is suspected.
6. Apply a pad over the wound if not already in place and secure by bandaging over the padded wound.
7. If bleeding is still not controlled, leave initial pad in place and apply a second pad and secure with a bandage.
8. Check circulation below wound.

For severe external bleeding:

- Wear gloves, if possible, to prevent infection.
- Do not apply a tourniquet – severe bleeding cannot be controlled by direct pressure alone. Use a wide constrictive bandage to reduce blood flow.
- If an object is embedded in or protruding from a wound, apply pressure either side of the wound and place pads around it before bandaging.
- Give nothing by mouth.

It is also possible for internal bleeding to occur as a result from an injury, damaged blood vessel or trauma. Internal bleeding is challenging to diagnose considering most of the time it cannot be seen with the naked eye. Some common symptoms of internal bleeding include:

- feeling dizzy, fainting or passing out
- feeling numb
- blurred vision
- swelling
- blood contamination in excreted bodily fluids
- pain and tenderness around abdominal areas
- skin discolouration.

Medical scans, including x-rays and computerised tomography (CT) scans, are common ways to medically diagnose internal bleeding and the possible causes.

Figure 6.28:
Direct pressure should be applied over a bleeding wound using a pad.

Figure 6.29:
First aiders should wear gloves, if possible, to prevent infection.

Did you know?

When a person has a nose bleed, instead of leaning backwards, they should lean forwards and pinch their nose.

Burns

Burns are injuries that can be caused by flames, UV radiation, hot liquids, electricity, lightning and certain chemicals. The signs and symptoms of a burn include blistering skin, pain, swelling and shock. All burns require immediate first aid treatment. Partial thickness and full thickness burns require urgent medical attention.

There are three levels of burns:

- **Superficial:** refers to damage that occurs only on the first or top layer of skin. The burn site will be red and painful.
- **Partial thickness:** relates to burns that cause damage to the first and second layers of the skin. The burn site will be red, peeling, blistered and swelling with a clear or yellow-coloured fluid leaking from the skin. It will also be very painful.
- **Full thickness:** involves damage to the first and second layers of skin, as well as the underlying tissue. The burn site generally appears black or charred with white exposed fatty tissue. Very deep burns can also damage muscle or bone. The nerve endings are usually destroyed and there is little or no pain at the burn site. However, surrounding partial thickness burns will be very painful. These burns are much more damaging and often require skin graft surgery.

A major burn is defined as a burn of any depth that involves more than 20 per cent of the total body surface area for an adult and more than 10 per cent of the total body surface for a child. Partial thickness and full thickness burns are a medical emergency and require urgent treatment. Immediately apply cold water to all affected areas and then call emergency services. A cool or lukewarm shower is ideal.

Figure 6.30:
All burns require immediate first aid treatment.

First aid treatment for burns includes:

1. Remove the person from danger to avoid further injury.
2. Hold the burn under cold running water for at least 20 minutes.
3. Do not remove any clothing that is stuck to the burn.
4. Chemicals, such as acids, must be washed off with running water for at least 20 minutes but take care not to splash the chemicals onto unaffected skin or other people.
5. Superficial burns require pain relief, dressing and regular review to make sure that they have not become infected.
6. Do not apply anything other than water to partial- or full-thickness burns until they are fully cooled down and have been medically assessed.

Source: Better Health Channel

Choking

Choking occurs when a person's airway is partly or completely blocked by an object. Choking can be a medical emergency, as the oxygen to the brain is being restricted. The brain cannot survive long without oxygen, which means choking can be life-threatening. First aid should commence immediately.

The signs and symptoms of choking include:
- inability to talk
- panicking behaviours
- panic coughing
- wheezing
- reddening of the face
- watering of the eyes
- grabbing at the throat
- lips, face or fingernails turning blue.

If the object, for example food, is at the entrance of the airways, the object may dislodge itself with a few big coughs. However, if the patient's airway is entirely blocked, they will show most of the signs above and will be unable to breathe, talk or cough. In this case, they patient may look like they are struggling to breathe, may turn pale or blue due to lack of oxygen and then become unconscious.

Management strategies for choking are:

1. Reassure and calm the person, encouraging them to cough and concentrate on breathing. If coughing does not remove the object, call triple zero (000) for an ambulance.

2. Move the person into a forward lean and give them five back blows using the palm of the hand between the patient's two shoulder blades. Check if the object has been dislodged after each blow.

3. If the blockage is still there, give the person five chest thrusts with the palm of the hand pushing on their breastbone. Support the person by holding their back with the other hand. Check if the object has been dislodged after each blow.

If the patient becomes unconscious at any point:
- call triple zero (000) for an ambulance
- follow DRSABCD.

Figure 6.31:
Choking can be a medical emergency.

Figure 6.32:
Special care is required for babies that are choking.

Did you know?

Since 1900, over 17,000 people have died by choking on a toothpick.

Learning activity

1. Explain the purpose of first aid and why it is an important life skill.
2. Briefly explain the importance of following the DRSABCD protocol.
3. Discuss how to treat the various degrees of burns.
4. Compare the treatment for choking with examples you commonly see in movies and on television.

Shock

Shock can be caused by blood loss, being involved in an accident and loss of bodily fluids, for example, from burns. Shock can be a physiological circulatory system response where blood supply to arms, legs and skin is dramatically reduced.

The signs and symptoms of shock include:

- pale skin
- cold, clammy skin
- nausea
- shallow and rapid breathing
- weak and rapid pulse.

The management procedures for shock are:

1. Follow the DRSABCD procedure.
2. Raise the legs.
3. Keep the patient comfortable and reassure them.
4. Attend to any other wounds.
5. Do not give food or drink to the patient.
6. Seek medical assistance.

Shock can also be an emotional or psychological response, commonly classified as acute stress disorder. The disorder is characterised by a traumatic event impacting an individual's psychological, and sometimes physiological wellbeing for a period of time after the event occurred.

Figure 6.33:
The signs and symptoms of shock include pale skin and rapid breathing.

Internet activity

Log on to TitanOnline to complete Activity 6.8 and investigate 'shock' and its first aid treatment.

Epilepsy

Epilepsy is a central nervous system disorder where brain activity is disturbed, causing seizures. Epilepsy can have many different causes. The causes can include trauma to the head, disease that affects the brain, heredity, brain tumour, stroke, high blood pressure and drug abuse.

Seizure symptoms and severity may vary significantly and the person might fall to the ground, stiffen and lie rigid for a few seconds, have jerky or spasmodic muscular movements, and/or bite their tongue or cheek.

Emergency procedures for during an epileptic seizure are:

1. Do not try to restrain the person.
2. Do not put anything in their mouth.
3. Do not move the person unless in danger.
4. Protect the person from injury by placing something soft under head and shoulders.

After the seizure, the following steps should be taken:

1. Follow DRSABCD. Check the person's breathing and response.
2. Place the person in the recovery position as soon as jerking stops, or immediately if they have vomited or have food or fluid in their mouth.
3. Manage any injuries resulting from the seizure.
4. If the person falls asleep, do not disturb them (this is normal) but continue to check their breathing.

Call triple zero (000) for an ambulance if:

- the seizure continues for more than five minutes
- another seizure quickly follows
- the person has been injured
- the person is diabetic or is pregnant.

Source: St John Ambulance (http://stjohn.org.au)

Figure 6.34:
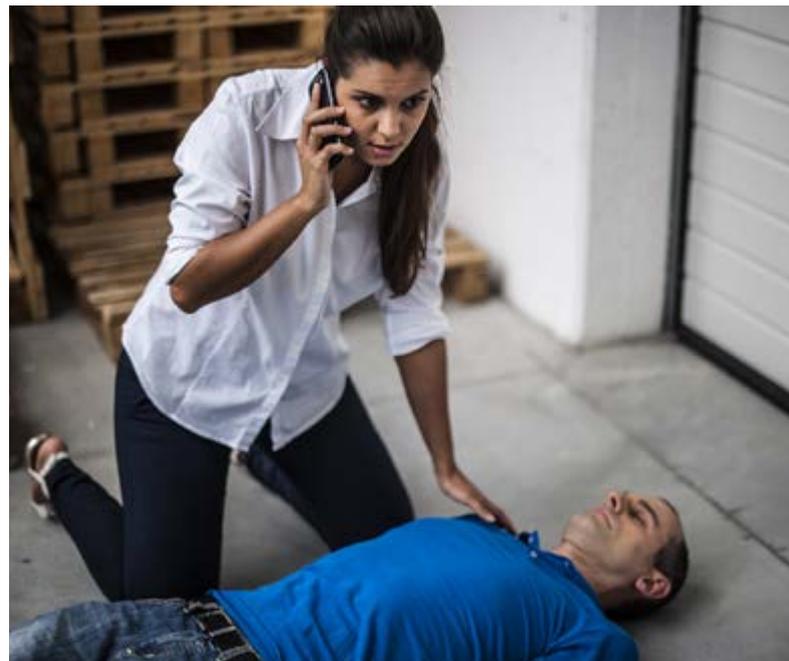Epileptic seizure symptoms and severity may vary significantly.

Figure 6.35:
An ambulance should be called if the epileptic seizure continues for more than five minutes.

Diabetes

Diabetes is a condition where there is too much glucose (a type of sugar) in the blood. The body uses glucose as its main source of energy. There are two main types of diabetes – type 1 and type 2.

Type 1 diabetes is an autoimmune condition where the body's immune cells attack the insulin-producing cells. As a result, people with type 1 diabetes cannot produce insulin and need insulin injections to survive.

With type 2 diabetes, the cells don't respond to insulin properly (insulin resistance) and the pancreas does not produce enough insulin for the body's increased needs. In Australia, type 2 diabetes affects 85 to 90 per cent of all people with diabetes, with over one million people registered as having the condition. It usually affects people over the age of 40, however, younger people are being diagnosed in greater numbers. Aboriginal and Torres Strait Islander people are at higher risk for developing type 2 diabetes.

Source: Better Health Channel

There are two medical conditions relating to diabetes: hypoglycaemia and hyperglycaemia.

The signs and symptoms of hypoglycaemia (low blood include nausea, confusion, sweating, rapid pulse and s breathing. Management techniques for hypoglycaemia

1. Follow DRSABCD.
2. If unconscious, do not give anything by mouth.
3. If conscious, the patient should be encouraged to e glucose (such as fruit juice or jelly beans). Continue sugar every 15 minutes until the patient recovers ar with a sandwich or other food.
4. If there is no improvement, call triple zero (000) for an ambulance.

The signs and symptoms of hyperglycaemia (high bloo include thirst, hot dry skin, needing to urinate, headach feeling fatigued. Management techniques for hyperglyc

1. Follow DRSABCD.
2. Seek medical assistance.
3. If the patient is conscious, allow them to administer

Figure 6.36:
Type 2 diabetes usually affects people over the age of 40.

Did you know?
One-third of all Australians with diabetes are unaware

Figure 6.37:
Insulin injections are required for people with type 1 diabetes.

Figure 6.38:
A person having an asthma attack should be encouraged to use their reliever inhaler (asthma puffer).

Asthma

Asthma is a disease that affects the airways, the small tubes which carry air in and out of the lungs. When a person has asthma symptoms, the muscles in the airways tighten and the lining of the airways swells and produces sticky mucus, which makes it difficult to breathe.

Signs and symptoms of an asthma attack include:

- difficulty breathing
- wheezing
- coughing
- chest tightness
- shortness of breath.

Management strategies for an asthma attack are:

1. Help the patient into a comfortable sitting position. Try to relax the patient. Don't leave the person alone and help them to follow their action plan.
2. Give four puffs of a grey/blue reliever (asthma puffer). Use a spacer if available. Shake the reliever inhaler before each puff.
3. Give one puff at a time with four breaths after each puff.
4. Wait four minutes. If no improvement, give four more puffs.
5. If the patient still cannot breathe normally, call for an ambulance.
6. Keep giving four puffs every four minutes (as above) until the ambulance arrives.
7. If a person is having a severe asthma attack, they require urgent medical treatment. Call triple zero (000) for an ambulance.

Anaphylaxis

Anaphylaxis is a serious, potentially life-threatening allergic reaction to a substance such as food, a sting from an insect, or a certain type of medicine such as penicillin. These substances are referred to as allergens or triggers but they are generally harmless to most people. An over-reactive immune system can generate an extreme response to particular allergens. Airways may become restricted, causing breathing difficulties, or there may be swelling of the tongue and lips.

Symptoms appear rapidly if a person is experience anaphylactic shock. The symptoms of anaphylaxis include:

- facial swelling, including swelling of the lips and eyelids
- swollen tongue and throat
- the reddening of skin in areas of the body
- hives (red welts) appearing in areas on the skin
- straining or difficult breathing
- difficulty talking or hoarseness in the voice
- vomiting
- abdominal discomfort
- wheezing or coughing
- unconsciousness
- young children may get 'pale and floppy'.

An emergency medical response is required if someone experiences anaphylactic shock. The reaction is quick and can dangerously accelerate its impact on someone within a couple of minutes.

First aid and an injection of adrenaline into the outer part of the person's thigh are required urgently. An EpiPen is used for this and is held in place for approximately 10 seconds. Using an EpiPen can save the person's life.

Figure 6.39:
Symptoms of anaphylaxis include facial swelling and reddening of the skin.

Figure 6.40:
Anaphylactic shock is treated with an injection of adrenaline into the thigh.

Did you know?

The leading cause of severe allergic reactions from food is peanuts.

Learning activity

1. Identify the signs and symptoms you would expect if someone were in shock.
2. Outline the first aid procedures for an epileptic seizure.
3. Research the differences between type 1 and type 2 diabetes.
4. Explain how asthma affects an individual and the appropriate management strategies.
5. Research current statistics around anaphylaxis and discuss your findings.

Revision questions

1. Create a guide on how to pick the right sunscreen.

2. Compare and contrast heat cramps and heat exhaustion.

3. Identify strategies individuals could use to remain safe around the pool.

4. Discuss what an individual would experience if they were suffering from heat stroke.

5. Explain the safety purpose behind the following licence restrictions:
   a. Learner and provisional drivers must have a zero blood alcohol concentration (BAC) to drive.
   b. Restricting the maximum speed for young drivers.
   c. Learner drivers and P1 drivers must not use mobile phones, even hands-free, while the ignition is on.

6. Design a 15-minute driving course to educate and train young drivers about road safety. Remember to include driving conditions and possible driving scenarios.

7. Discuss what is meant by the term 'a reasonable degree of risk'?

8. Propose reasons why people take risks that are potentially life-threatening.

9. Choose a particularly risky situation that young people may become involved in and propose protective strategies that could be used to minimise or avoid the risk.

10. Discuss reasons why individuals need to be cautious when online.

11. Provide strategies individuals can use to ensure they remain safe online.

12. Outline some of the strategies that online scammers use to defraud people of money.

CHAPTER 7

Health benefits of physical activity

In general, people who adopt a lifestyle that includes regular physical activity live longer, healthier lives than those who move less. The physical, social, emotional and cognitive benefits or physical activity have been extensively researched and widely acknowledged. Knowing how much and what type of physical activity that is most beneficial to health can sometimes be confusing, but Australia's physical activity and sedentary behaviour guidelines contain safe, well researched information to follow.

Pursuing a lifestyle of physical activity, raises issues such as fitness component and barriers to participation. Individuals may want to explore how to develop different aspects of their fitness and learn how fitness testing can help monitor and assess fitness goals.

Focus areas

- Benefits of physical activity
- A balanced lifestyle
- Strategies to increase physical activity
- Physical activity and fitness

Figure 7.1:
Many people enjoy the feeling they get from physical activity.

Benefits of physical activity

The term 'physical activity' means any movement in which energy is expended. The movement does not have to be in the form of exercises such as sit-ups or push-ups, although those two forms are considered to be examples of physical activity. For many people, physical activity is simply the activities that happen as they go about their everyday lives, such as walking to the bus stop or mowing the lawn.

The term 'fitness' means the body's ability to perform physical activity for work and leisure. Physical fitness is planned, structured, repetitive and purposeful, in the sense that the objective of it is improvement or maintenance of one or more fitness components. The health- and skill-related components of fitness are covered in more detail from page 213 of this chapter.

Participation in physical activity is beneficial to all individuals regardless of their age or ability. Regular involvement is best, irrespective of the type of activity. By progressively engaging in a range of planned and unplanned exercise activities it is possible to consistently achieve and exceed the recommended physical activity participation guidelines. This leads to improvements in the physical, social, emotional, cognitive and spiritual components of health.

Physical benefits

A person who is regularly physically active tends to:

- feel better due to the release of endorphins during exercise
- have more energy to do everyday tasks with ease
- feel more relaxed
- have increased levels of happiness
- sleep better
- have a lower risk of heart attack
- manage their weight better
- have a lower blood-cholesterol level
- lower their risk of developing type 2 diabetes and some cancers
- have lower blood pressure
- have stronger bones, muscles and joints and a lower the risk of developing osteoporosis
- recover better from illness.

Social benefits

There are many direct and indirect social benefits from participating in physical activity. A direct benefit is one that occurs solely because of participation, for example, going to training and socialising with teammates. There are also indirect benefits. For example, getting to know a teammate well enough to be invited to their party, then making friends with their friends during the celebration. From regular participation in team games, sports and activities, individuals can increase their sense of belonging and friendship among other individuals with similar interests in physical activity. Team games are also an effective way of meeting new people, while taking positive actions towards other dimensions of one's health.
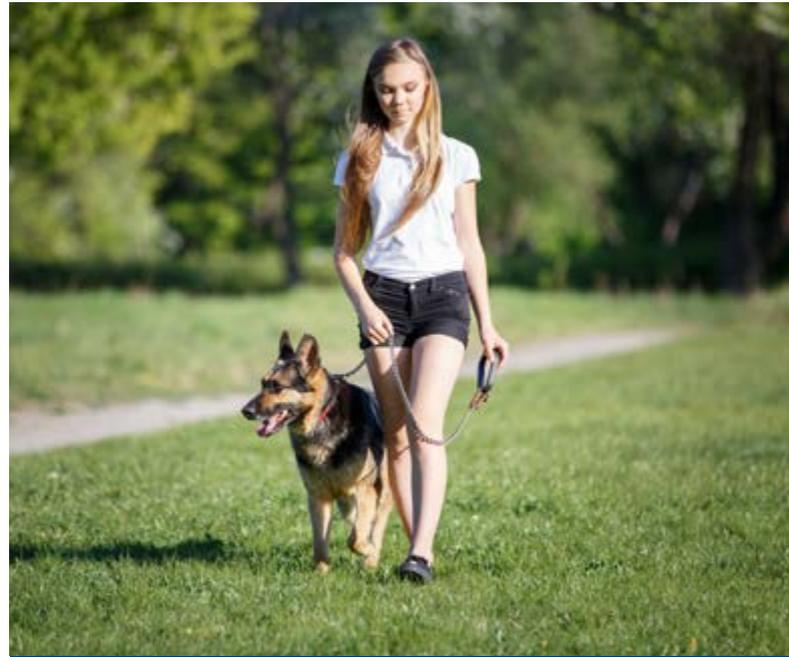

Figure 7.2:
Walking the family dog is an example of incidental physical activity.

Figure 7.3:
Team games are an effective way of meeting new people.

Emotional benefits

Many people rely on physical activity because of the emotional benefits they receive from it. Exercise releases endorphins, which are naturally occurring chemicals that can cause feelings of euphoria. People use physical activity to help calm them down, relieve stress and to help them unwind. For some individuals, physical activity and exercise is a way of gaining control over their hectic lifestyle and is necessary for them to cope.

Many people also enjoy the feeling they get from physical activity. They may enjoy the activities they participate in, such as surfing or dancing, which are of a physical nature. Physical activity can improve sleep, which can make a person happier. Participating in physical activity with friends is good for social health, and positive social health will most likely impact positively on emotional wellbeing.

Cognitive benefits

Cognition relates to the brain and the way it functions. It includes thought processes and skills such as alertness, problem-solving, decision-making, timing, coordination and memory. Participation in physical activity has been proven to assist in the development and maintenance of these cognitive skills. There are also many benefits of physical activity that relate to cognitive functioning later in life. The onset of common diseases such as Alzheimer's and dementia can be delayed through involvement in regular physical activity. Physical activity also promotes the flow of oxygen around the body, particularly to the brain, which promotes and increases cognitive functioning.

Figure 7.4:
People use physical activity to help calm them down, relieve stress and to help them unwind.

Figure 7.5:
Participation in physical activity has been proven to assist in the development and maintenance of cognitive skills.

Internet activity

Log on to TitanOnline to complete Activity 7.1 to identify the positive mental benefits of regular physical exercise.

A balanced lifestyle

In attempt to increase an individual's life expectancy and quality of life there are many positive behaviours that should be regularly integrated. Regularly participating in physical activity, eating a wide variety of foods whilst limiting intake of discretionary items, developing adequate health literacy skills and ensuring that the recommended time sleeping is maintained can help facilitate a balanced lifestyle.

A balanced lifestyle acknowledges that an individual who is flexible and able to adapt to the changing circumstances of their life will likely maintain positive lifestyle behaviours and choices rather than individuals who adopt an 'all or nothing approach'. For example, an individual participating in 30 minutes a day of regular physical activity is establishing a much more sustainable goal than an individual with young children who works full-time, trying to get to the gym for one hour every morning.

Technology has also affected the lifestyle of many Australians, in particular young people. Teenagers are more likely to access the internet through multiple devices such as smartphones, tablets, gaming consoles and smart televisions. Accessing social media has also become a constant distraction, with many people continual[ly]
of the day and night.

Australia's physical acti[vity and]
sedentary behaviour gu[idelines]

In Australia, physical activity and sedentary beha[viour guidelines are] provided to assist individuals develop and maint[ain levels of] physical activity. The guidelines are divided by a[ge to provide] appropriate and safe recommendations, beginni[ng with birth to five years] of age, five to 17 years of age, 18 to 64 years of [age ...]

Sedentary behaviours are those habits that resu[lt] of very little physical activity, exercise or movem[ent. These] can have life-altering and even life-threatening e[ffects on an] individual's health and wellbeing. Examples of se[dentary behaviour] includes any behaviour that involves sitting, lying[or being] stationary for extended periods of time, such as:

- commuting to work or school in a car, on a bus
- reading or writing
- watching television, gaming or playing on an el[ectronic] device such as a computer, phone or console.

Figure 7.6:
Use of electronic media for entertainment, such as gaming[,] should be limited to no more than two hours a day.

Physical activity guidelines for Australians are:

▪ Toddlers and children under five years of age should be allowed to play and be physically moving for at least 30 minutes per day, for very young toddlers, and a least 180 minutes per day, for children aged between one and five years. Rolling, jumping, walking, twirling, throwing and kicking are all good examples of movements that assist accumulating the recommended time.

▪ For health benefits, young people aged five to 17 years should accumulate at least 60 minutes of moderate to vigorous intensity physical activity every day. It is recommended that on at least three days per week, young people engage in activities that strengthen muscle and bone. Young peoples' physical activity should include a variety of aerobic activities, including some vigorous intensity activity. To achieve additional health benefits, young people should engage in more activity – up to several hours per day.

▪ Adults aged between 18–64 years of age are encouraged to participate in at least 150 minutes of moderate intensity or 75 minutes of vigorous intensity exercise per week, incorporating strength training activities on at least two occasions a week.

▪ Although physical activity can present greater challenges for adults over 65 years of age, it is advised that individuals attempt to be physically active and moving their body for at least 30 minutes per day.

Figure 7.7:
Young peoples' physical activity should include a variety of aerobic activities.

Did you know?
Physical inactivity is the second greatest contributor, behind tobacco smoking, to the cancer burden in Australia.

Sedentary behaviour guidelines are:

▪ To reduce health risks, it is recommended that young toddlers are not restrained from being physically active for longer than one-hour periods. Sedentary time on electronic devices is not recommended at all until the toddler is at least two years of age. For young people aged five to 17 years, they should minimise the time they spend being sedentary every day. To achieve this:

  – Limit use of electronic media for entertainment such as television, seated electronic games and computer use to no more than two hours a day – lower levels are associated with reduced health risks.

  – Break up long periods of sitting as often as possible

  – It is recommended that children and adolescence do not spend more than two hours per day on looking at a screen.

▪ Similar recommendations are in place for adults between 18–64 years of age. Individuals who work on computers and in stationary environments can utilise technological advancements such as stand up desks, go for walking phone calls, exercise during breaks and use a gym ball as a seat to assist integrating more positive health behaviours into their rather sedentary day.

Source: Australian Government Department of Health.

Case study

There's a knock at the door. Before Jake can respond, his mum opens the door and says, "Jake, I've been calling out. The family is having dinner. You're still part of this family, aren't you?"

Jake ignores her, hoping she'll take the hint. He's nearly finished this level and he is beating an annoying kid for the first time in ages. His mum steps in front of the television.

"Jake, I suggest you pause that game, or save it or whatever it is you need to do, because if you don't get up right now, I will unplug it! I've spent hours cooking for this family and while you are living under this roof, you will eat dinner with us!" she says.

Jake continues to disregard his mum and keeps playing, only slightly adjusting to see past her standing in the way of the screen. When his dad enters the room, Jake gives in and goes to the dinner table. Jake sits there, bored, ignoring the conversation and waiting for the torture to be over so he can return to his game. It's all he can think about.

"Jake, are you listening?" his father asks, as Jake slowly drifts back to reality.

"Jake, your mother has been talking to you for five minutes. We are going away on the weekend and you'll be staying at Mark's house. Your mother has spoken with his mum, so you'll need to go home from school with him tomorrow."

Jake thinks to himself: I wish they would butt out. I'm old enough to stay home by myself. He starts yelling, "No way! I'm not even friends with him. I'm not going. You can't make me. Now I'm going back to my room. Leave me alone."

Jake storms off. Sensing his father coming to talk to him, he moves even faster and slams his door shut.

Jake couldn't go to Mark's even if he wanted to. Jenny is having a party this weekend and Jake was not invited, but Mark was. Jake hasn't done any sort of social or physical activity, besides school, in over a year. He doesn't even speak to anyone at school. Ever since his best friend moved interstate, Jake has spent his spare time playing X-Box. He spends at least six hours per day playing, which is affecting his school work. He didn't bother to sign up for his weekend soccer team this year, even though he has played soccer since he was six years old. His parents are at their wits' end and don't know how to get their once happy and sociable teenager out of his dark, depressing room.

1. Explain why Jake's parents are so worried about him.
2. What strategies would you recommend to Jake's parents to address this issue?
3. Research current statistics surrounding social media and gaming addictions.
4. What are the long-term effects of this type of lifestyle on Jake's health?
5. Create a campaign that aims to increase young people's levels of physical activity and decrease the amount of time spent gaming online. Include:
   - strategies to convince a person like Jake to engage in healthy lifestyle changes
   - alternative activities, focusing on physical activity.

CHAPTER 7   HEALTH BENEFITS OF PHYSICAL ACTIVITY

Participation rates in physical activity and sport

According to the AusPlay Survey 2020, 57 per cent of children participated in organised physical activity outside of school hours at least once per week (down from 63 per cent in 2017). The survey also indicated that 22.5 per cent of children participated in organised physical activity outside of school hours at least three times per week (down from 25 per cent in 2017).

The top five sports by participation rates for females were:

- swimming
- dancing
- Australian football
- gymnastics
- soccer.

The top five sports by participation rates for males were:

- rugby league (includes league, touch and Oztag players)
- Australian football
- swimming
- soccer
- athletics.

Source: www.clearinghouseforsport.gov.au/research/ausplay/results

Barriers to participation

Despite sport and physical activity being such an integral part of Australian culture, there remains many people who fail to adequately sport and physical recreation. The most common barriers are reported as:

- advanced age
- ongoing disability, injury or illness
- undefined injury or illness
- lack of interest or motivation
- too tired because of other life commitments
- cost of activities – socioeconomic status
- insufficient time due to or study commitments
- insufficient time due to family commitments.

The barriers can be overcome if people have the commitm skills and resources to change their behaviours. Simple ste inviting friends and family to exercise with you or develop r friendships with physically active people are good starting

There are many factors that can influence an individual's likelihood of participating in physical activity and the reasor why some of the barriers exist for various people. Most of these factors can be categorised as social, emotional, environmental barriers and influences.

Figure 7.8:
Injury is a common barrier to participation in physical activity.

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Social influences

Social influences on physical activity are very broad, and can be positive or negative. Individuals can be influenced to participate in physical activity for the following reasons such as:

- a fear of having to meet new people or feel like an outsider when joining a new team activity or sport
- friends and family having similar disinterest or motivation to participate in physical activity
- stopping participation in enjoyable physical activities because peers don't think it's cool
- stopping participation in physical activities in order to spend that time socialising with friends.

Emotional influences

Like social influences, emotional barriers exist and influence the level of physical activity an individual will participate in. Emotional influences include:

- don't feel any enjoyment or happiness from participating in physical activity
- lack of planning and conflicting time schedules
- lack of self-confidence or self-esteem and fear of participating in physical activity in front of others.

Environmental influences

Many environmental influences on physical activity participation are often out of an individual's control, such as:

- not having access to facilities such as gyms, courts, fields and parks
- living in an area that is unsafe to be running through
- extreme heat, cold or adverse weather conditions such as rain/hail/thunder
- not having any local sporting competitions.

Fortunately, there are so many activities that involve being physically active that it is still possible to exercise without leaving the house, or even going outdoors. To eliminate the influence of environmental barriers, individuals can:

- use an application on a phone such as leg work-outs or ab work-outs
- use YouTube work-out videos
- do housework
- exercise in the backyard.

There are also many environmental influences and infrastructures that promote participation in physical activity, such as:

- walking tracks and coastal tracks
- aquatic centres
- gyms and other exercise facilities
- group fitness outdoors
- local sporting groups and teams
- work-out equipment at local parks
- school environment promoting sport and physical education.

Cultural influences

Australia is a multicultural society and this is reflected in the sport and physical activity Australians commonly participate in. Most Australian sporting clubs recognise that cultural traditions and beliefs may present barriers for physical activity participation. They recognise the benefits from having strategies to engage all members of the community. By doing so, they enable:

- higher participation rates, leading to an increase in the number of participants and the range of sports and activities offered
- financial gains for the club
- an improved skill level for the participants
- a better understanding of various cultures
- stronger competition
- improved social interaction between members of various cultures.

Cultural identity and playing sport are both important in Australian society. Community participation in sport and recreational activities is consistently recognised as being an important feature of the Australian way of life. Australia is also known for its cultural diversity, with one in four of the population being born overseas, and 44 per cent having at least one parent who was born overseas.

The high level of young people's participation in physical activity and sport is a reflection of a society that has a clear cultural identity. Young people participate in sport for many reasons, including improvement of health and wellbeing, engagement in competition, participating in a challenge, general enjoyment, and cultural reasons.

Figure 7.9:
Participation in sport is consistently recognised as an important feature of the Australian way of life.

Figure 7.10:
Cultural identity and playing sport are both important in Australian society.

Learning activity

1. Rank the barriers to regular participation in physical activity based upon your own perceptions.
2. Provide realistic solutions and advice on how these barriers could be overcome.
3. Survey your class members about the range of barriers that prevent them from participating in sport and physical activity.
4. Identify a range of factors that influence your involvement in physical activity and sport. Classify each one as a social, emotional, environmental or cultural influence.

Strategies to increase physical activity

Individuals can optimise their health by implementing strategies to increase physical activity levels. Even if they don't like sport or exercising, there are still lots of different ways to increase physical activity levels. Below is a list of strategies a young person can adopt, both in the home environment and in the wider community, to increase their physical activity levels:

- help parents with household chores such as hanging washing on the line, packing/unpacking dishwasher, bringing in groceries, clean their room, vacuuming and mowing the lawns
- rearrange and redecorate their room
- take the dog for a walk
- go swimming
- don't ask other people to get things, but rather get up and get it themselves
- challenge themselves (or a sibling if they agree) by doing random activities such a sit-up challenge during advertising breaks
- download and use work-out apps.

With an increase in on-demand technology, there is an array of physical activity, health and wellbeing apps, videos and programs available for all age groups. There are apps broadly designed to provide general workout schedules, plans and instructions as well as others that are specifically designed for a particular physical activity, sport or aspect of health such as yoga, meditation and running. For many of the apps, individuals are able to input their own health data, such as height and weight to accurately record data. Other common features of fitness, health and wellbeing apps include:

- tracking energy expenditure
- tracking the type of workouts being completed
- tracking distance, time and speed of the individual's movement
- provide guided instructions and tutorials with images, videos and instructions of activities to complete.

Keeping a physical activity diary is a great way to maintain motivation and track how much physical activity an individual is doing and whether they are meeting the national guidelines. The good thing about keeping a diary is that if the individual doesn't particularly enjoy sports or being active, it is not a set regime that they have to follow and they can personalise it to make it suit their needs. Things to include in a physical activity diary include:

- physical activity goals
- list of physical activities a person likes
- physical and mental results after participating in physical activity
- physical activities participated in
- ideas for different work-outs
- improvements in fitness.

Learning activity

Using a new notebook/exercise book/note in your phone, create a physical activity diary. Record all the physical activity you participate in over a one-week period. Critically analyse your participation levels and suggest ways to improve participation.

Case study

Rob sits at his desk during his lunch break, piles of paper sprawled across his desk. He catches himself staring out the window. Across the park, he spots a group of guys who are probably around his age. He thinks they must work together, because he sees them there every lunch break playing one game or another. Rob wonders why his office doesn't run lunch time physical activities like that, and then he looks around. Sitting across from him is Mark, who weighs about 120 kilograms and is close to retirement. Josie and Anna are in their late 50s and probably have never worn a pair of joggers.

Rob had played Australian football from an early age in his home town. He had represented his school, and later his university. He used to train five or six times a week for at least 90 minutes. Rob had to stop training as often when his wife, Marley, first fell pregnant. After Annie was born, Rob's exercise dropped down to just an easy jog once or twice a week. And two years later when Hayden was born, the exercise stopped completely. Rob took a promotion at work, which meant longer hours and less time with the family, but at least now he could support them and they could live comfortably.

During a recent check-up at the doctor, Rob found out he had high blood pressure and currently falls into the 'overweight' weight range, with a body mass index of 27.2. He feels miserable and is unsure of what to do. What really worries Rob is the history of cardiovascular disease in his family. His grandfather died of heart failure, and his dad has had a pace maker inserted after suffering two heart attacks. When Rob shares the bad news with Marley, she breaks down and is surprisingly angry with him.

"Why don't you do any exercise anymore? she says. "You could take the kids to soccer or even try coaching and getting involved in their life, rather than working the long hours every day. You could even take the dog for a walk occasionally."

This wasn't the sympathy that Rob was expecting – in fact, it made him really angry. But he wasn't sure if he was angry at Marley or himself. Either way, he felt even more stressed, which is not good for his heart or mental health. Rob thinks Marley doesn't realise how difficult it would be to keep his job, and earn the money the family needs to survive, while working fewer hours. Rob knows he needs to look after his health, but just doesn't know how he is going to change his lifestyle.

1. Discuss how each of Rob's components of health are affected by his current lifestyle.
2. Explain the risks associated with cardiovascular disease in general. Which of these risks are present in Rob's story?
3. Propose strategies that Rob could try implement to improve his lifestyle and his health. Relate the strategies to Rob's:
   - physical health
   - social health
   - financial wellbeing.
4. You are the doctor at a local family clinic. You see endless cases just like Rob's. You and your colleagues are determined to impose change at a state level. Write a letter to the state government suggesting ways to make workplace exercise and group fitness an option as part of employment contracts.

Campaigning for regular physical activity

Campaigns are initiatives targeting an issue in society that is having a negative impact on individuals and the community, usually run by the local, state or national government. They often involve creating advertisements, catchy slogans, target goals and strategies to reach those goals as well as increasing funding for a cause. There have been many initiatives encouraging a change in negative or damaging behaviours and promoting a healthier lifestyle. Campaigns have been created for various health issues, such as drink driving, sun protection, smoking and domestic violence. There have also been a number of campaigns for encouraging regular physical activity. Some of these include:

- Shape Up Australia
- Go For Your Life
- Walk & Talk Program
- Heart Foundation Walking
- Healthy Active
- Find your 30
- Move it AUS
- Girls make your move.

Individuals of all ages and capabilities can utilise strategies to maximise physical activity participation. Sedentary habits may be hard to break, so it is helpful to take small steps that work towards creating a healthier lifestyle. It is important to remember that minimising sedentary behaviours doesn't mean eradicating them completely, but rather reducing them to ensure enough time is spent moving and being active each day. Behaviours that should be minimised include:

- watching television
- sleeping for longer than eight to 10 hours a night
- using the computer/laptop/tablet
- playing video games.

The above activities can bring great enjoyment to an individual's life and so initially it may be hard to minimise these behaviours. The following strategies may help:

- If an individual has four television shows they watch every night, they should try cutting out the one they like least or recording it to watch later. That way, on another day when they are very active, they can treat themselves, or they may realise they never get around to watching it (which proves it's not really that important to watch).
- If gaming, stand up while doing so. Get up and do something between games rather than playing continuously.
- People who get more than eight to 10 hours sleep per night should set an alarm for the morning. Make a plan the night before to maximise the extra time available.
- Avoid coming home from school/work and sitting on the laptop. Use times where it's necessary to be sitting down to check social media, such as on the bus or train home.

Internet activity

Log on to TitanOnline to complete Activity 7.2 to analyse a recent physical activity campaign.

Goal setting and physical activity

Goal setting is a successful strategy to achieve personal success. Whether it is long-term or short-term goals, goal setting can be a personal source of motivation within physical activity, health and wellbeing. Choosing relevant goals will depend on what changes a person wants to make and when they want to make them. It is also important to ensure that goals align with personal values and motivations in life. The fulfilment of achieving personal success is important for self-confidence and self-efficacy.

Some individuals begin exercising to increase their physical fitness, increase muscle strength, mass or flexibility. Other individuals join a team activity or sport to increase their social environment or simply just learn a new skill. Being able to self-reflect enables a person to determine the reasons underpinning their need to participate and lead to better decision-making and future enjoyment of the activity.

As an individual continues to participate in the physical activity, they should consistently evaluate their goals, making any modifications necessary to ensure they are always challenging but appropriate to the individual. The SMARTE and track their progress in achieving these as follows:

- **Specific:** a well-defined, specific goal.
- **Measurable:** progress can be measured goal is being achieved.
- **Attainable:** the goal is challenging enoug within reach of the individual's capabilities reasonable level of practise.
- **Relevant:** the goal should align with long-term objectives.
- **Time-bound:** identifies when the goal should be achieved.
- **Evaluate**: goals should be regularly evaluated, to increase the likelihood of them being achieved.
- **Readjust**: if goals are not being met, readjust the process – try different approaches to reach goals.

Figure 7.11:
Goal setting is a successful strategy to achieve personal success.

Local support for physical activity

Finding an appropriate physical activity organisation or environment to regularly participate in physical activity is an important step in establishing a genuine interest in lifelong physical activity. Regardless of the area, a quick internet search will assist finding programs, organisations, established businesses as well as free community resources available for individuals looking to participate in physical activity. Community notice boards, newsletters, social media groups, markets, fêtes and local schools are often places where a wide variety of information can be gathered. Information centres are another helpful resource, where locals can provide guidance of activities, initiatives, local rules and regulations such as beaches where dogs must be kept on a leash.

Depending on the particular physical activity or sport interest and age, finding an appropriate way to engage in the activity or sport within particular communities may be reasonably easy or at other times rather challenging. Sometimes, individuals may need to establish their own community organisation or team.

Attending competitions, performances and tournaments may also be a beneficial way to investigate local teams and community groups in action to see if an individual is suited to that group.

Figure 7.12:
Fun runs and colour runs may be organised by local community groups.

Learning activity

1. Identify ways in which recreational facilities and services could be used to promote and enhance participation by all groups.
2. Design a health-promotion campaign for your local community to overcome the barriers to regular participation in physical activity.
3. Assess your school grounds for areas that have access for people with disability. Analyse a sport session, and identify ways in which the activity could be modified so that people who have disability could participate.
4. Explain why time constraints is the most common excuse people use for not exercising as much as they should and provide some realistic suggestions for making time for everyday physical activity.
5. Use the SMARTER acronym to set your own personal goals in either physical activity, health and/or wellbeing.

Aiming for lifelong physical activity

Lifelong physical activities involve the many ways individuals of all ages can continue to move their body and achieve the recommended physical activity each day. Physical activity does not have to be planned, structured or competitive.

Many organised sporting associations and clubs now have teams available for a wide range of ages. Many clubs begin with toddler groups that involve age appropriate modified activities, to mainstream traditional competitions to all-age and senior competitions. In addition to age-related modifications of traditional competitions, there are a wide range of activities and sports that are inherently more suitable for lifelong participation. Sports such as golf, bowls, tennis and physical activities such as walking, cycling and swimming are popular with Australians and are examples of activities that can be continued well into older age.

Australians have traditionally engaged in a wide-range of sport and physical activity. The ageing of the population presents new challenges for seniors who are looking for ways to continue physical activity as they age, despite the common illness and injury that is often associated with age.

Participation in physical activity throughout an entire life is beneficial for all, promoting increased bone and muscular strength, flexibility and joint stability, improve sleeping habits and reduce the risk of disease such as heart complications, cancer and obesity. It is important that physical activity involvement is modified according to an individual's specific requirements. For example, a young child should participate in swimming lessons with a qualified instructor in comparison to a young adult who may swim in the ocean or an elderly person who completes rehabilitation exercises in a hospital pool whilst being observed by a trained physiotherapist. All of the aforementioned, are forms of physical activity appropriate to various stages of life.

Learning activity

Select and research a physical activity in your local community and investigate how they can promote lifelong physical activity. Include details of how to access this physical activity in the community.

- Tai chi
- Bocce
- Aqua aerobics
- Walking

In groups of four, respective to the physical activity you chose, present a 10-minute physical activity session to demonstrate the physical activity in action. Discuss as a class why it is a lifelong physical activity.

Practical activity

In small groups or as a class, visit YouTube and search for 'blogilates' and complete one of the work-outs. Afterwards, analyse how videos like these can help individuals increase their levels of physical activity and who they would generally appeal to most.

Other roles in promoting physical activity

While participating in regular physical activity is very important, there are also many health benefits in engaging in other roles associated with physical activity. There are many ways individuals can engage in physical activities apart from direct physical participation. For example, many community and local sporting and physical activity organisations require individuals to volunteer to undertake roles such as coach, trainer, referee, umpire, captain and administration manager. There are many different responsibilities that are required of each role for a team of individuals to train and compete on a regular basis.

- **Coach:** Organises training sessions and mentors individuals during competitions and games. The coach identifies the areas of need for the individual's players to improve. They usually have substantial knowledge or experience in the field they are coaching.
- **Trainer:** Delivers training activities for a team primarily focusing on developing technique, strategic and tactical awareness and fitness that will enhance game play.
- **Referee or umpire:** Officiates games, decides on scoring and individual or team progression through competition rankings.
- **Captain:** Usually a senior player of a team is allocated to delegate roles and communicate during participation to other team members. Assists coordination of team decisions.
- **Administration manager:** Organises logistics of regular participation, financial matters, organisation of uniform and/or transport requirements.

Individuals may consider some of the above roles when they are not physically, mentally or emotionally able to participate in the activity or sport. For example, an individual taking time off with an injury may be able to volunteer some time to complete administrative duties or score during a tournament. This ensures they remain involved in the team atmosphere but at a level that will not hinder their recovery. For local recreational teams, many parents often volunteer their expertise and time to many of the roles to ensure their child is able to participate on a regular basis. Individuals receive a great level of satisfaction when volunteering to help support local community sporting organisations and often engage in a range of incidental physical activity in the process.

Figure 7.13:
Coaches organise training sessions and mentor individuals during competitions and games.

Internet activity

Log on to TitanOnline to complete Activity 7.3 to research a famous athlete and analyse their training schedules.

Internet activity

Log on to TitanOnline to complete Activity 7.4 to attribute positive benefits of physical activity engagement to specific sports, physical activities and exercises.

Figure 7.14:
Being physically fit maximises an individual's ability to participate fully in life.

Physical activity and fitness

Physical activity contributes to physical fitness. Physical activity is any bodily movement that raises energy expenditure above the resting rate, while fitness activities aims to improve the body's functioning to enable a person to competently engage in their day-to-day activities. There are a number of benefits to be gained from developing and working on one's fitness. Being physically fit maximises an individual's ability to participate fully in life. Through being physically fit, an individual is better able to perform everyday tasks – whether they are leisure and recreational tasks such as going to the beach with friends, work tasks such as performing heavily lifting on a daily basis, or household tasks such as being coordinated and able to focus on a number of different things at once. Indicators of physical fitness can sometimes, but not always, be seen in an individual's physical appearance. Other indicators of fitness include the way an individual feels before, during and after physical activity or exercise. One way to improve fitness in a maintainable and healthy way is to use the FITT Principle.

The FITT Principle is designed to help improve an individual's existing fitness levels. It is a set of four guiding principles that are necessary to apply in order to use an exercise program to gain a 'training effect'. The purpose of its design is to develop fitness programs for everybody from elite athletes to people who simply want to improve their fitness level. Although it is mainly aimed at the development of aerobic fitness, it can also be used in strength, flexibility and anaerobic training.

The acronym 'FITT' stands for the following four things:

- **Frequency:** the number of times a person exercises over a specific period of time, for example, a week. The recommendation is a minimum of three times a week for beginners through to six times a week for the more advanced, such as athletes. In determining the frequency of an exercise program, a balance has to be struck between providing just enough stress for the body to adapt and giving the body enough time to heal.

Did you know?
One way of gauging the intensity of training is the 'talk test', where talking is possible during moderate exercise, but increasingly difficult as intensity increases.

- **Intensity:** the level of effort a person uses while exercising; defined as being the amount of effort a person should invest in during the training program or any one session. If the aim is to develop aerobic fitness, the person's heart rate is used to measure intensity. The recommended level for people to work at is between 65 per cent and 80 per cent of their maximum heart rate. Beginners should work at about 60 per cent of their maximum heart rate, while advanced athletes can work at a level of up to 85 per cent of their maximum heart rate.
- **Type:** the form of activity a person does. If the aim is to develop aerobic fitness, the person engages in activities in which large muscle groups are used and where the heart rate is elevated. Three examples include running, cycling and swimming. The type of activity would be different if the aim were to develop strength, flexibility or anaerobic fitness. For example, a person who was aiming to develop strength would engage in resistance training, for example by lifting weights.
- **Time:** the length of time a person exercises for. If the aim is to develop aerobic fitness, the recommended minimum time for the heart rate to be elevated is 20 minutes. Athletes and fitter people would train for between 30 and 60 minutes, often at a higher intensity.

Table 7.1 outlines an example of how the FITT Principle could be applied for a person who wants to improve their cardiovascular endurance and strength.

Table 7.1: The FITT Principle for improving cardiovascular endurance and strength.

Principle	Cardiovascular endurance	Strength
Frequency	Three to six times per week	Three to six times per week
Intensity	Moderate to vigorous intensity at 65 to 80 per cent of maximum heart rate	Three sets of between 10 and 15 reps per muscle group
Time	20 to 60 minutes	30 to 60 minutes
Type	Cardio-endurance activities such as running, cycling and swimming	Resistance training (for example, free weights)

Learning activity

1. Apply the FITT Principle to a flexibility program addressing hamstring flexibility.
2. Two swimmers, a 15-year-old male and an 18-year-old female, both start a weight training program. Explain possible similarities and differences between the programs.
3. Develop a fitness program for a person who is looking to use the FITT Principle in order to improve their cardiorespiratory endurance.
4. 'An individual must be physically active to be physically fit, but they don't have to be physically fit to be physically active.' Do you agree or disagree? Discuss this statement.
5. Analyse your weekly routine. List all the things you do to improve your physical fitness and all the things you do that make you physically active. Assess why it is you do these things.
6. Describe the components of what you believe is a balanced lifestyle.
7. Using an ICT platform of your choice, design a campaign to promote the contribution of regular physical activity to health and wellbeing.

The body's reaction to physical activity

There are two types of responses made by the body, which are linked to training. Acute responses are immediate responses that occur during exercise and chronic responses are long-term changes to the body following extended periods of exercise, also referred to as training effects. An example of an acute response to cardiovascular training is that it becomes possible to increase the size of each breath, known as tidal volume. This acute response occurs to ensure that enough oxygen can be received by the working muscles. Other examples of immediate responses include an increased heart rate and increased body temperature and sweat production.

An example of a chronic cardiorespiratory training effect is that the size of the heart grows, which takes place over several weeks or months of regular cardiovascular training. The walls of the heart also become thicker with long-term exercise. These changes help the heart to pump out larger quantities of blood per minute.

To adequately prepare the body to react and experience growth from physical activity participation, all participants regardless of age or skill level, should complete a proper warm-up and warm-down. An effective warm-up provides the following benefits:

- increases the temperature and flexibility of the muscles
- raises heart rate and respiration in preparation for vigorous activity
- warms the synovial fluid in joints and moves limbs through a full range of motion
- prepares the individual psychologically so that they are ready to perform at their maximum potential.

A general warm-up begins with active movement of the large muscle groups; it progressively increases in intensity and is followed by stretching. Stretching exercises should move body parts through their full range of motion, extending to a point of strain, but never pain. Concentrate on the muscles and joints that will be used during the training session. Training sessions also need a warm-down. The warm-down occurs at the end of a session, and gradually returns body systems to their pre-exercise state. Respiration slows and body temperature drops. The purpose of the warm-down is to prevent muscle stiffness and soreness, and help the heart return to its resting heart rate. The warm-down helps flush out the waste products that build up during exercise, such as lactic acid.

Internet activity

Log on to TitanOnline to complete Activity 7.5 where you will research how the body's circulatory system responds to exercise.

Learning activity

1. Design an appropriate warm-up and warm-down for a sport of your choice.
2. Analyse the difference between physical fitness and physical activity.
3. Provide examples of physical fitness activities for a recreational triathlete.
4. Describe a range of physiological changes the body makes in response to cardiovascular training.

Health-related components of physical fitness

Health-related components of fitness concern those areas of the body that are developed while participating in physical activity to improve physical health. The health-related components are detailed in the following text.

Cardiorespiratory endurance

Cardiorespiratory endurance relates to the way in which the heart, lungs and blood vessels can support the body during exercise through delivering oxygen to each working muscle. Cardiorespiratory fitness ultimately is the heart's ability to pump blood and keep the body working.

The resting heart rate of an average person is approximately 70 beats per minute, which will ultimately rise during physical activity. The number of beats per minute relates to how much oxygen is required by the body at a specific time. For instance, during sleep, the heart rate will be slower because the body is idle, not requiring as much oxygen. During intense exercise, the body will need oxygen faster, because it is using oxygen more quickly, so the heart rate will increase in order to pump the oxygen rich blood to muscles.

In order to achieve optimal cardiorespiratory fitness, all aspects of the cardiorespiratory system need to work together in a continuous cycle. This involves the blood carrying oxygen from the lungs out to muscles or muscles groups working during exercise, then returning to the lungs to gather new oxygen before repeating the process.

Activities such as walking, running and cycling are ideal for developing cardiovascular fitness, because they are continuous, aerobic activities that require large muscle groups to work.

Flexibility

Flexibility is the range of motion of the body's joints, and the ability to move a joint through its full range of movement. Flexibility allows the body to perform difficult movements, such as the movements performed by a gymnast. Flexibility also helps prevent injuries occurring, particularly soft tissue injuries such as muscle strains or tears. It is important to ensure the body is adequately warmed up before one starts working on flexibility training. Activities to build flexibility include stretching, yoga and dancing.
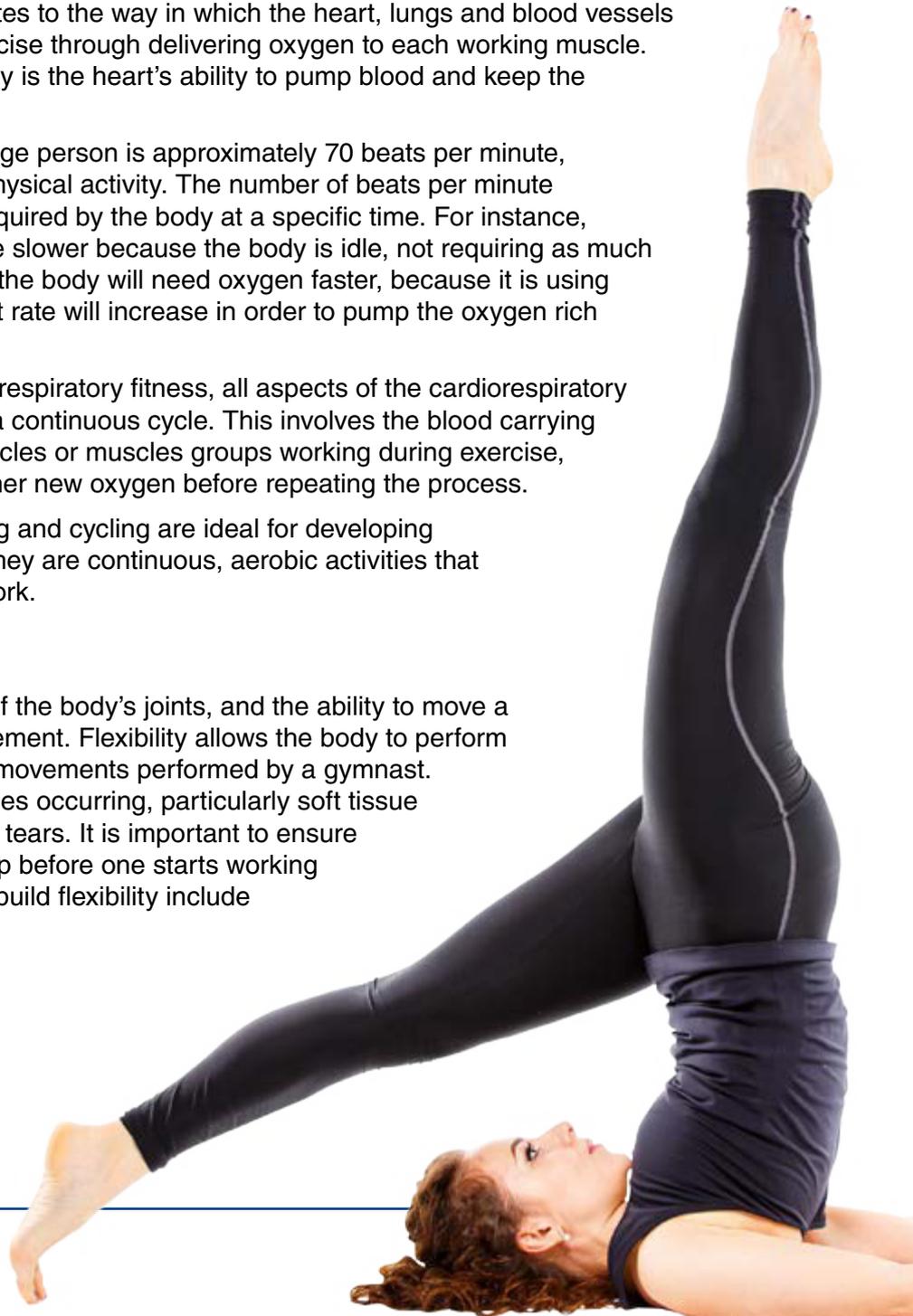
Figure 7.15:
Good flexibility helps prevent injury.

Muscular strength

Muscular strength is the ability of a muscle or muscle group to exert maximum force in a single effort. Movement is only possible through contracting and shortening certain muscles or muscle groups. If a muscle is not used regularly it will deteriorate and become smaller. The amount of force applied during a single contraction is an indicator of an individual's muscular strength.

Strength relates to the ability of muscle fibres to contract and shorten. The stronger the muscle or muscle group is, the more effectively the body will be able to use nutrients supplied in the blood. One of the most effective ways to develop and build strength is to work against a resistance. Activities that are useful in developing muscular strength are those that include working against gravity or weights, such as using a bench press, doing biceps curls and walking up stairs.

Figure 7.16:
One of the most effective ways to develop and build strength is to work against a resistance.

Did you know?
The tongue is the only muscle that is attached only at one end.

Muscular endurance

Muscular endurance involves the muscles' ability to repeatedly contract for extended periods without tiring. When completing any movement or movement pattern more than once in a row, an individual is using muscular endurance. For instance, a runner practising for a marathon will be using muscular endurance because they are continually using the same muscle groups.

Body composition

Body composition relates to an individual's total body fat in relation to their lean body mass (muscles, bones, tendons, etc.). It is important to have some body fat because it acts as a protective barrier, particularly the layers of fat directly under the skin.

On average, boys should have 15–20 per cent of body fat, and girls 20–25 per cent. Being outside of this range, whether it is below or above, puts an individual's health at risk. If the body has too little fat, it can cause nutrient deficiencies and increased risk of dehydration and starvation. It can also lead to loss of muscle tissue, heart damage and shrinkage of internal organs. Alternatively, too much body fat also has detrimental effects on the body. Not only does it force the cardiovascular system to deliver oxygen to these fat stores, forcing the heart to do extra work, it also exposes the individual to health issues such as diabetes, cardiovascular disease and sleep apnoea.

Activities that are ideal for improving body composition are those that burn kilojoules, particularly activities that work on cardiovascular fitness. It is important to remember that weight is not indicative of body composition. During training, if an individual is losing body fat and gaining lean muscle, there may not be any changes in that individual's total body weight.

Learning activity

In small groups of two or three, select one health-related component of fitness. Create your own original test to measure your chosen health-related component. You will need to identify:

- a definition of the component in your own words
- examples of sports in which this component plays a vital role for success
- a name for your test
- an explanation of your test including an image or diagram
- a list of equipment needed
- a test score range to provide feedback (for example. 0–4 = poor rating, 5–9 = average rating, 10–14 = good rating).

Internet activity

Log on to TitanOnline to complete Activity 7.6 to explore a variety of tests used to determine an athlete's health and fitness.

Skill-related components of fitness

Skill-related components of fitness can be developed through participation in physical fitness activities, so that the body can better perform certain tasks. The six skill-related components of fitness are outlined in the following text.

Coordination

Coordination is the ability to integrate and process messages from the senses to stimulate body movements. Good coordination involves using various body parts and the senses such as sight, sound and touch to perform a skill efficiently.

The best way to develop your coordination is to practise a skill (using the correct technique). To begin with, it may feel unnatural or awkward, but this may be because the muscles are not used to performing this certain pattern.

Different types of coordination include hand–eye and hand–foot. Examples of coordination include a serve in tennis, passing a baton in relays, taking a shot at goal in soccer, and synchronised swimming.

Figure 7.17:
Sports such as badminton require a high level of coordination.

Speed

Speed is quickness of movement, and the ability to perform movements at speed. Some individuals will be genetically predisposed to speed/sprinting events. A big contributor to an individual's speed is dependent on slow- and fast-twitch muscle fibres. Slow-twitch muscle fibres contract slowly but are able to work for extended periods of time. On the other hand, fast-twitch muscle fibres contract quickly but they do tire faster. Examples of speed include sprinting from one end of a field to the other or swinging a bat in baseball to hit the ball.

Agility

Agility concerns the ability to change direction at speed, mid-motion, in an efficient manner. Agility can also involve starting and stopping at appropriate times. As well as incorporating speed, agility incorporates reaction time, balance and strength. Examples of agility are often present in team sports such as football, soccer, basketball and netball, where players often use actions like dodging to avoid or 'lose' their opponent.

Learning activity
1. In small groups, set up the Illinois Agility Test. Take turns completing the test and timing others in your group. Record your results.
2. Create a list of sports in which agility is an important skill for success.
3. Provide three examples of training exercises that aim to improve agility.

Muscular power

Power relates to both speed and strength. It is the ability of the body to perform a movement both quickly and with a great deal of force. Power allows an individual to throw, run and jump further. In order to improve power, both strength and speed training must be included in a training regime. Examples of power include serves in volleyball, hitting the ball in cricket, and athletics events such as javelin and shot-put.

Balance

Balance relates to the ability of an individual to remain still and centred. It relates to equilibrium and the manner in which an individual's weight is distributed. When discussing balance, one must consider base of support and centre of gravity. Base of support refers to the area that is in contact with the ground. For example, if a person has one foot on the ground, their base of support is the outline of their foot. If they have two feet on the ground, their base of support is the outline of their two feet and the space between on the ground. Centre of gravity is the point within an object where most of the weight is concentrated. For humans, when standing, the centre of gravity is generally just above the waist. Types of balance include static (when stationary) and dynamic (while moving). Examples of activities that use balance include the beam in gymnastics, holding yoga positions and performing ballet.

Reaction time

Reaction time relates to how efficiently (quickly) the brain can respond to stimuli and react accordingly. Reaction time involves the body sending messages all across the body. Examples of situations where a quick reaction time is desirable include centre passes in netball, the gun at the start of a running race and diving into the pool as the second swimmer in a relay.

Internet activity

Log on to TitanOnline to complete Activity 7.7 and test your reaction time online.

Case study

Jessica has been doing research on the various health-and skill-related components of fitness. She has even been trying to measure her own fitness by performing various tests targeting each component. She has come to the conclusion that she is not very good at any of the tests for health-related or skill-related components of fitness.

At first she didn't think much of it, but the more time passed, the more concerned she became. She tried making excuses saying things like 'Who cares how fast I can catch a ruler' and 'I'm short so if I can't jump high it doesn't matter' but then she started to realise she was missing the point. She doesn't need to be able to catch a ruler quickly or jump the highest to be healthy, but her results in these tests will become weaker as she gets older. These tests are based on important aspects of physical health and skill.

Jessica has decided that, although she is very busy with work and school, she should start a training regime. She thinks it would be appropriate to work on one health-related and one skill-related component each day for five minutes each. On Saturday, she will work on the sixth skill-related component for five minutes and she will rest on Sundays.

1. Propose a five-minute activity Jessica could do to improve each component of fitness. Share with a partner.
2. Explain why a weakness in one component of fitness can undermine the performance in other areas of fitness.
3. Explain how fitness testing has the potential to motivate a person to engage in physical activity or exercise.

Fitness testing

Fitness tests, which are often referred to as fitness evaluations or fitness assessments, help to determine a person's physical fitness. Trainers and coaches have an endless number of tests and measurements to choose from in determining a person's baseline fitness level.

These tests are often the starting point for the trainer to design an appropriate exercise program. The specific tests the trainer uses in the assessment depend on the person's health and fitness goals, the trainer's experience, and the types of work-out routine the person is undertaking.

Purpose of physical-fitness measurement

The reasons that trainers measure a person's physical fitness are as follows.

- **To have a starting point when designing an individual training program:** Trainers need to have a starting point so they can ensure they place overload on the athlete during training while also making sure that the training is not too difficult. A pre-performance assessment ensures that appropriate training programs can be developed to suit the individual's needs and goals.

- **To identify the person's strengths and weaknesses** By identifying these strengths and weaknesses, an at training. For example, the athlete may have good end and excellent agility but below-average strength and s enable to coach to plan for greater strength and spee maintaining endurance, flexibility and agility capabiliti

- **To monitor the training's progress and effectiven** person's results to the figures in 'norms' tables, altho is not nearly as important or valuable as looking at the and progress. Re-testing leads to compilation of valua about the training's effectiveness, and the information of the athlete's improvement.

- **To motivate or encourage the athlete:** If athletes ca improvements in their fitness level, they are likely to c training and performing at an optimal level. Setting re assessing when they are achieved are an effective wa internal motivation of an athlete to continue training.

- **To obtain data:** By having data available, athletes wh returning from injury are able to compare their current with their pre-injury fitness level in order to prepare su activities and prevent re-injury occurring.

- **To aid identification of talent:** Athletes whose fitnes profile matches the typical profile of elite athletes in s sports are able to be identified.

Figure 7.18:
Basketball players require muscular power for both offensive and defensive purposes.

Common fitness tests

For a test to be reliable and valid, it is important for the person who is conducting the test to strictly follow the procedure. If any variation from the agreed protocol occurs, the test results could vary greatly for the person the next time they are tested. If the tests are conducted in different environments or the correct technique is not used, the results can be meaningless.

It is important to realise that interpretation of results is sometimes difficult. One group might vary significantly in relation to another, and age and sex have to be considered. The tests for one specific body part might not represent a true picture of the component of fitness for other body parts; for example, the results from testing the flexibility of the hamstrings might vary significantly from the results from testing the flexibility of the shoulder.

Many fitness tests are used in order to address the various components of fitness. The following text details some common tests that require little or no equipment.

Testing cardiorespiratory endurance

There are a number of tests individuals can perform to measure their cardiorespiratory endurance. A common cardiorespiratory endurance test used in schools is the 1.6 kilometre run. The test may be conducted using one 1.6 kilometre trail, or by completing four laps of a standard running 400 metre track. Students start in a standing position and attempt to complete the distance in the shortest possible time. When using a 400 metre track, the timer should remind the student how many laps they have to go and also have the option to ring a bell in a final lap. Students should not attempt to sprint the entire race, as this is not possible. The final time is recorded in both minutes and seconds.

Another common cardiorespiratory endurance test used in schools is the multi-stage fitness test. The test requires students to run 20 metres back and forth across a marked area, keeping time with beeps on a recording. To complete the test, students follow the instructions on the recording. The time between each beep will gradually decrease and people are eliminated when they fail to reach the 20 metre line on two consecutive shuttles (beeps).

Internet activity

Log on to TitanOnline to complete Activity 7.8 and compare VO_2 max results between sports.

Table 7.2: Multi-stage fitness test ratings.

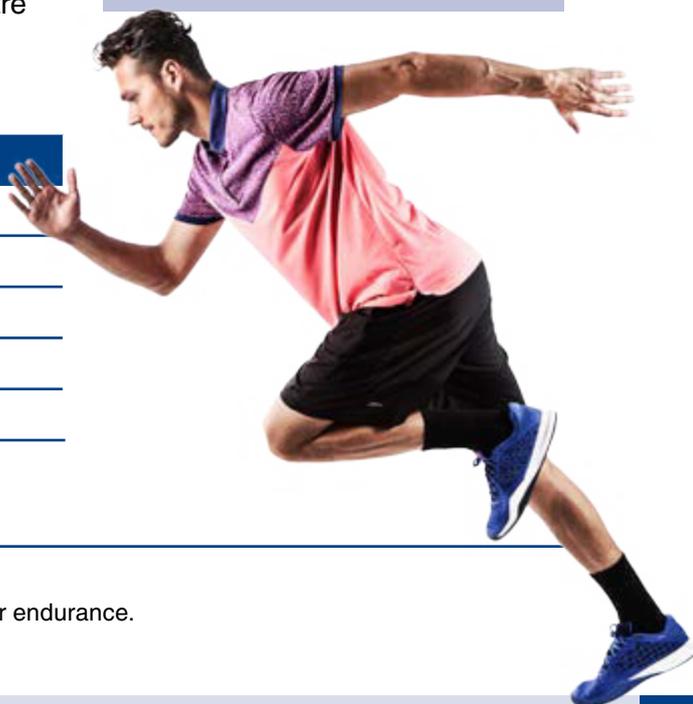| Boys	Rating	Girls
10 or above	**Excellent**	9 or above
8–9	**Good**	7–8
6–7	**Average**	5–6
4–5	**Fair**	3–4
Below 4	**Poor**	Below 3

Figure 7.19:
Running is an aerobic exercise that helps to increase cardiovascular endurance.

Testing flexibility

In schools, the most commonly used test to measure flexibility is the sit and reach test. This test measures hip, lower back and hamstring flexibility. The sit and reach test requires a student to sit on the ground with their legs out straight inside a sit and reach box. Their feet must be flat against the inside wall of the box. When they are ready, they reach forward, placing their fingertips on the measuring line, and stretch forward as far as they can. They must hold the stretch for at least three seconds for the measurement to count. Most of the time, a second or third test is more accurate and the best result is recorded.

Table 7.3: Sit and reach test ratings.

Boys	Rating	Girls
> 7 cm	**Excellent**	> 14 cm
3 to 7 cm	**Good**	10 to 14 cm
0 to 2 cm	**Average**	4 to 9 cm
−2 to −1 cm	**Fair**	0 to 3 cm
< −2 cm	**Poor**	< 0 cm

Testing muscular strength

Muscular strength can be tested using a handgrip dynamometer, a device that measures strength or force in a singular movement. To do the test, a student will grip the handle of the dynamometer and, with their arm extended, squeeze as hard as they can to cause a muscle contraction. The dynamometer will then show a reading of how much strength was applied. The better of two attempts is recorded, for both the left and right hand.

Table 7.4: Handgrip dynamometer test ratings.

Boys	Rating	Girls
> 50	**Excellent**	> 33
43–50	**Good**	28–33
35–42	**Average**	22–27
26–34	**Fair**	16–21
< 26	**Poor**	< 16

> **Did you know?**
> A lack of flexibility is a contributor to poor posture.

Figure 7.20:
Flexibility is required in the majority of yoga poses.

Figure 7.21:
Leg presses are a great way to both measure and develop muscular strength.

Testing muscular endurance

There are different tests that an individual can use to measure muscular endurance, depending on what muscle group they wish to measure. Generally, any muscular endurance test involves repeating an action that requires a certain muscle group to work (contract) until fatigued. Students can measure muscular endurance in many ways, such as repeating sit-ups, push-ups, squats, lunges and bridge/plank exercises.

For a sit-up test, students complete as many sit-ups as possible in 60 seconds. This test should be completed in pairs, with the participant's hands on their opposite shoulders and elbows up to touch thighs. The partner holds the participant's feet on the ground.

Table 7.5: Sit-up test ratings.

Boys	Rating	Girls
> 49	**Excellent**	> 39
42–49	**Good**	34–39
35–41	**Average**	29–33
28–34	**Fair**	23–28
< 28	**Poor**	< 23

Testing body composition

There are numerous tests that measure body composition. However, many are expensive and impractical to complete in most school settings, such as hydrostatic weighing and DEXA scans. One of the easiest tests to do in a school setting is with skinfold calipers, although this test is not always reliable. The test works by clamping layers of skin and measuring fat at various locations around the body (triceps, biceps, suprailiac and subscapula). The measurements are added up to make a skinfold total.

Table 7.6: Skinfold test ratings.

Boys	Rating	Girls
< 20 mm	**Lean**	< 25 mm
20–60 mm	**Acceptable**	25–69 mm
> 60mm	**Overweight**	> 69 mm

Figure 7.22:
A correct sit-up technique is essential for test results to be valid.

Figure 7.23:
The body of a weight lifter has a different composition to the body of a marathon runner.

Testing coordination

One of the easiest ways to test hand–eye coordination while at school is the alternate hand wall-toss test. To complete this test, a student will need to stand a set distance (usually between one and two metres) away from a solid, straight wall, such as a brick wall. The student throws the ball (underarmed) at the wall, and when the ball bounces off the wall they must catch it with the hand opposite to the one they threw it with. They continue this process, alternating throwing and catching hands. For example, throw it with their left hand, catch it with their right hand; throw with right hand, catch with left hand and so on. The score is the number of successful catches in 30 seconds.

Table 7.7: Alternate hand wall-toss test ratings.

Rating	Catches
Excellent	> 35
Good	30–35
Average	20–29
Fair	15–19
Poor	< 15

Testing speed

Speed is one of the easier components to measure. The simplest test is to mark out a distance, for example, 50 or 100 metres. One student will run as fast as possible from one end to the other. Another student will record the time it takes for the first student to run this distance.

Table 7.8: 50-metre sprint test ratings.

Boys	Rating	Girls
< 7.58 s	Excellent	< 8.22 s
7.58–7.85 s	Good	8.22–8.6 s
7.86–8.40 s	Average	8.61–8.99 s
8.41–8.78 s	Fair	9.0–9.39 s
> 8.78 s	Poor	> 9.39 s

Figure 7.24: Hand–eye coordination is essential to play tennis.

Figure 7.25: Running speed, particularly over short distances, is an important indicator of success in many sports.

Testing agility

One of the most commonly used tests in schools to measure agility is the Illinois Agility Test. This involves students running through an obstacle course of cones or markers, which tests how quickly they can change direction in short spaces. A stopwatch is used to record how long it takes for them to complete the test.

Another common test is the bean bag test. Participants are timed to see how long it takes them to collect two bean bags that are placed 10 metres from the start. When the timer starts, the participant runs to pick up one of the bean bags, before returning to the start point. This is then repeated to collect the second bean bag. The timer is stopped when the participant returns to the start point with the second bean bag, and the time recorded.

Table 7.9: Bean bag test ratings.

Boys	Rating	Girls
< 12 s	**Excellent**	< 14 s
12–15 s	**Average**	14–17 s
> 16 s	**Poor**	> 18 s

Figure 7.26:
Agility is an important skill in martial arts, which requires quick movements and changes in direction.

Testing muscular power

A school-based test for measuring muscular power is the vertical jump test. The student stands beside a brick wall with chalk in hand ready. They jump as high as they can from a stationary position. They can squat down and jump up for extra momentum from leg strength, but they must not take a run-up. While in the air, the student marks the wall with chalk. The difference in distance between the standing reach height and the jump height is the score recorded.

Another test that is suitable for use in schools is the standing long jump test. In this test, the subject must jump horizontally as far as possible. Standing with toes on a line, they perform a standing long/broad jump with both feet. The student can use their arms to help propel the body as far as possible, but they must not take a run-up. The part of the body closest to the starting point is measured, and the measurement recorded.

Table 7.10: Standing long jump test ratings.

Boys	Rating	Girls
> 1.89 m	**Excellent**	> 1.69 m
1.7–1.89 m	**Good**	1.5–1.69 m
1.5–1.69 m	**Average**	1.3–1.49 m
1.25–1.49 m	**Fair**	1.1–1.29 m
< 1.25 m	**Poor**	< 1.1 m

Did you know?
Based on a power to weight ratio, the muscles in the jaw are the most powerful in the body.

Testing balance

A very easy and reliable way to test balance is the stork stand test. This test involves the participant standing on one leg, for example, their left leg. They place their right foot on the side of their left kneecap. A second person is timing and, when they say go, the participant rises up on to the ball of their foot. Timing continues until the participant stands down or their right foot slips away from their left kneecap. The best time from two attempts is recorded.

Table 7.11: Stork stand test ratings.

Rating	Time
Good	> 30 s
Acceptable	10–30 s
Poor	< 10s

Testing reaction time

One of the most common ways to test reaction time in schools is the ruler test. The participant sits with their forearms flat on a desk, with thumb and forefingers apart, to allow a path for the 30-centimetre ruler to go through. A partner holds the ruler's end at the top of the participant's thumb, and releases it without indication or prior warning. The participant must respond as quickly as possible to grasp the dropping ruler with their thumb and forefinger. The measurement on the ruler indicating how much as passed through the hand indicates the quickness of the response – the quicker they catch it, the better the reaction time. The participant should have three attempts with each hand, and record in centimetres the best effort for each.

Table 7.12: Ruler test ratings.

Rating	Measurement
Above average	< 6 cm
Average	6–17 cm
Below average	> 17 cm

Figure 7.27:
Ballet dancers have excellent balance.
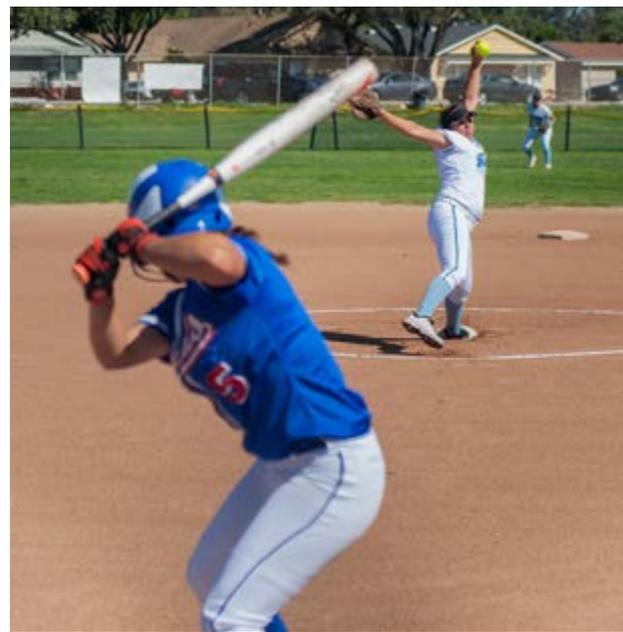
Figure 7.28:
A fast reaction time is needed when batting in softball.

Positive and negative outcomes

Measurement and testing of fitness levels have positive and negative outcomes that can vary between people.

Positive outcomes include the following:

- People who achieve good results from their fitness tests usually enjoy the experience of undergoing the tests.
- The results can lead to increased motivation.
- People are able to chart their improvements.
- Comparisons can be made when people are returning from injury.
- Vital information about people's specific fitness needs is provided.

The following negative outcomes may also be experienced after fitness testing:

- People who achieve poor results from their fitness tests usually do not enjoy the experience of undergoing the tests.
- The results can lead to decreased motivation.
- People who lack confidence and/or ability can find the testing to be stressful and unpleasant.
- Many adolescents and adults do not like undergoing body-composition tests.
- It is difficult to monitor many types of improvement by way of fitness testing.
- People sometimes do not perform well in tests.

It must be remembered that testing is only one small aspect of the overall fitness picture and that it must always be conducted in an understanding and supportive way. It is important that the reasons and results of the testing be explained to the person so that misunderstanding can be prevented.

Figure 7.29:
People who achieve good results from their fitness tests usually enjoy the experience.
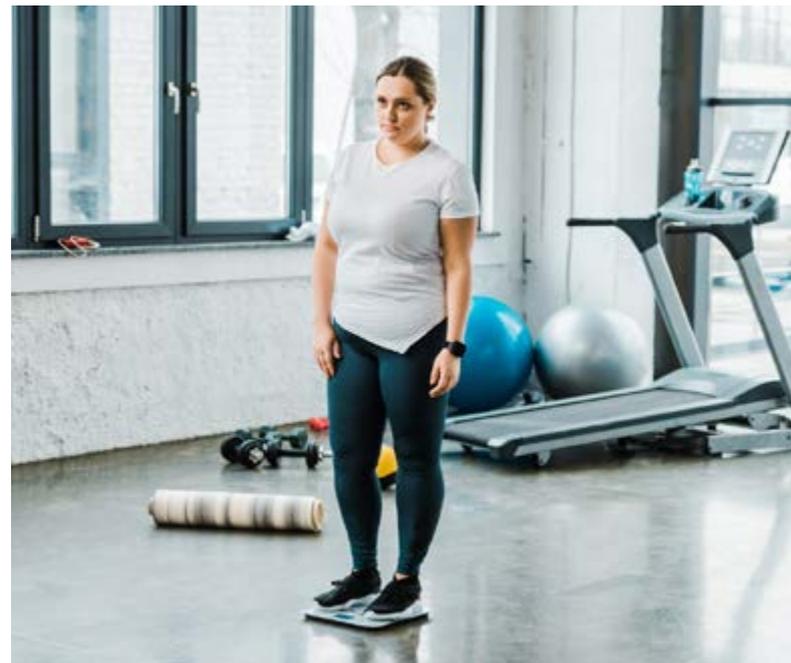
Figure 7.30:
It's important to respect a person's privacy when testing for body composition, to avoid embarrassment.

Revision questions

1. Identify a range of excuses people use for not participating in regular physical activity. Provide a solution for each barrier identified.

2. Distinguish between physical activity and physical fitness.

3. Provide a definition of each of the health-related components of fitness.

4. Provide a definition of each of the skill-related components of fitness.

5. Explain how the skill-related components of fitness interrelate, using two examples.

6. Discuss ways to measure an individual's flexibility.

7. Analyse the difference between muscular strength and muscular endurance.

8. Discuss the difficulties in accurately measuring body composition.

9. Explain the widely accepted test for measuring agility.

10. Identify and explain three benefits of being physically fit.

11. Define the FITT Principle.

12. Propose an example of the FITT Principle for a 14-year-old girl trying to improve her flexibility.

13. Distinguish between social, emotional and cognitive benefits of regular physical activity.

14. Discuss how environmental factors can influence physical activity participation.

15. Define the term 'sedentary behaviour'.

16. Suggest ways to limit sedentary behaviours.
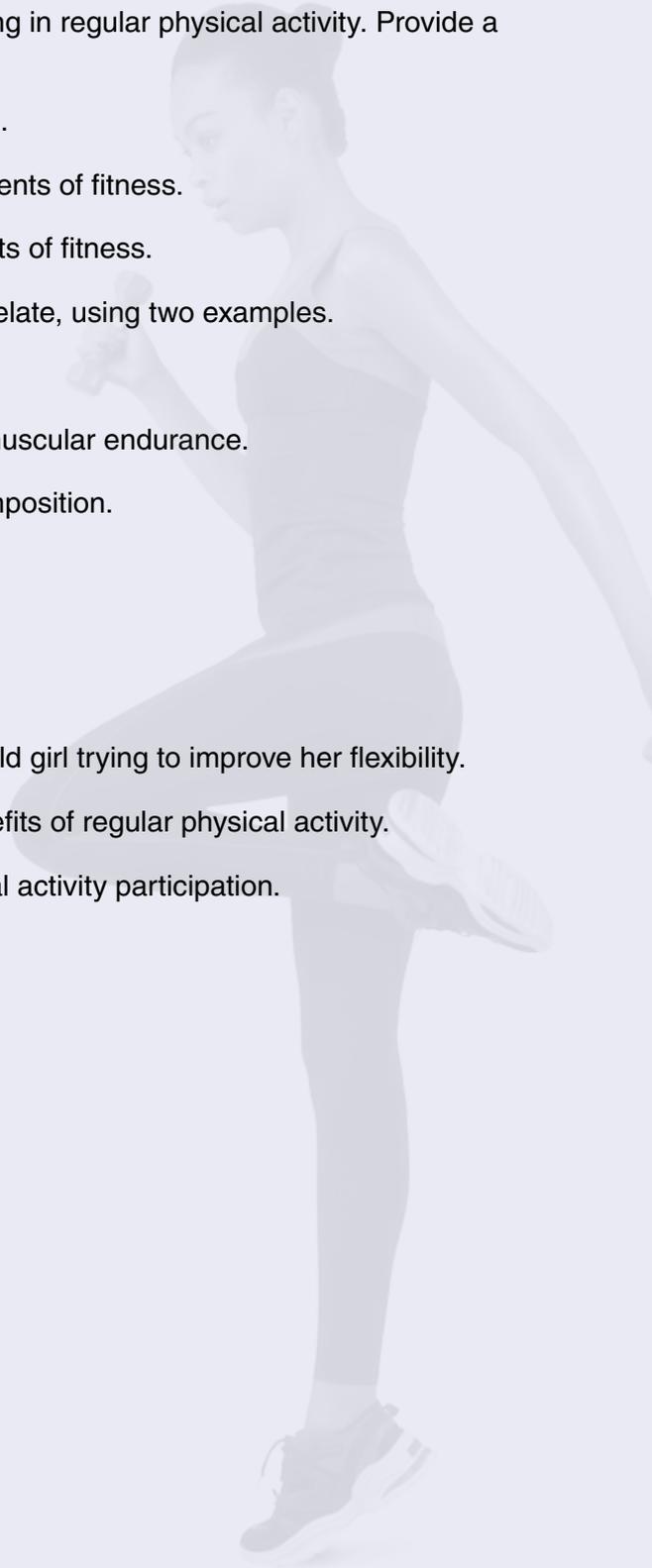
CHAPTER 8

Movement skills

Movement skills can be classified as fundamental or specialised and are the basis upon which sporting success is based. Rhythmic and expressive movement relates to the way the body can move, and the ability to manipulate it to create different shapes and movement patterns. Participating in rhythmic and expressive movement activities allows for individuals to think creatively, problem-solve and challenge societal norms about how an individual can use their body to express themselves. This unit involves the study of the elements of dance including space, dynamics, relationships and time; as well as an exploration into various genres of dance. This is followed by an in-depth study of gymnastics. Students will become familiar with key components of artistic and rhythmic gymnastics. The concepts of movement appraisal and provision of feedback empower athletes to be aware of performances and movement skill.

Focus areas

- Types of movement skills
- Creative movement
- Developing movement skills safely
- Appraising movement

Types of movement skills

A skill is an ability that can be learnt, and is the ability, proficiency and expertise that come from training and practice. In relation to physical activity and sport, skills are actions or movements that are the basis of all sporting performances.

People seek to improve their movement skills for a number of reasons: to participate safely in physical activity, to engage in a variety of sports and leisure pursuits, to feel good about being able to perform skills, and to apply less effort and conscious control in order to perform the skills.

There are similarities between many skills, and learning a new skill involves adapting skills that have already been learnt, rather than starting again from the beginning. Having an understanding of the different categories of movement skills, enables analysis of performance and correction of technique. The different categories of movement skills include fundamental, specialised, fine motor, gross motor, locomotor, non-locomotor and manipulative movement skills.

Fundamental movement skills

The skills we learn during early childhood become the basis for many of the specific skills we use in sport and physical activity. For babies, motor-skill learning starts as soon they begin to perceive and react to their environment; for example, reaching out to grasp an object requires hand–eye coordination and later forms the basis for skills that are necessary in catching or striking a ball. Babies who are first pulling on a piece of furniture to raise themselves into a standing position are beginning to acquire the necessary skills for standing and balancing, and those skills are prerequisites for walking and running and are in turn the basis for many complex sports skills, such as dribbling and sprinting.

Fundamental movement skills are the movement patterns that involve various body parts. They are the foundation movements, or forerunner patterns, for the more specialised, complex skills used in play, games, sports, dance, gymnastics, outdoor education and physical activity. For games, activities and sports, it is important for participants to have the skills of running, jumping, throwing, passing, kicking, striking and catching. These movement skills are also useful for building other skills so people can participate in a range of physical activities. It is very important that a young person masters the fundamental movement skills, because it has been shown that without them, they will enjoy sport less, be less likely to engage in sport on an ongoing basis, be only irregularly involved in sport, and have a lower level of physical fitness. As a consequence, their self-esteem and attitude towards sport and physical activity can be affected.

The 12 fundamental movement skills that are a platform from which people learn sport-specific skills are kick, catch, leap, sprint run, dodge, static balance, two-handed strike, vertical jump, overarm throw, hop, side gallop and skip.

Internet activity

Log on to TitanOnline to complete Activity 8.1 and prepare how you would teach young children fundamental movement skills.

Specialised movement skills

Specialised movement skills, or sport-specific skills, are the skills that athletes require in more-organised games, activities and sports. Athletes develop them after mastering the fundamental movement skills. Two examples of these movement skills are fielding a groundball in baseball and dribbling past an opponent in football. The learning of specialised movement skills mostly depends on having the opportunity to practise and refine the sport-specific skills based on feedback and performance results.

Specialised movement skills may not be as transferable as the fundamental movement skills. For example, the ability to hit a cricket ball may not exactly be a movement utilised by swimmers, but the ability to rotate through the torso would be the fundamental element that can be transferred throughout games and sports.

Figure 8.1:
Professional cricket players need to develop a variety of specialised movement skills to succeed in the game.

Fine and gross motor skills

Skills that we use the body's major muscle groups for, such as running, swimming and weightlifting, are known as motor skills. The two categories of motor skills are outlined below.

- **Gross motor skills** are the skills for which we use our large-muscle groups when participating in most sporting events, such as running and swimming. Development of the gross motor skills is the foundation for development of the fine motor skills.
- **Fine motor skills** are the skills for which we use our small-muscle groups, and include ability to manipulate small objects and to complete tasks that involve hand–eye coordination. Fine motor skills can involve use of very precise motor movement in order to achieve an especially delicate task, such as cutting, colouring or writing.

Figure 8.2:
Sports such as swimming use gross motor skills.

Locomotor and non-locomotor movement skills

Locomotor skills involve moving the body from one place to another, and some examples are running, walking, skipping, dodging, hopping, leaping and jumping. We do not always have to be on our feet in order to use locomotor skills, because sliding, rolling and crawling are also this type of skill.

We use non-locomotor skills when we move our limbs but keep our body in the same place or location. They involve little or no movement of the base of support, which is usually the feet but can be another part of the body instead. They are sometimes described as being stability skills. Some examples of non-locomotor movement skills are balancing, turning, twisting and swaying.

Table 8.1: Examples of locomotor movement skills.

Skill	Description
Run/sprint	Sprinting is a locomotor movement that involves lifting both feet from the ground for a short period of time. Running and sprinting are present in most games and sports. Without the ability to sprint, an individual would not be able to participate successfully in games such as soccer, Australian football, rugby league, netball and basketball. A good running technique can increase how fast a person can sprint.
Jump	Jumping involves using power to lift and propel the body off the ground, either vertically or horizontally. Jumping can be performed with a run-up, which will generate momentum, or from a still position which means the height or length of the jump is all due to the individual's power. Examples of sports that involve jumping include gymnastics and Australian football.
Hop	Hopping is a similar concept to jumping; however, the skill requires one foot to be left in the air with an individual jumping up and down on the foot remaining extended. Hopping is necessary in sports such as athletics and dance.
Skip	Skipping is a progression from walking in that after each step, instead of stepping forward on the opposite leg, an individual would hop. The sequence is step-hop, step-hop, step-hop, which involves alternating feet with each step. Skipping is evident in many sports, including skipping itself, dancing and football.
Gallop	Galloping is a similar to skipping, but the leading foot remains the same instead of alternating. Galloping is present in sports such as dancing and basketball.
Leap	Leaping involves taking a step and when the back leg comes forward, stretching it out and lifting oneself off the ground, to travel as far as possible forward. Leaps are often better performed with more height and distance gained when a run-up is used. It is the sort of movement a person might use to jump over an object. Leaping is present in sports such as dance, gymnastics and many athletic events.
Dodge	Dodging involves running in one direction, and quickly shifting weight to change direction. It requires an individual to run to a certain point and push off their outside foot to propel them in the other direction. Dodging is present in sports such as football, netball and basketball.

Figure 8.3:
When competing in a long-jump event, athletes use combination of locomotor and non-locomotor skills.

Table 8.2: Examples of non-locomotor movement skills.

Skill	Description
Balance	Balance involves maintaining posture or 'staying still' for a period of time without falling out of that position. There are many ways to balance, including on one leg, on one hand, on two hands, on one hand and one leg and so on. Balance is an important component of most sports, particularly gymnastics and netball.
Turn	Turning involves changing the direction of where an individual is facing. An individual can turn any direction, but three main types of turn include a 90-degree turn (quarter turn), a 180-degree turn (half turn) and a 360-degree turn (full turn). Individuals can turn their whole body or just parts such as their head or shoulders. Sports that involve turning including dancing, cricket and netball.
Stretch	Stretching involves gently extending the muscles to a certain point to improve flexibility and muscle tone. There are different types of stretching, including dynamic and static. Examples of stretching in sport include defending a pass in netball or a goal in soccer, and various gymnastics movements.
Twist	Twisting is the rotation of the body to create a new shape. Examples of twisting include twisting one's feet in dancing, twisting the head and upper torso in the opposite direction from the trunk and pelvis, and the head twisting in the opposite direction of the neck and shoulders.
Bend	Bending involves manipulating the shape of the body to distort or create a new shape. The more abstractly an individual thinks, the more ways they will be able to bend. Bending is present in many sports, including soccer, high jump and dancing.

Manipulative skills

Manipulative skills involve use of an object we manipulate by performing an action such as holding, controlling, hitting or throwing, and we generally need to have good hand–eye coordination in order to use them. Manipulative movement skills are based on controlling an object, usually by using the hands or feet but also using other parts of the body. They are sometimes referred to as propulsive skills – such as striking, throwing and kicking – and receptive skills – such as catching and trapping. Hockey is one sport in which the players use manipulative skills. Players must hold the stick and use the correct side of it in order to contact the ball. They also receive, control, move and pass the ball.

In sport, locomotor, non-locomotor and manipulative skills do not exist in isolation from each other. In any game, the participants use a combination of skills in order to fully engage in the activity. In soccer, for example, the players can run when they sprint for the ball, walk when they recover while the ball is out of play, jump to head the ball, and throw the ball in from the sideline. The goalkeeper can catch the ball, throw the ball to start the attack, and use their foot to strike the ball.

Figure 8.4:
Hockey players use manipulative skills to receive, control, move and pass the ball.

Table 8.3: Examples of manipulative skills.

Skill	Description
Throw	Throwing involves someone passing or projecting an object from their person to another space. There are many types of throws including overarm, underarm, javelin throw and shot put throw.
Catch	Catching involves receiving an object, absorbing its force and maintaining control of it. Objects are most commonly caught in the hand, like in netball, basketball and baseball, but objects can also be caught or 'trapped' with the feet, as seen in a game of soccer.
Kick	Kicking involves striking an object with one's foot to propel it into a certain direction. Sports that involve kicking include football and soccer.

Practical activity

Participate in a range of movement activities involving:

- fine and gross mot
- locomotor and non
  movement skills

Record the skills inve

Learning activity

1. Explain why the a
   movement skills i
   young children.
2. Outline the differe
   and specialised n
3. Distinguish betwe
   skills and non-loc
4. Provide example
   mainly on:
   a. locomotor mc
   b. non-locomoto
   c. fine motor ski
   d. gross motor s
   e. specialised m
5. In small groups, s
   to teach the class
   the following:
   a. coaching or te
   b. the equipmer
   c. how the skill p

Figure 8.5:
Some volleyball skills are tr

Figure 8.6:
Techniques from the overarm throw are used for many specific sporting skills; for example, javelin throw, lineout throw in rugby, tennis serve, basketball dunk, volleyball smash, outfield throw in baseball, netball pass and badminton clear.

Positive and negative transfer of skill

Learning movement and skills for a range of sports and games is valuable to any individual. Being able to utilise the knowledge of how the body moves with and without other objects is important. A positive transfer of skill involves the ability for an individual to be competent in demonstrating a movement or skill in a range of contexts. These contexts involve various game situations. For example, cricket, tennis, badminton and javelin are different sports that utilise similar actions, such as an overarm rotation to throw or return an object. Mastering the skill in one sport can make it easier to develop a similar specialised movement in another sport.

When people's transfer of skills is negative, the skills they have previously learnt have a detrimental effect on their learning of new skills. Transfer of skills is most likely to be negative when the two learning situations are very similar but the required responses are different; for example, when you are playing the squash and tennis forehand – even though the strokes involve similar tracking and timing, the biomechanics are completely different.

Practical activity
Participate in two striking games and two bat and ball games. Record the positive and negative transfer of skill that occurred in each game.

Figure 8.7:
Creative movement allows an individual to move from one space to another.

Creative movement

Creative movement is carried out with the purpose of teaching specific lifelong skills such as spatial and body awareness, motor skills, creativity and problem solving. Creative movement allows an individual to mindfully move from one space to another, as critically or as freely as they wish.

Creative movement is about learning what the body can do and how to use the body. From birth, babies are taught to crawl and then walk. The human body is equipped to move in many different ways other than just walking. Rhythmic and expressive movement activities encourage individuals to get to know their bodies and what their bodies can do. It is about thinking 'outside of the box'.

Movement exploration facilitates learning in a completely conceptual way. The purpose is to encourage individuals to distance themselves from traditionally accepted or practiced movement patterns and create their own. It involves, for example, discovering ways to get from one place to another and ways to create certain shapes.

Elements of composition

Composition is the combination of learned movements into personally unique patterns and the invention of new movement patterns. Compositional skills are developed through an imaginative approach to the exploration of movement, as well as through the organisation of movement.

The essence of performance is to experience enjoyment and satisfaction when movement skills and patterns are performed well. Experiencing enjoyment and satisfaction while performing belongs to a larger awareness – that of perceiving the wholeness or totality of the activity. With these feelings, movement experiences become more personal and therefore more meaningful.

Space

Space is the surroundings in which
An individual's and/or team's succe
gymnastics and individual and tear
ability to use the space available to

Direction

Individuals can move in many direc
circular, left, right or zig-zag. The d
dependent on factors such as the:

- individual
- sporting equipment
  or apparatus

Level

Level is the height of the movemer
to movement up and down the verf
through and on three basic levels.
medium and high. Many activities r
varying levels during a game or rou
the individual change the level but
Individuals who are required to cat
to do so at a high, medium and low
for example, a tennis player.

- **The low level** consists of non-lo
  on, along and/or close to the floo
  level include:
  - crawling
  - rolling
  - sitting
  - kneeling
- **The medium level** consists of n
  where there is contact with the fl
  both. Locomotor movements incl
  - running
  - turning
  - galloping
- **The high level** occurs where the
  the body leaves the floor. These
  on rise, jumps and leaps. The hig
  strength or power. It may also co
  the intent.

Figure 8.8:
Many activities require the individual to m

Practical activity

1. In groups of 3–4, design and demonstrate a simple routine in a chosen medium that highlights changes in direction and level.
2. Identify the changes in direction and level that occurred in the routine.
3. Demonstrate the routine again with reduced performance space. Outline how this impacts on performance.

Internet activity

Log on to TitanOnline to complete Activity 8.2 and explore how the creation of body percussion can generate a composition.

Dimensions

Dimension is the size of the movement in relation to the amount of performance space. It takes into account the space the body occupies as well as equipment and competitors. Dimensions include personal and general space.

Most sports have set performance space, such as a tennis court, football field or gymnastics floor routine. The performance space is clearly defined with set outcomes if the performer or object transcends these dimensions. The dimensions of the performance space can be manipulated in many team games by increasing or decreasing the number of players, increasing or decreasing the available time and changing or modifying the rules.

Dimension also includes the relationship between body parts and apparatus. If a movement is done away from the body it is usually large. If a movement is done close to the body it is usually small.

Patterns and formations

Patterns are the lines the body makes when moving in general space. This may occur in the air, on the floor or on sporting apparatus such as the beam in gymnastics. The movement patterns can be straight, angular, diagonal, curved or a combination.

When moving in a game situation, directional changes occur when attacking or defending. The various patterns that are made when attacking or defending are known as formations.

Figure 8.9:
Compositional skills are developed through an imaginative approach to the exploration of movement.

Dynamics

In movement mediums, the term 'dynamics' refers to the force and flow of the movement. Movement quality is the look or aesthetic of a work. It is how an individual would describe the feeling of the work. When force and flow are changed, the dynamics of the movement change and performers are able to express the desired outcome of their performance.

Force

The term 'force' refers to the amount of energy required to perform a movement or movement sequence. In movement terms, the amount of force is referred to as strong or weak.

- **Strong movements** are performed with great intensity and large muscle groups in an explosive or fast movement. Examples include leaping in dance, throwing an object or a front somersault in gymnastics.

- **Weak movements** are performed with less intensity and usually smaller muscle groups. Examples include catching a ball, putting in golf, and forward defensive shot in cricket.

When movements are performed, they can also be described as smooth or jerky. When learning new skills, movements often appear uncoordinated and jerky, but with practise, skills are gradually refined until the movement appears smooth and sustained.

Flow

Flow is the amount of control a person has when performing through space and time. Flow is described in terms of bound or free. Movements that are bound flow are easily controlled and manipulated by the performer. During a performance, movements that are performed through time and space can be stopped or changed as the performer has a kinaesthetic feel for the movement. Movements that are free flow are unconfined through time and space. They are not as easily defined or controlled. Talented athletes can react automatically to stimuli and produce movements that are fluent, coordinated and skilful.

Figure 8.10:
Strong movements are performed with great intensity and large muscle groups in an explosive or fast movement.

Figure 8.11:
When force and flow are changed, the dynamics of the movement change.

Time and rhythm

Timing and rhythm are essential components in all elements of mov
execution require
parts and sportin
those produced
Examples of nat
jogging and hea

Everyone does n
Quite often there
person walks. In
natural rhythm c
performance and
a movement. If t
same movement
always perform t
way. This is rela

Musical appl

Routines in danc
choreographed t
rhythm has two a

- The metric org
  tempo and acc
- The organisatic
  movement in r

Tempo is the sp
three main class

- **Fast tempo** ca
  nervousness c
- **Medium temp**
- **Slow tempo** c
  pain or fatigue.

Figure 8.12:
Successful skill exe
and sporting equipn

Duration

Duration refers to how long the movement will take to perform. Duration will vary depending on the:

- type of movement being performed
- skill level of competitors
- rules governing the performance.

Momentum

Momentum is determined by the speed at which the competitor performs the skill or movement. The speed at which the competitor performs the skill or movement may or may not be outside the control of the performer. The speed at which the competitor executes the skill will vary due to acceleration or deceleration of the movement.

Self-paced versus externally-paced

Self-paced movements are under direct control of the performer. They determine when they will execute the skill. An example of this is serving in tennis. Externally-paced movements are outside the control of the performer. These movements are controlled by external factors such as opponents. An example of this is receiving in tennis.

Timing

To successfully complete movement skills, timing is essential. Successful timing ensures skills are performed in a coordinated, rhythmical manner.

Figure 8.13:
A dancer's natural rhythm can have an effect on the performance and therefore the aesthetic of a movement.

Practical activity

Participate in a performance routine and answer the following:

1. Discuss the importance of timing and rhythm for the performance.
2. Describe what happens if the competitor lacks rhythm.
3. Identify where the changes of momentum occurred in the performance.
4. Outline the purpose of this change in momentum.
5. Describe the effect that self-paced and externally paced skills have on the successful execution of movement.

Relationships

When an individual moves in space, they have a relationship with their surroundings, other people and equipment. Relationships vary and change depending on the desired outcome of the movement.

Body parts

Depending on the desired movement outcome, the relationship of body parts is essential. How many body parts are used to produce the movement? Are body parts used as a basis of support? Are the body parts moving in union? The coordination of body parts is essential to produce meaningful movement.

Points of contact

Points of contact may be between performers, equipment, apparatus or the ground. For the best results to be achieved, points of contact will vary from person to person and from sport to sport.

Other people

The relationships with other people will vary depending on the sport. Successful movement is often dependent on how well an individual reacts with other people. In sport, these may include teammates, opposition and officials.

Apparatus and equipment

For successful movement to occur, the competitor must be able to use and manipulate the apparatus and equipment essential to their sport. Racquets, bats and other sporting equipment can extend the levers of the body, influencing the force, speed and momentum of the body and objects.

Team formations

In team sports, formations are essential. Whether it is defence or offence, each player must know their role in the formation if it is to be successful. Team formations can be used to display strength, flexibility and coordination.

Changing relationships

Whether it is done intentionally or by chance, many competitors change the relationship they have with other people, equipment and apparatus during a game. These changing relationships are done to:

- create space
- change patterns and formations
- change direction
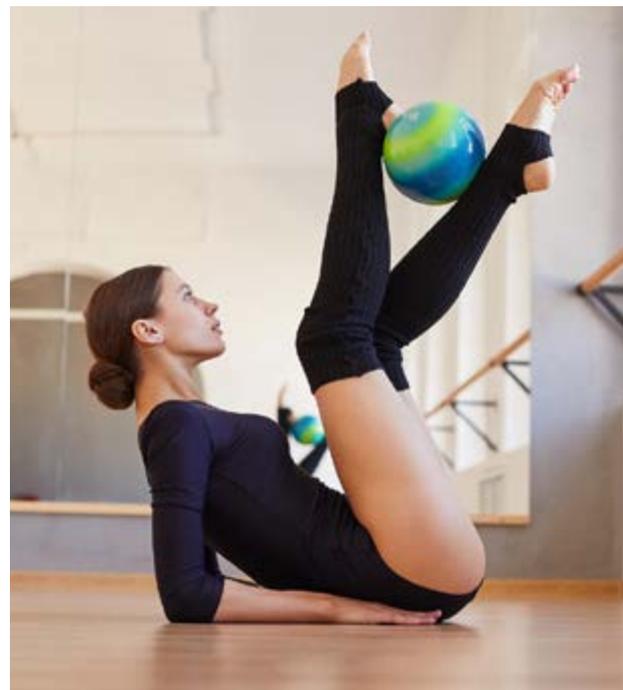- manipulate opposition, equipment and apparatus.

Figure 8.14:
For successful movement to occur, a competitor must be able to manipulate the apparatus essential to their sport.

Figure 8.15:
The coordination of body parts is essential to produce meaningful movement.

Practical activity

Participate in a team performance and answer the following:

1. Describe the relationship performers had with the equipment.
2. Outline how the relationships with teammates affected performance.
3. Explain how offensive and defensive patterns affected performance.
4. Identify how positional play varied between offence and defence.
5. Describe how the transition from defence to offence was achieved. Outline how effective this transition was.

Learning activity

1. Identify the factors that determine the direction in which a person moves.
2. Define and describe the three types of level.
3. Describe how patterns and formations are applied to the different movement mediums.
4. Outline how the term 'dynamics' relates to movement mediums.
5. Describe why the coordination of movement is an essential element of composition.

The process of creating movement

The process of creating movement generally starts with the coach or choreographer.
The process of designing and implementing movement skills is specific to the medium.
The coach or choreographer will need to take
space, dynamics, time and rhythm, relationsh

Defining the purpose or mc

The purpose or motivating factors will vary de
medium, and from individual to individual. Th
factors for the various mediums aim to:

- improve skill level
- improve cardiovascular endurance
- gain a competitive advantage
- defeat the opposition
- heighten aesthetic appeal

- improve t
- entertain
- communi
- display s

Figure 8.16:
The process of creating movement generally starts wit
coach or choreographer.

Figure 8.17:
Practising and refining movement patterns and formations is essential for a successful performance.

Generating movement relevant to the purpose

The coach or choreographer must develop skills relevant to the purpose of the movement medium. This is usually done as follows:

- identify the purpose
- decide on the skills and mode of presentation
- create relevant movement patterns and formations
- practise and refine the movement patterns and formations
- implement the movement patterns and formations into a game or routine evaluate.

Exploring variations to known movements and combinations

Exploring variations to movements and combinations allows the competitor unplanned movement and allows them freedom to explore various mediums. This may be achieved by:

- varying tempo, level, space and direction
- varying patterns and formations
- increasing the degree of difficulty
- developing a kinaesthetic feel for the movement
- exploring spatial awareness
- varying relationships
- varying momentum
- allowing improvisation.

Improvisation

Improvisation is spontaneous movement. It is often called 'ad lib' or 'spur of the moment'. It allows the performer to add their 'personal touch' to a game or routine. It allows the competitor to express their ideas, feelings and thoughts through their movement medium. Improvisation within games frequently occurs in offensive situations.

Combining and arranging movement

The process of combining and arranging movement is essential when performing dance, gymnastics or games. The skills of each medium need to be arranged and structured into a meaningful sequence of events.

Considering the rules and convention of the medium

Each movement medium has its own set of rules and conventions. These include:

- available space
- type of performance
- apparatus and equipment being used
- age and skill level of competitors
- type of movement being performed.

Sequencing

A movement sequence is the order in which movements are placed together. The coach or choreographer arranges small groups of skills or movements together into a sequence that has meaning and purpose. Sequencing may be determined by music, skill level of performers, field position, opposition and type of routine being performed.

Transitions

Transition is the joining of movement together into a sequence. Generally, the transition is advancement from one movement or sequence to another. A transition can be a change in direction or an attacking or defensive pattern.

Repetition

Repetition is important in movement mediums because it highlights certain movements again and again. This is especially important for the coach or choreographer of novice performers.

Variation

Adding variation to movement mediums allows for unpredictability, alleviates boredom and fatigue, creates interest in the performance and makes the movement medium more visually appealing.

Figure 8.18:
Repetition is especially important for the coach of novice performers.

Figure 8.19:
Adding variation makes the movement medium more visually appealing.

Practical activity

Design and perform a movement sequence and answer the following:

1. Identify the rules and conventions in the movement sequence.
2. Describe the transition process in the movement sequence.
3. Identify the purpose of repetition in the movement sequence.
4. Outline the purpose of variation in the movement sequence.
5. Describe how variation can be manipulated to increase the intensity or difficulty of the movement sequence.
6. Describe the elements of composition that have been utilised in the movement sequence.

Learning activity

1. Identify the factors a choreographer needs to take into account when creating movement.
2. Outline how generating movement relevant to the purpose is achieved.
3. Outline how the selection and refinement of movement is achieved.
4. Describe why considering the
    in combining and arranging m
5. Identify why variation is impo

Dance styles and dance elements

There are a variety of dance styles
all over the world. Some of these s
existed for centuries and have not b
modified. Others have surfaced as
of the developing world. The styles
that will be explored in this chapter
Australian Indigenous dance, ballet
belly dance, contemporary, hip hop
samba, square dance and tap.

Figure 8.20:
Dance styles draw on many influences,
including tradition and culture.

Dance and culture

Australian dance draws on many influences including the traditions and history of dance as an art form, as well as the different cultures and trends in society.

Dance is an important part of Indigenous Australians' cultural traditions. It is reflected and reinterpreted in the work and creativity of various Aboriginal and Islander dance companies that formed from the early 1960s. Dance is increasing the prominence of Aboriginal and Torres Strait Islander peoples, as it is transferred from communities to public theatres and transformed from ceremony to spectacle.

Different forms of dance came to Australia with the first European settlers. Dancers visited colonial Australia from other countries, and danced as part of pantomime, opera and other theatre performances.

Ballet and other forms of theatre became very popular during the Australian gold rushes. The appeal of Romantic Ballet in particular brought many European and American dancers to perform in Australia. Russian ballet was also very influential. Anna Pavlova's Australian tours in 1926 and 1929 and tours by the Ballets Russes in the 1930s attracted a lot of interest and stimulated the development of Australia's own ballet culture.

Source: Australian Government (www.australia.gov.au)

Popular styles of dance

Australian Indigenous dance

Australian Indigenous dance retells stories from the Dreaming and often involves imitating various animals or aspects of nature such as the sun. Indigenous dance is an educational tool, teaching about topics such as gender expectations, social roles and responsibilities, and the relationship between person and land. It is not uncommon to see Indigenous Australians performing corroborees. Common elements of Indigenous dance include foot stamping, leg shaking, body paint, singing, and music from instruments such as the didgeridoo and stick instruments.

Internet activity

Log on to TitanOnline to complete Activity 8.4 to highlight the emergence of a chosen dance style.

Did you know?

The leotard is named after James Leotard, who wore the first figure-hugging costume in the 1800s.

Figure 8.21:
Common elements of Indigenous dance include foot stamping and leg shaking.

Ballet

Ballet originated in Europe and travelled to France where it continued to grow and develop – gaining so much popularity that even a vocabulary surrounding the genre was started. Ballet is a technical style of dance with different variations, including classical, neo-classical and contemporary.

Ballet is appreciated as a graceful and theatrical style of dance. Many people enjoy this genre without actually participating; with ballet at theatres being a form of entertainment. Well-known ballets include *Romeo and Juliet*, *Swan Lake* and *Cinderella*. Common elements of ballet include ballerinas, pointe shoes, tutus and the barre.

Ballroom

Ballroom dancing is a partner dance, involving different subgenres such as the cha-cha, foxtrot, jive, paso doble, quickstep, rumba, tango and the waltz. Each of the genres has its own set of criteria such as dance moves allowed and beat/tempo of the music. Ballroom dancing has regained popularity through shows such as *Dancing with the Stars*.

Belly dance

Belly dancing is considered to be one of the oldest styles of dance around the world, with its origin in parts of the Middle East and India. It is a feminine dance involving isolations of the hips, waist and chest as well as body rolls, slides and twists. Costuming has developed and changed over thousands of years but generally nowadays consists of colourful bedlehs (the outfit including bra, belt and skirt). Costuming may also include coin belts, finger cymbals, ribbons and fan veils.

Figure 8.22:
Ballet is appreciated as a graceful and theatrical style of dance.

Figure 8.23:
Each genre of ballroom dancing has its own set of criteria.

Contemporary

Contemporary is a modern style of dance that developed in the mid-90s and continues to grow in popularity. It is a mix of many other different styles including ballet, modern and jazz. Contemporary is usually performed barefoot and involves lots of body rolls, floor work, kicks and leaps. In a sense, contemporary 'breaks the rules' of other styles and melds them all together.

Hip-hop

Hip-hop dance developed as part of the hip-hop culture. It encompasses popping, locking, breaking, twerking and crumping. It also involves a lot of improvisation or 'freestyling'. Hip-hop first became popular in the United States of America with a variety of television series and has continued to develop and thrive, with many films made based on this genre such as *Step Up*, *Honey* and *Stomp the Yard*.

Jazz

Jazz dance is derived from jazz music. It originated from African-American dance of the late 1800s to mid-1900s. Many professional jazz dancers have their foundations in ballet, where they learn strength, flexibility, discipline and agility. One popular attribute of jazz dance is that there is a lot of freedom within the genre – some dances will be upbeat and preppy, some will be dark and others will be soulful.

Salsa

Salsa dancing is closely associated with salsa music and runs on eight-beat music. It is a Latin style of dance, originating in Cuba. Salsa is a partner style of dance, but often includes 'shines' – a break in the partnership for one or both dancers to dance solo and show their full potential. Throughout a salsa dance, the torso and upper body stays level and poised whereas the hips and lower body move.

Figure 8.24:
Contemporary dance 'breaks the rules' of other dance styles and melds them all together.

Figure 8.25:
Hip-hop dance involves a lot of improvisation.

Figure 8.26:
Samba is used as an expression happiness at celebrations such as carnivals.

Samba

Samba developed in Brazil in the 1900s and can be performed as a partner dance or a solo dance. It is used as an expression of happiness at celebrations such as carnivals. The samba uses music with a tempo of 100 beats per minute and is a fast-paced dance.

Square dancing

Square dancing consists of eight dancers or four couples. They stand in a square position, otherwise known as home, hence the name of the genre. Square dancing has been around since the 17th century in places like England, France and Europe. Some of the dance moves include the 'dosido', swing, circle to the left and circle to the right. Dancers know which moves to perform because of a 'caller' who calls out the names, which is why it is necessary for dancers to be familiar with the terminology.

Tap

Tap dance involves wearing special dance shoes with metal plates on the sole that make rhythmic noises on the surface a dancer performs on, usually in time with the music playing. It originated among the slave population in America. Common tap steps include the heel tap, stamp, stomp, scuff, shuffle and ball change.

Internet activity

Log on to TitanOnline to complete Activity 8.5 to review professional dance performances and analyse how the elements of dance can communicate emotion.

Did you know?

Saying 'break a leg' to a dancer before they perform actually means you are wishing them good luck.

Practical activity

After reading through the various styles of dance:

1. Create a one-minute routine that incorporates at least three styles.
2. Select appropriate music.
3. Show your dance to a partner. They are to guess which styles of dance are included.

Gymnastics

Gymnastics is a sport that encompasses a wide range of movement skills and utilises a variety of equipment. It is a sport that requires strength, coordination, flexibility and agility. Many forms of gymnastics contain an element of creativity and composition, with a st[...] specialised movements.

Rhythmic gymnastics

Rhythmic gymnastics is a form of gym[...] performed individually or in groups of u[...] Olympic sport and includes various sty[...] club, hoop and ribbon. All of these are [...] gymnastics floor, called a sprung floor. [...] to provide bounce for the gymnast, ma[...] perform routines.

- **Clubs** involves using two wooden clu[...] ribbons and/or tape. In a clubs routin[...] demonstrate different movements an[...] shapes, as well as throwing the clubs[...] them in alternating hands. The gymn[...] around the floor throughout the routi[...] standing still.

- **Hoop** involves using a hula hoop ma[...] or wooden material. Covering the ho[...] decorative colours is an option. Durin[...] a gymnast should demonstrate variou[...] swings, throws, catches, leaps and ju[...] use all parts of the body to handle th[...] neck, torso, hands, fingers and legs.

- **Ribbon** involves using a thin wooden[...] ribbon attached. A gymnast performi[...] routine should include various mover[...] such as throws, spirals, flicks, snakes[...] circles. A ribbon routine should flow [...] look graceful.

- **Ball** involves completing a routine wi[...] a ball 18–20 centimetres in diameter.[...] The ball must be made from rubber [...] synthetic material and is supposed to[...] an integral element in the routine.

Figure 8.27:
A ribbon routine should flow and look graceful.

Artistic gymnastics

Like rhythmic gymnastics, artistic gymnastics consists of various events that gymnasts can specialise in. Each event requires a specific set of skills in order to complete at an experienced level. Artistic events vary for males and females. Table 8.4 provides a brief description of each artistic gymnastics routine.

Table 8.4: Artistic gymnastic events.

Event	Description	Participation
Balance beam	▪ Thin beam (10cm wide) made from wood, standing 1.25m off the ground. ▪ The routine is performed on the beam and points awarded for difficulty and execution. ▪ Points are deducted if gymnast falls off the beam. ▪ Common moves include aerials, back layouts, full turns, twisting leaps, sheep jumps, scales, handstands, mounts and dismounts.	Females only
Uneven bars	▪ Gymnast swings around bars, alternating between the high bar and the low bar performing tricks like handstands, giants, pirouettes and dismounts. ▪ Two bars, upper bar 2.5m, lower bar 1.7m, each 2.4m long, bars 1.3m apart. ▪ Routines should include flight from bar to bar, release and re-grip on the same bar, grip changes and dismount. ▪ Requires strength, flexibility and concentration.	Females only
Floor exercise	▪ Completed on gymnastics floor, a square space 12m × 12m. Floor is carpeted and made from foam and springs to make performing tricks easier for gymnast. ▪ Women perform with music, men perform without. ▪ Routines should include tumbling and acrobatics such as handstands, flips, tumbles, acrobatics, jumps, turns, leaps, static strength and twists. ▪ If gymnasts steps out of the boundary, points will be deducted.	Males and females
Vault	▪ Gymnast sprints down runway towards a springboard that they use to propel themselves over the vault, performing tricks in the air. ▪ Rotations and flight include round-offs, handsprings, twists and somersaults. ▪ Gymnast should land without stumbling.	Males and females
Horizontal bar	▪ Steel bar raised 2.5m off the ground. ▪ The gymnast performs a variety of moves including giants (swings around the bar), release and re-grips, flyaways, handstands, kips and endos.	Males only

Figure 8.28:
The pommel horse routine involves spins, swings and circles around the apparatus.

Table 8.4: Artistic gymnastic events. *(continued)*

Event	Description	Participation
Parallel bars	▪ Two wooden bars 42cm apart, 3.5m long, 2m off the ground. ▪ Gymnasts need strength and flexibility. ▪ Variation of swings (across, above and under the bars), balances, changes in direction and strong dismount.	Males only
Pommel horse	▪ Thick leather box-like shape with two handles on top for gymnast to use to swing around. ▪ 40cm between handles, 1.6m long and 35cm wide across the top, 1.15m off the ground. ▪ Single leg and double leg work. ▪ Spin, swing and circle around horse. ▪ Gymnast does not have to remain holding the handles and can travel up and down the body of the pommel horse.	Males only
Rings	▪ Two rings hanging from steel cables. ▪ Rings 18cm in diameter, 50cm apart. ▪ Requires a great deal of strength and balance. ▪ Routines consist of strength holds, forward and backward swings, feet remain together, control of the rings with no movement or shaking.	Males only

Practical activity

Choreograph and participate in a range of rhythmic and artistic gymnastic events.

Educational gymnastics

Educational gymnastics is a term used to describe a new approach to teaching gymnastics. It involves shifting the focus away from Olympic gymnastics and towards the core skills needed to perform any gymnastics activity. It involves not just the practical knowledge of how to participate but also the theoretical knowledge, which can be transferred across a range of games and sports. Educational gymnastics explores concepts such as how someone's centre of gravity impacts on the completion of a skill, and what centre of gravity is.

Educational gymnastics is often broken into three sections: rotation, travelling and static balance. Table 8.5 goes into further detail on these three areas.

Figure 8.29:
Educational gymnastics focuses on the core skills required to perform any gymnastic activity.

Table 8.5: Elements of educational gymnastics.

Event	Description
Rotation	Focuses on rotation in relation to three axes: vertical, horizontal and transverse rather than in terms of flips and rolls.
Travelling	Focuses on getting from one point to another in 'unconventional ways' such as hopping, leaping, galloping and crawling. Also focuses on the way in which an individual travels, for example, forwards, backwards, sideways or a combination.
Static balance	Focuses on balancing in various positions, singularly and in group balances. Static balance requires muscles to be contracted and tight, not loose and relaxed. It also requires the ability to focus and control one's attention so they don't lose balance and fall out of their position.

Practical activity

Conduct a Google search on 'educational gymnastics' and research an activity that focuses on one or more of the following:

▪ rotation   ▪ travelling   ▪ static balance.

In small groups, take turns teaching each other what has been discovered from the research. Analyse the skills learnt by participating in the activities.

Developing movement skills safely

It is extremely important to ensure safety is a priority when participating in any creative movement skill. Each style of dance requires a specific set of skills and has specific safety concerns. Ballet, for example, involves working on pointe shoes, which can be a safety issue. The movements usually performed in contemporary dance can cause injury if they aren't performed in the correct manner. Safety precautions that cross over most styles are detailed in the following text.

- **Warm-up:** the purpose of a warm-up is to primarily increase the heart rate and body's temperature to prepare the body for movement and exercise. A correct warm-up prevents injury and also helps to enhance mental preparation and focus. Gross locomotor movements should begin any warm-up and eventually progress to specialised skills.
- **Stretching:** should be completed after the body is generally warm. Static and proprioceptive neuromuscular facilitation (PNF) stretching should follow a warm-up.
- **Warm-down:** aids the body's recovery from the movement and helps prevent any delayed muscle soreness and rids the body of waste products, such as lactic acid. Warming down includes whole body movements, followed by static stretching.
- **Wearing protective equipment:** such as a knee brace or strapping.
- **Keeping hydrated:** regular fluid consumption prevents dehydration from occurring. Regular intake of small amounts of fluid is more beneficial than consuming large amounts of fluids at a time.
- **Giving injuries adequate tim** reoccurring or the individual su individual moves with an injury muscular imbalance.
- **Taking regular breaks:** throug performance times.
- **Allowing appropriate recove** into an individual's schedule ca and performance.
- **Steady progression through** gaining the correct foundations helps reduce the chance of an For example, mastering a sing to effectively increase the num safely complete as they develo balance and base of support.
- **Safety mats when rehearsin work:** 'spotters' or other individ observe and assist individuals positive ways to reduce the ris

Figure 8.30:
Static stretching is an essential compo of a warm-up.

Figure 8.31:
Most boxing matches are judged with observation and subjective appraisal.

Appraising movement

Appraisal is useful for the coach, choreographer and performer. It gives feedback on a performance and can then be used for motivational purposes, self-evaluation and technique correction. There are several ways a performance can be appraised as outlined as follows.

- **Observing:** Observation can be done objectively or subjectively. Objective appraisal occurs without bias or prejudice. There is a determined set of criteria that appraises a performance. An example is how fast a person can run 50 metres or how far they can throw a javelin. Subjective appraisal is based on judges' opinions and impressions as to how well a skill was performed. Examples include judging a gymnastics or dance routine.
- **Analysing:** Analysis is an important tool when comparing a competitor's performance to their peers or when trying to give some meaning to a performance. Analysis can be achieved by using norms, percentile ranks and/or statistics. These measures can then be used to calculate raw scores, rank competitors, evaluate a performance and compare performers against other competitors.
- **Experiencing:** When a competitor is in the autonomous stage of skill learning, they have the ability to appraise their own performance. This is because they have developed a kinaesthetic sense or feel for the movement. Experience is also an important factor when judging performances. Many judges draw on their own experience when trying to appraise a competitor.

Aspects of appraisal

When appraising a performance, the following aspects need to be considered.

- **Elements of composition:** This involves the use of space, dynamics, time and rhythm and relationships. When appraising a performance, consider the following:
  - Is the whole space being use effectively?
  - Is there a combination of force and flow movements to communicate ideas?
  - Is the music selection appropriate and are the performers in time with the music?
  - Are the relationships between partners, apparatus, equipment and audience in unison or contrast?
- **Creativity and innovation:** Creativity and innovation enhance the quality of a performance. Creativity and innovation are important criteria a judge looks for in dance and gymnastic routines. Creativity and innovation complement the aesthetic appeal of a performance.
- **Arrangement of movement:** Skill selection must flow and be appropriate to the medium being performed. The performance should display skills sequenced in the correct pattern and formation and flow into each other. This displays the skills of the performer as well as enhancing the aesthetic appeal of the performance.
- **Achievement of purpose:** Whatever the purpose, the performer must be able to convey the intent or theme of their performance. An inability to do this diminishes the performance and leaves the audience without an understanding of the purpose of the performance.

Appraisal may involve judging, using both subjective and objective criteria, to determine the worth of a performance. It is based on established and/or personal criteria.

Establishing and applying criteria

In competitive events, the judging criteria are usually established by the governing body. This is done to reduce personal bias (subjectivity) and increase the objectivity of the appraisal procedure. An example of judging criteria for a dance routine is shown in Figure 8.32.

Figure 8.32: Example of judging criteria for a dance routine.

Features of movement composition	Yes	No
Do they have movements that involve:		
Locomotor and non-locomotor		
Different levels (high, medium and low)		
Different tempo (fast, slow)		
Different amounts of space (wide, thin, floor pattern)		
Different amounts of force		
Showing how the group forms a cohesive sporting movement which has continuity and structure		
Being in time with the music, with well-placed progressions that link to form a balanced rhythmic sporting sequence		
Dynamic actions reflecting a well-choreographed sporting sequence		
Relationships that combine to give depth and continuity to the sporting movement (holding, mirroring, evading, etc.)		
Creativity		

Feedback

Attaining feedback is an important aspect that allows an individual to improve their movement, skill acquisition and execution. Feedback can be given and received both externally and internally. External feedback involves an individual receiving information from outside sources, such as a coach, observer, spectators or other participants. External feedback may also come in the form of a noise, such as a foul siren after a false start is recorded. Internal feedback is received from the individual themselves. Feelings and knowledge of where and how the body is moving are examples of internal feedback. For example, while swimming backstroke, a swimmer receives internal feedback that they need to move to the centre of the lane after touching the lane rope.

Feedback is beneficial when it is received at an appropriate time. When an individual is acquiring a skill for the first time, feedback should be provided to the individual during or closely following completion of the movement skill, allowing the individual to integrate the feedback next time they practise. Feedback is not always received at the time of performance. It can be delayed until the next training session.

Videoing is an effective way to observe and critique an individual's movement skill execution. Videoing can help to provide feedback on ways to improve effectiveness and efficiency as they allow multiple replays of the movement execution as well as slow motion viewing of the movement execution. It also provides opportunities for performers to view their own movements rather than relying on verbal feedback of others.

Figure 8.33:
High jump is judged objectively.

Figure 8.34:
Synchronised diving is judged subjectively.

Learning activity

1. Identify why appraisal is a useful tool for the coach, choreographer or performer.
2. Describe the difference between objective and subjective appraisal.
3. Identify why the elements of composition are an important aspect when appraising.
4. Outline why creativity and innovation are important aspects when appraising.
5. Describe why achievement of purpose is an important aspect when appraising.

Revision questions

1. Define creative movement.

2. Explain the importance of movement exploration.

3. Identify and explain the fundamental movement skills.

4. Distinguish between locomotor, non-locomotor and manipulative movement skills.

5. Distinguish the difference between rhythmic and artistic gymnastics.

6. Discuss why men and women perform different events in artistic gymnastics.

7. Evaluate how participating in educational gymnastics would be more beneficial than participating in rhythmic or artistic gymnastics for a student who is not interested in physical activity.

8. Explain an activity that could be used to focus on the following three elements of educational gymnastics:

   a. rotation

   b. travelling

   c. static balance.

9. Compare and contrast two styles of dance.

10. Explain how dynamics can be used to create emotion in dance.

11. Create a list of precautions a dancer can take to ensure safety during training and performing.

12. Identify a range of sporting events that are judged objectively and subjectively.
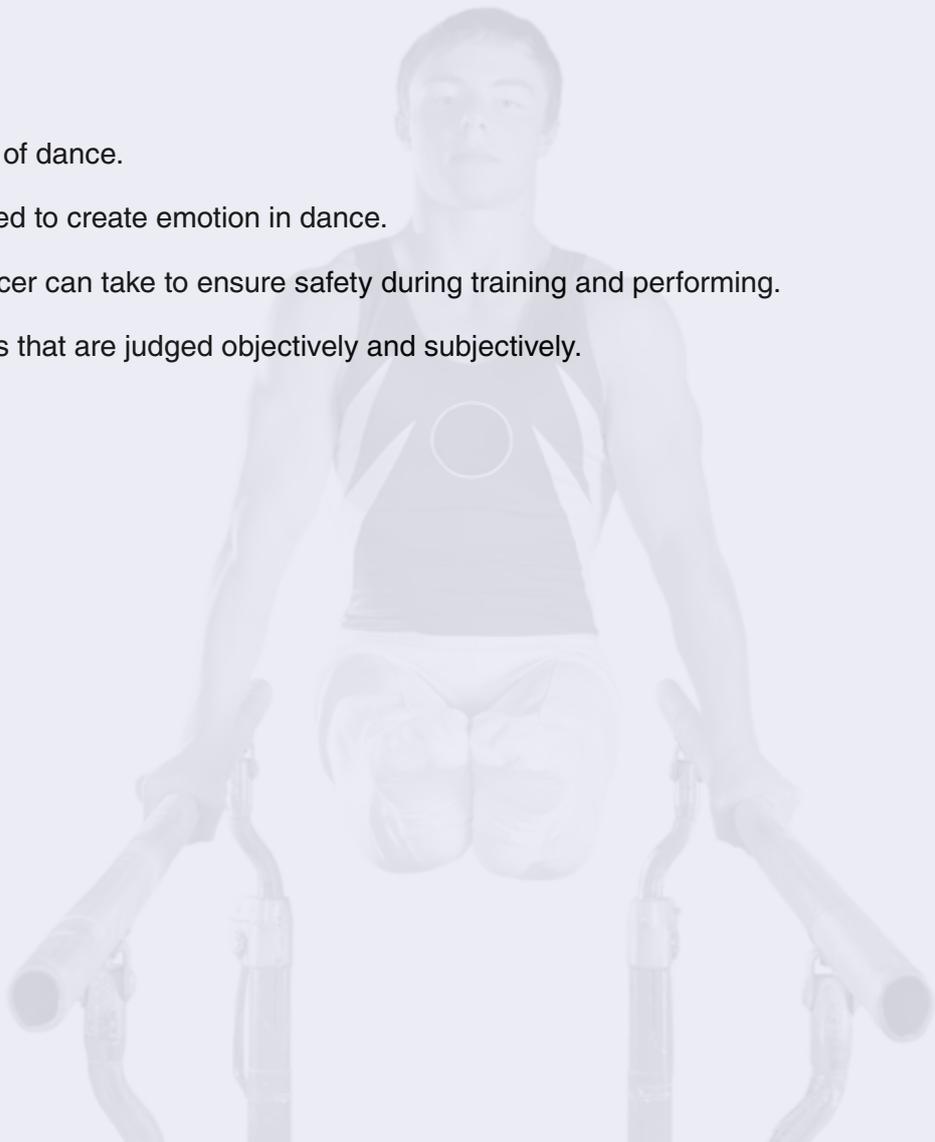
CHAPTER 9

Games and sports

Learning and participating in a variety of games and sports develop confidence and competence to engage in physical activity concepts. It develops an understanding of movement concepts and the features of movement composition through engagement in a variety of planned and improvised movement experiences. Different movement experiences provides opportunities to achieve specific purposes and performance goals.

It also involves understanding cultural influences on games and sports played in specific regions. This chapter looks at the use of the Sport Education in Physical Education Program (SEPEP), as well as how to integrate a game-centred approach into physical education. Students explore the growth of non-traditional games and sports such as extreme sports.

Focus areas

- Traditional games and sports
- Non-traditional games and sports
- Modified games
- Culturally significant games and sports

Figure 9.1:
Cricket was one of the first sports introduced to Australia after colonisation.

Traditional games and sports

Australia is known as a sporting nation. Since the 1800s, Australia has been involved in – both competitively and recreationally – a number of sports. These include:

- cricket
- netball
- rugby league
- Australian football ('Aussie rules')
- horse racing.

Did you know?
Australian football was created as a way to stay fit in the cricket off season.

These sports are played professionally where athletes get paid to compete, events need sponsorship and the competition is aired on television or radio. They are played competitively by children, teenagers and adults on the weekend in local sporting competitions. Sports can be played for fun at barbeques, in the street, down at the local park or beach. They are also present in schools where students are educated on the history and how to play by following the rules.

Roles in sports

There are numerous roles needed in sport to ensure everything runs smoothly. Consider the game of football being viewed on television. There are obviously players, referees, coaches and first aiders; but there are also photographers; commentators; journalists; and people who work at the venue such as security, food sellers and cleaners. Then there are also the people who work behind the scenes, such as nutritionists, and strength and conditioning coaches. Table 9.1 on the following page details a comprehensive list of many of the roles involved in sport.

Table 9.1: Roles in sport.

Role	Description
Player	- Plays the sport. - Is part of a team or an individual performer. - Can act as a role model for others. - Must train and follow the rules and etiquette of whatever sport it is they are involved in.
Coach	- Instructs the players. - Gives them advice and tactics. - Mentors them. - Teaches them skills and techniques relevant to the game.
Referee/umpire	- Controls and mediates the game. - Ensures rules of the game are being followed. - Awards penalties if an infringement occurs.
Manager	- Organises the team. - Looks after or maintains the reputation of the players/club/coach. - Promotes the players to the public.
Strength and conditioning trainer	- Responsible for training athletes. - Assists athletes to do strength work (using weights) safely. - Provides personalised programs for athletes.
First aider	- Provides immediate emergency care if an athlete becomes injured or ill. - May provide taping or strapping for athletes before competition.
Nutritionist	- Monitors an athlete's diet. - Provides athlete with a food intake guide or diet they should be following. - Suggests foods that will be beneficial to the athlete's performance and recovery.
Sports journalist	- Watches and analyses sporting events. - Reports on the game. - Reports on major stories outside of the game that relate to players, such as new sponsorship deals, injury, bad off-the-field behaviour.
Commentator	- Reports on a game as it is occurring. - Adds excitement and atmosphere to a game.
Spectator	- Watches the game, either live or from their home. - Provides a source of income for professional sportspeople both directly by attending events or indirectly by accessing media.

History of Australian sport

Australia has made a name for itself as being a sporting nation. Since the arrival of the first Europeans, sport has played a major role in national identity. Originally, sport was largely amateur, but as the years progressed many sports included a professional element. There has been the emergence of new sports, new competitions and new rivalries.

- **1810:** First athletics tournament held. Horse racing, sailing clubs and cricket started shortly after.
- **1829:** Football began being played. The code that a person would typically play was dictated by 'class'.
- **Late 1830s:** Horse racing established in NSW and other parts of the country.
- **1838:** Melbourne Cricket Club was founded.
- **1859:** Australian football began. At the time it was known as Victorian rules football.
- **1861:** First Melbourne Cup.
- **Late 1860s:** Sport was beginning to be played in SA, Tasmania and WA.
- **1868:** Australian cricket team went on tour. The whole team was Indigenous.
- **1870s:** The first soccer match was played in Australia.
- **1880:** First soccer team in Sydney was named the Wanderers.
- **1891:** First Sheffield Shield (cricket) was held.
- **1900:** First badminton competition played in Australia.
- **1906:** First ice hockey game played in Melbourne.
- **1908:** Queensland Rugby Football League formed. Australian national rugby union team, the Wallabies, won gold at the 1908 London Olympics.
- **1912:** Women first allowed to represent Australia in the Olympics.
- **1915:** Surfing first came to Australia. First surf life saving competition was held this year. Les Darcy started his boxing career.
- **1922:** Physical activity for girls was introduced, although many activities were not deemed appropriate or suitable for girls.
- **1924:** Australian Rugby League formed, but it was called the Australian Rugby League Board of Control.
- **1927:** Netball Australia founded.
- **1949:** Australian Canoeing founded.

Figure 9.2:
Australian football was first played in 1859.

Figure 9.3:
Physical activity for girls introduced in 1922.

Figure 9.4:
The Olympic Games were held in Melbourne in 1956.

Did you know?
Overall, Australian children spend more time playing electronic and online games than they spend playing outside.

- **1956:** Melbourne Olympic Games.
- **1960s:** Australia becoming known worldwide as a sporting nation.
- **1967:** World Netball Championships hosted in Perth.
- **Early 1970s:** Sponsorship became a major part of professional and amateur sport.
- **1981:** Australian Institute of Sport was funded.
- **2000:** Sydney Olympic Games. Cathy Freeman won the 400-metre sprint.
- **2006:** Commonwealth Games hosted in Melbourne. Australian soccer team qualifies for the FIFA World Cup.
- **2010:** Australia won two gold medals at the Winter Olympics in Vancouver. Stephanie Gilmore took out the ASP World Tour championship.
- **2011:** Sally Pearson won 100-metre hurdles at the World Championships in Athletics. She was named IAAF World Athlete of the Year.
- **2013:** Australian women's cricket team won the Cricket World Cup.
- **2014:** Australia won the Men's Hockey World Cup for the third time.
- **2015:** Socceroos won the AFC Asian Cup.
- **2017:** The first-ever women's AFL league is played and the women's cricket team won the Ashes.
- **2018:** Gold Coast Commonwealth Games. Australia won 80 gold medals.
- **2019:** Ash Barty wins the French Open and gains the title of number one in the world for women's tennis.
- **2020:** Australian women's cricket team won the ICC Women's T20 World Cup in Australia.

Figure 9.5:
Australia won the Men's Hockey World Cup in 2014.

Figure 9.6:
Australian tennis player Ash Barty became world number one in 2019.

Internet activity

Log on to TitanOnline to complete Activity 9.1 and further analyse a significant event in Australia's sporting history.

Figure 9.7:
Gridiron is traditionally played in the USA and Canada.

Non-traditional games and sports

Non-traditional games and sports provide the opportunity for individuals to learn new rules and skills while enjoying a new, challenging activity. These include games from other cultures, new games or modified games. Some examples of games and sports that are not traditionally played in Australia include:

- gridiron
- disc golf
- underwater hockey
- BASEketball (as made popular in the movie)

- crossminton (modified version of badminton)
- Fortball (combines fort building with dodgeball).

Sport Education in Physical Education Program (SEPEP)

The Sport Education in Physical Education Program or SEPEP is a process of teaching physical education in a way that promotes problem-solving and inclusivity. It is student focused and educates students rather than just getting them active. SEPEP is broken up into six areas: seasons, affiliation, formal competition, record keeping, festivity and culminating event.

- Seasons involves practising before competition. In a school setting, a class may spend time learning skills and techniques necessary for the game in the 'pre-season' and the competition season will start when they begin to play games.
- Affiliation involves students working with the one team for the entirety of the season or unit. This way they can share roles and responsibilities around.
- Formal competition involves having a set competition style, such as round robin, pool competition, or ladders.
- Record keeping involves keeping track of scores and positions on the leader board. It also encompasses records of team participation and making sure everyone is participating to their full potential in their designated roles.
- Festivity involves the attitude an... ...of the competition. A... ...should... be celebrated.
- Culminating event involves havi... discuss accomplishments and c...

SEPEP is much more than a spor... model for teaching and learning. V... encouraged to build on their know... while a teacher provides answers... students to collaboratively analys... Under the guidance and promptin... encouraged to take an inquiry-bas... making the effort to fill in gaps of... together for understanding.

SEPEP involves students being in... and having specific roles, other th... These roles give each student ow... over their physical education and... responsibility on them, in a non-c... manner, as all students will have... an extra job.

These jobs or roles can include:

- coach
- captain
- manager
- umpire/referee
- scorer
- time keeper
- equipment manager
- report writer
- strategy and tactics developer.

Figure 9.8:
Developing strategies and tactics is an i...

Depending on the number of players in each team, roles can be added or reduced. Ideally, a SEPEP unit should have at least three teams, so that while two teams are competing, the third team can be completing their extra roles.

A significant benefit of this approach for students is that it is inclusive and therefore every student will have the opportunity to experience a range of roles in relation to sport activities from entirely different perspectives. Adopting this approach maximises opportunities for the involvement of students. It provides them with a chance to identify with a particular role, where they may experience comparatively more enjoyment and confidence, while at the same time broadening their understanding of the importance of all other roles. Consequently, teamwork skills are likely to be enhanced in students.

A good idea when using SEPEP is for all students to keep a journal and record a reflection after each practical lesson, with the teacher nominating focus questions at the start of the lesson, such as 'how was the cohesion between team members today?' or 'how did the individual's role impact on the success of the team today?' Answering these sorts of questions helps to understand and appreciate the value of each member and their role.

Figure 9.9:
SEPEP can be utilised to improve specialised movement skills.

An example of SEPEP in action
A school class could be divided into teams of six and every team would have allocated roles for all members. If that means that there are five teams of six in total, it would enable two teams to compete in a sport activity, while the other three teams serve in their allocated roles, to enhance the game and to ensure it runs efficiently.

Internet activity
Log on to TitanOnline to complete Activity 9.2 to evaluate the SEPEP model.

Practical activity
As a whole class, participate in a SEPEP-styled lesson. Everyone should be a player as well as one extra role. Record how it felt while participating in the lesson in a reflective journal entry.

Figure 9.10:
Traditional sports can be modified to use a game-centred approach.

Game-centred approach (GCA)

The purpose of using a game-centred approach (GCA) in physical education is to take the focus off performing the skills required in a sport in a technically correct manner and towards understanding games and sports in a broader context. This includes understanding strategies specific to the game that do not require a student to be autonomous in the skills required to perform that strategy.

For instance, in a game of volleyball, if the ball is hit towards a player in a lob style, it should be spiked back. GCA does not require a student to be good at, or even to know how to spike the ball accurately but rather to understand why this is a good tactic. By adapting and changing some of the rules of a sport, such as equipment size, playing space and number of defenders, the focus is taken away from managing all these different elements that can be daunting and confronting for many students. Focus is placed on understanding the game technically and being able to articulate why different things might occur. Another major aspect of GCA is questioning. Students use questioning to progress a game forward to make it more difficult.

Game-centred approach is an innovative take on physical education and differs from traditional PE classes as it doesn't follow the same routine of a warm-up, skills and drills and then a game. A typical game centred approach lesson will include a warm-up activity, then straight into a modified game with regular breaks and stoppages to ask questions, discuss play and make changes to the rules. The focus should be on understanding the game, rather than on who wins at the end of the lesson.

Internet activity

Log on to TitanOnline to complete Activity 9.3 to discuss the implementation of game-centred approaches.

Inclusivity

Inclusivity means to involve others or to be involved. In relation to physical education, inclusivity means creating lessons that promote maximum involvement for all students, regardless of their individual capabilities or limitations. Individuals all have different skill sets and learning styles and therefore learn new concepts at different speeds. Physical education is different to other subjects in that students are performing in front of others, and often as part of a team. Therefore, it can be very daunting if a student feels like they are not good enough to play or feel like they are letting the team down. Luckily, there are many small adjustments that can be made to a game to make it more inclusive for the whole class. There are four main areas that can be adapted to make physical education more enjoyable and more meaningful to all students: equipment, team size, rules and field dimensions.

- **Equipment:** Changing the equipment can not only make a lesson more inclusive to all students but it can also make it safer. Changing the equipment can also make a game more challenging, which is sometimes necessary also. In a game of soccer, using smaller goals makes it easier for the goalie without taking away from the learning experience of the rest of the class. In a game of European handball, when a class is first starting it may be easier to use a basketball because it is bigger, making it easier to catch and track up and down the court.

- **Team size:** Changing team size can be an ideal adaptation to ensure everyone is included. Many physical education classes will have more students than number of players in a regular game of sport and therefore making adjustments to the team sizes can increase learning opportunities and prevent students from becoming uninterested in the lesson. Making teams smaller and playing multiple mini games, of six versus six for example, can promote inclusivity better than playing one big game of 15 versus 15.

Figure 9.11:
It may be easier to use a basketball when first learning to play European handball, because it is a bigger ball.

Figure 9.12:
Physical education is different to other subjects in that students are performing in front of others.

Figure 9.13:
Using a tee rather than having a pitcher throw the ball can help a game of softball progress.

- **Rules:** Changes can be made to the rules to allow the game to flow better. For example, in a softball unit, having a pitcher who is not very accurate and a batter who can't hit the ball can make the game slower and can limit participation rates for the rest of the class. Using a tee rather than having a pitcher throw the ball can help the game progress and will take the focus off the pitcher not pitching accurately and off the batter missing.
- **Field:** Changing the size of the field or the surface of the field can increase involvement for the whole class. Making a field smaller means there is less space students have to cover, making it more concentrated.

This means that students are more likely to come into contact with the ball and be involved. Changing the surface can also increase inclusivity. For example, if there is a student who uses a wheelchair, playing a game on cement or in the school hall may be easier for that student than playing on the grass.

Practical activity
Participate in a range of activities that promote inclusivity. Ensure adjustments have been made to equipment, team size, rules and playing field, and that everyone is included. Keep a reflective journal as you participate in each game or activity.

Extreme sports

Adventure and extreme sports are now a common sporting pursuit among Australia's growing population. People are looking for experiences that are substantially different from the experiences they have during their everyday life and are finding excitement in risk activities.

Outdoor recreation has significantly grown in recent years due to improvements in safety and reduction of participation costs, and willing participants are better able to access adventure sports.

Following is a list of popular adventure and extreme sports that are available to the general public:

- abseiling
- ballooning
- bike riding
- bushwalking
- canyoning
- caving
- scuba diving
- hang-gliding
- horse riding
- kayaking
- paintball
- parasailing
- sailing
- skydiving
- snowboarding
- snow skiing
- surfing
- waterskiing
- wakeboarding
- whitewater sports.

Most of these adventure and extreme sports have been commercialised. Companies have been set up to run adventure sports as a business, intending to make a profit. Also, adventure sports have become more professional. Due to improvements in technology and increased knowledge about adventure sports, the sports can be conducted relatively safely. Many adventure sports have also become more accessible.

Extreme sports such as whitewater rafting, waterskiing and go-karting are now available in 'theme parks' located in major urban centres. The purpose of this initiative is to facilitate mass participation in sports in which the only people who participated were people who had the interest, time, money and equipment necessary for engaging in those activities.

Organisations that have traditionally been associated with extreme sports are now looking to expand the activities at their venues. In the Snowy Mountains, for example, the traditional pursuit of skiing is now accompanied with pursuits such as snowboarding, snow tubing, snow shoeing, ice climbing and cross-country skiing.

Figure 9.14:
Extreme sports such as whitewater rafting are now available in urban centres.

Internet activity

Log on to TitanOnline to complete Activity 9.4 to develop your understanding of extreme sports in Australia.

Did you know?

Surfing is a central part of Polynesian culture and was first seen by Western eyes when explorer James Cook visited Tahiti.

Case study

BASE-jumping is popular among risk-takers and thrill seekers across the world. In essence, BASE-jumping involves leaping from a fixed structure wearing a wingsuit or parachute and – hopefully – landing safely. BASE stands for building, antenna, span and earth, being the four places from which BASE-jumpers typically leap. This makes BASE-jumpers different from skydivers, who jump out of a plane.

BASE-jumping competitions first began in the 1980s, with judging based on aerobatics and the accuracy of landings. The equipment used by BASE-jumpers was initially the same as skydiving, but as the sport became more popular, jumpers experimented and created specialised equipment. In the 1990s, the wingsuit was introduced into the sport to give jumpers the added horizontal movement. The wingsuit provides greater air resistance by using fabric between the arms and the body and between the legs, thereby creating extra surface area and the gliding effect.

Figure 9.15:
BASE-jumping involves leaping from a fixed structure wearing a wingsuit or parachute.

BASE-jumping can be very dangerous, which is one of the main reasons it is classified as an extreme sport. Many jumps have ended in deaths. Since 1981, there have been over 250 fatalities. In May 2015, two prestigious BASE-jumpers, Dean Potter and Graham Hunt, died attempting a jump off a 900m mountain in Yosemite National Park. They were wearing special wingsuits that made it possible to control their movement and complete swooping motions in the air. The jump that led to the death of Potter and Hunt was an illegal one. Both men died from impact, even though it was a jump they had safely completed on previous occasions.

BASE-jumping can be an amazing source of adrenaline and help an individual feel alive, but it is a risky sport with a high mortality rate compared to other extreme sports. Individuals should be extremely cautious when jumping and only do so if they have adequate training, preparation and equipment.

1. Research the barriers to BASE-jumping in Australia and the reasons for these barriers.
2. Research the history of BASE-jumping.
3. Propose reasons why people may decide to become a BASE-jumper when it is such a dangerous sport.
4. Create an advertisement for a new BASE-jumping company, looking to train up new jumpers. Consider all the concerns people may have with the sport and address these tactfully in your advertisement. Your advertisement can be presented as a poster, radio advertisement or television commercial.
5. Research jet-powered wingsuits and search YouTube for footage.

Figure 9.16:
Modified games are ideal in school environments where there is a mixed level of ability, both mentally and physically.

Modified games

Modified games are those in which the fundamental rules of a sport are adapted or tweaked in order to promote an increased level of participation. When a game is modified, an element of problem-solving should be incorporated and thus the 'successful' players are no longer just the ones who can run the fastest, kick/strike the hardest or throw the furthest. By adding secondary rules, adaptations can be made that prevent one or two players dominating and make it only possible to be successful if the whole team is playing an important role. Modified games are ideal in school environments where there is a mixed level of ability, both mentally and physically.

There are a number of reasons for the emergence of modified games, particularly in a physical education environment. Generally in a physical education setting, the students could be broken up into three groups:

- Athletic students who are physically gifted and always end up with possession of the ball and dominate or 'take over' the lesson, either consciously or subconsciously.
- Students who are not as gifted physically and want to be involved but always get out quickly, never get passed the ball, don't get on the field much or the team doesn't include them.
- Students who do not like physical education and choose to sit out, who don't bring their uniform and don't want to participate. For this group, physical education is not education at all.

Ways to modi

There are a number of ways
modified, including:

- taking rules out
- adding rules in
- changing the size of the te
- changing the size of the g
- changing the way points a
- changing the size of the e
- changing the boundaries.

All games can be modified;
about using creativity. Imagi
where there is no goal, or a
keep track of how long the g
been played. Possibly the pl
using an alternative ball. Any
type of changes that are ma
and play counts as modifyin

There are many examples o
have already been modified.
these include:

- Kanga Cricket – cricket.
- NetSetGO – netball.
- Mod League – rugby leagu
- Sofcrosse – lacrosse.
- T-Ball – softball.

Practical activity

In pairs, think of ways to
game. Include field size, r
and equipment. Present t
to the class as a practical

Figure 9.17:
Games and sports can be modifie
promote inclusivity.

Culturally significant games and sports

In the same manner that cultures around the world share different languages, religions and traditions, they also have culturally significant games and sports. Many of these games have meaning behind them that resemble the way of living for a specific culture.

Indigenous games

Aboriginal and Torres Strait Islander peoples have many cultural games they have played in Australia long before white settlement. These games are significant because they are representative of and provide an insight into Indigenous culture. The games mimic everyday life such as hunting and gathering. Many games that are now in Australia involve aspects of these Indigenous games. Skills involved in these games include jumping, throwing, catching, running, wrestling, memory, searching and tracking. Table 9.2 outlines a selection of traditional Aboriginal games.

Internet activity

Log on to TitanOnline to complete Activity 9.6 and learn the importance of including traditional Indigenous games in the school curriculum.

Table 9.2: Traditional Aboriginal games.

Game	Description	Modern adaptations
Brambahl	Two people each hold one end of a long rope and stand an appropriate distance apart. They spin the rope by making circular motions with their arm. When there is enough momentum, a third person runs in and jumps over the rope.	Skipping
Keentan	Players broken up into two even teams. The team with the ball throws it back and forth around their team-mates. The other team aim to intercept the ball, but can only do so if they are off the ground when they come into possession (jumping, leaping, etc.).	Netball
Kokan	A ball called a 'kokan' is hit along a sandy beach with sticks made from bamboo. Girls and boys can both play.	Hockey
Whagoo	A hide and seek game where one player has to find the other players who are hiding from him/her.	Hide and seek
Yiri	A spear is thrown at a moving object such as a log in moving water. This game was played only by boys.	Archery
Purlja	Play starts by kicking or throwing the 'purlja' ten metres ahead to the other team. No running with the ball and no physical contact allowed. Players can kick or throw.	Football

Adapted from: Creative Spirits 'Traditional Aboriginal games and activities' (www.creativespirits.info)

Figure 9.18:
There are government programs to support Indigenous Australians in sporting excellence and participation.

Closing the Gap with Indigenous sport

The Close the Gap Campaign aims to close the health and life expectancy gap between Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians within a generation. The campaign is built on evidence that shows significant improvements in the health status of Aboriginal and Torres Strait Islander peoples can be achieved by 2030. As a result, Sport Australia have developed programs to support Indigenous Australians achieve sporting excellence and increase participation rates. The programs aim to develop sport skills and participation rates at grass roots and representative levels. The programs fund the employment of Indigenous Sport Development Officers to connect with sporting groups and Indigenous communities and promote sport as a valued activity that can lead to improved health outcomes and possible employment opportunities. The programs also provide the opportunity to recognise and honour traditional Indigenous sports, which enhance fitness development and can be integrated with other sports programs.

Learning activity
1. Describe what is meant by the term 'Closing the Gap'.
2. Research other Indigenous sport initiatives that are being supported by Sport Australia or other government body. Outline the details related to one initiative.

Case study

Adam Goodes was born in South Australia in 1980 and began playing Australian football at the age of six. He has gone on to become a high profile, professional player and Captain of the Sydney Swans.

Goodes' father, Graham Goodes, is of English, Irish and Scottish descent, while his mother, Lisa May is an Indigenous Australian, being from the Adnyamathanha and Narungga people. Apart from captaining the Sydney Swans, Goodes has been acknowledged with many prestigious titles, including two Brownlow Medals, four All-Australian awards, Australian of the Year and his selection in the Indigenous Team of the Century.

Despite all of these successes, Goodes has unfortunately been the target of various racial attacks throughout his career. In 2013, in the Indigenous round, Goodes was called an ape by a 13-year-old girl who was at the match. Goodes stopped play and signalled for security to have the girl removed. This was a match that was meant to support and celebrate Indigenous Australians and it was tainted by racial slurs. The following day, Goodes tweeted, "Just received a phone call from a young girl apologising for her actions. Let's support her please #racismitstopswithme #Indigenousround".

Goodes has also publicly stated that his friendship with Eddie McGuire has been tarnished due to the Collingwood president's racial slurs, after McGuire referred to Goodes as a gorilla on a radio broadcast in 2014.

In the 2015 AFL competition, Goodes' Indigenous dance celebration after successfully kicking a goal received a mixed response in the media and wider football community. Goodes found himself once again in the centre of a polarised debate about racism and his celebration of Indigenous culture.

Goodes has done remarkable work throughout the AFL and the Indigenous community. He and former AFL player Michael O'Loughlin founded the GO Foundation, which aims to create pathways for Indigenous young people by offering scholarships to quality schools.

1. Research the major achievements of other prominent Indigenous athletes.
2. Discuss Goodes' reaction to being racially abused by a 13-year-old girl.
3. Suggest the reasons why Adam's Indigenous war dance was disliked by so many members of the public.
4. Create a presentation on the GO Foundation, using the website to gather information.

Practical activity

With a partner, research an Indigenous game (other than those listed in the Table 9.2) and present it to the class. Explain the rules of the game and where it originated.

Asian games

In Asian cultures, there are many traditional Asian games that have been passed down for hundreds of years. It is evident that many of the traditional Asian games are inclusive of aspects of Asian culture, such as the Great Wall of China and the concept of using chopsticks. Some are outlined in Table 9.3.

Table 9.3: Asian games.

Game	Description
Chinese Chicken (China)	- Players divided into even teams. - Bean bags placed in straight line with approximately 30cm between each in front of each team. - First player from each team pretends to be a 'lame chicken' and hops over each bean bag, making sure not to step on any. - When they get to the last bean bag, they kick it with their lifted foot. - They hop over and pick it up, then hop their way back through the bags. - When they return to the start, the next player becomes the lame chicken. - They hop through, kick away the last bag, collect it and hop back. - Gradually the bags will all be back at the start. - First team to get all the bags back wins.
Chinese Wall (China)	- Playing space set up on the playground with boundaries clearly marked out. - Half way across the playing area is the 'Chinese Wall', which is where the player who is in stands. - This space should be approximately three metres wide. - The rest of the players stand in the home zones at the end of the playing space. - When the person who is in calls 'start' everyone else has to run to the other home zone. - Person who is in must stay at the Chinese Wall and try to tip players as they run past. - If a player is tagged they join the Chinese Wall. - Last player running to the home zones wins.
Plant beans, reap beans (Hong Kong)	- Players divided into even teams. - Each team has five checkers which they pretend are beans. - Five small circles are drawn six metres from the starting line. - The first player must run one 'bean' at a time to one of the circles and 'plant' it. - Once all five beans have been planted, the second player runs out and 'harvests' the beans one at a time. - Third player runs out and plants the beans again. - Process keeps repeating until everyone has had a go. - First team wins.

Figure 9.19:
Japanese tag is similar to the western 'tips' game.

Table 9.3: Asian games.   *(continued)*

Game	Description
Japanese tag (Japan)	▪ Person who starts off as tipper is called 'oni'. ▪ Just like western 'tips' game. ▪ Difference is that wherever a player gets tipped, e.g. shoulder, waist, stomach, calf muscle, is where they have to keep one hand. ▪ They will have to tip the next person with the free hand only.
Pick-up sticks (Laos)	▪ Player drops chopsticks on the ground. ▪ They bounce the ball and bend down and pick up as many chopsticks off the ground and still catch the ball. ▪ Each catch of the ball, the number of chopsticks needed to stay in the game increases.
Sticks (Pakistan)	▪ Circle made in the ground with a diameter of approximately two metres. ▪ Sticks laid out all around the inside of the circle. ▪ Two throwing points on either side of the circle, around one to two metres from the outside of the circle. ▪ Take turns at throwing a rock into the circle to try and knock sticks out. ▪ Team with most sticks at the end wins.

Practical activity

In pairs, research a traditional Asian game and present it to the class. Include the rules and how the game is played as well as the meaning and origin of the game.

Games from other cultures around the world

Like Indigenous Australia and Asia, other cultures all around the world have games that are significant to their traditions and practices. Some cultural games are listed below.

- **'El gato y el ratón' – Puerto Rico:** This game is similar to 'Cat and Mouse'. Students hold hands and skip around in a circle. One student is in the middle of the circle and is the 'mouse'. Another student is on the outside of the circle and is the 'cat'. The cat has to try break into the middle of the circle and catch the mouse. Students in the circle are to help the mouse and let the mouse know where the cat is. The cat is allowed to force its way in or out of the circle, as long as it does not hurt any of the other students. When the mouse is caught, a new mouse and cat is selected.

- **'El pullmatun' – Chile:** Students are divided into two teams and a circle playing space is set up, roughly six metres in diameter, but space can be varied depending on the number of students. The team which is in (Team A) kick the ball around the space and try to hit the other team (Team B). Team B try to catch the ball with their hands to reverse the roles. Keep tally of the number of times each team hit the other team. The team with the highest score wins.

- **'Pepperches' – Luxembourg:** One player throws the ball at a wall and a second player must run forward and catch it. While the second player is catching the ball, the other students try to run as far away as possible. When player two has caught the ball, they yell 'stop' and the other students must immediately stop running and place their hands in the air above their head making a loop or ring shape. Player two can take up to three steps to get closer and has to try to throw the ball through one of the student's loops. If they do so, the other player gets a penalty point. If player two misses, they get a penalty point. Player two then throws the ball against the wall and player three catches it and the process repeats. The player with the least points wins.

- **'Doctor, Doctor' – Lebanon:** Similar to dodgeball. There are two teams and the object is to eliminate the other team's players. Each team has a doctor that they secretly select. The other team mustn't know who the doctor is. If a player is hit with a ball they must sit or crouch down. To get back into the game, the player's 'doctor' must come to free them. But if the other team hits the doctor, no one can be saved. Teams can select a fake doctor who 'pretends' to save their team members and takes attention away from the real doctor. If they get out it doesn't matter because the real doctor is still in.

- **'Steal the Bacon' – USA:** Students are divided into two teams and are numbered. Students stand in a straight line facing the other team, with approximately 20 metres between the two lines. Both number 1s will be across from each other, both the number 2s will be across from each other and so on. The bacon is placed in the middle. The teacher will call out a number and the people from each team with that number must run to the bacon. The person who reaches it first must then take the bacon back to their spot. The person who didn't make it to the bacon in time must try and tag the person with the bacon before they make it back to their spot. If the player with the bacon makes it back successfully, they get a point. If the other player tags the player with the bacon, their team gets a point. Play ends after a predefined number of points is reached.

Practical activity

In pairs, research one cultural game from another part of the world and present it to the class. Include the rules and how the game is played as well as the meaning and origin of the game.

Revision questions

1. Define the term 'modified games'.

2. Suggest ways to make a regular game of soccer:
   a. more difficult
   b. less difficult.

3. Research one existing modified sport and discuss the ways in which the sport has been modified.

4. Describe the cultural significance of Aboriginal games to Indigenous people.

5. Select a traditional Australian sport. Create a timeline for the development of that sport from its introduction into Australian culture until now.

6. Select one Indigenous game. Discuss the rules and draw a diagram of how it is played.

7. Select one Asian game. Discuss the rules and draw a diagram of how it is played.

8. Define the term 'SEPEP' and discuss its emergence in Australian physical education.

9. Explain the role of the following positions:
   a. player
   b. coach
   c. sports journalist.

10. Analyse the term 'inclusivity' in a games context and describe how it can improve physical education lessons.

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