

Five Minute Games



Five Minute Games

This collection of Maths games has been collated specifically to meet the needs of PYP students and their teachers.

A variety of skills and understandings are addressed, however, the main emphasis is on the development of strategies.

It is hoped that the students will enjoy the playing of each of the games, however, the times spent on discussing options and methods of solution will be of the greatest value.



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GREEDY PIG GAME

MATERIALS REQUIRED:

A 6 sided die is needed , and a drawn or photocopied game sheet similar to the one shown below. Other multi-sided die can be used to increase the players' daring!

The villain is number 2

1		
2		
3		
4		
5		
	TOTAL :	



STARTING THE GAME:

Stand up and write down the first three numbers rolled. Put them on ROW 1, GAME 1. If you wish to take a risk about a number 2 being thrown, remain standing and write more numbers. If you wish to stop, sit down and add your numbers.

IF NUMBER 2 is thrown and YOU ARE STANDING, your score for that game is 0 (zero), so don't be a GREEDY PIG! When the number 2 is thrown, or all children are seated, GAME 1 is finished.

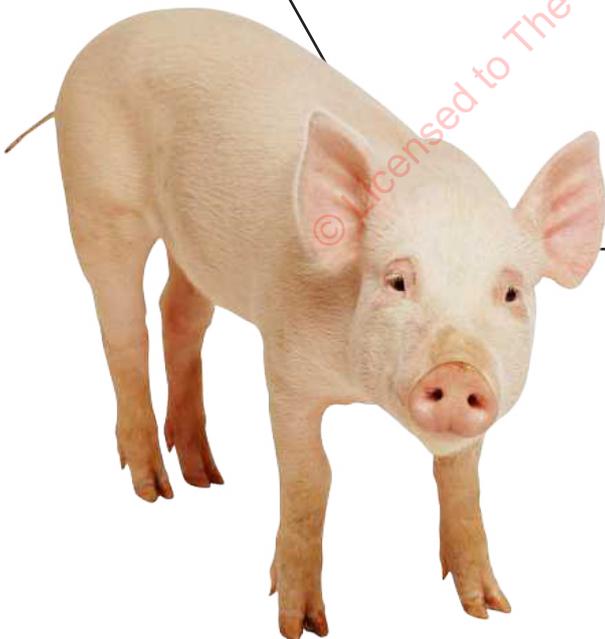
Continue with ROW 2, GAME 2. Once the last game has been completed, add totals. The highest total wins.

If a die with a larger number of faces is used, the game will (on average) take longer as the 'villain' number is less likely to be thrown early.

Useful discussions:

Is it best to 'sit' after 1, 2, 3, 4 .. numbers have been thrown?

How does this change as the number of sides on the die changes?



This game is very enjoyable, as children delight on catching the GREEDY PIG!

I CAN GUESS YOUR BIRTHDAY!

MATERIALS NEEDED: Just pencil and paper.

An amazing mathematical game which "guesses" the birthdays of your classmates.

Each month needs a number from 1 to 12 , starting with January -no.1 to December -no.12.



NOW, HAVE YOUR CLASSMATE WORK THROUGH THE STEPS BELOW.

- 1. Multiply the number of your birth month by 5.**
- 2. Add 7.**
- 3. Multiply by 4.**
- 4. Add 13.**
- 5. Multiply by 5.**
- 6. Add the number of the birth day.**
- 7. Subtract 205.**
- 8. What is your final number?**

SOLUTION: The hundreds column gives you the birth month, and the tens/units column gives the birth day. For instance, 726 is JULY 26th. Another example: 1015 is October 15th.



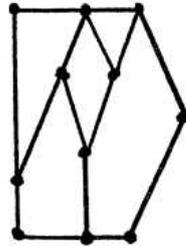
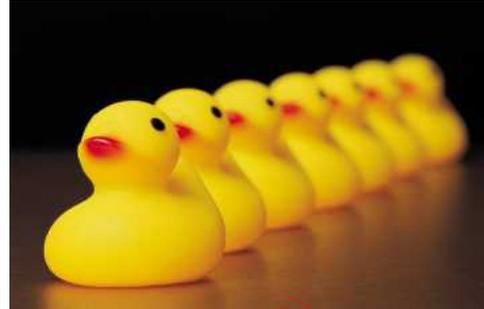
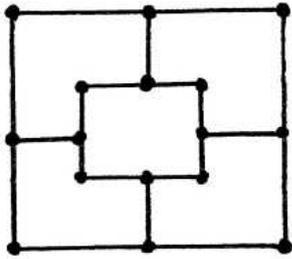
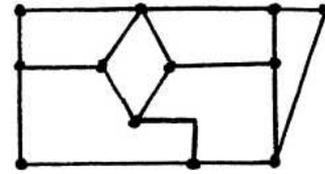
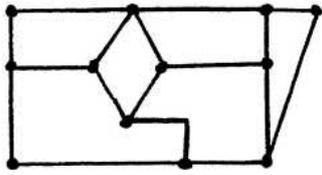
A calculator can be used to speed up the calculations. the aim of the game is to work out th process rather than to test the number skills

Useful discussions:

Why does this always work and can you prove that it always will?

Can this exercise be applied to another activity to confuse your friends?





**How are the diagrams constructed?
lines? corners?**

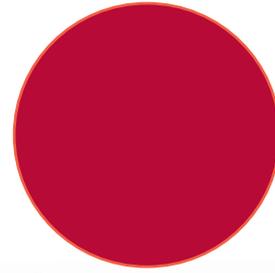
Can you find a way of recording your trials?

Useful discussions:
Is there a way of deciding if a shape is or is not a circuit BEFORE trying to draw through the lines?



NUMBER MASTERMIND

Using the traffic light colors



MATERIALS REQUIRED:

None, except a tens/units column on the board, (enough room for several guesses), and the words RED GREEN and ORANGE.

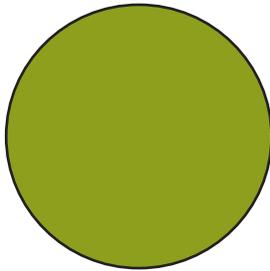
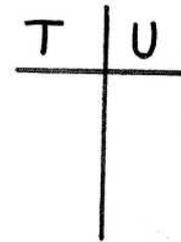
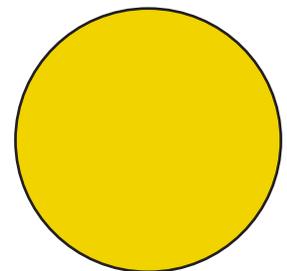


ILLUSTRATION:



PROCEDURE: A player chooses a number between 1-99 . This is kept secret. Players in the group try to identify the secret number by a process of elimination, by discovering the correct number and its position.

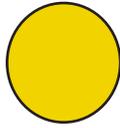
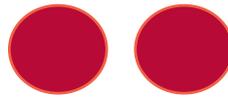


The player in charge of the secret number uses RED for none correct. 1 ORANGE for one correct but in wrong place, 1 GREEN for one correct, 2 GREEN : correct!

The secret number is 29

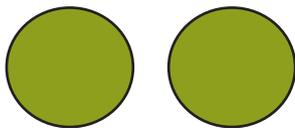
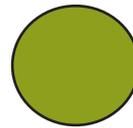


The first guess of 73 is 2 Red
(both incorrect!)



The second guess of 91 is
1 Orange (one correct but in the wrong place!)

The third guess of 49 is 1 Green
(one correct, one incorrect!)



The fourth guess of 29 is 2 Green
(both correct!)



This game is not limited
to 'tens & units'.
It can be extended to use
'hundreds and thousands' and
decimals.

Useful discussions:
Are there any strategies that could
be used to minimise the number
of guesses required?



"ONE LINER" TABLES GAME.

MATERIALS REQUIRED:

Two 6 sided dice.

A half a page of 5x5 grids.

A board list of the following numbers, which are the tables facts generated by multiplying one roll of the die by the other.

1,2,3,4,5,6,8,9,10,12,15,16,18,20,24,25,30,36.

Why is '14'
not in our
list?



OBJECT OF THE GAME:

To complete a line of numbers which have been the result of rolling both dice and multiplying the numbers.

12

24

36

15

5

PROCEDURE:

Players place a selection of the numbers sufficient to fill their games grid (25 numbers). They may repeat some choices 3 or 4 times,if desired.

6

9

16

25

30

The leader rolls the dice and calls the tables fact, to which the players respond by calling the answer and crossing out the number if it is on their grid. Only one numbered square can be crossed out at a time.

The game continues until a player scores a line of numbers, either horizontally, diagonally or vertically.

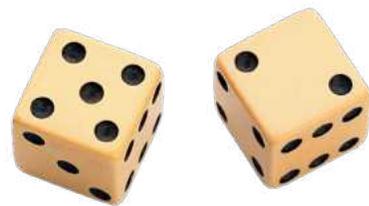
THE SUCCESSFUL PLAYER SHOULD CALL OUT "ONE LINER!"

NOTE: The leader needs to record dice rolls to check the winner's game.



This game can be adapted for the practice of other number skills such as addition.

Difficulty levels can be increased by using dice with different numbers of sides



Useful discussions:

But 18 & 10 are! If two 6-sided dice are used in a multiplication game, which numbers should be chosen for your grid the maximum number of times?

Which should be avoided?

The same questions can be asked when using dice with different numbers of sides.



STAIRCASE PLACE VALUE GAME.

MATERIALS REQUIRED:

A 10 sided die is required ,plus a photocopy of one of the following grid staircases, (over page) according to the difficulty you require. A calculator can be used for adding the grand total ,if desired.



The object of the game is to achieve the highest grand total by carefully placing the roll of the die in its highest place value position.



STARTING THE GAME:

Roll the die and instruct all players to place the number in the top right hand box in ROW 1.(this column represents units).



Roll again. The players may elect to place the resultant roll in the right or left box in ROW 2, depending on the value of the rolled number. The next rolled number must be placed in the vacant box.

Continue with ROW 3. This row must be completed before ROW 4, and so on. When the final row has been filled, add up the grand total. The excitement builds as opportunities are gained or lost.



Depending on the particular skills to be taught, the teacher can alter the game to give greater freedom as to where each resultant roll of the die can be placed.

The game requires strategy and a degree of luck.

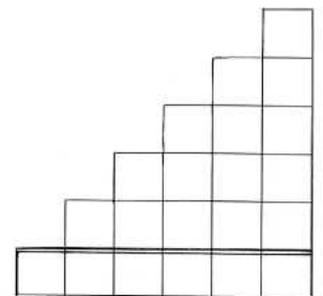
When should a 'chance' be taken?

Useful discussions:

Given a choice, where should an '9' be placed?

Where should a '1' be placed?

What should be done with a '5'?



Sample grids are available at the end of these pages.

A VARIATION TO THE GAME: Make the smallest possible total.

REDUCE THE NUMBER. (A good calculator game.)

MATERIALS REQUIRED: A calculator shared between two people.



PROCEDURE: The teacher writes a seven or eight digit number on the board, such as 98564291 .

Players take turns at subtracting ,but must follow this rule. "Subtract any number by repeating it ,as long as it is in the number above."



88? 4444? 222222?

CAUTION: If the subtracted number exceeds the one on the screen, the game is LOST.

Therefore, the following examples can be used from the number above: 5555 66666 888888 44 22222 999999 1.

Continue subtracting ,taking turns. Numbers, or repeated numbers may continue to be used, providing they are represented in the new answer.

E.G.

$$98564291 - 22222222 = 76342069$$

The numbers that can now be subtracted are:

777, 66666, 33,

Which should you choose?



The winner is the player who can reach zero first. It may take a while if players choose to subtract smaller numbers.

Is it always possible to get to zero by choosing the 'right' number to subtract?

Avoid jumping too far too soon!



Useful discussions:

Before starting the first game, are there any clues in the number given that will help you decide which repeated number to choose?

After 2 or 3 games, do you now have a strategy to help you decide which repeated number to choose.

Are there any other 'clues' that will help you avoid slipping **BELOW ZERO?**



REMEMBER, below zero loses the game!

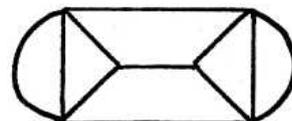
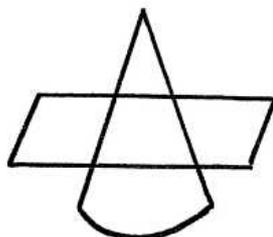
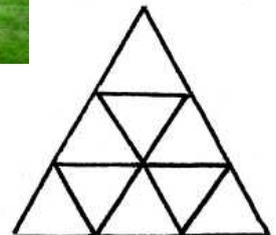
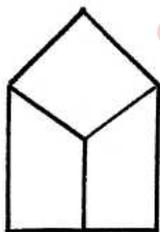
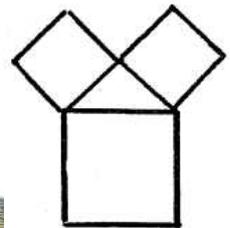
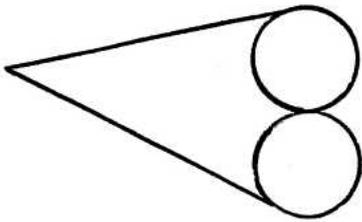
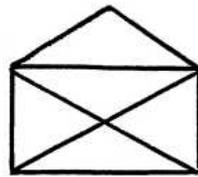
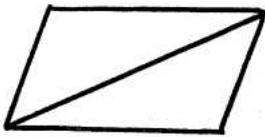
TRACING PATHS.

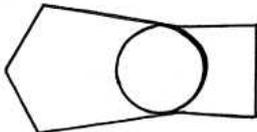
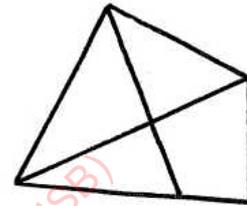
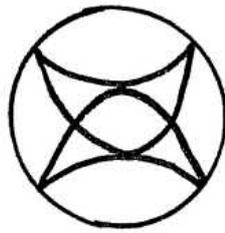
Can you trace a path along the following figures?

RULES: You cannot take your pencil from the paper.

You cannot cross any line.

You cannot go over any line more than once.





**Before tracing any of the paths,
put a Y or an N next to it.
Y if you think it can be traced, N if
you think it can't.
Were you right?**

Useful discussions:

**After arranging the paths into 2 groups, ones that
work and ones that don't, are there similarities within the
groups. Is there something that the ones that work have
in common?**

**Then, try creating two sets, again one where the
paths work and one where they don't.**

Now test them. Were you right?



TRADING TENS. (Excellent for Addition).

MATERIALS REQUIRED:

- A metre ruler per three children.
- Centimetre cubes and longs(10cm)
- A die. (6 sided)

cm	10	20	30	40	50	60	70	80	90	100
----	----	----	----	----	----	----	----	----	----	-----



PARTICIPANTS:

Two players and a "banker," who supplies the cubes and longs.

PROCEDURE:

Player 1 throws the die and receives the value in cubes from the banker. The cubes are carefully lined up along the top edge of the ruler. Player 2 throws the die and receives cubes to the value of the throw from the banker. Player 2's cubes are lined up along the bottom edge of the ruler.



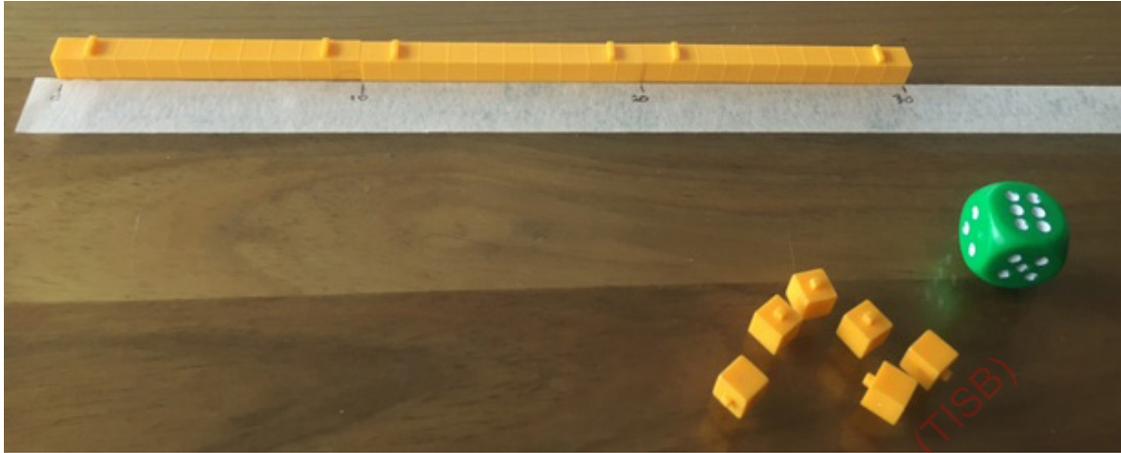
When it is time to trade ten cubes(units) for a ten (long), the player must supply these to the banker, who exchanges them.

The game continues until one player has reached 100cm. There is no requirement to "go out" exactly. First to 100 is the winner.

CAUTION:

Some children tend to trade more than ten units, so the banker should check the amount.

On average, the games are close, so a "big win" may mean someone may be playing incorrectly.



Students can make their own 100cm 'rulers'. Painters' tape is useful here as it can be affixed to the desks, won't move around and is easily removed (check this!).



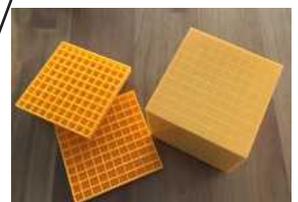
This game can also be played with shorter 'rulers' - 50cm, 60cm, ...

Dice with bigger numbers can also be used.

Useful discussions:

If a 6-sided die is used, how many throws are likely to be needed to reach 100?

The same question can be asked for dice with larger numbers of sides.



BASIC MASTERMIND.

MATERIALS: A chalkboard, whiteboard , or paper can be used.Can be a whole grade activity, or played in groups, or pairs.

MASTERMIND GRID: A 4x10 grid should be sufficient for most games.

PROCEDURE:

Choose 6 numerals or symbols, such as triangles, circles, squares, or operations symbols.



A person at the front of the room acts as recorder and "keeper of the secret number."



Four of the chosen numbers are entered in to begin the game. The recorder ticks or crosses the response. A tick identifies a number in the correct position. A cross identifies a number in an incorrect position. Let's say, for instance, that the "secret number " is 3412.

The grid would be marked, as in this example.

1	3	6	4	x x x
3	6	4	1	√ x x
3	4	6	2	√ √ √
3	4	1	2	√ √ √ √

DEGREES OF DIFFICULTY:
 Increase the number combinations.
 Allow numbers to be used twice.
 Have blank spaces in the solution.



This game is sometimes known as 'Cows and Bulls'.

A 'cow' is a correct number in the wrong place.

A 'bull' is a correct number in the right place

Useful discussions:

What numbers should be used for the first guess?
 Are there some that would be more helpful than others?

Does the choice matter for this first trial?

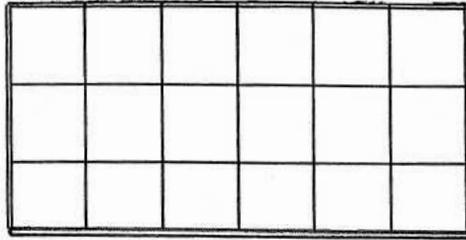
Should the same number be used more than once in a trial?

How should the ongoing information provided be used to solve the problem?

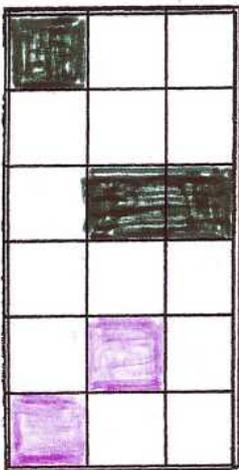


COLOR 1 or COLOR 2? (A tricky strategy game).

MATERIALS REQUIRED: The game is for two players with different colored pencils or marker pens. Draw a 6x3 grid, similar to the one below, (approx 1cm squares).

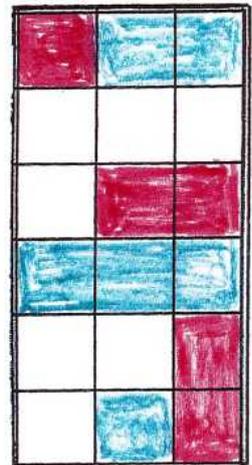


PROCEDURE: Each person takes turns at coloring in one or two squares at a time. If two squares are colored, they must be side by side, or one under the other.

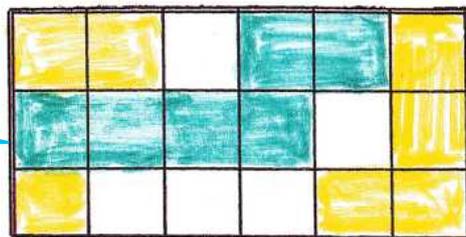


Where should pink go next?

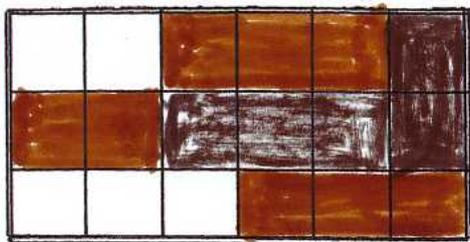
Where should red go next?



Where should green go next?



The object of the game is to be the person who colors in the last square, as that person wins.

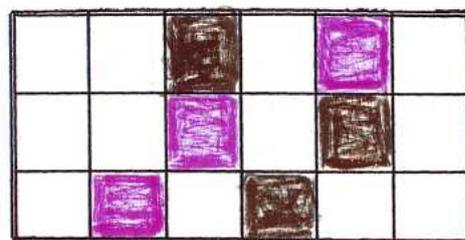
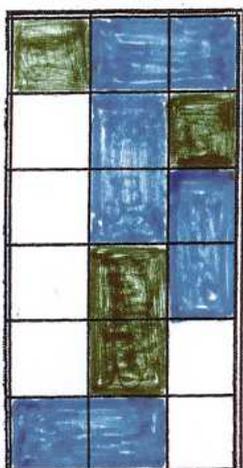


Introduce other rules e.g.

- *your squares have to touch at least one of your opponent's
- *your squares have to touch at least one of your own
- *you can only color one square at a time
- *you can color up to three squares at a time

Useful discussions:

Take turns to go first.
Does this make a difference to the result?



CO-ORDINATES.

(The good old "Battleships" game).

MATERIALS REQUIRED:

Paper and pencil. A grid, either 6x6 8x8 or 10x10 depending on the duration of the game. The teacher has a similar grid drawn on the board, if playing against the whole class ,or players can simply work in pairs.

A 6x6 game takes about 12mins, an 8x8 about 20mins and a 10x10 about 25mins approx.

	1	2	3	4	5	6
A						
B						
C						
D						
E						
F						



Players draw a specified number of "battleships" in random squares. 8 on a 6x6 grid,10 on an 8x8 grid , 15 on a 10x10 grid are examples.

Sample grids are available at the end of these pages but any similar organisation can be used depending on the skill levels of students.

The teacher calls the co-ordinate, for instance: B5, or C4, or A2 , and the players color in the blank square , or cross off a lost "battleship".

	1	2	3	4	5	6
A						
B						
C						
D						
E						
F						

If players are working in pairs, they simply take turns until a winner is determined.



Some students will have one of these Battleship Games at home and might bring it to the class

Useful discussions:
Are some places better than others?



THE WINNER OF THE GAME IS THE LAST PERSON TO HAVE A SURVIVING BATTLESHIP.

CAN YOU KEEP THE BEAT?

THIS IS A VERY SIMPLE BUT EFFECTIVE CLASSROOM OR GROUP ACTIVITY.

TO BEGIN: Write a vertical series of , say, 8 numerals on the board. For instance, let's say the numerals are:

2
5
7
6
8
1
4
9



Choose a suitable rule, such as Add 3. After two claps by the teacher, about a second apart, the children should be ready to call each answer while keeping the beat. Any set of numerals may be used, and any suitable rule practised. Groups and individual children can be involved.

$$2 + 3$$

$$5 + 3$$

$$7 + 3$$

More than 8 numerals makes the activity more difficult, as it becomes harder to "KEEP THE BEAT."



This activity is suited to the practice of most skills.

+ - × ÷

Useful discussions:

Are there strategies that can be developed for the particular skill being practised?



COUNTING RACES.

(Good for using scrap paper)

MATERIALS REQUIRED: Scrap paper and pen/pencil.

INFORMATION BEFORE COMMENCING: The range of activities is very flexible, and primarily depends on the ability of the class in general.



If, for instance, I want the children to count by 5, I may start at 0, or start at 65, or 80 or whatever! I may want to practice counting backwards, so I would start at 175, for instance. If I was counting by 6's, I would discuss the units pattern (6, 2, 8, 4, 0, 6, 2, 8, etc.. before commencing. I would follow this procedure with any of the harder counting patterns.



PROCEDURE: At the signal "GO", the class starts recording the counting numbers, writing horizontally or vertically, (I prefer vertically, as the pattern is clearer). One and a half minutes is a good duration for this activity.

Then the teacher says "STOP WRITING! EVERYONE STAND!" All must stop immediately. The teacher calls the counting sequence, and the children sit as their highest number, or last correct number is reached.



During this "COUNTDOWN", it is wise to compliment the efforts of children who have done well, but not necessarily finished in the top division.

The winner is the last person standing. CHECK RESPONSES.

This activity can also involve calculator skills, perhaps with students deciding whether or not they want to use one.
Does the calculator always win?
does it ever win?

Useful discussions:

These would involve the patterns of numbers generated

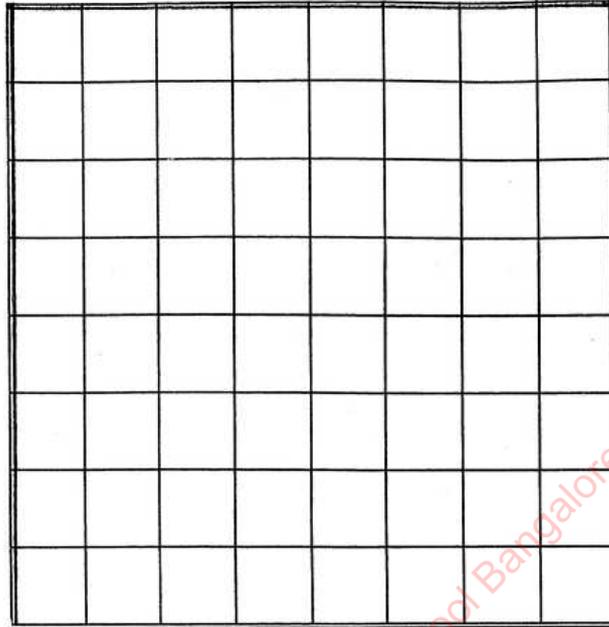
AND

Has anyone discovered the 'repeat' button on the calculator?
Does the calculator win now?



CRICKET GAME. (The five is out!)

MATERIALS NEEDED: A 6 sided die and an 8X8 grid, similar to the one below .



PROCEDURE: The children write in a set of numbers, either 1,2,3,4 or 6, **NOT FIVES!** All squares should contain a number, therefore each will be used several times. As the teacher rolls the die , the number is called and the children cross them out one at a time. If the teacher rolls a **FIVE**, the call of "OUT!" is heard, usually to the groans of the players.

This is a good opportunity to see tallies at work.



Tally Marks
|||||

The winner is the player who crosses out all numbers before the teacher takes 10 wickets, that is; rolling ten fives.

As the game progresses, the players will find that their supplies of a certain number have been exhausted. In that case, they miss a turn.



VARIATIONS: The game can be reduced by using a 6x6 grid. The teacher needs to take less wickets to "beat the children".

VALUE OF THE GAME: Basic concepts of probability are previewed, and children will find that random rolling of the die will vary enormously from game to game. Adding the scores is not necessary.

This game can be adapted to practise other basic skills with the introduction of two or more dice.

$+$ $-$ \times \div

Also, a die with more (or less) faces could be used.

Useful discussions:
These can involve probability.
The strategies change as the games are changed to involve higher numbers and/or different dice.

E.S.P.(extra sensory perception) GAME.

Draw up a 3X3 grid on the board, and use small pictures, diagrams or numerals, as in the example below.

1	2	3
4	5	6
7	8	9

Let the audience know which one you have selected, and then bring in the E.S.P. contestant. Point to any numeral and ask "Is this the one?" The contestant answers "YES" or "NO." You can keep the audience guessing by not divulging the solution, but once a contestant solves the puzzle, then tell them they have "E.S.P." Others will want to join the successful contestant but get them to keep it secret.

"Man cannot still the raging of the wind," wrote (Robert) FitzRoy, "but he can predict it. He cannot appease the storm, but he can escape its violence."

1861

Weather forecasting - Science or E.S.P. ?

SOLUTION: If for instance, the E.S.P. numeral is 5, the teacher must point in the very centre of any box on the grid, as that is where the "5" is situated. To make the "3" the numeral ,for instance ,then point to the top right hand corner of any box on the grid. The "6" for instance, is to the right of centre. The children take some time to realize that the positioning of the ruler, or pointer, is very important in solving the puzzle.



Useful discussions:

Assuming the ESP is a 'trick' between the leader and the contestant, what does the leader do differently from guess to guess?

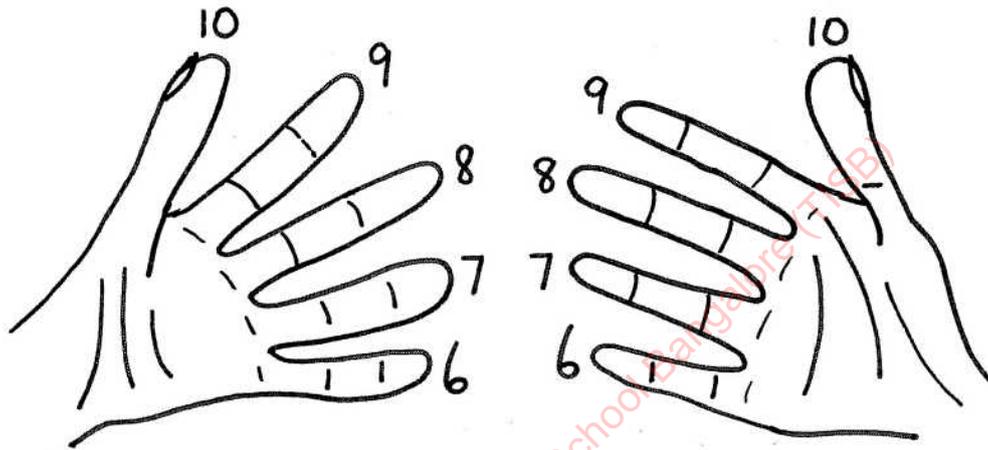
What ways could communication occur?



FINGER TABLES.

You can use the following method to work out the products of the 6 , 7 , 8 , 9 and 10 times tables.

You need only use your fingers as numbered in the examples below.



To multiply 6×9 , for example, bring the "6" finger of one hand to touch the "9" finger of the other hand.



Each of the touching fingers and those below, count as 10 each, so you have $5 \times 10 = 50$. Multiply the remaining fingers on the left hand by the remaining fingers on the right hand, so that you get $4 \times 1 = 4$. So $50 + 4 = 54$. $9 \times 6 = 54!$

Each of the touching fingers and those below, count as 10 each, so you have $5 \times 10 = 50$. Multiply the remaining fingers on the left hand by the remaining fingers on the right hand, so that you get $4 \times 1 = 4$. So $50 + 4 = 54$. $9 \times 6 = 54!$

This takes a little practice, however, like working with an abacus, familiarity improves results.

Useful discussions:

Why does this work?
What other ways can be used to foster memory?

Some examples work out a little differently, such as 7×6 . However, they DO WORK!

A hand can also be used to help remember the number of days in each month.



MAGIC SQUARES.

Magic squares are excellent for improving addition skills, and can be prepared in a wide range of difficulties.

18

10		4
8		

18

7	7	
3		

18

2		8
		10

If the children are working with magic squares for the first time, it is a good idea to allow them to solve the puzzles by trial and error.



18

	0	
	12	4

21

9		11
		5

21

2		8
13		



21

11		
6		8

Further squares are available at the end of these pages.

Simpler Magic Squares can be constructed for early learners

Useful discussions:

Strategies - looking at each square in turn which line/column is the best one to start with?

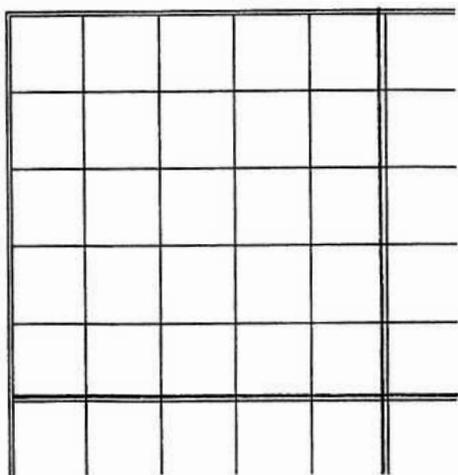
Which one should be worked next?

etc



MATHS POKER GAME.

MATERIALS NEEDED: A well mixed pack of cards with jokers removed, and a sheet of grids.



Sample grids are available at the end of these pages.

The objective of the game is to place the names of the cards as they are called on the grid in such a way that pairs, threes, fours and full houses (three of a kind and a pair), receive bonus points horizontally and vertically.

Points

A pair - 10 pts
3 of a kind - 20 pts
4 of a kind 30 pts
Full house - 40 pts



Children find the strategic placing of the card name horizontally is of a similar difficulty to vertically, but to place the card names to score both horizontally and vertically is more difficult.

2	2	6	6	7	20
2	4	4	4	5	20
Q	K	8	8	5	10
K	3	3	J	10	10
A	A	A	9	10	20
10	0	0	0	20	110

However, they will improve very quickly, and so will their adding of tens.

Extra complexity may be added with runs , for instance, 9,10,J,Q,K which are worth 50 points.



Understanding of the contents of a pack of cards, 4 suits, 13 cards in each, is very helpful later on when students are studying probability

Useful discussions:

These involve just where to place cards as they are called. Which squares will offer the greatest chances of successful runs?

“Thank you’ to champion Poker player Jackie Glazier for allowing us to use her photograph.

You may also vary the scoring to practise the adding of other numbers, but the relative values should be maintained.

AUSTRALIAN RULES FOOTBALL TABLES GAME

Although this game centres on an Australian game (where a 'goal' scores 6 points and a 'behind' 1 point), it can be adapted to any local game.

MATERIALS REQUIRED:

A six sided die.

A plastic football for each of two teams.

Some tables' facts appropriate to the age or ability level.

These may be asked orally, or on cards.

A scorer.



PROCEDURE:

Choose 2 teams of five children. The teams assemble at the front of the room, while the teacher sits at the back or side of the room.

1st is the full back.

2nd is the centre half back.

3rd is the centre.

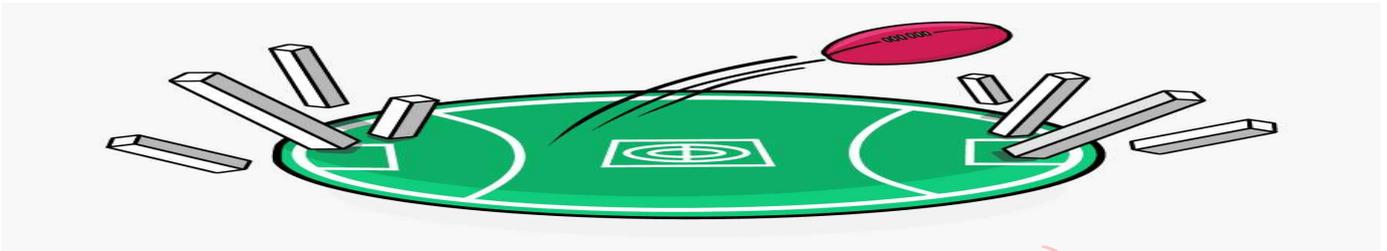
4th is the centre half forward.

5th is the full forward.

The full backs start the game, and hold the footballs.

The first to respond to an oral tables question, or from a card passes the football to the centre half back and so forth , until the full forward scores.

The successful full forward rolls the die. A 4,5 or 6 scores a goal,(6 points), while a 1,2 or 3 scores a behind, (1 point).



At the end of the round,the full forward becomes the full back, and all players move up a position, ensuring all have a turn at becoming a full forward. The game can be concluded at the end of a sequence,when all players have been a full forward.



This is essentially a game to assist in the development of skills.

Useful discussions:
Is there any strategy that could be employed to make the game easier to win?

NUMBER CHASE. (Indoors or outdoors).

THIS GAME SHOULD BE CALLED "Survival of the fittest", because it is fast and furious. Supervision is advisable, as collisions can occur. ALLOW 15mins for this activity.

Six individual cards are needed. These can be found towards the end of these pages.

MATERIALS:

Children need a pencil and jotter, as a single page is a little flimsy.

ROOM TO RUN. A crowded classroom is not suitable.



PROCEDURE: Pin , or attach the six cards to varying parts of the hall, enclosed area, or whatever. (About 6 metres apart).

Give each player a different number from 1 to 30. On the "START" signal, the player looks for the given number on a card (it will be on only ONE card), and then writes the new number which is arrowed. That number becomes the next to find. The players dart around from card to card in an attempt to be the first to return to their original number.(See note below for correction check).

To even the field, this game can be played in pairs and/or with handicaps

Useful discussions:

The purpose of handicapping, where it is common and how it can be best implemented is a useful investigation.

ANSWER SEQUENCE: 1→9→15→24→21→3→28→10→16→25→17→13→8→2→22→4→11→18→23→29→19→12→5→30→20→27→6→26→14→7→(1)→

TEACHERS:- NOTE: The sequence is 30 numbers, including the original. ANY LESS CONSTITUTES A MISTAKE. The game is tiring, so best not to play in a heatwave! Generally, the fittest players will feature among the fastest finishers.



TABLES BASKETBALL.

One,two and three point scores.

MATERIALS REQUIRED:

**A 6 sided die and two appropriately named teams.
The number in each team is reliant on room space.**

A scorer, whose job can be shared around.

A die thrower,who sits with the teacher.

A list of automatic response questions.

PROCEDURE:

The teacher sits at the back of the room, facing two teams. The first two give an oral response to a tables' fact. First to call correctly,scores.For a less competitive arrangement, children can answer in turns, with a time limit.



The thrower rolls the die. A 5 or 6 scores a three point play, a 3 or 4 scores a two point play, and a 1 or 2 scores one point.

A simple, but effective game which can be played for a few minutes, or for longer. The setup of the game can be altered to suit the teacher's requirements.

Different sided dice can be used and the rules adjusted accordingly..



Useful discussions:
Is it important to know tables facts to 10?

GOOD SHOOTING!

TABLES' BALL GAME. (Best played outside).

A game that needs only a few minutes of playing time ,
and a ball of some type.



Children assemble in a row , or circle ,with the teacher
out the front, or in the middle.

Each child has a number, ranging from one , to how
many there are in the group. There could be variations to
this arrangement.

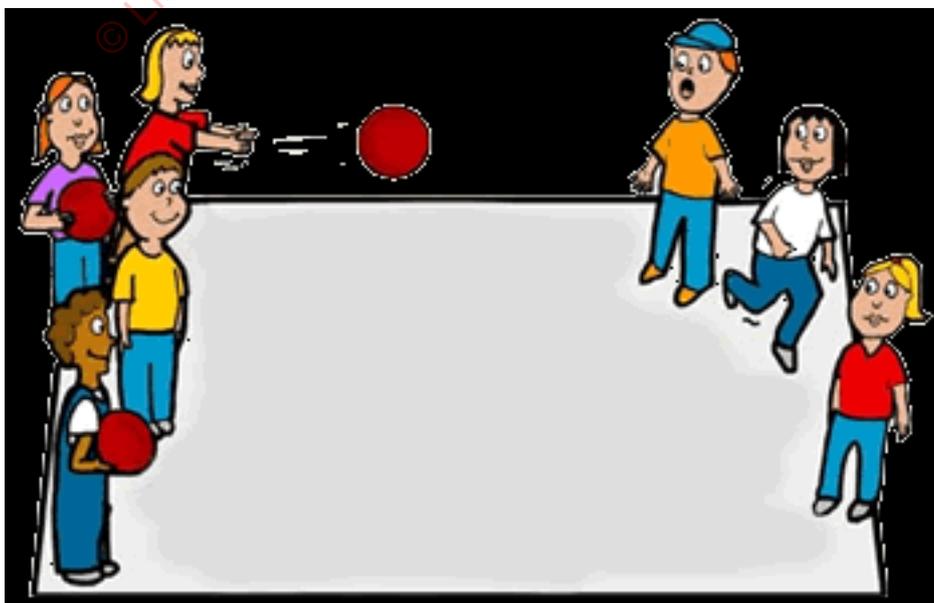
15

8

4

9

The teacher throws the ball into the air, while at the
same time calling a simple question involving one of the
four operations. The answer must be among the numbered
pupils.



The player who has the number which is the answer , runs forward and catches the ball.

A scoring system can be introduced if that is thought helpful.

The teacher can vary the difficulty of the number facts according to the abilities of the group and the skills being practised

Useful discussions:

Are there some numbers that are more likely to be used than others?

Does this change depending on the operation being practised?

Do students with Prime Numbers have a greater or lesser chance of being called?

5

7

2

37

17

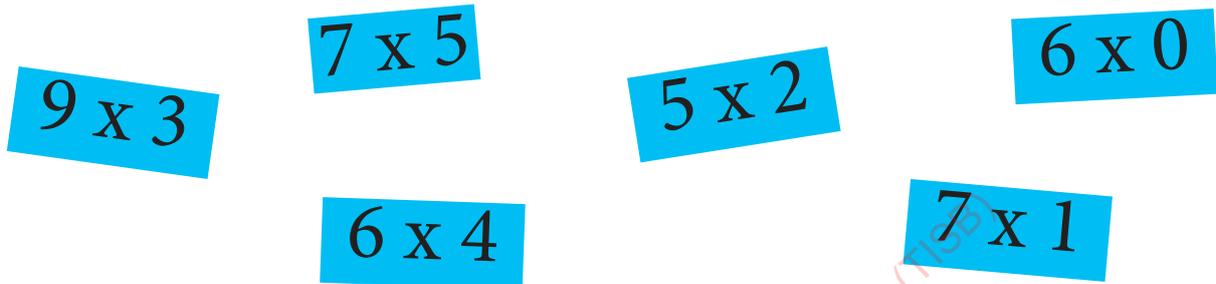
29

3

TABLES TEAMS RACE.

MATERIALS REQUIRED:

Two identical sets of 20 small flash cards with appropriate tables facts prepared beforehand.



Two teams , with each pair of players evenly chosen according to ability. The number in each team would be dependent on space available at the front of the room.

Shuffle the cards so that they do not appear in the same order for each team.

The teacher, (who sits at the back of the room), simply says "GO", and the first pair turn over the top card ,look at the equation,call the answer while showing the card to the teacher and audience. Used cards are put face down on a new pile, ensuring they are kept in order.

The teacher keeps the score , and the game continues until all cards are used . The procedure can be repeated if the teacher wishes.

This game can get very competitive, and significantly improves automatic recall of tables' facts.



This game can be adapted to concentrate on the table to be learnt.

Useful discussions:

Is it important in real-life situations to know your tables?

Why do we need to learn them?



BLANK CARDS OF PLAYING CARD SIZE can be purchased at stationery shops, and are excellent for this activity.

THE FIVE PIECES.

(A LITTLE PREPARATION REQUIRED BEFOREHAND).

DESCRIPTION OF GAME: The five pieces below can be combined to make several shapes. On the following page, the pieces are full size and ready to photocopy onto cover paper for cutting.

The shapes to be created are approximately drawn, however, the pieces to be used are of the correct size and shape.

Pieces for this activity are on the following pages.

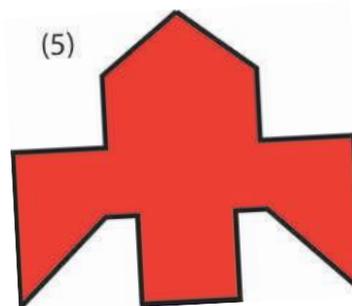
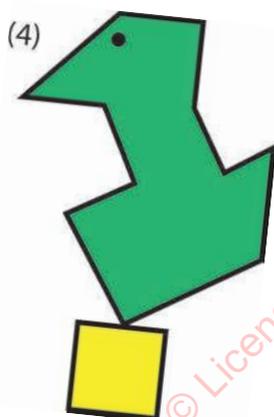
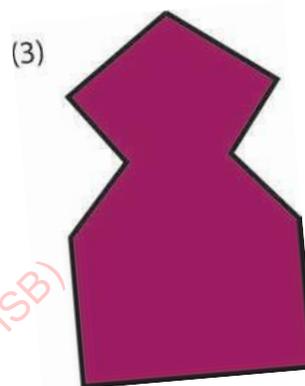
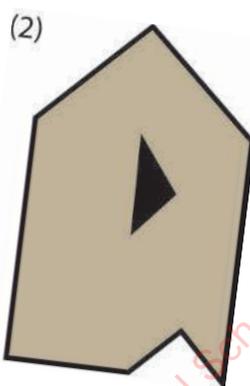
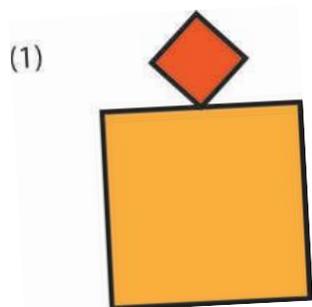
Useful discussions:

If one of the pieces is turned over, can the activity be completed?

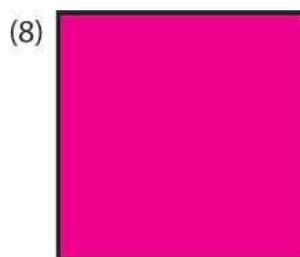
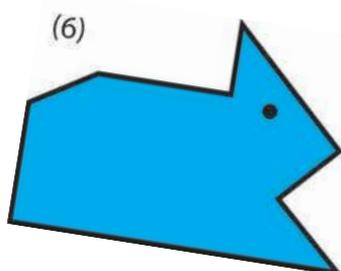
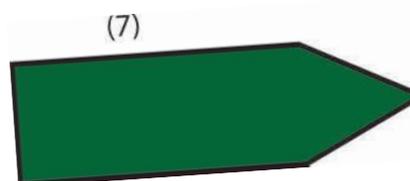
Is this true of all pieces?

What precaution could be taken?

PREPARATION: Once photocopying and cutting has been completed, the outline of the following shapes can be drawn on the board. They are roughly in order of difficulty, the square being the hardest. **ALL PIECES MUST BE USED WHEN COMPLETING AN OUTLINE.**

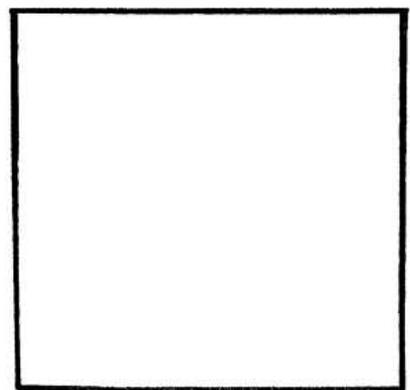
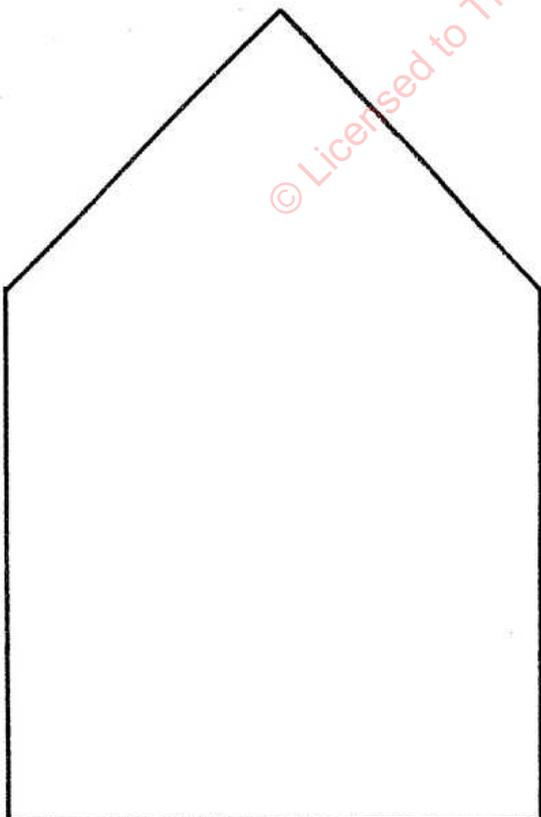
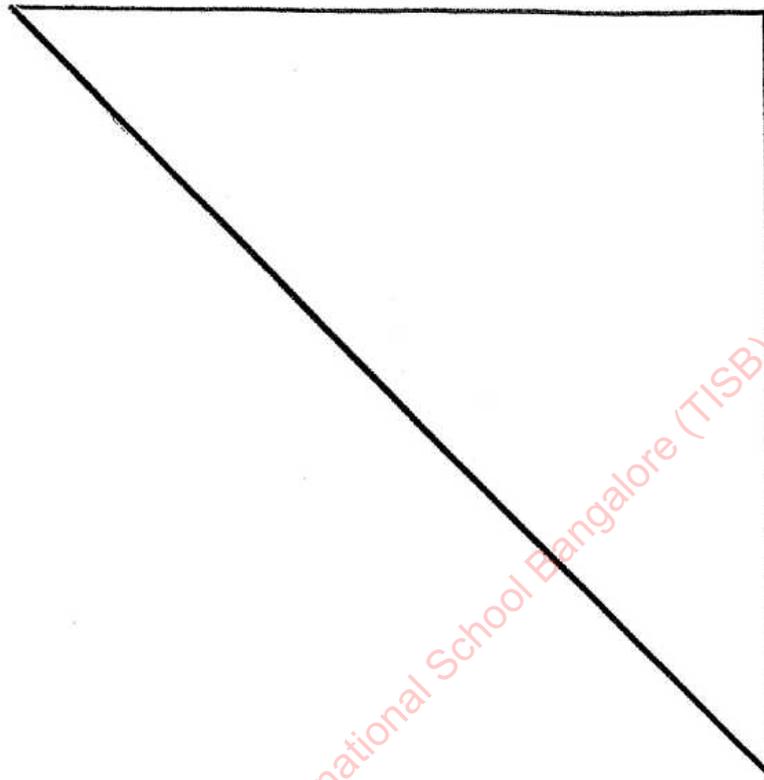


What other pictures can be made with these shapes?



THE FIVE PIECES.

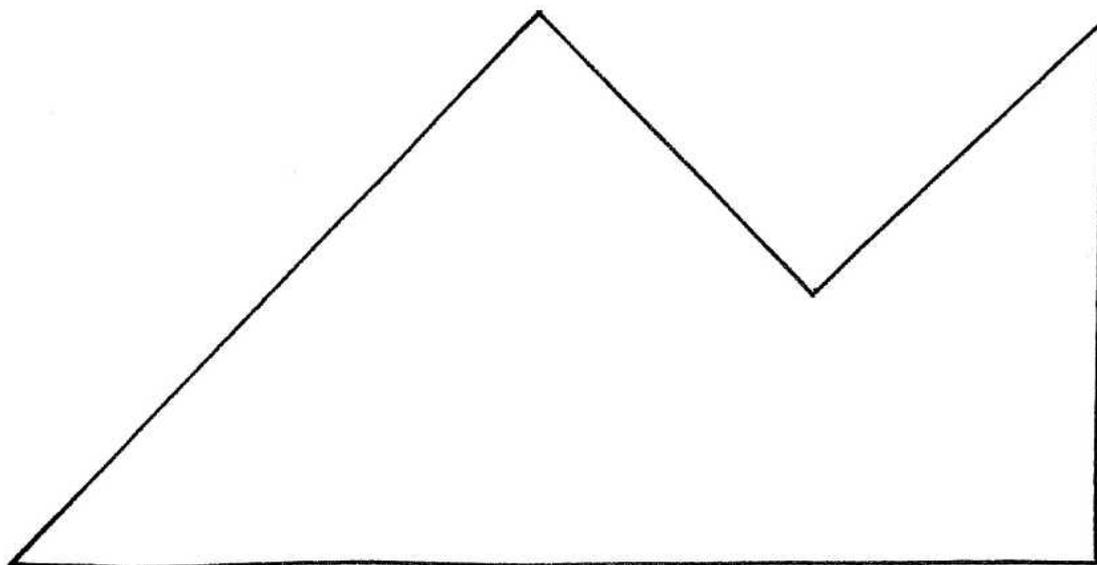
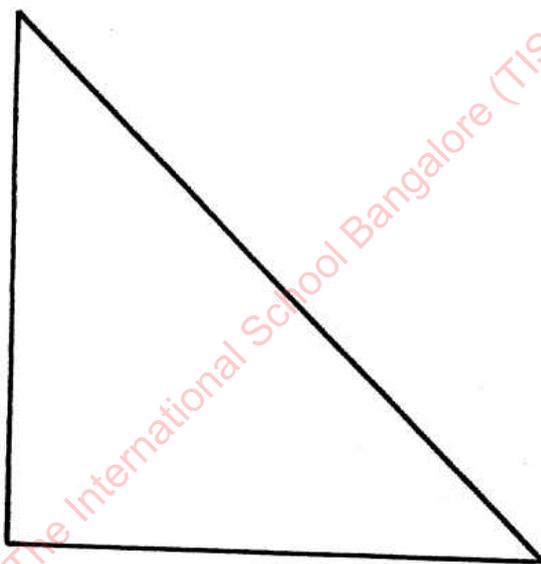
(FULL SIZE PIECES READY FOR CUTTING).



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Coloured and thicker than usual paper (or card) should be used.

This helps the pieces to stay separate, student from student.



NUMBER CHASE.

Games cards. Enlarge if required.

$$11 \rightarrow 18$$

$$3 \rightarrow 28$$

$$16 \rightarrow 25$$

$$22 \rightarrow 4$$

$$30 \rightarrow 20$$

$$8 \rightarrow 2$$

$$5 \rightarrow 30$$

$$15 \rightarrow 24$$

$$18 \rightarrow 23$$

$$21 \rightarrow 3$$

$$4 \rightarrow 11$$

$$10 \rightarrow 16$$

$$19 \rightarrow 12$$

$$23 \rightarrow 29$$

$$27 \rightarrow 6$$

$$6 \rightarrow 26$$

$$28 \rightarrow 10$$

$$12 \rightarrow 5$$

$$17 \rightarrow 13$$

$$24 \rightarrow 21$$

$$13 \rightarrow 8$$

$$1 \rightarrow 9$$

$$7 \rightarrow 1$$

$$20 \rightarrow 27$$

$$25 \rightarrow 17$$

$$14 \rightarrow 7$$

$$9 \rightarrow 15$$

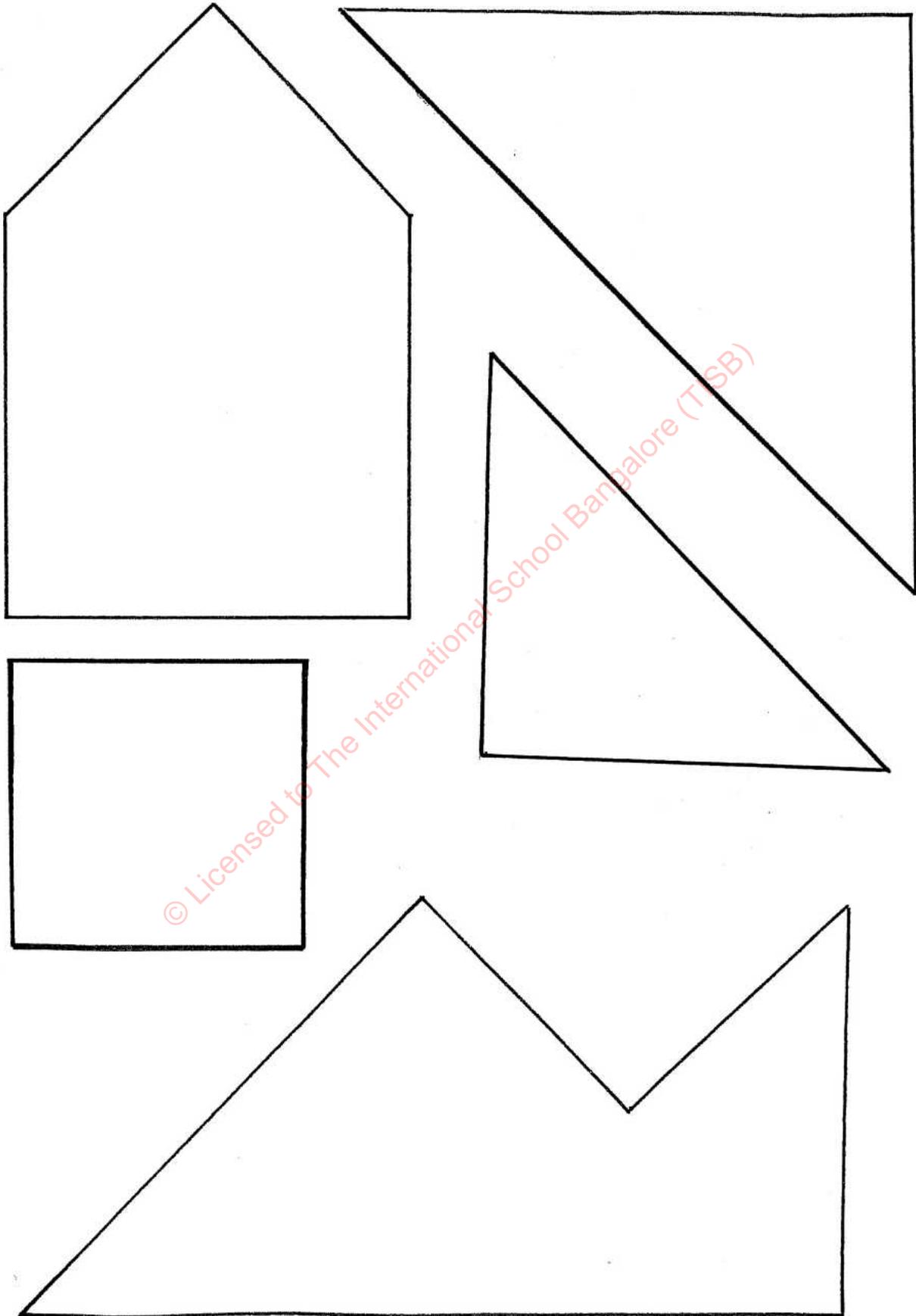
$$2 \rightarrow 22$$

$$26 \rightarrow 14$$

$$29 \rightarrow 19$$

THE FIVE PIECES.

(FULL SIZE PIECES READY FOR CUTTING).



MAGIC SQUARES.

24

		4
12		6

24

2		
		4
10		

24

3		
		6
11		

27

	14	
12	4	

27

7		
7		
	3	

27

		5
13		6

27

		4
	0	13

30

	15	11
		3

30

		8
9		
		11

30

5		
	9	8

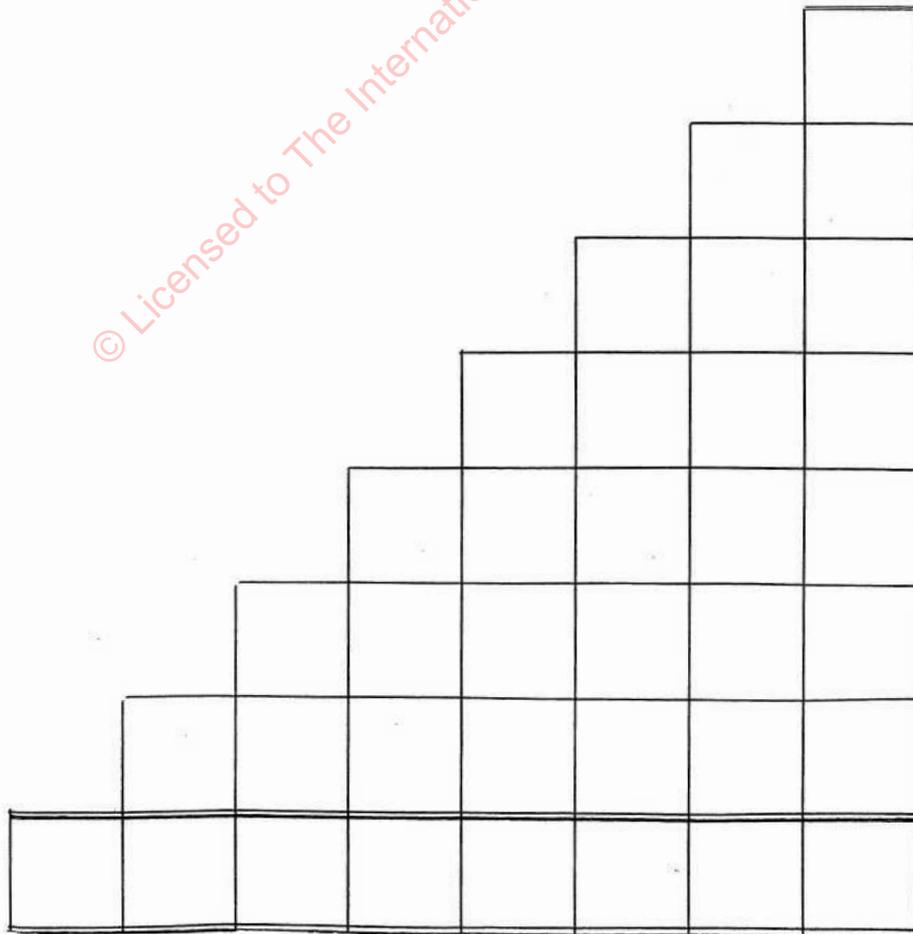
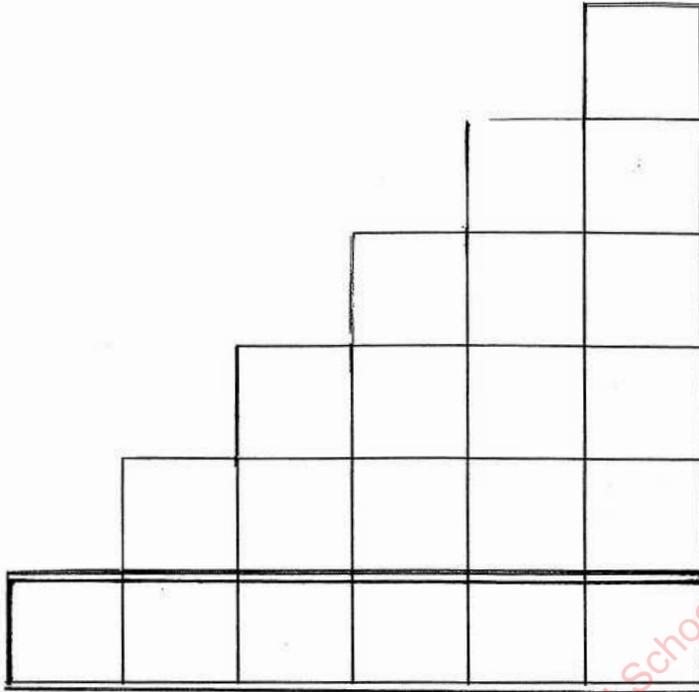
30

3		7
14		

30

6		9
	5	

GRIDS FOR STAIRCASE PLACE VALUE GAME.



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GRIDS FOR "ONE LINER" GAME.

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NUMBER CHASE.

Games cards. Enlarge if required.

$11 \rightarrow 18$

$3 \rightarrow 28$

$16 \rightarrow 25$

$22 \rightarrow 4$

$30 \rightarrow 20$

$8 \rightarrow 2$

$5 \rightarrow 30$

$15 \rightarrow 24$

$18 \rightarrow 23$

$21 \rightarrow 3$

$4 \rightarrow 11$

$10 \rightarrow 16$

$19 \rightarrow 12$

$23 \rightarrow 29$

$27 \rightarrow 6$

$6 \rightarrow 26$

$28 \rightarrow 10$

$12 \rightarrow 5$

$17 \rightarrow 13$

$24 \rightarrow 21$

$13 \rightarrow 8$

$1 \rightarrow 9$

$7 \rightarrow 1$

$20 \rightarrow 27$

$25 \rightarrow 17$

$14 \rightarrow 7$

$9 \rightarrow 15$

$2 \rightarrow 22$

$26 \rightarrow 14$

$29 \rightarrow 19$

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