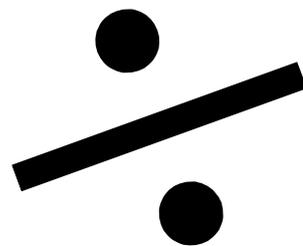
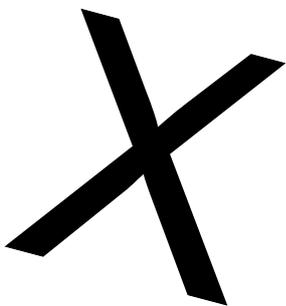


Copp School



Maths Trail





Information



**Please read these instructions
before you start the trail.**

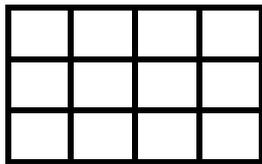
- ⊗ All children must be accompanied by an adult who may help and direct children to find the answers.
- ⊗ You will need a trail booklet, answer sheet and a pencil.
- ⊗ Answers are to be written on the plain answer sheets and answers numbered. Please do not write on the booklet as this may be used again.
- ⊗ Answer as many questions as you are able. You are not expected to answer them all.
- ⊗ Do not spend longer than 10 minutes on each section if you are to get round in less than 2 hours.
- ⊗ Marking sheets are available if you wish to mark your work.
- ⊗ Have fun!

**Copp
Maths Trail**



Front Entrance

- 1) Where can you find this pattern? Draw the pattern adding some more squares.

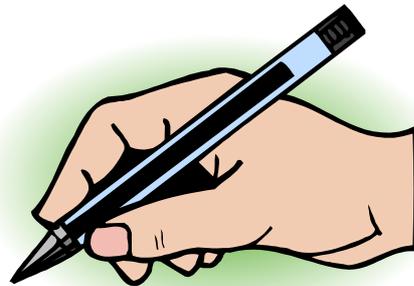


- 2) “Welcome” is written in different languages. How many?

Willkommen!

- 3) Which way does the round handle turn on the door?
Clockwise or anti-clockwise?
- 4) What shape is the letter box?

- 5) What shape are the pillars?
- 6) Are the two front doors symmetrical? Draw them.
- 7) There is a bench by the notice board. How old is it?
- 8) What year was it when the bench was 10 years old?

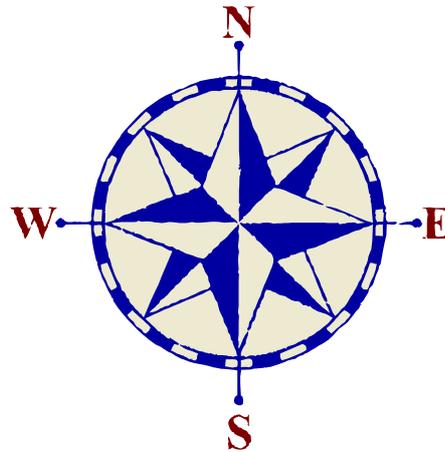


B



Find the compass points

- 1) Draw and label 4 or 8 points of the compass.
- 2) What direction is opposite North?
- 3) What direction is opposite South-east?
- 4) Stand in the middle of the compass. Face North. Make a $\frac{1}{4}$ turn to your right. In which direction are you facing?
- 5) Face West. Make a $\frac{1}{2}$ turn left. In which direction are you facing?
- 6) Face East. Turn 3 right angles clockwise. In which direction are you facing?
- 7) Face South. Turn 90° anti-clockwise. In which direction are you facing?
- 8) Face North. Take a bearing of 270° . In which direction are you facing?



HELP!

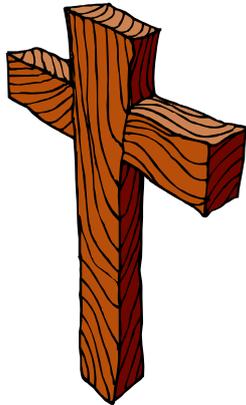
90° is a quarter turn.
A right angle is a quarter turn.

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Maths Trail

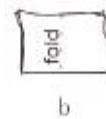


Face the school

Find the cross on the wall of the school.



- 1) How many bricks make up the cross on the side of the building?
- 2) Draw the pattern made by the bricks in the cross.
- 3) How many sloping bricks are there on the windowsill?
- 4) Look at the way the bricks are laid for the walls of the building. Draw the patterns made by the bricks.
- 5) Take a piece of paper and make a right angle like this.



- 6) Are the corners of the bricks right angles?
- 7) Where can you find 3 more right angled corners?
- 8) Estimate the number of bricks on the cross wall. Write down your method.

D



Walk to the sundial

- 1) How many sides has the surround of the sundial?



- 2) How many hours are marked round the sundial?

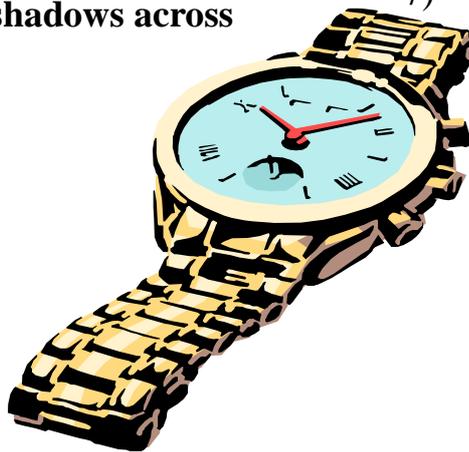
The sundial indicates the hours by lengthening shadows across the pointer.

- 3) What time is it on the sundial?

- 4) What time is it on a watch?

- 5) Is the sundial correct or not? Why?

- 6) How long have you been on the Maths trail now?



- 7) If you finish the trail in 30 minutes what time will it be then?

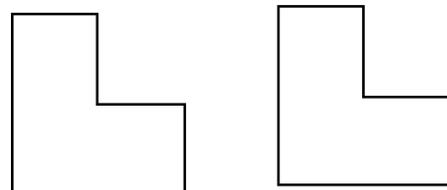
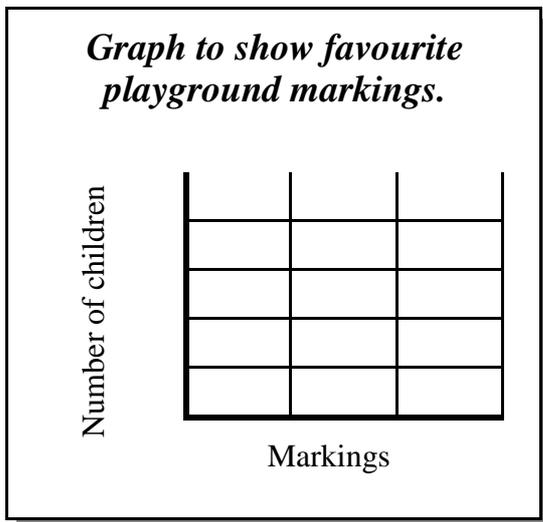


Turn to the playground

- 1 Write down 3 of your playground markings. Ask 10 people which of these markings they would like to play on and make a table of your answers.
Eg.

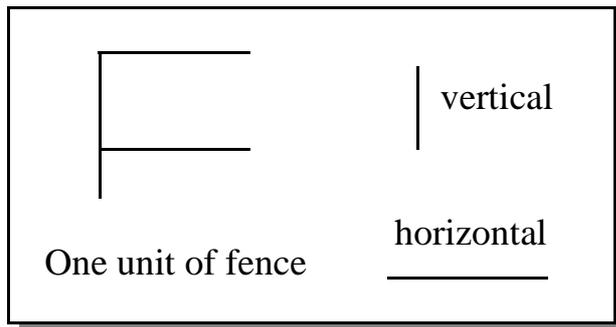
Marking	No. of children
Snake	
Hopscotch	
Shapes	
- 2 Which was the favourite playground marking?
- 3 Which was the least favourite?
- 4 Draw a playground marking you would like to see on the playground.
- 5 Work out the best place to put your marking.
- 6 How do you know you've got enough space?
- 8 Draw the shapes you can make if you join these two shapes together.

Make a bar chart to show your findings

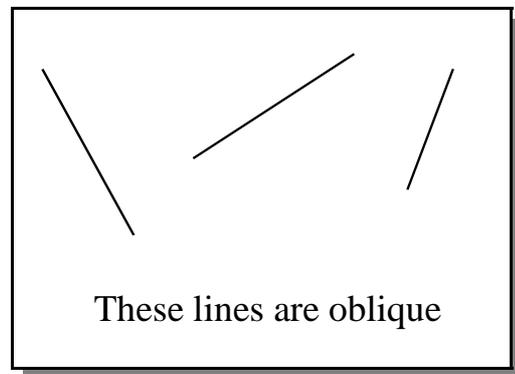




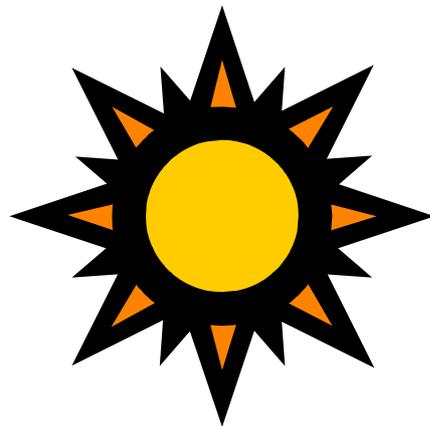
Look at the fences



7) Look at the sunshelter and draw a pattern of oblique lines.



- 1) How many vertical and horizontal bars does it take to make 1 unit of fence?
- 2) Draw a fence unit.
- 3) Draw 7 fence units joined together.
- 4) How many vertical and horizontal bars would it take to make 7 units of fencing?
- 5) Name one thing in the playground that is horizontal.
- 6) Name one thing in the playground that is vertical.



J1



Rest time sheet 1

Find a place to rest to complete your trail. Write down each answer to find the secret message. The number in brackets is the number of letters in the answer. The first letter of each answer spells the message.

1. To fit together without leaving gaps (9)
2. The name of each piece when a whole one is divided into 2 (4)
3. Total the numbers. (3)
4. Figure or figures representing a quantity of something (6)
5. Unit of measure for weight (8)
6. Unit of measure for time (4)
7. Opposite of even (3)
8. Hundreds, tens and (5)
9. The name of each piece when a whole one is divided into 5 pieces (5)
10. An angle greater than 90° but less than 180° (6)
11. Line from centre of a circle to the circumference (6)

J2



Rest time sheet 2

- 12. Two lines that will never meet (8)
- 13. Unit of measure for capacity (5)
- 14. End result of a calculation (6)
- 15. Not the x axis on a graph (1)
- 16. An endless number represented by this symbol ∞ (8)
- 17. Top number in a fraction (9)
- 18. Diagram representing numbers and information (5)

The message is																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

Hope you enjoyed our Maths Trail.

**Copp
Maths Trail**



Rest time

Find a place to rest to complete your trail. Write down each answer to find the secret message. The first letter of each answer spells the message.

Count along the alphabet and write the letter you land on.

ABCDEFGHIJKLMNOPQRSTUVWXYZ

- | | | |
|-----------------------|------------------------|-----------------------|
| 1) 20 along | 7) Looks like zero | 13) Halfway minus 2 |
| 2) 8th letter | 8) Y less 4 | 14) On the left of B |
| 3) First letter | 9) $A + 8 - 3$ | 15) Next to last |
| 4) $K + 3$ | 10) 15 along | 16) Looks like one |
| 5) $N - 3$ | 11) 9×2 along | 17) First of 2nd half |
| 6) 5×5 along | 12) Half way add 3 | 18) B, jump over 4 |

The message is

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

Hope you enjoyed our Maths Trail.

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Maths Trail

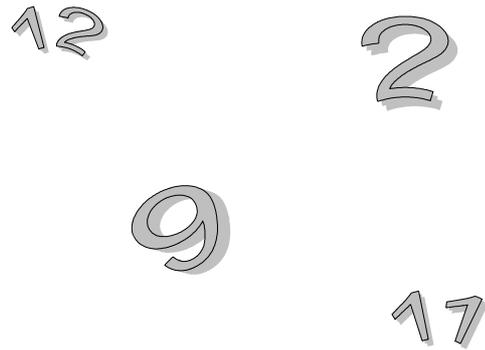
G



Look at the clockface



- 1) Draw the clock face with the numbers in the correct places.
- 2) What is the largest number?
- 3) What is the smallest number?
- 4) Which numbers have 2 digits?
- 5) What time is shown on the clock?
- 6) What time is it in digital time?
- 7) If it is the afternoon what time is it in 24 hour clock time?
- 8) Complete the pattern:-



12,4 11,3 10,2 9,1 8,12 7,11 _ _ _ _ _ _ 12,4

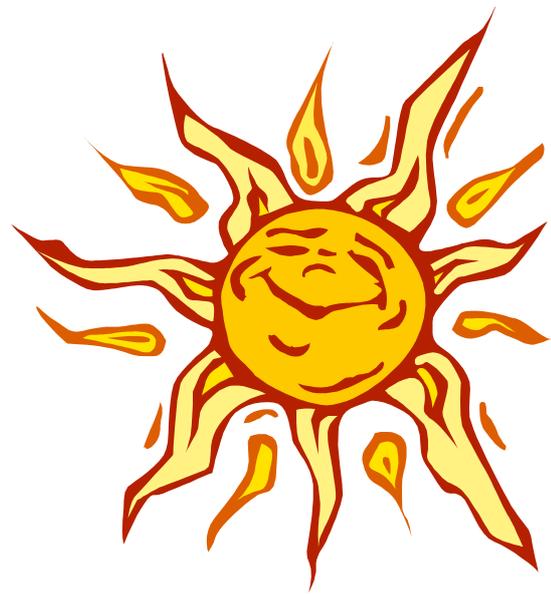
Hint: Try standing on the numbers with a friend.





Go to the sunshelter

This is what it says on the sunshelter.
This Sun Shelter was designed by Nicola Rowley, Year 6 pupil, constructed by Kirkham Business Enterprises, sponsored by British Aerospace and opened by The Rt. Hon. Michael Jack M.P. on the 12th June 1998.

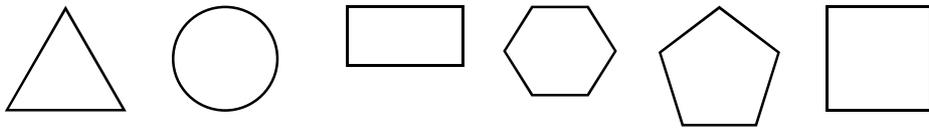


- 1) Which are the longest words?
- 2) Which are the shortest words?
- 3) Count all the letters on the plaque.
- 4) Count the numbers.
- 5) Are there **more** or **fewer** letters than numbers?
- 6) Work out how many times each letter is used?
- 7) Which letter is used most frequently?



Look at the birdtable

1. Draw the shapes which you can find on the birdtable.



- 2) Which shape occurs most?
- 3) Can you think why?
- 4) How many steps up to the bird table?
- 5) If you move up and down them 9 times how many steps will you have climbed up?
- 6) How many steps will you have climbed down?
- 7) How many steps will you have taken altogether?
- 8) Draw the bird table from one side.
- 9) Look at the shape of the roof. Can you imagine what it would look like from above? Draw it.



J

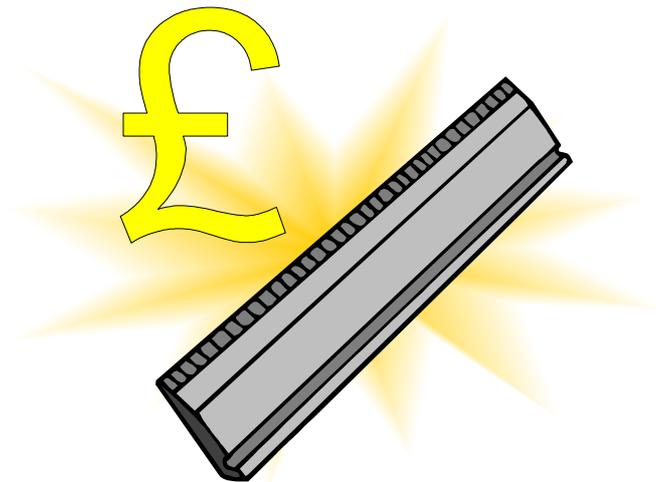


Find a bench

- 1) How many legs has the bench?
- 2) How many slats on the back?
- 3) How many slats on the seat?
- 4) Find the total number of slats on the back and the seat.
- 5) How many legs on 7 benches?
- 6) If the benches had 36 legs between them how many benches would there be?
- 9) If the bench seat is 2 metres long and the wood costs £4 per metre, how much would it cost to make the slats for the seat?



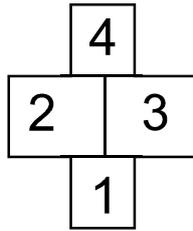
- 7) Draw a pattern using bench shapes like this.
- 8) Make up a pattern of your own using the same shapes.



K



Look at the hopscotch

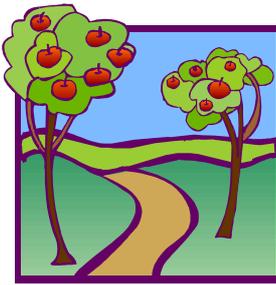


- 1) Which number starts the hopscotch?
- 2) Which number finishes the hopscotch?
- 3) Which number is your age?
- 4) Which numbers are odd?
- 5) Which numbers are even?
- 6) Which numbers are in pairs?
- 7) Which numbers are by themselves?
- 8) Add together each pair of numbers.
- 9) Add together all the single numbers.
- 10) Which answer is greater?
- 11) Which numbers are in the 2x table?
- 12) Which numbers are in the 4x table?
- 13) Which numbers are in both the 2 and 4x tables?
- 14) Add up all the numbers.
- 15) Is there an easy way of calculating this answer? Write it down.



Look at the roadway

(on the playground)

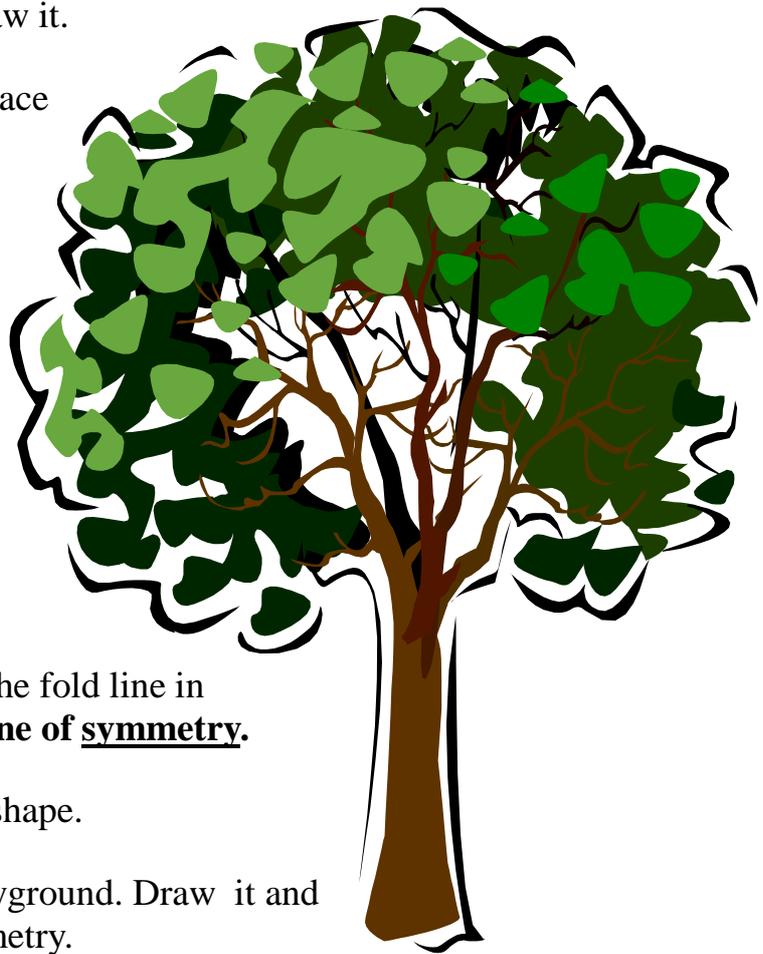


- 1) Start at the picnic tables and draw the buildings along the road.
- 2) Put a cross under the first building.
- 3) Put a circle round the 4th.
- 4) Put a tick under the 3rd.
- 5) Which building is in the middle?
- 6) Which building is most symmetrical?
- 7) Calculate the length of the roadway in any unit you choose.



Find a tree

- 1) Pick a leaf off a tree and draw it.
- 2) Does the leaf cover more space than your hand?
- 3) Find 2 other things you can cover completely with your leaf.
- 4) Find 2 things that you can't quite cover with your leaf.
- 5) Which has the largest area, your leaf or your hand?
- 6) Fold the leaf in half. Mark the fold line in your drawing. **This is the line of symmetry.**
- 7) Draw another symmetrical shape.
- 8) Find the hexagon in the playground. Draw it and mark in all its lines of symmetry.





Additional Information

The Maths Trail for this competition is designed as the first in a series of trails in the further development of our school grounds. Other trails to follow are Science Trail and Environment Trail. The Trail will be used to develop parental involvement and interest in the school.

The format of the trail is designed for ease of use and availability of resources. The questions are in booklet form which will last for two or three subsequent occasions. Answer sheets are plain pieces of paper for pupils to write in their own question numbers. This links up with our classroom practice of clearly setting out answers in their work. It also leaves plenty of room for explanations and diagrams where necessary and caters for different sizes of writing.

The content of the trail covers all the primary ages from 5 – 11 years. It is intended that the children do the questions which are relevant to their age and ability. Consequently 5 year olds will be able to answer 2 – 3 questions in any section, 11 year olds most of the questions depending on ability. There is also scope for extra work for more able pupils in the drawing of graphs and presentation of methods.

*The Trail takes between 1 and 2 hours to complete and includes:-
Time, dates, patterns, shape, angles, number, frequency, estimation, calculations and graphs.*

A puzzle, with optional easy/hard questions, concludes the Trail.

There are no prizes for completing the trail but participants will have access to mark their own answer sheets.



**Copp
Maths Trail**

The logo is a blue rounded rectangle with a white border and a black outline. The text 'Copp Maths Trail' is written in white, bold, sans-serif font.



Answer Sheet

Start time.....