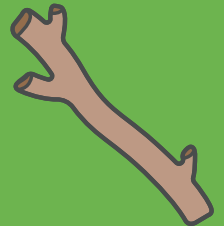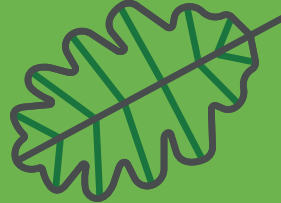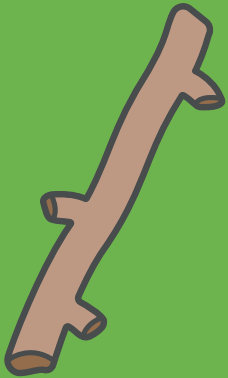# Maths-*Whizz*®
by **whizz** EDUCATION

Making Maths Stick
End of year one

Maths-Whizz account details:

Username _____

Password _____

🌐 www.whizz.com

f @MathsWhizzTutor

🐦 @MathsWhizzTutor

Contents

Making Maths Stick

Did you know?

At Whizz Education, we've been examining our live learning data which shows that **children can lose 2.6 months worth of learning over a typical 6 week summer holiday!**

This is known as Summer Learning Loss and this year, we've decided to do something about it.

Overall summer learning loss
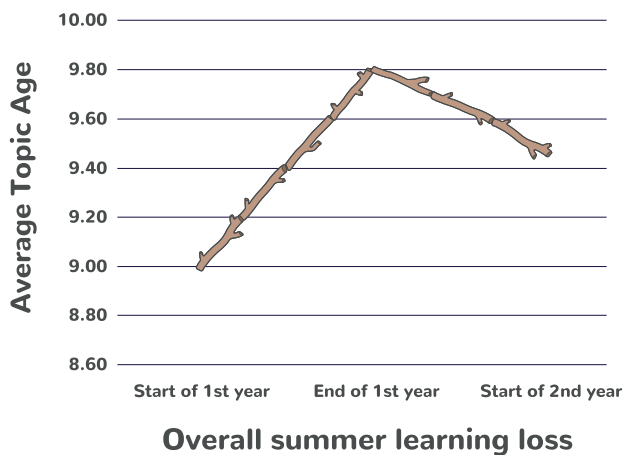
Reducing summer learning loss

We recommend children continue to use Maths-Whizz throughout the year, achieving at least 3 Progressions each week (that's likely to take between 45 and 60 minutes per week). So, over a 6-week summer holiday, not only will children be able to maintain their maths knowledge, they will also make additional progress as well. For such a small amount of time each week the gains are huge!

Making Maths Stick this summer

We've created a handy chart for you to stick up at home as a way of tracking the Progressions your child has made on Maths-Whizz over the holidays.

We've also created a fun activity pack, full of ideas, activities and games to bring the maths your children have been learning at school to life, and all inspired by the outdoors! The activities and games can be done at home, on holiday, while you're visiting friends, in the local park, the wood, at the beach or in the garden. Our activities involve a range of engaging, hands-on activities and games to suit all learning styles. Every activity aims to encourage enquiry, creativity and teamwork in making maths fun.

Getting started

Everything you need can be found outdoors or in cupboards at home, so you can be creative! For rainy days or if you want to stay indoors, you can use paper straws, spaghetti, pencils, beans or building blocks. If you're outside, remind children to be kind to the environment - be careful not to disturb or damage trees or plants, use what you find on the ground instead. And always wash your hands before handling food and drinks.

What's in the pack?

There are 12 activities, for each year group - have a look through and you can choose the pack that matches the year group your child has just finished or the year group they will join in September. Try to complete two a week throughout the holidays.

Connect with us!

Share what you have been up to with us through Twitter or Facebook - just search **@MathsWhizzTutor**. We will share the best of your posts with our followers each week! Most of all, have fun Making Maths Stick over the summer.

Name:

![Maths-Whizz by whizz EDUCATION logo]

Weekly Progression chart

Maths-Whizz Progressions

Draw a tick over the stone for every Progression you make.
How many did you make in total this week? Write it in the box!

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Activities

Put a tick in the box when you have completed the exercise in your 'Making Maths Stick' activity pack!

1	2	3
4	5	6
7	8	9
10	11	12

Activity one - Stick tapping or pointing

Key skills

- To be able to count forwards and backwards from zero or any given number.

Have ready

- Stick or something to tap or point with.

Activity

- Children need lots of practice with counting. It's important the child says the number on the tap or point – the speed of the tap can vary. The child can keep on counting until you say stop or you ask them to count on or back so many.

- Using a stick, the child taps the stick on the ground (or the adult can do this) and on each tap the child could do any of the following:

Count on from different numbers

"15, 16, 17, 18, 19..."

Count back from different numbers
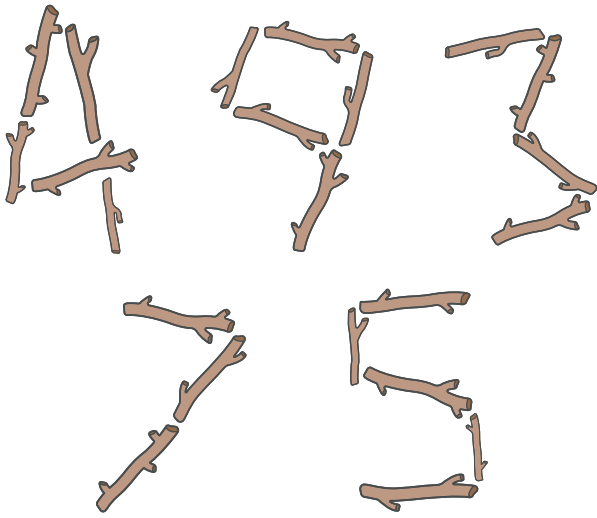
"25, 24, 23, 22..."

Switch between the two when given a command like 'change'

"34, 35, 36 'CHANGE' 35, 34, 33"
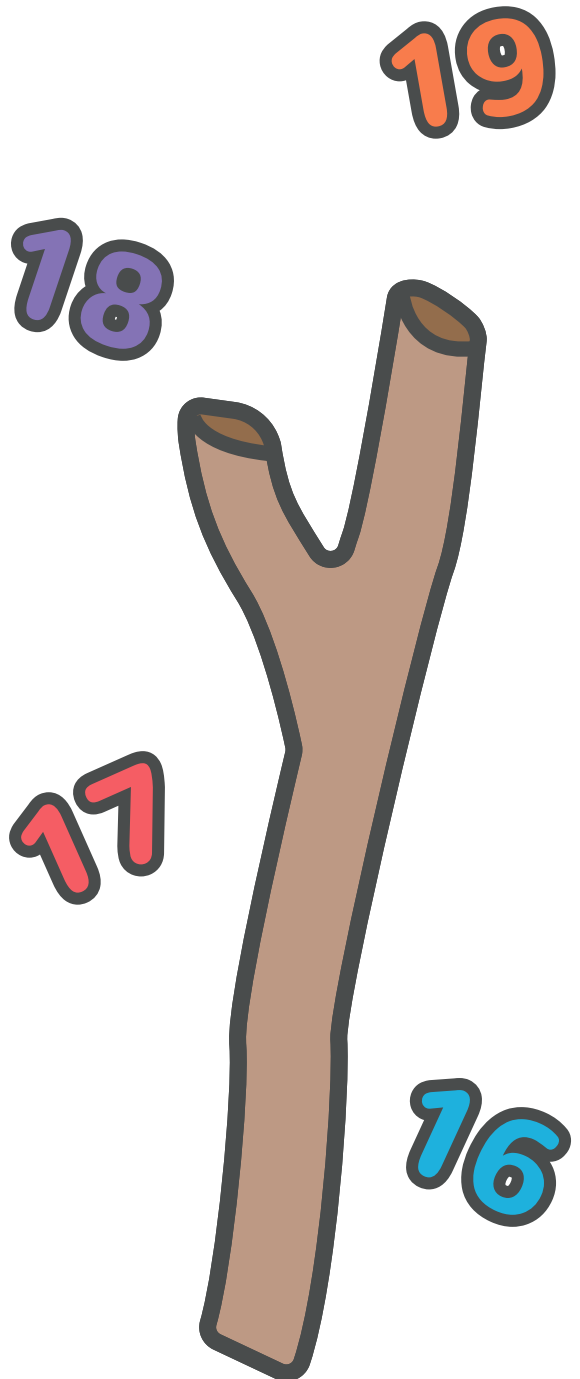
Activity two - Making numbers

Key skills

- To be able to read and write numerals.

Have ready

- Sticks or alternatives.

Activity

- The challenge is to create the numerals 1-9 with sticks or other resources.

- Can you create a 2-digit number?

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Activity three - Counting stick

Key skills

- To be able to count forwards and backwards from zero or any given number.

- To count in multiples.

Have ready

- A stick, broom handle or pole at least a metre long, OR...

- Draw a chalk line on paving slabs, or even use the edge of a table and tape.

Activity

- Using the resources, make a counting stick (no longer than a metre) and with your child work out how to divide it into **10** equal parts.

- Mark each division with a pen, tape or tie string. This is now ready for all sorts of counting.

- Each mark/division can represent whatever you want it to. Point to the division as you count.
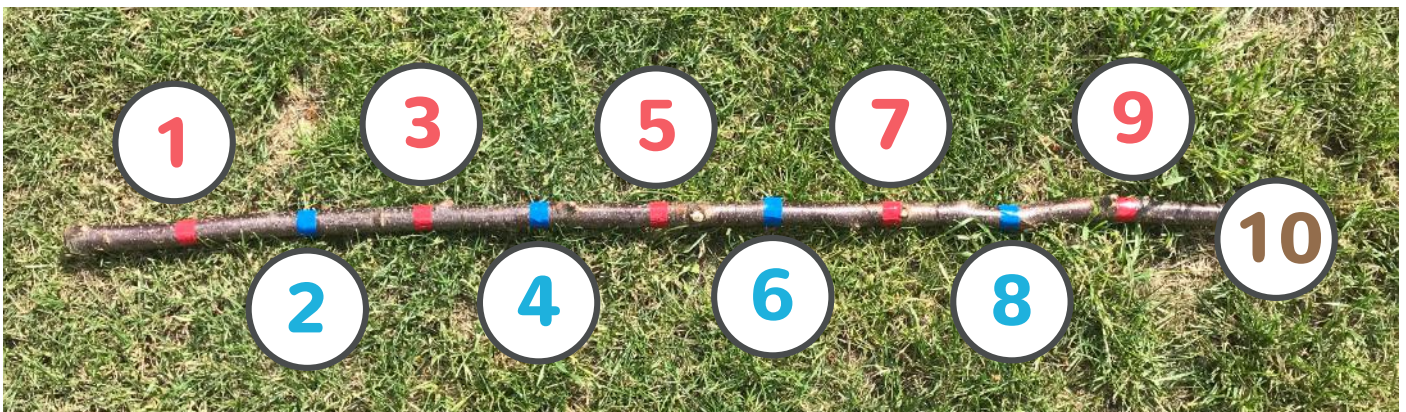
For example, you could count in ...

Ones – 1, 2, 3, 4, and so on to 10

Ones – but start at 50 (50, 51, 52, 53 ... and so on)

Twos – starting at zero or a different number

Activity four - Join the lines

Key skills

- To create a pattern.

Have ready

- Pebbles, scrap paper cut into ovals/circles.

- Paint, chalk, pen, markers.

Activity

- This activity gives your child the opportunity to explore and be creative.

  - Draw a straight line across some of the pebbles.

  - Draw two lines meeting to form a right angle.

  - Draw 3 lines forming to make a 'Y'.

- Now let your child explore what they can make by joining the lines up. Ask your child what they can see.
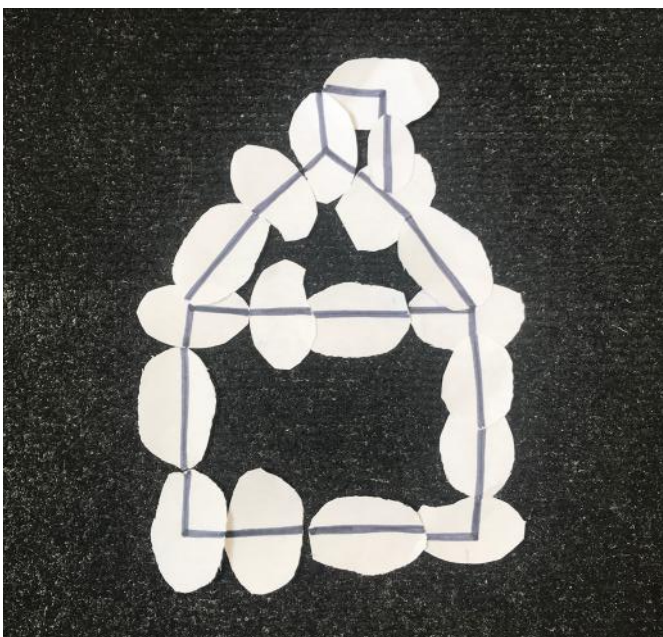
**Need inspiration?
Why not try these…**

**Square
House
Plus sign
Rectangle
Your name
T-shirt**

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Activity five - Pick up sticks

Key skills

○ To develop spatial awareness, fine motor control and develop mathematical vocabulary.

Have ready

● About 20 sticks or alternatives.

● At least two players.

Activity

○ Get about 20 sticks and drop them into a pile.

○ Take it in turns to remove a stick without moving any others. You could ask what shapes you see when you look down at the pile.

Activity six - Four-sided shapes

Key skills

● To recognise shapes in different orientations and sizes.

Have ready

● A selection of different sized sticks.

● String.

Activity

● How many different four-sided shapes can you make?

● Can you name the properties of the shapes? Sides, corners, straight lines, angles, same length.

● Can you name the shapes? Square, rectangle, irregular four-sided shape.

Extra task

Using a length of string, can you find half of the shape?

Activity seven - Sorting

Key skills

- To classify things by shape, size and colour.

Have ready

- Stones, leaves or any good sorting resources.

Activity

- Let your child use their own criteria – this can be much more creative than the usual 'colour' or 'type' and sort the materials. Ask them to sort it another way.
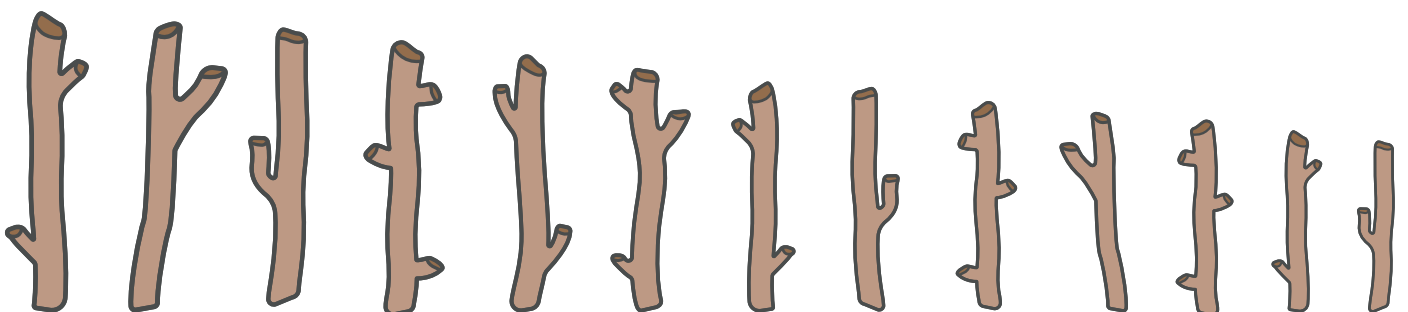

Activity eight - Order

Key skills

- To compare and describe different lengths or sizes.

Have ready

- A collection of sticks or stones in varying sizes.

Activity

- Ask your child to put them in order of size – this could be ascending or descending.

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Activity nine - Scavenger hunt

Key skills

- To compare, describe and solve practical problems.

Have ready

- Yourself.

- Possibly a camera to take photos.
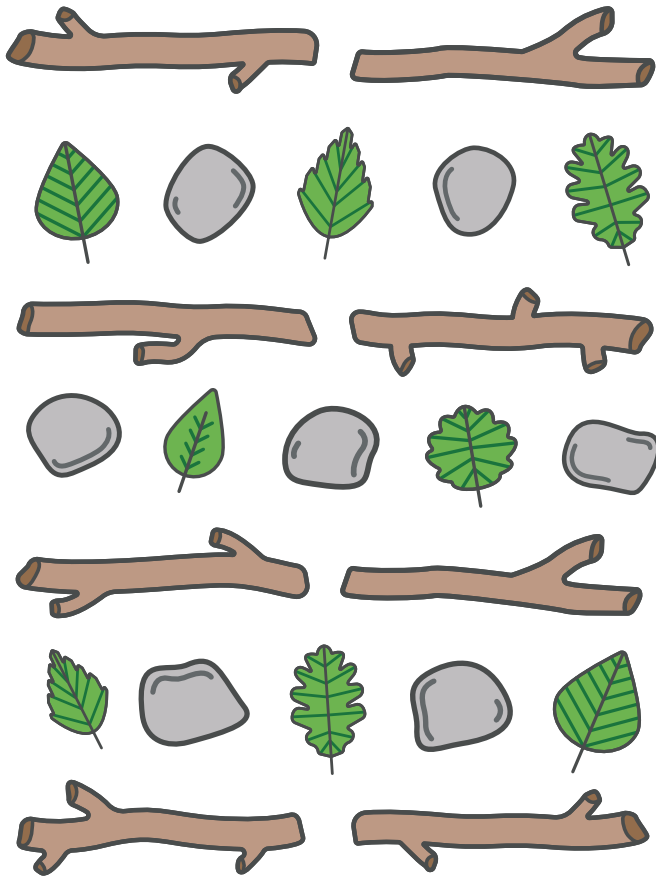

Activity

- Ask your child to find (they could even take photos):

  - A stick longer than your foot.

  - A light and a heavy object.

  - Three things the same size.

  - Add more ideas of your own, or they could even create a list of things to find with you first.

Vocabulary to use

- Long/short, longer/shorter, tall/short, heavy/light, double/half, heavier than/lighter than, full/empty, more than/less than.

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Activity ten - Patterns

- To copy, repeat and create a pattern.

Have ready

- A collection of different materials.

Activity

- Get your child to:

  Copy a pattern you make.

  Repeat the pattern you make.

  Make their own pattern.

- Get them to say the pattern, for example, stick, stone, stick, stone... and to understand when it repeats itself again. Working through this progressively is important. This encourages children to spend more time creating patterns.

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Activity eleven - Half

Key skills

- To measure using non-standardised units.

Have ready

- Sticks of lengths 20cm, 16cm, 12cm, and 8cm.

Activity

- Get your child to measure the length of the sticks using their thumb. Write down the lengths.

- How many thumbs is the whole stick?

- How many thumbs is half the stick?

- Will this be the same for everyone?

- Why not? (Difference in thumb size).

- Repeat for finding a quarter of the stick.

- Using the other sticks, get your child to measure using their thumbs to calculate the whole length of the stick, half and then a quarter.

Activity twelve - A-maze-ing!

Key skills

- To describe position, direction and movement.

Have ready

- Sticks, or this could be drawn.

- A small toy.

Activity

- Use sticks to build a miniature maze and place the toy at the start.

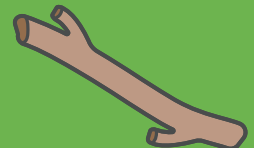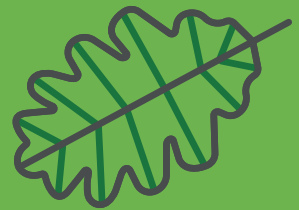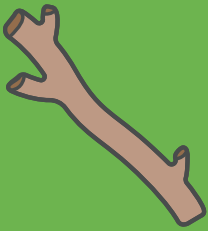- The child has to give directions to move the toy through the maze.

Vocabulary to use

- Right, left, forwards, backwards.

- Whole turn, half a turn, quarter turn and three-quarter turn, clockwise.

Glossary

Glossary

Acute angle
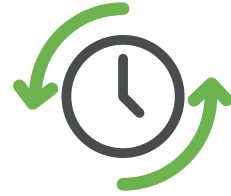
An angle smaller than a right angle. It is an angle between 0° and 90°.

Angle

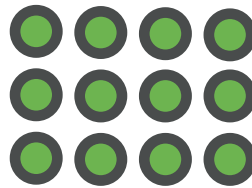An amount of turn. Angles are measured in degrees.

Anti-clockwise

Turning the opposite way to the clock.

Area
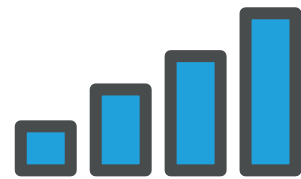
The area of a shape is a measure of how much surface it has.
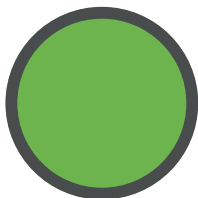Area = length x width

Array

A regular arrangement of numbers or objects. It has rows and columns usually in the form of a rectangle.
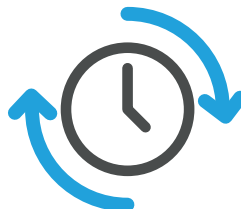
Ascending

Going up or increasing in order from smallest to largest.

Circle

A shape with every point at its edge at exactly the same distance from the centre.
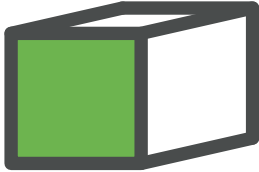
Clockwise

Turning the same way as a clock.

Corner

A corner is a point where two or more lines meet.

Glossary

Cuboid

Solid shape with six rectangular faces.
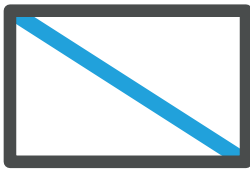
Denominator

$$\frac{1}{2}$$

The number below the line in a fraction.

Descending

Going down or reducing in size.

Diagonal

A straight line that joins any two corners which are not adjacent.

Diameter

A line that passes from one side of a circle through the centre to the other side.

Half

One of two equal parts. When something is divided into two equal parts, each part is one half.
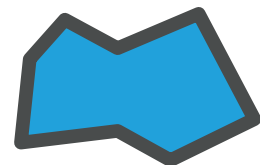
Hexagon

Any polygon with six straight sides.

Horizontal

Same direction as the horizon.

Irregular polygon

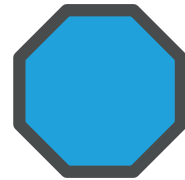Shapes that do not have all their sides the same length. They have different sized angles.

Glossary

Numerator

$$\frac{1}{2}$$

The number above the line in a fraction.

Obtuse angle

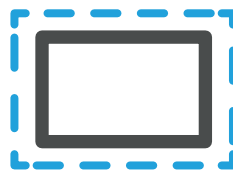An angle that measures between 90° - 180°.

Octagon

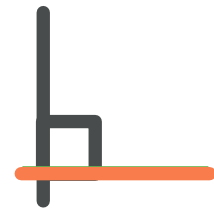Any polygon with eight straight sides.

Parallel lines

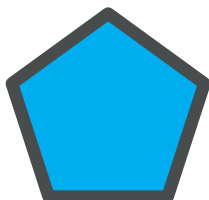Lines that stay at the same distance apart.

Perimeter

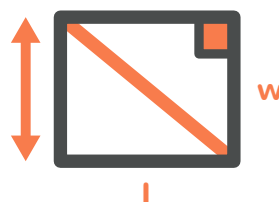The distance around the outside of the shape.

Perpendicular lines

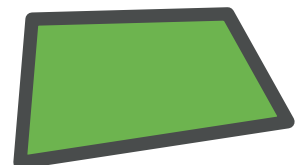One line is at right angles to another line.

Polygon

Any 2D shape with straight sides. Polygons can be regular or irregular

Property

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l

A property of a shape is a particular fact or feature of it that makes it part of a group with the same properties.

Quadrilateral

Any polygon that has four sides. The four angles add up to 360°.
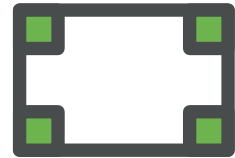
Glossary

Quarter
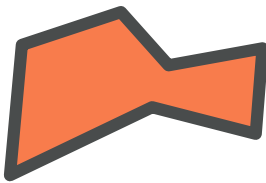
Is one of four equal parts.

Radius

Is the length of a straight line from the centre of a circle to its circumference.
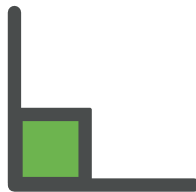
Rectangle

A four-sided flat shape. It has two pairs of opposite, equal parallel sides and each angle is a right angle.

Rectilinear

A rectilinear shape is a shape whose edges are all straight lines. All polygons are rectilinear shapes.

Right angle

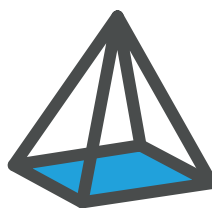An angle of 90°. It is a quarter turn.

Side

A side of a shape is the line that forms part of the edge or perimeter.

Square

A flat shape with four straight and equal sides. The angles in its corners are all right angles.
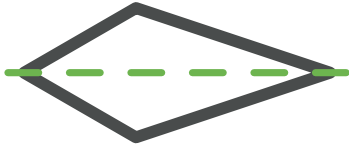
Square-based pyramid

Has a face that is square and the other four faces are triangles.

Straight lines

A straight line is half a turn. It is two right angles.
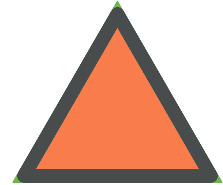
Glossary

Symmetry

The 'Line of Symmetry' is the imaginary line where you could fold the image and have both halves match exactly.
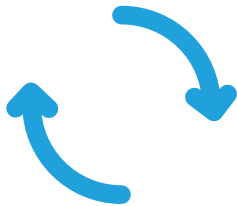
Three-dimensional shape

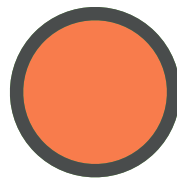Three-dimensional shapes are solid shapes.

Triangle

Any polygon with three sides. The angles of a triangle add up to 180°.

Turn

When something turns it spins, rotates, revolves, or whirls.

Two-dimensional shape

Two dimensionsal shapes are flat shapes.

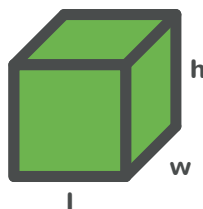## Unit fraction

$$\frac{1}{x}$$

Has a numerator of 1 and any number as a denominator.

Vertical

At right angles to a horizontal line.

Volume

Volume of an object is the amount of space it fills. To find the volume you multiply the length by the width by the height.
Volume = l x w x h