Year 2

Spring Term

Parent Maths Pack

Focus: Fractions and shape

This pack includes:

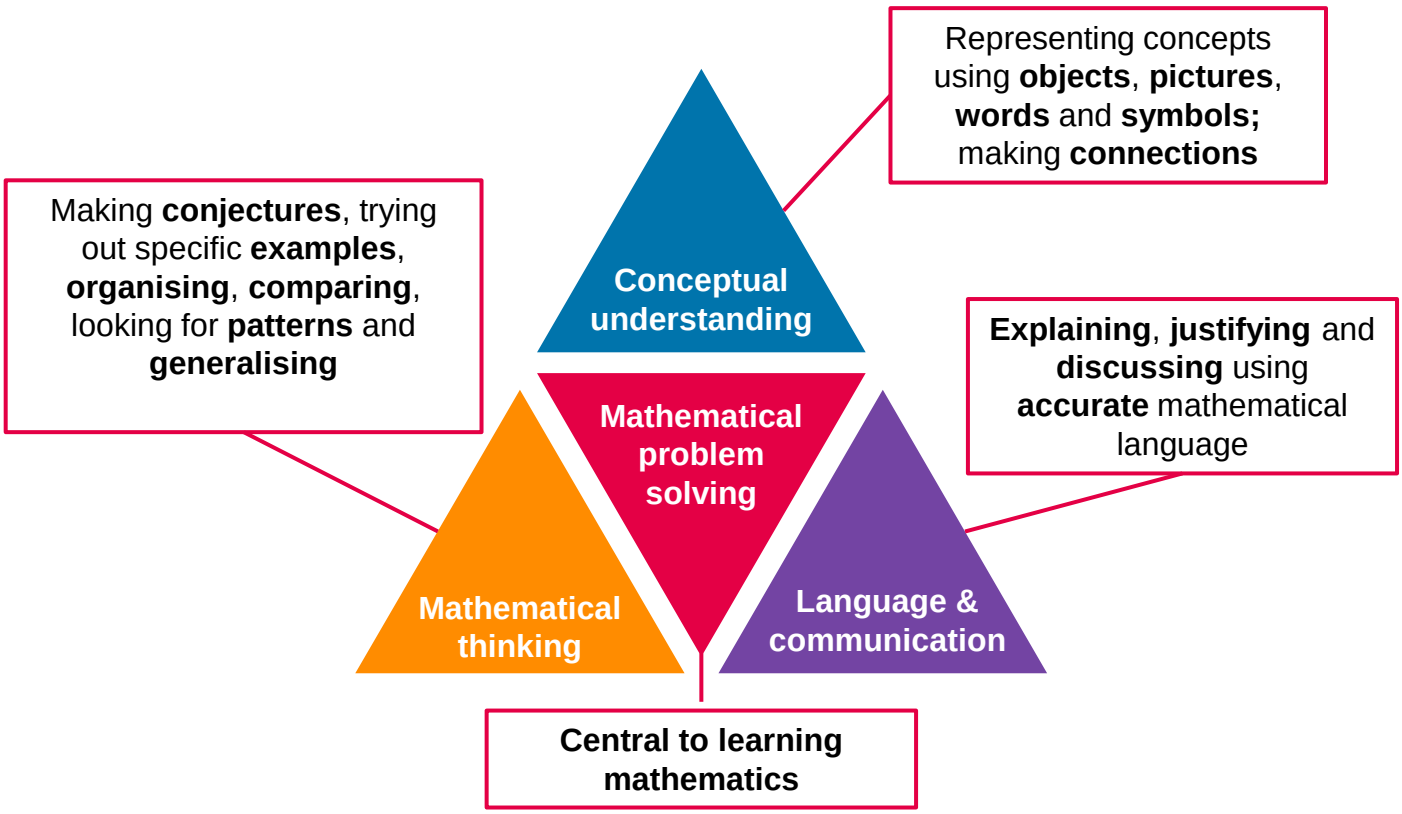
- An overview of Mathematics Mastery
- Learning overview for this term
- Key vocabulary
- Big Pictures
- Games to play at home

Mathematics Mastery

Mathematics Mastery

What is 'Mastery'?

The 'mastery approach' to teaching mathematics is the underlying principle of Mathematics Mastery. Instead of learning mathematical procedures by rote, we want your child to build a deep understanding of concepts which will enable them to apply their learning in different situations. To achieve this we aim to develop pupils' **Conceptual Understanding, Mathematical Thinking** and **Language and Communication.** (See diagram below).



Success for all

At school we believe all pupils can achieve success in maths. We encourage pupils to have a 'growth mindset' – a belief that effort leads to success and that challenges are opportunities to learn.

Here are a few tips to encourage your children at home with maths:

- ✓ Talk to your children about everyday maths
- ✓ Play games with them
- ✓ Value mistakes as learning opportunities
- ✓ Recognise that there is more than one way to work things out
- ✓ Praise children for effort over outcome
- ✓ Avoid saying things like "I'm useless at maths"

Autumn focus: Time and Fractions

Year 2 - Spring Curriculum Map

Time	Fractions	Addition and subtraction of 2-digit numbers	Money	Faces, shapes and patterns; lines and turns
• Tell the time on an analogue clock: quarter past, quarter to and five-minute intervals Calculate durations of time in minutes and seconds • Sequence daily events • Minutes in an hour and hours in a day	•Part-whole relationships • Fractions as part of a whole or a whole set • Relate to division • Equivalent fractions	• Illustrate, represent and explain addition and subtraction involving regrouping including 'Make Ten', 'Round and adjust' and near doubles strategies	• Recognise coins and notes • Use £ and p accurately • Add and subtract amounts • Calculate change	• Explore, sort and describe 2-D shapes • Lines of symmetry in 2-D shapes • Identify 2-D shapes on 3-D shapes • Compare and sort 2-D and 3-D shapes • Use language to describe position, direction and rotation to follow a route

This term, two of our key focuses in Year 2 are fractions and shape:

Fraction Small Steps

- Identify parts of a fraction
- Find halves, thirds and quarters of a shape
- Identify fractions of a shape with different numerators
- Identify unit fractions of quantities
- Identify non-unit fractions of quantities
- Identify equivalent fractions

Shape Small Steps

- Identify shapes by the number of vertices and sides
- Identify right angles in shapes
- Recognise lines of symmetry within 2D shapes
- Describe and sort 2D shapes according to their properties
- Identify 2D shapes on the surfaces of 3D shapes
- Describe and create shape patterns
- Compare and sort 2D and 3D shapes

Key vocabulary – Fractions:

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

1 → numerator
— → vinculum
2 → denominator

The **denominator** tells us the number of equal parts
The **numerator** tells us the number of equal parts highlighted.
Unit fractions – fractions where the numerator is one
Non-unit fractions – fractions where the numerator is greater than one

part whole half quarter third

Key vocabulary – Shape:

Faces – One of the plane surfaces of a solid shape.
Edges – where two faces meet
Vertex or vertices – where two edges meet on a 3D shape or where two sides meet on a 2D shape (colloquially known as a corner.)
Sides - A straight line that forms part of the boundary of a shape. Shapes can have curved and straight sides
Right angle – an angle made by a quarter turn (90º)
Line of symmetry – an imaginary line that passes through the center of the shape or object and divides it into identical halves.

2D Shapes

circle triangle quadrilateral rectangle square oblong

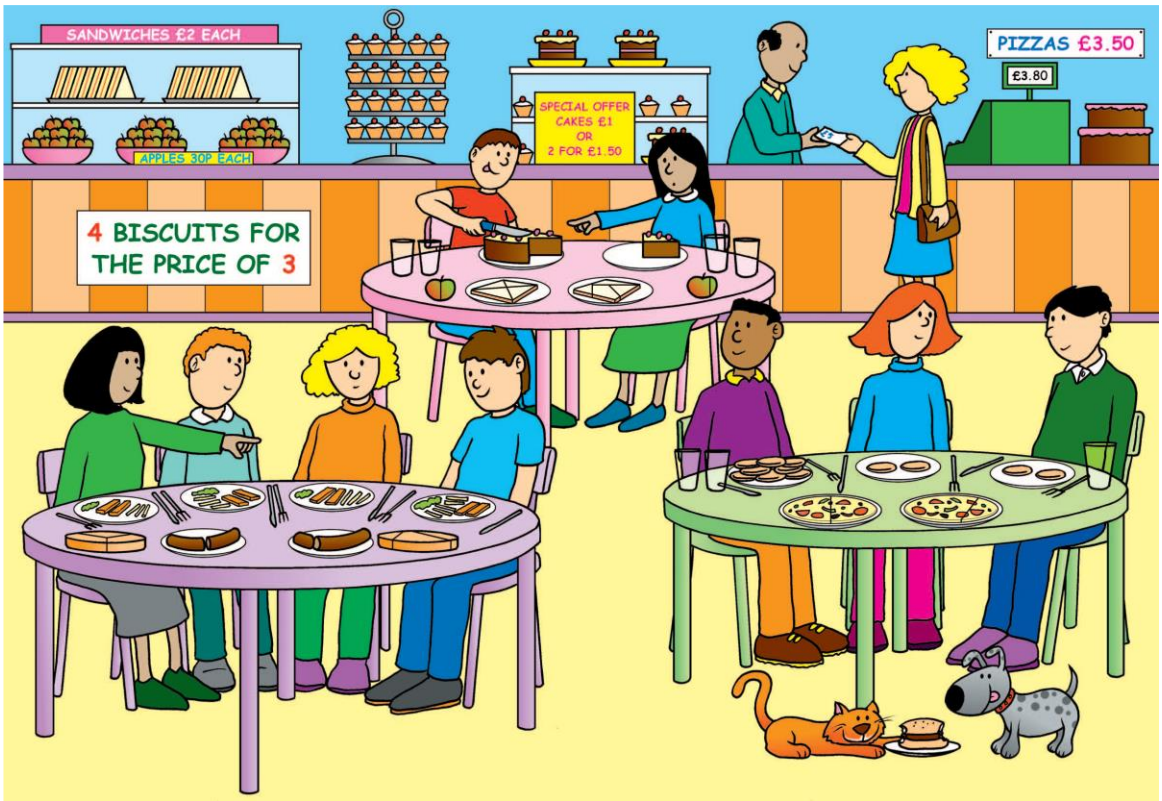
pentagon hexagon heptagon octagon

3D Shapes

sphere cone pyramid cylinder cube cuboid

Big Pictures

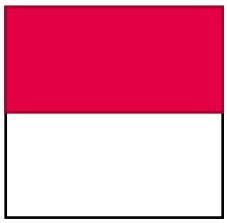
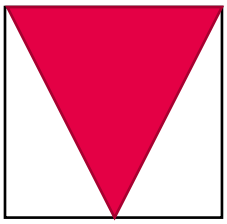
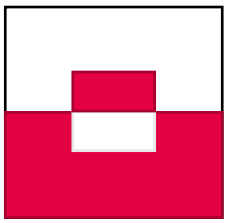
What maths can you see? Discuss with your children at home using the key vocabulary from the previous page.



Try this at home – workshop games

Half a square

These images show a square that's been split in half. How do you know they are correct?

Investigate: How many other ways can you split a square in half?

Variations to try at home: Why not try and see how many ways you can split a square in thirds or quarters? What happens if we change the shape?

Half numerator denominator I know because equal parts divide

Shape Detectives (2+ players)

3 or more players

One person becomes the shape master. The shape master secretly chooses a shape (it could be either 2D or 3D). The rest of the players take it in turns to ask the shape master a question. The shape master can only answer yes or no. The first person to correctly identify the shape on their turn wins!

2 player version

If playing with 2 people try setting a limit on the amount of questions e.g. you can only have six questions. If you identify the shape then the detective wins, if you don't identify the shape, the shape master wins!

sides faces lines of symmetry quadrilateral 2D 3D edges vertices right angle

Try this at home – more ideas

Finding Halves, thirds and quarters

- Try finding fractions in your daily routine at home. For example when sharing toys or food, “let’s have half each”, “how can I share this between the four of us?”.
- When preparing meals or baking show your children how to measure half a cup or half of a jug of something.
- Link this to time, "It has been half an hour since…" "We have half an hour until we get to go to grandma’s house."

Songs

Try singing this song with the actions about fractions:
https://www.bbc.co.uk/teach/supermovers/ks1-maths-fractions-with-joe-tracini/zmjy2sg

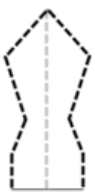
Exploring symmetrical shapes

With a partner take a piece of paper, each fold it in half and cut out a shape without crossing the fold.

Compare your shapes.
What’s the same? What’s different?

1. Fold a piece of paper

2. Cut out a shape (without cutting across the fold).



3. Open the shape so that you can see the line of symmetry.

Go on a shape hunt

Try seeing what 2D and 3D shapes you can spot around the house, in the garden or on your way to school!

Shape of the week

Select a shape to be the shape of the week. How many of these shapes can your child spot during the week, at home and when you are out?

Questions to support thinking

- What do you think would happen if….
- What’s the same? What’s different?
- How do you know that?
- Can you see a pattern? What would come next?
- What else could go in this set? What couldn’t?