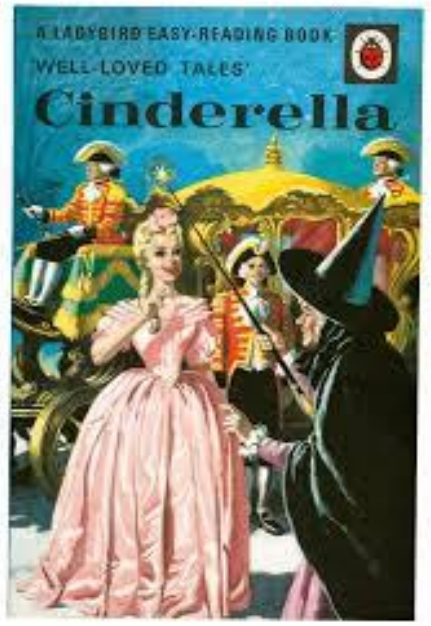
Mastery Maths

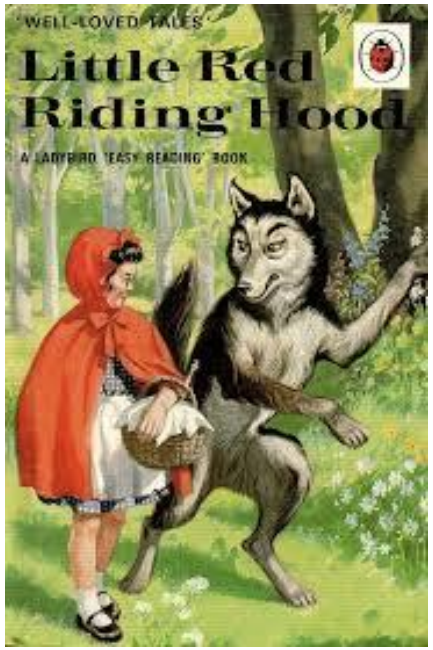
Session aims:

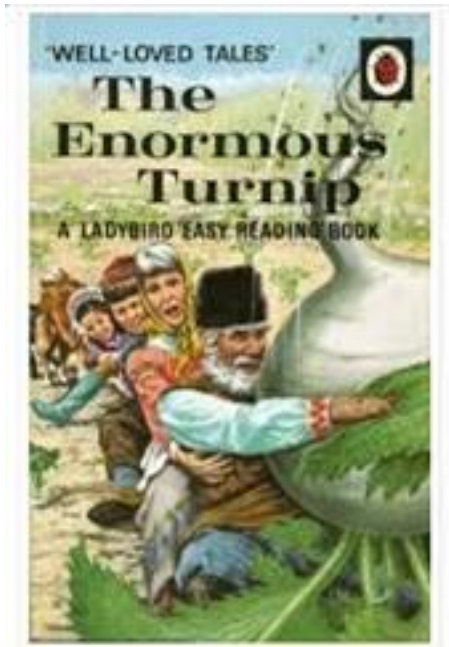
- To allow you to gain an insight into our Mastery approach to Maths and how it works in school.

- To give ideas for supporting maths at home – making it fun!

Which one is different to the others?







What does it mean to master something?

- I know how to do it
- It becomes automatic and I don't need to think about it- for example driving a car
- I'm really good at doing it – making a cake, or painting a picture
- I can show someone else how to do it.

Mastery of Mathematics is this and a bit more

- **Achievable for all**
- **Deeper learning**
- **The ability to build on something that has already been sufficiently mastered and understood**
- **The ability to reason about a concept and make connections**

Teaching for Mastery

High expectations for every child

Fewer topics covered in greater depth

Understanding numbers and place value come first

Problem solving and lots of thinking and talking

Challenge is provided through an increased depth, rather than acceleration of content

What is 5?

It is a noun

1,2,3,4,5

What is 5?

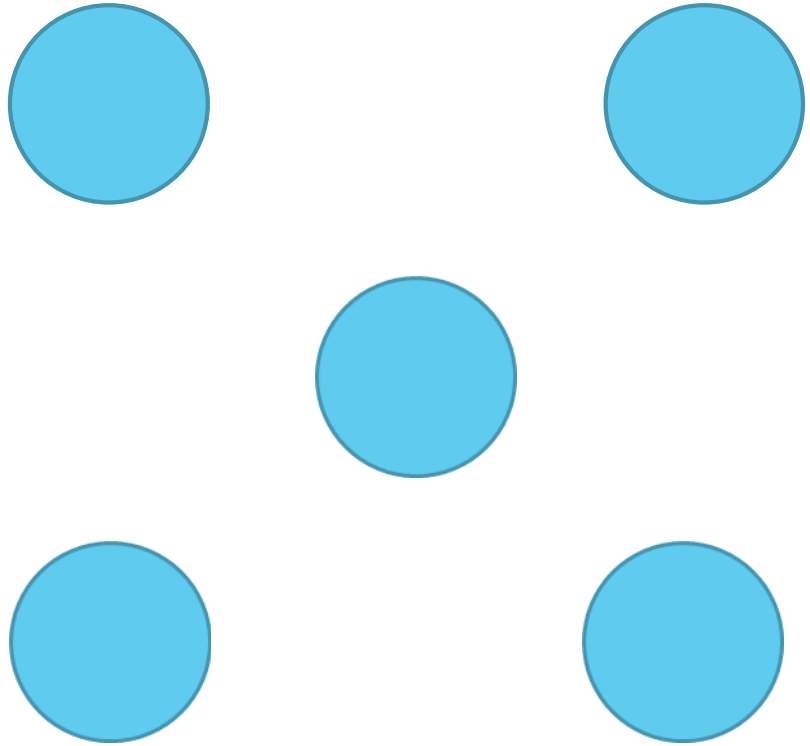
It is an adjective

Positional

1st 2nd 3rd 4th 5th

Where can you find it?

What does it look like?



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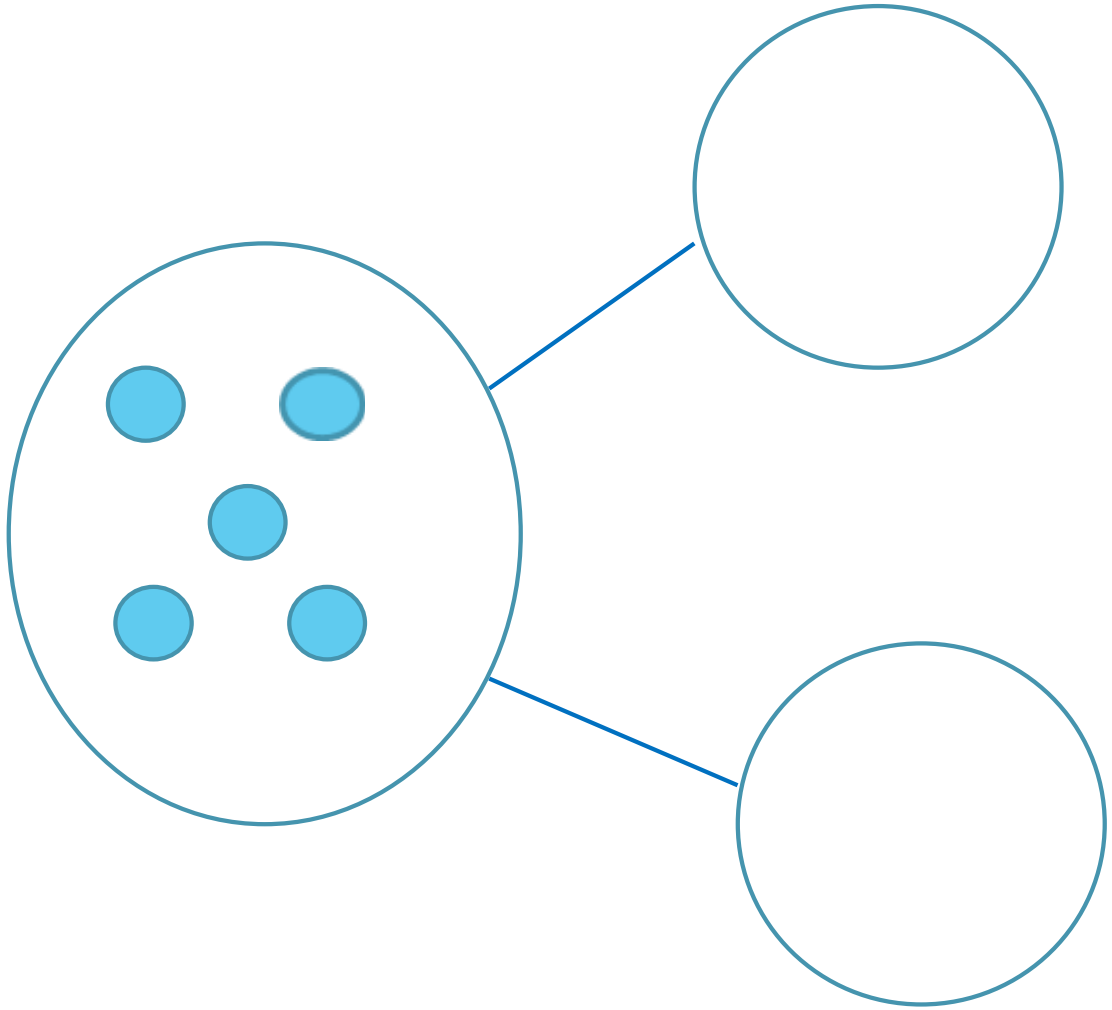

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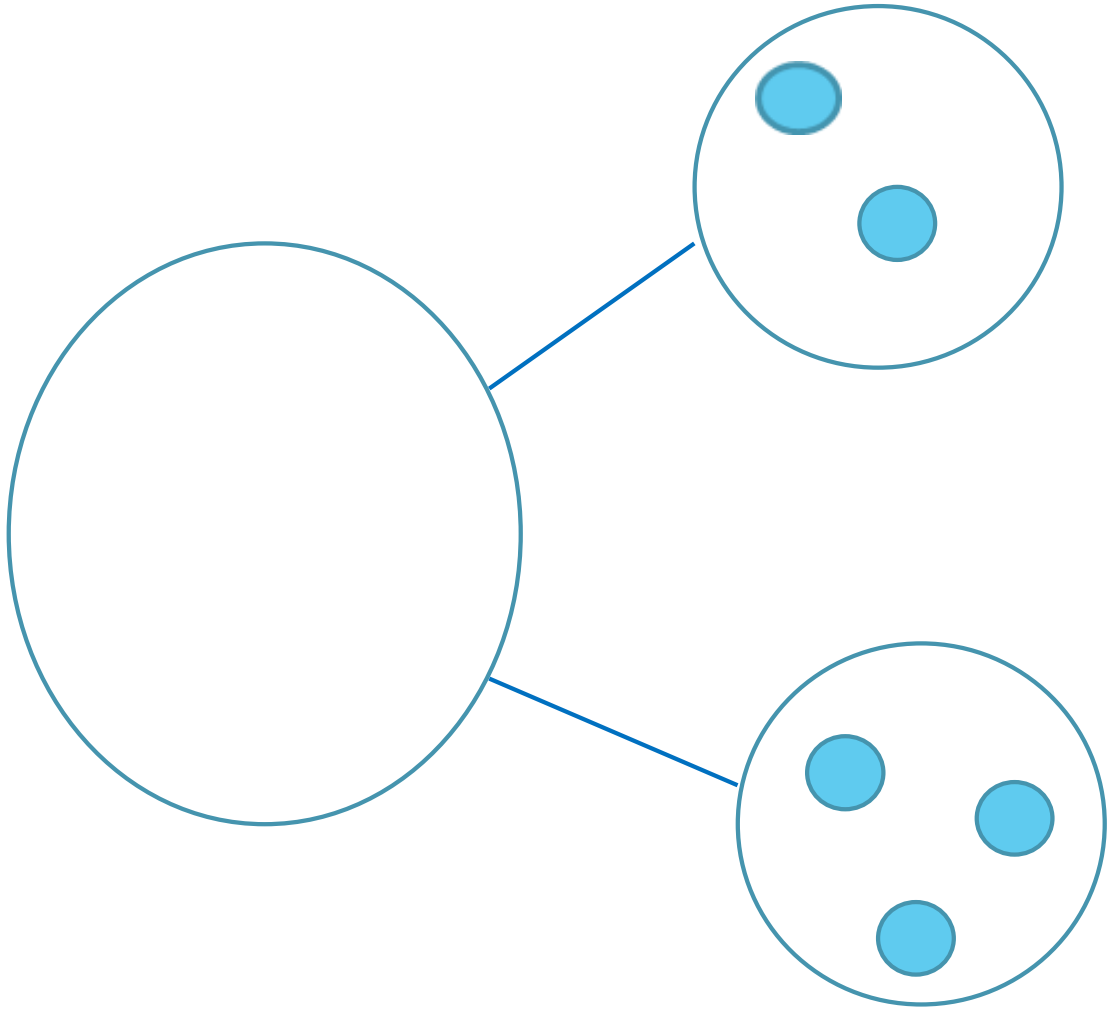
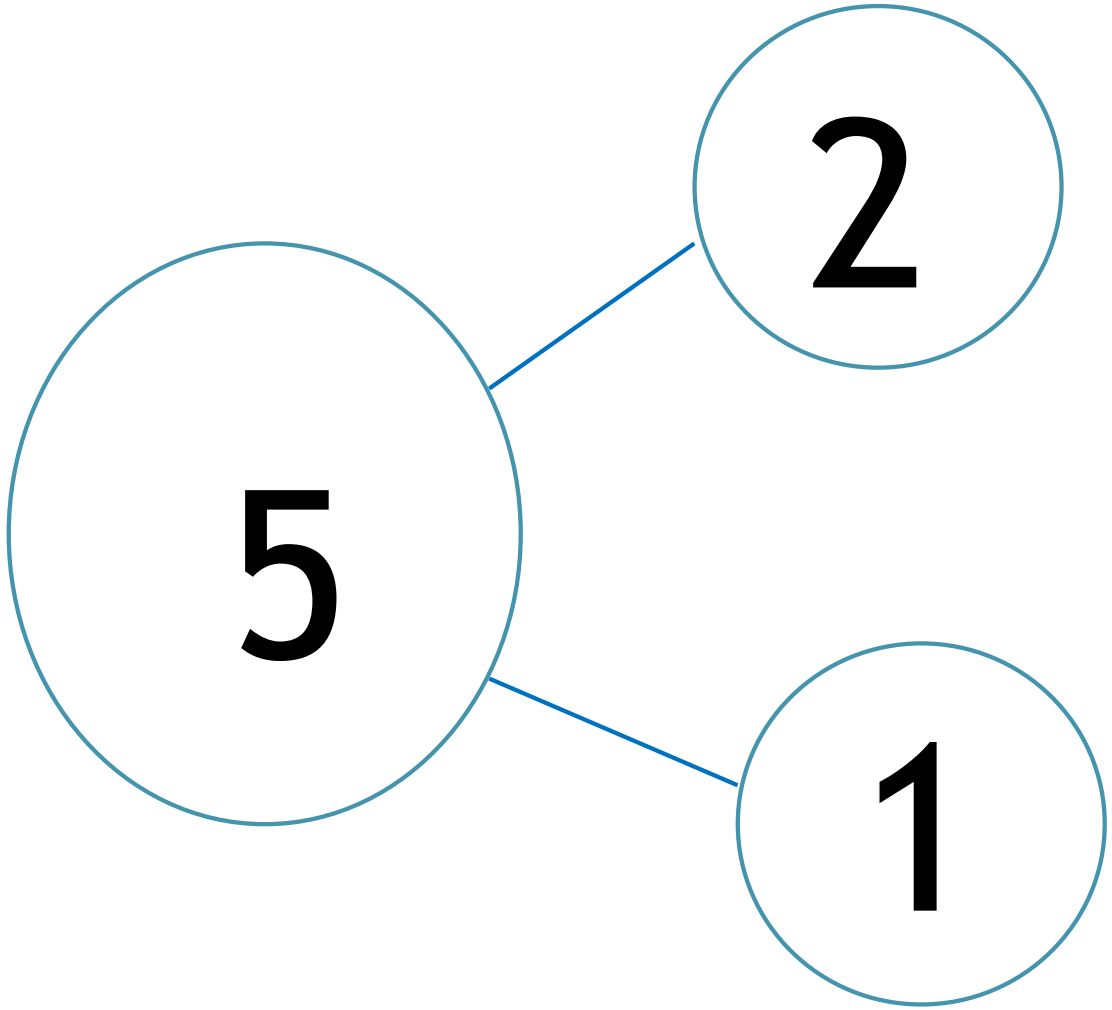


How many ways can I make 5



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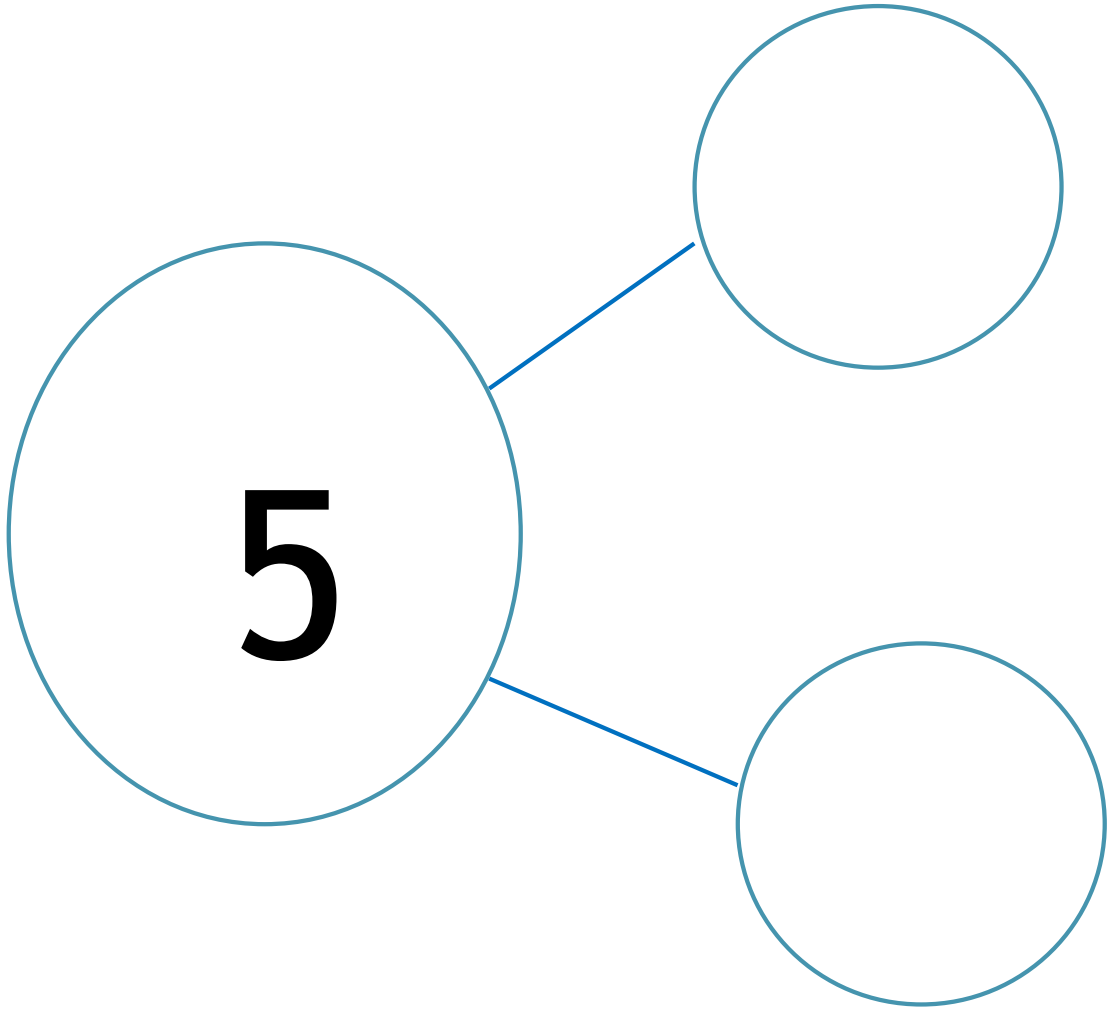
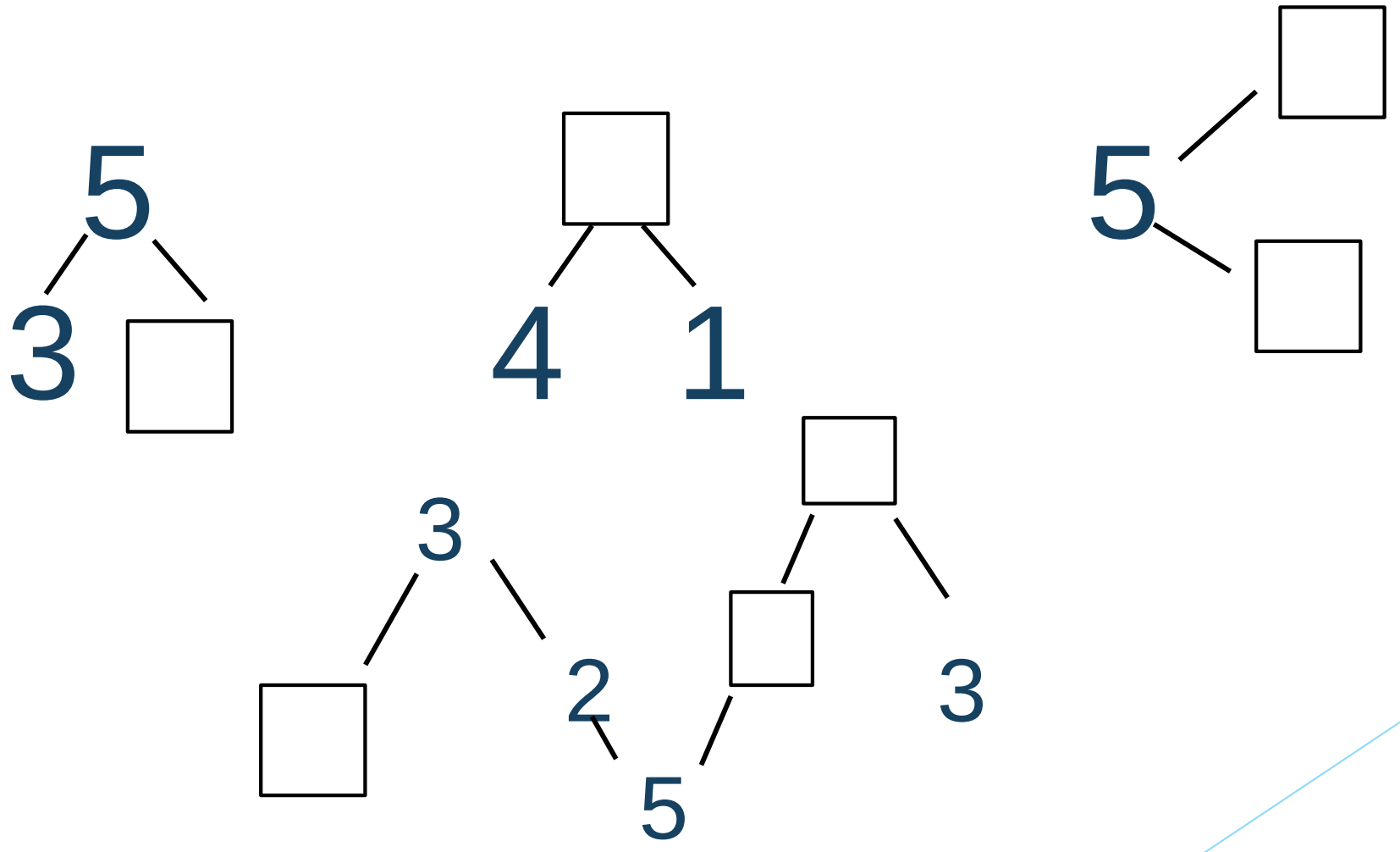
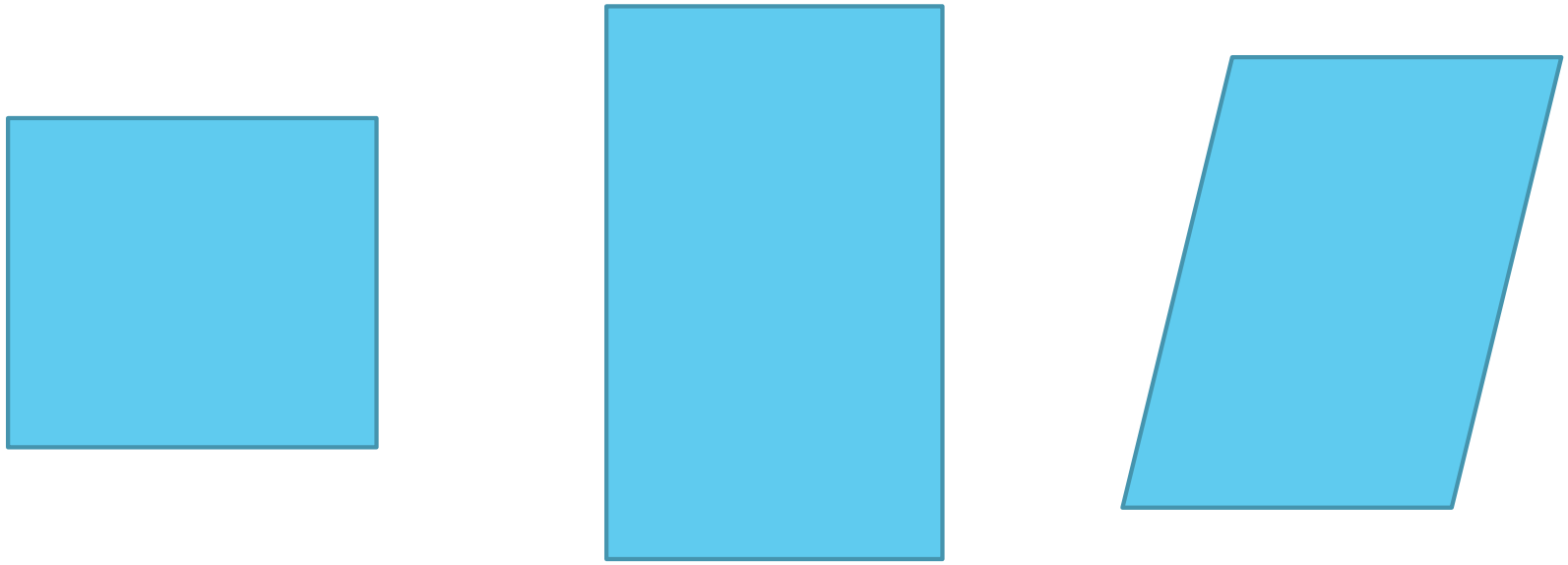


Leads to



Reasoning:
Which is the odd one out? Why?



Reasoning:
Which is the odd one out? Why?

81	18	45

Problem Solving:

5	
?	3

Jack had 5 magic beans he planted 3. How many does he have left?

Building on prior knowledge

$2 \times 3 =$	$6 \times 7 =$	$9 \times 8 =$
$2 \times 30 =$	$6 \times 70 =$	$9 \times 80 =$
$2 \times 300 =$	$6 \times 700 =$	$9 \times 800 =$
$20 \times 3 =$	$60 \times 7 =$	$90 \times 8 =$
$200 \times 3 =$	$600 \times 7 =$	$900 \times 8 =$

Moving on to solve problems such as:

$420 \div \square = 70$

Teachers promote reasoning during Maths lessons, through using carefully chosen questions
E.g.

Katie thinks that, 2 odd numbers added will given an odd number. Do you agree? Explain your answer.

Is it always true, sometimes true or never true that triangles are symmetrical?

Can you spot the mistake?

Explain what is wrong.

$$\begin{array}{r} 234 \\ -\ 152 \\ \hline 122 \\ \hline \end{array}$$

How can you support at home?

Maths learning can happen anywhere.

Maths is all around us and problem solving is at the heart of the mastery approach.

Look for maths problems you can solve together, making connections between what your child has been learning at school and the world around them.

Follow a recipe:

work together to find out the quantities needed,

ask your child to weigh the ingredients,

discuss how you'd halve or double the recipe and discuss the ratio of ingredients.

Talk about the weather forecast:

is today's temperature higher or lower than yesterday's?

What do the numbers mean?

Going shopping:

talk about the cost of items and how the cost changes if you buy two items instead of one.

Let your child count out the coins when paying and discuss the change you get back.

Use coins to explore addition, subtraction, multiplication and division.

Planning an outing:

discuss how long it takes to get to the park, and so work out what time you need to leave the house.

Encourage your child to work out the best solution based on the time and distances.

Discuss what shapes you see when you get there.

Think and talk like a mathematician

Mathematics language often uses common words in a new way. For example, ‘difference’, ‘right’, ‘product’, ‘table’.

Always encourage your child to explain how they have gone about solving a problem,

work with them to test, prove, explain, reflect and spot patterns.

Questioning and prompts can be powerful tools to boost your child’s mathematical thinking: ‘What do you think…?’ ‘Why …?’ ‘What will happen if…?’ ‘What do you notice about…?’ ‘Can you see a pattern between…?’ ‘What if we try…?’

Talk about everyday maths problems

If you want to practise something more formal

Number bonds: How can you make numbers to 10? (very useful when carrying out mental arithmetic or more formal addition and subtraction)

To know 3 and 6 makes 9 without having to count on fingers increases speed
This leads to learning number bonds to 20 then 100.

Multiplication and division facts:

Reception: counting in steps of 10s
Yr1: Count in steps of 2s,5s and 10s
Yr 2: 2,5 and 10 times tables. Count in steps of 3
Yr 3: 3,4 and 8 times tables
Yr4: All times tables up to 12x12

Useful apps for your phone/tablet for those odd 5 minutes on the go
-10 minutes a day times tables (Dorling Kindersley)
-Hit the button(Top Marks) Free on PC. £2.99 on phone but worth it
Old fashioned chanting and quick fire questions in the car works just as well too but keep it light hearted and fun

Thank you for your continued support