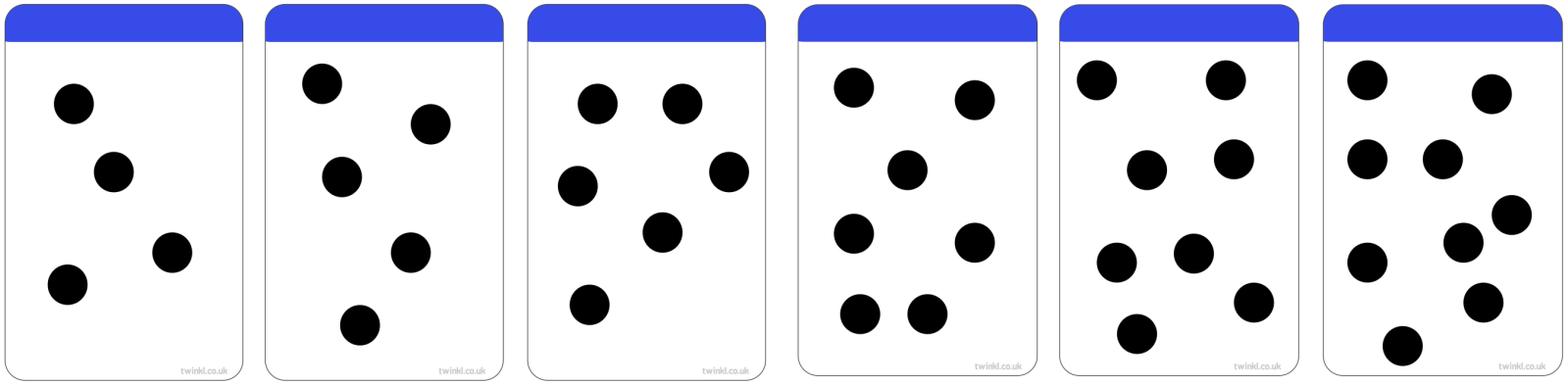
Welcome to Maths in Year 1!



Pick a dot card.

Get that number of counters.

Arrange the counters on a tens frame.

Compare your arrangement to the random dot arrangement.

How does the tens frame help you understand the number?

Teaching for Mastery in Maths

A mathematical concept or skill has been mastered when a child can show it in different ways, use mathematical language to explain their ideas and independently apply the concept to new problems in unfamiliar situations.

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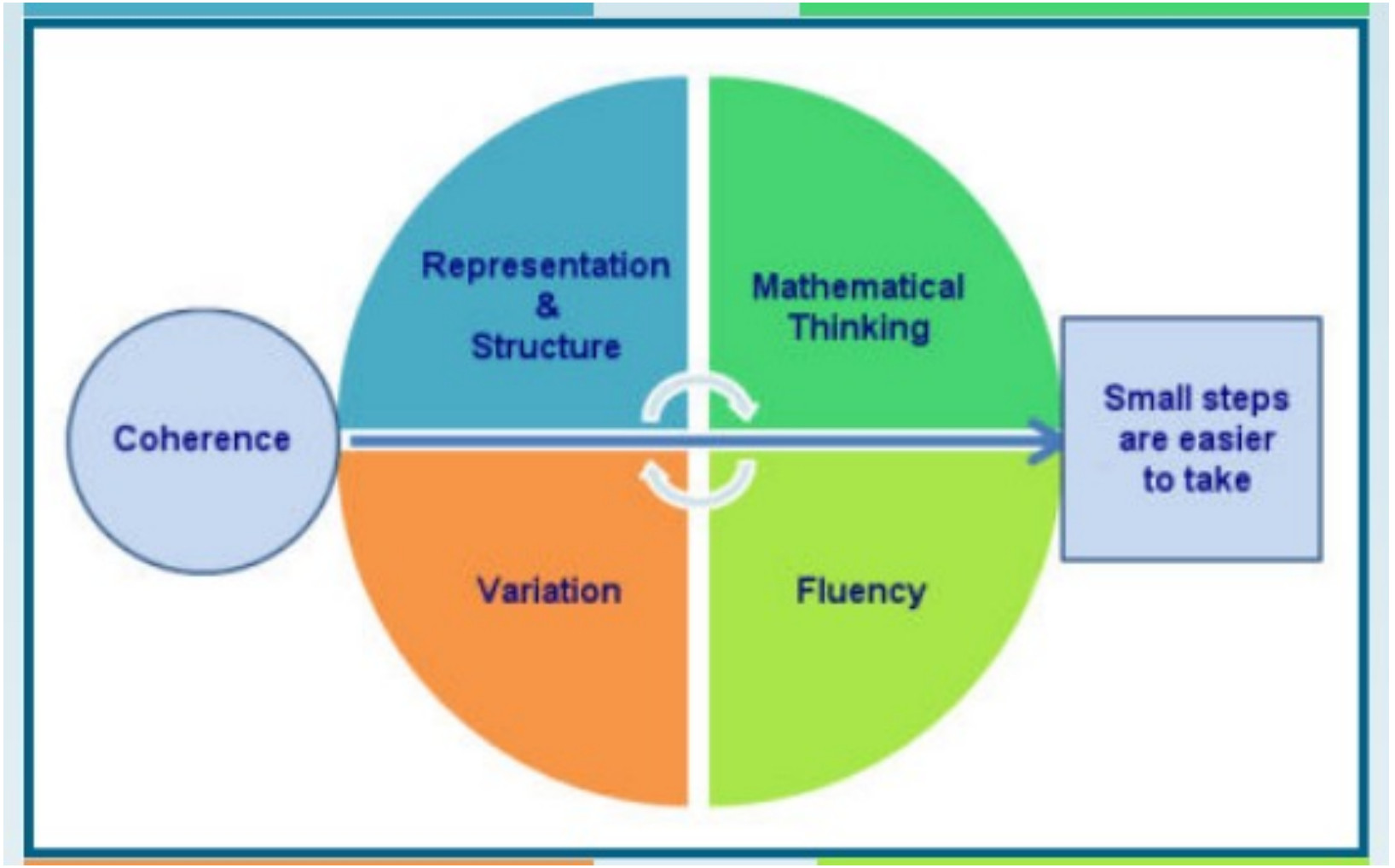
Teaching for Mastery



Coherence

- Teaching is designed to enable a coherent learning progression through the curriculum, providing access for all pupils to develop a deep and connected understanding of mathematics that they can apply in a range of contexts.

Representation and Structure

Representations such as objects and pictures are used in lessons to expose the mathematical concepts being taught.

Mathematical Thinking

If taught ideas are to be understood deeply, they must not merely be passively received but must be thought about, reasoned with and discussed with others.

Fluency

Quick and efficient recall of facts and procedures and the flexibility to move between different contexts and representations of mathematics.

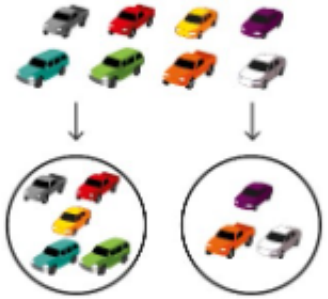
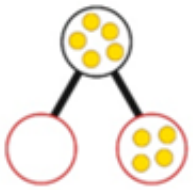
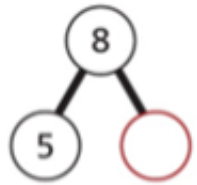
Variation

Varying the way a concept is initially presented to students, by giving examples that display a concept as well as those that don’t display it. Also, carefully varying practice questions so that mechanical repetition is avoided, and thinking is encouraged.

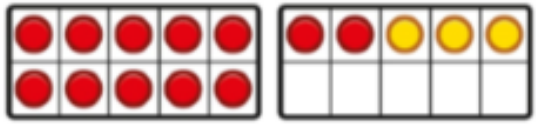
Key Features

- The class work together on the same topic
- Speedy teacher intervention to prevent gaps
- Challenge is provided by going deeper not accelerating
- Focused, rigorous and thorough teaching
- More time on teaching topics – depth and practice

Concrete Pictorial Abstract approach

	Concrete	Pictorial	Abstract
Finding a missing part, given a whole and a part	Children separate a whole into parts and understand how one part can be found by subtraction.  *8 – 5 = ?*	Children represent a whole and a part and understand how to find the missing part by subtraction.  5 – 4 = ☐	Children use a part-whole model to support the subtraction to find a missing part.  *8 – 5 = ?* Children develop an understanding of the relationship between addition and subtraction facts in a part-whole model. 

Concrete Pictorial Abstract approach

	Concrete	Pictorial	Abstract
Adding the 1s	Children represent 10s and 1s with everyday items. 	Children represent calculations using ten frames to add a teen and 1s.  *2 + 3 = 5* *12 + 3 = 15*	Children recognise that a teen is made from a 10 and some 1s and sue their knowledge of addition within 10 to work efficiently. *3 + 5 = 8* *So, 13 + 5 = 18*

Maths

We are learning to understand how to use numbers, shapes, measures and patterns.

how many

3-1-2=

take away

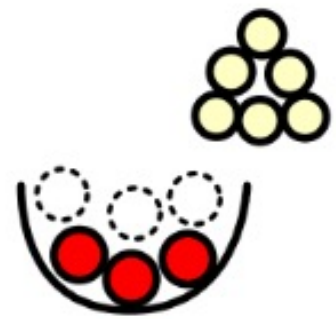
3-1-2=

subtract

fact

family

count back



left

High Quality Responses

and...

How do you know?

Because

I agree because...

7-5=

Can you tell me more...

Break apart 1

Discover

1 a) There are 9 cars.

4 of the cars are for sale.

What is the whole? What is a part?

Break apart 1

Discover

1 a) There are 9 cars.

4 of the cars are for sale.

What is the whole? What is a part?

Unit 4: Subtraction within 10, Lesson 3

Share

a) There are 9 cars.

9 is the whole.

Break the whole into **parts**.

4 of the cars are for sale.

4 is a part.

Break apart 1

Discover

b) What is the other part?

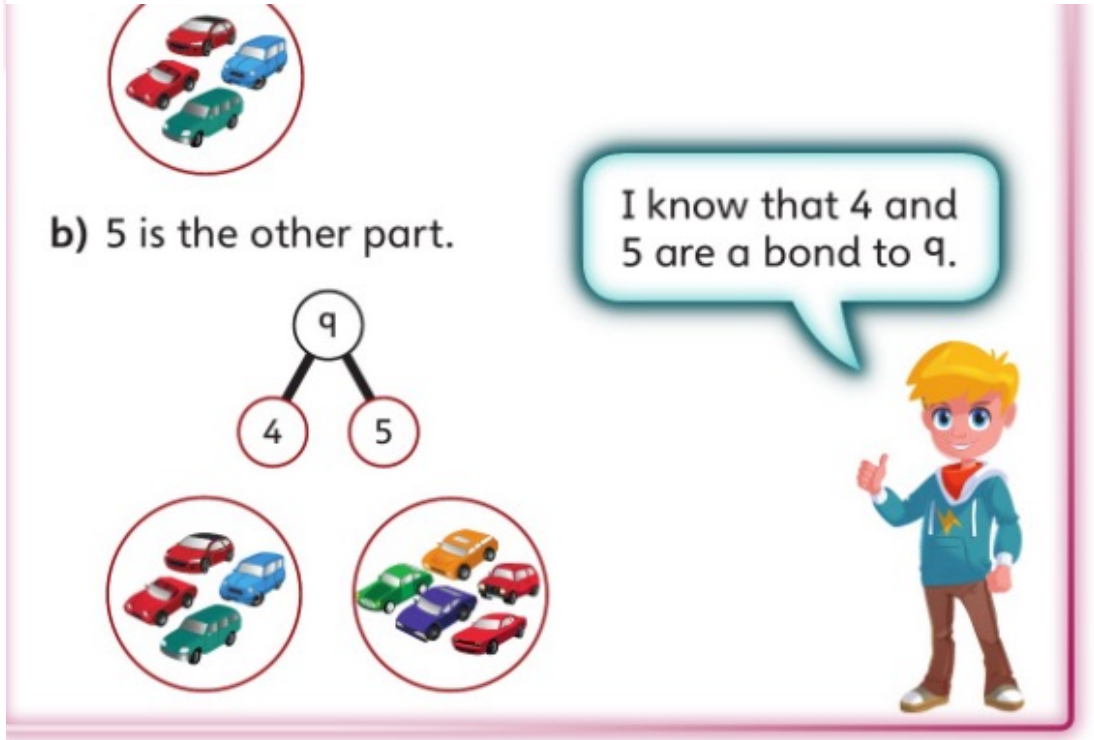
Draw the part-whole model.

Break apart 1

Discover

b) What is the other part?

Draw the part-whole model.



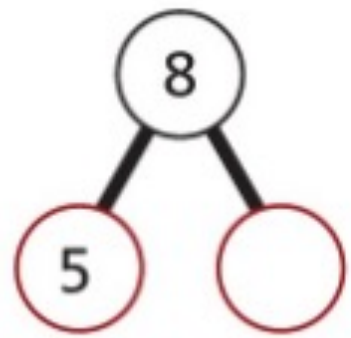
Think together

1 There are 8 cubes.

5 of the cubes are Tim's.

The rest are Kat's.

How many of the cubes are Kat's?

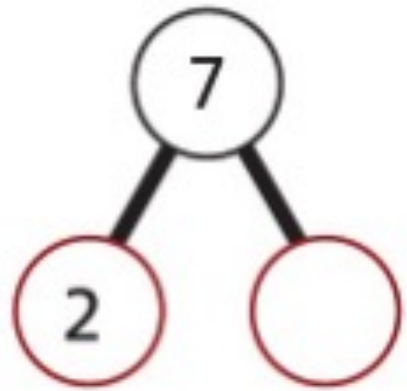


2 There are 7 apples.

2 have a leaf.

The rest have no leaf.

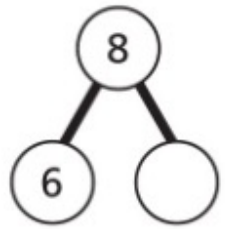
How many apples have no leaf?



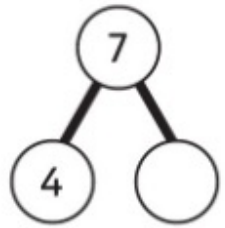
CHALLENGE

3 Find the missing numbers.

a)



b)



c) $4 + \square = 6$

$3 + \square = 6$

$\square + 1 = 6$

I am going to try using counters to help me.

I will use my number bonds to help me.

Date: _____

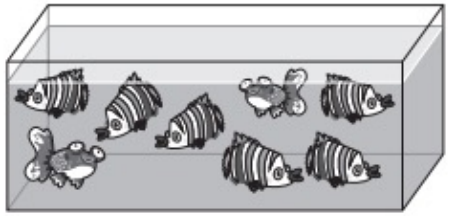
Break apart 1

→ Textbook 1A p128

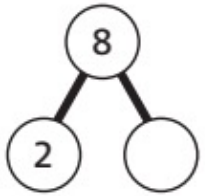
1 There are 8 fish.

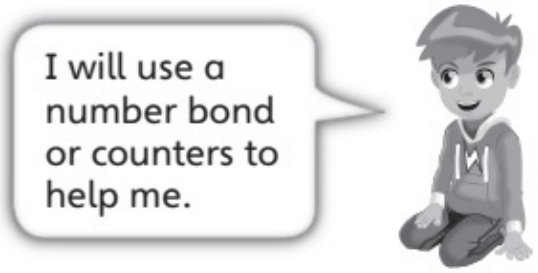
2 are  .

The rest are  .

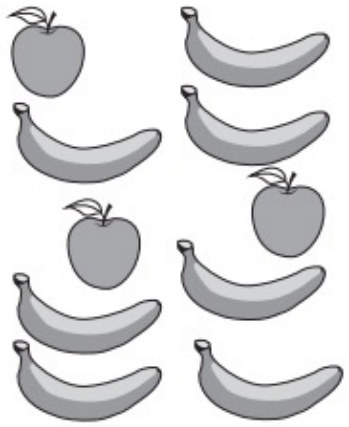


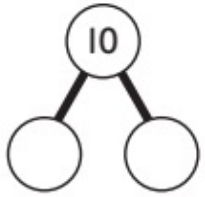
Complete the part-whole model.





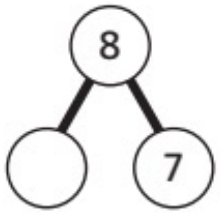
2 Complete the part-whole model.



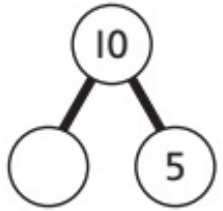


3 Complete the part-whole models.

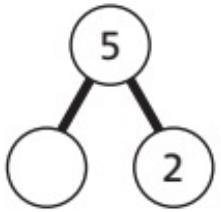
a)



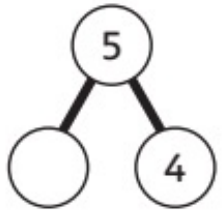
c)



b)



d)



4 Write the missing numbers.

a) $2 + \square = 4$

b) $6 + \square = 7$

c) $3 + \square = 9$

d) $3 + \square = 10$

e) $\square + 3 = 4$

f) $\square + 2 = 8$

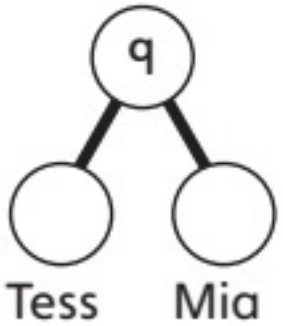
g) $\square + 6 = 8$

h) $\square + 3 = 3$

CHALLENGE

5 3 cubes belong to Tess.

How many cubes belong to Mia?

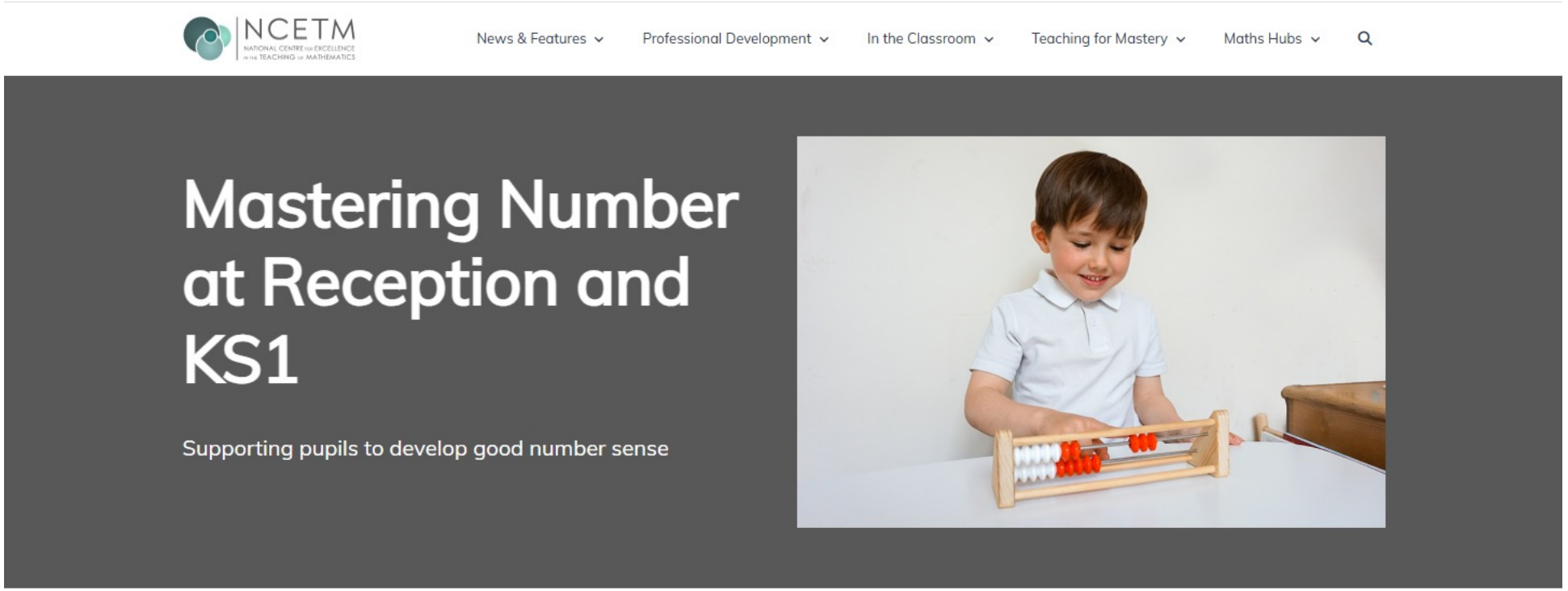


Reflect

$8 - \square = 5$

Tell a partner how they can work out the missing number.

Mastering Number



What is it?

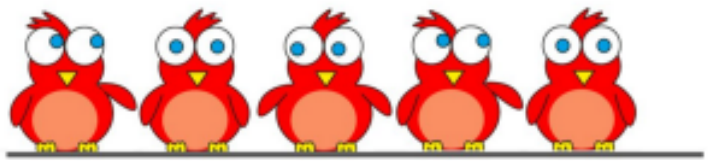
This project aims to secure firm foundations in the development of good number sense for all children from Reception through to Year 1 and Year 2.

The aim over time is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number. Attention will be given to key knowledge and understanding needed in Reception classes, and progression through KS1 to support success in the future.

Aims

- Pupils will develop and demonstrate good number sense.
- Pupils develop a secure understanding of how to build firm mathematical foundations
- Children learn through intentional teaching strategies focused on developing fluency in calculation and number sense for all children
- Children use appropriate manipulatives to support the teaching of mathematical structures.

Mastering Number



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•How we challenge

•All children will be able to...

Complete:

19		21	22		

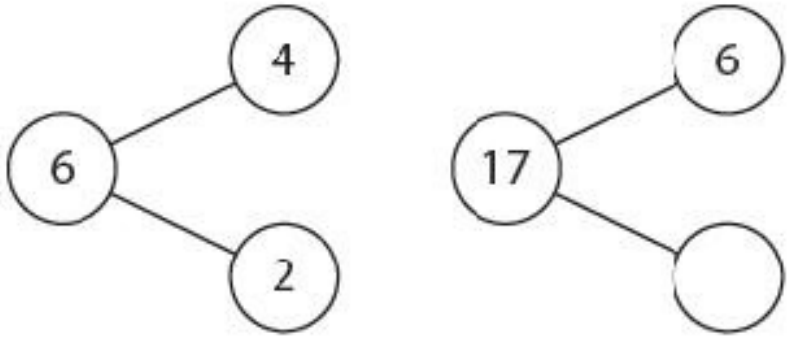
•Some children will explore the concept in greater depth...

Use two of the digit cards to make a number greater than 50.
Use two of the digit cards to make a number less than 30.
Use two of the digit cards to make an odd/even number.
Use two of the digit cards to make a number between 47 and 59.

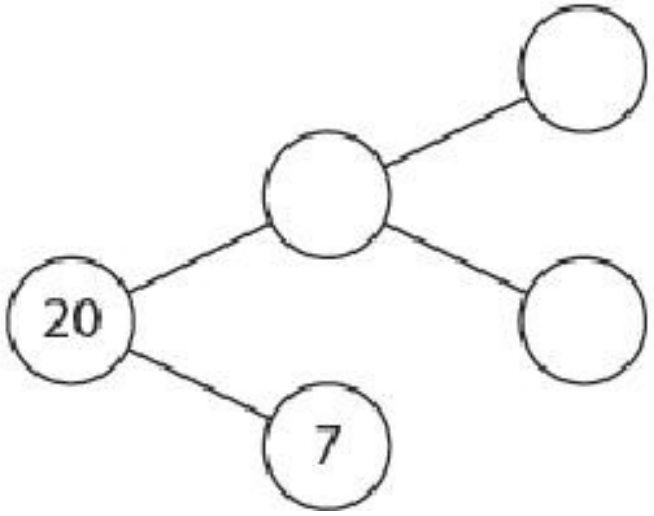
•How we challenge

•All children will be able to…

Complete:



•Some children will explore the concept in greater depth…



Now create a similar diagram.

Can you extend your diagram?

How to help at home

- Find numbers in the environment
- Follow a recipe
- Board games – track games
- Talk about time – days of week, months.
- Go shopping – money
- Look for shapes in the local area
- Practise number facts

Websites:

https://www.topmarks.co.uk/maths-games/hit-the-button

https://www.topmarks.co.uk/Search.aspx?Subject=16&AgeGroup=2

https://www.bbc.co.uk/bitesize/subjects/zjxhfg8

https://ictgames.com/mobilePage/index.html