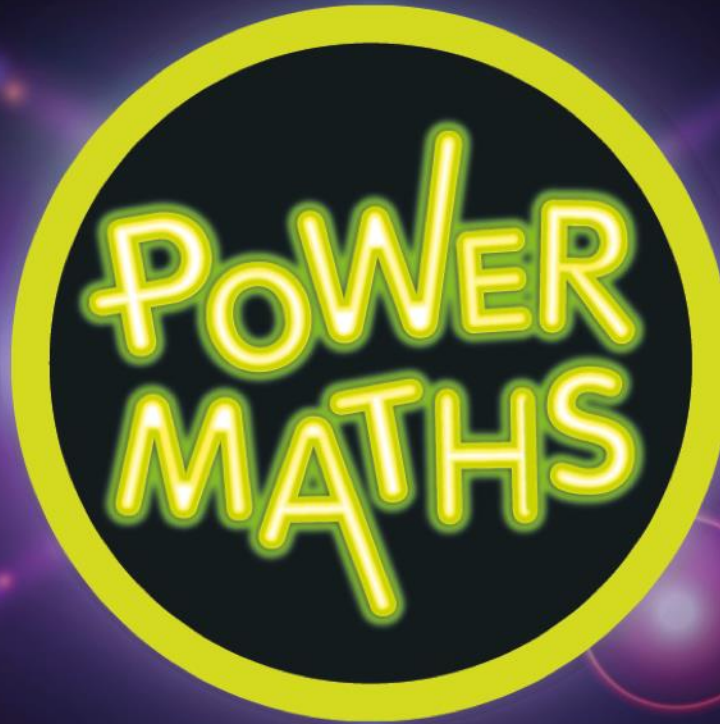




Fully  
Recommended  
by the DfE!

**The whole-class mastery approach  
that works for every child**

Created in  
partnership  
with





**At the heart of  
*Power Maths*  
is the belief that all  
children can achieve.  
It's built on an  
exciting growth  
mindset and  
problem-solving  
approach.**

# Key aims of *Power Maths*

**Keeping the whole class progressing together**

**Providing rich problem solving to challenge and engage every child**

**Practical assessment to reveal misconceptions and inform speedy interventions**

**Nurturing a growth mindset and building children's confidence in maths**

# In a nutshell ...

-  An exciting **whole-class mastery approach** for Reception to Year 6
-  Written by **mastery experts** and inspired by best practice from around the world
-  Fully **recommended by the Department for Education**
-  Created specifically for **UK classrooms**
-  Makes maths an adventure and helps build a culture of **excitement and confidence!**

# What is mastery?

**“Mastering maths means acquiring a deep, long-term, secure and adaptable understanding of the subject” – NCETM**

**We achieve this by ...**

Developing  
mathematical  
thinking

Carefully  
sequenced,  
small step  
learning

Building  
fluency

Representation  
that expose  
mathematical  
structures

# Growth mindset

## Fixed mindset

"I'm not good at maths – I've never been good at maths"

"I give up – I can't make this any better"

"If I fail I am a failure"

"I can't do this – I keep making mistakes"

## Growth mindset

"I'm finding maths hard now, but I can improve with time and effort"

"I can improve if I keep trying"

"Most successful people fail along the way"

"Mistakes help me learn"

# Meet the growth-mindset characters!

## Flo

Flo is flexible and creative. She often with new methods to solve problems.

Can we do it differently?



## Dexter

Dexter is determined. When he makes a mistake he learns from it and tries again.

Let's try again!

# Meet the growth-mindset characters!



## Astrid

Astrid is brave and confident. She is not afraid to make mistakes.

I will share my ideas!

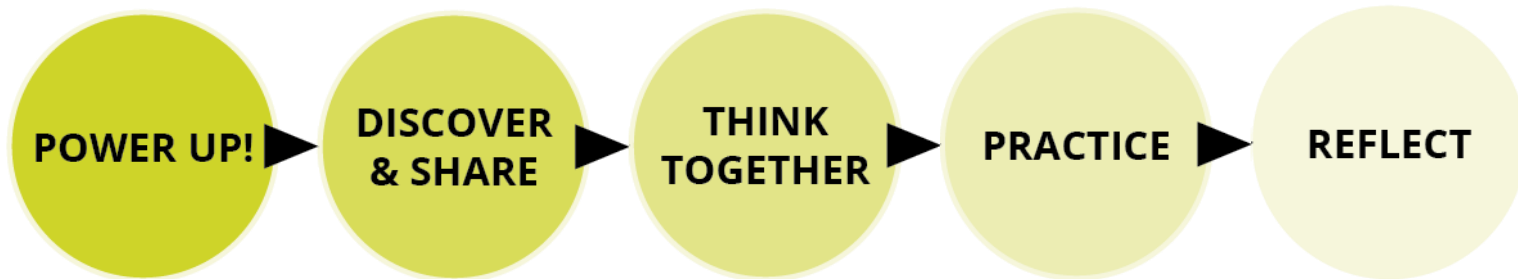


Is there a pattern?

## Ash

Ash is curious and inquisitive. He loves to explore new concepts

# See the lesson structure



Same Day Intervention



# Discover and Share

Unit 7: Multiplication and division (2), Lesson 8

## Dividing up to a 4-digit number by a 1-digit number 2

### Discover



- How many pieces of litter has each child picked up?
- Mr Jones has picked up 351 pieces of litter. He shares them equally between 3 bags.  
How many pieces of litter are in each bag?

36

Engaging scenarios

## Concrete-Pictorial-Abstract approach

### Share

- 4 children picked up 92 pieces of litter.

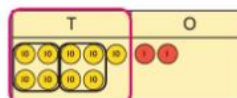
They each picked up the same number of pieces.

$$4 \overline{) 92}$$



To work this out, I need to divide 92 by 4. I will use the method of short division that we learnt in the last lesson.

$$4 \overline{) 92} \begin{array}{l} 2 \\ 2 \end{array}$$

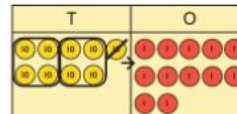


First, lay out the problem.

How many groups of 4 go into 9 tens?

2 groups of 4 tens with 1 ten left over.

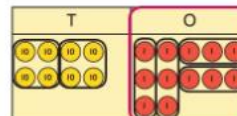
$$4 \overline{) 92} \begin{array}{l} 2 \\ 2 \\ 2 \end{array}$$



Exchange the 1 ten left over for 10 ones.

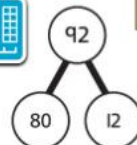
We now have 12 ones.

$$4 \overline{) 92} \begin{array}{l} 2 \\ 2 \\ 3 \end{array}$$



How many groups of 4 go into 12 ones?

3 groups of 4 ones.



$$80 \div 4 = 20 \quad 12 \div 4 = 3$$

$$20 + 3 = 23$$

92 ÷ 4 = 23, so each child picked up 23 pieces of litter.

I used a part-whole model to partition the number into two numbers that divide by 4.

# Think together

Unit 7: Multiplication and division (2), Lesson 8

Unit 7: Multiplication and division (2), Lesson 8

- b) Mr Jones shares 351 pieces of litter equally between 3 bags.

|                                                                                                                                                                                     |  |                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------|
| $\begin{array}{r} 1 \\ 3 \overline{) 351} \\ \underline{3} \phantom{00} \\ 0 \phantom{00} \end{array}$                                                                              |  | <p>There is 1 group of 3 hundreds.</p>                                                               |
| $\begin{array}{r} 1 \phantom{0} 1 \\ 3 \overline{) 3521} \\ \underline{3} \phantom{00} \phantom{0} \\ 0 \phantom{00} \phantom{0} \end{array}$                                       |  | <p>There is 1 group of 3 tens and 2 tens left over.</p>                                              |
| $\begin{array}{r} 1 \phantom{0} 1 \phantom{0} 7 \\ 3 \overline{) 3521} \\ \underline{3} \phantom{00} \phantom{0} \phantom{0} \\ 0 \phantom{00} \phantom{0} \phantom{0} \end{array}$ |  | <p>Exchange the 2 tens for 20 ones. You now have 21 ones<br/>There are 7 groups of 3 ones in 21.</p> |

$$351 \div 3 = 117$$

There are 117 pieces of litter in each bag.

## Think together

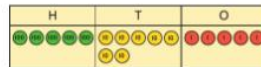
- 1 The children have a flask containing 575 ml of juice.

They share the juice equally among themselves and Mr Jones.

How much juice does each person get?

$$575 \div 5 = \square$$

Each person gets  $\square$  ml of juice.

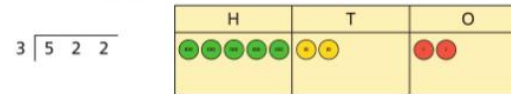


- 2 Complete these short divisions.

a)  $726 \div 6 = \square$



b)  $522 \div 3 = \square$



- 3 a) Look at these division problems.

There are 312 eggs.  
How many boxes of 6  
eggs can be made?

Divide 1,980 by 2

$$485 \div 5$$

What is different about these divisions compared with the ones you have been doing so far?

- b) Max tries to work out the third division problem. What mistake has Max made?

$$\begin{array}{r} 0 \ 3 \ 5 \\ 5 \overline{) 4 \ 17 \ 25} \end{array}$$

I think there is something different in the first step of each division.



Friendly, supportive characters help children develop a growth mindset.

# Practice

Questions are presented  
in a logical sequence.

→ Textbook 5B p36

Unit 7: Multiplication and division (2), Lesson 8

Unit 7: Multiplication and division (2), Lesson 8

## Dividing up to a 4-digit number by a 1-digit number ②

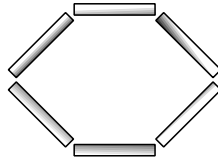
- 1 Mo is dividing 78 by 3. Complete his working.

$$3 \overline{) 78}$$

| T                                                                    | O                                                                    |
|----------------------------------------------------------------------|----------------------------------------------------------------------|
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$$78 \div 3 = \square$$

- 2 Olivia is making hexagons with straws, like this:



Olivia has 96 straws. How many hexagons  
can she make?

$$6 \overline{) 96}$$

| T                                                                    | O                                                                    |
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Olivia can make  hexagons.

- 3 Work out these divisions.

a)  $642 \div 6 = \square$

b)  $725 \div 5 = \square$

c)  $5,016 \div 3 = \square$

$$6 \overline{) 642}$$

$$5 \overline{) 725}$$

$$3 \overline{) 5016}$$

- 4 Calculate the answers to these divisions.

a)  $7,924 \div 7 = \square$

b)  $711 \div 3 = \square$

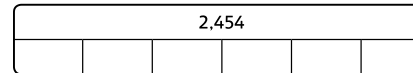
c)  $916 \div 4 = \square$

$$7 \overline{) 7924}$$



- 5 What division does this bar model model represent?

Write the calculation and then solve it.



- 6 Isla has made a number and then divided her number by 4 using short division.

What mistake has Isla made?

$$4 \overline{) 0879}$$

| Th                           | H                                                                        | T                          | O                                                                    |
|------------------------------|--------------------------------------------------------------------------|----------------------------|----------------------------------------------------------------------|
| <div> <div>1000</div> </div> | <div> <div>100</div> <div>100</div> <div>100</div> <div>100</div> </div> | <div> <div>10</div> </div> | <div> <div>10</div> <div>10</div> <div>10</div> <div>10</div> </div> |

\_\_\_\_\_

\_\_\_\_\_

- 7 Fill in the missing numbers in these short divisions.

a)  $\begin{array}{r} 2 \\ 4 \overline{) \phantom{0}72} \end{array}$

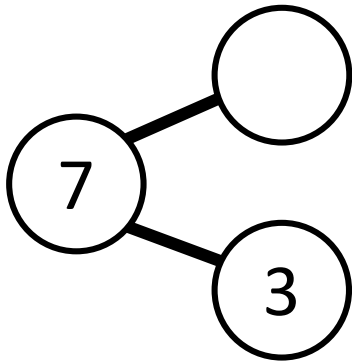
b)  $\begin{array}{r} 22 \\ 3 \overline{) 873} \end{array}$

c)  $\begin{array}{r} 6 \\ 5 \overline{) \phantom{0}30} \end{array}$

Calculations are connected so that children  
think about the underlying concepts.

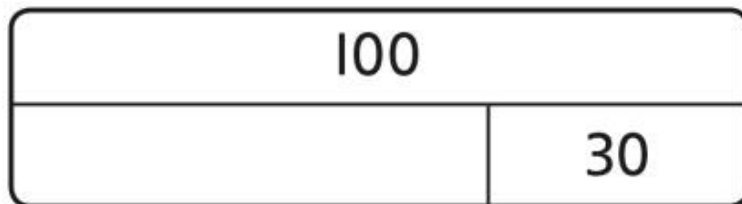
# Models and representations

## Part-whole models



Shows how numbers can be split into parts. Helps show the connection between addition and subtraction.

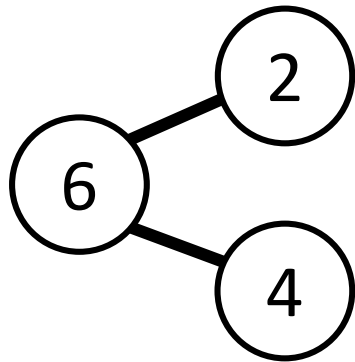
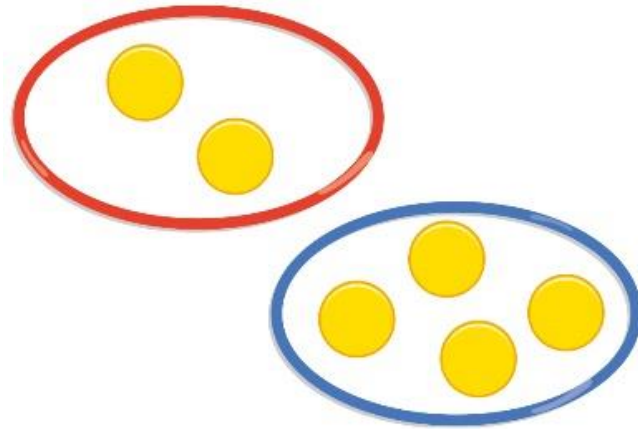
## Bar models



Helps show the maths problem as a picture.



# Models and representations



$$2 + 4 = 6$$



# MATHS

IS AN ADVENTURE

