



Year 4

Power Maths Books A, B and C
Knowledge organisers





Year 4

Power Maths Book A
Knowledge organisers
Units 1 - 5



Unit 1

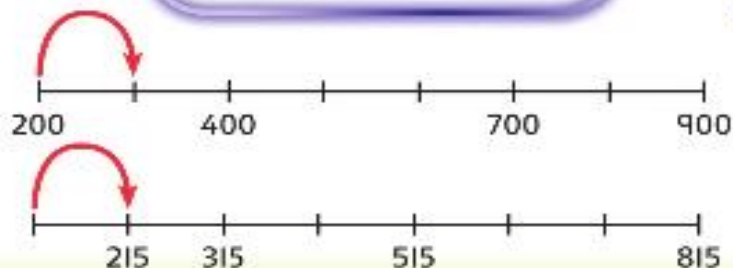
Place value – 4-digit numbers 1



In this unit we will ...

- ⚡ Round numbers to the nearest 10 or 100
- ⚡ Count in 1,000s
- ⚡ Represent 4-digit numbers
- ⚡ Use number lines
- ⚡ Learn about Roman numerals

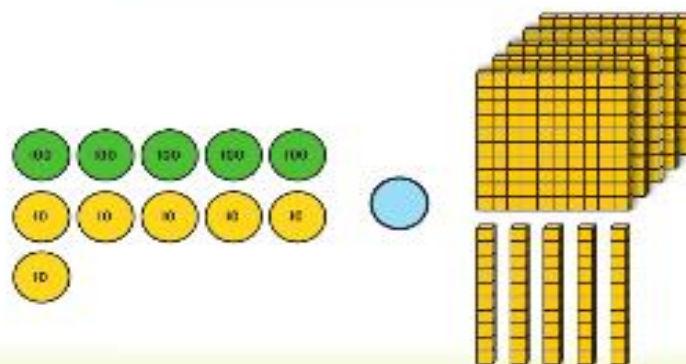
Do you remember how to count in 100s?



We will need some maths words. Which ones have you seen before? What do they mean?

tens	hundreds	thousands
rounding	order	more than (>)
less than (<)	partition	numerals
nearest	distance	

We need to compare numbers too! Use the signs $<$, $=$ or $>$ to make the number sentence correct.



Unit 2

Place value – 4-digit numbers 2



In this unit we will ...

- ⚡ Find 1,000 more or less
- ⚡ Compare and order numbers to 10,000
- ⚡ Round numbers to the nearest 1,000
- ⚡ Count in 25s
- ⚡ Count back through 0 into negative numbers

What number is represented here? Use it to find 100 more.

H	T	O



We will need some maths words. Which ones have we used before?

thousands **ascending** **descending**
rounding **negative** **step**
multiple **greater than (>)** **less than (<)**

We will need this tool! Use it to find the next multiple of 1,000.



Unit 3

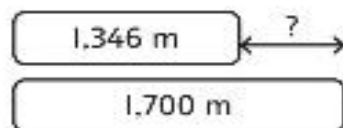
Addition and subtraction



In this unit we will ...

- ⚡ Add and subtract 1s, 10s, 100s and 1,000s
- ⚡ Add and subtract two 4-digit numbers using the column method
- ⚡ Learn how to find and use equivalent difference, and other mental methods
- ⚡ Estimate answers to additions and subtractions
- ⚡ Learn how to check strategies and apply our knowledge

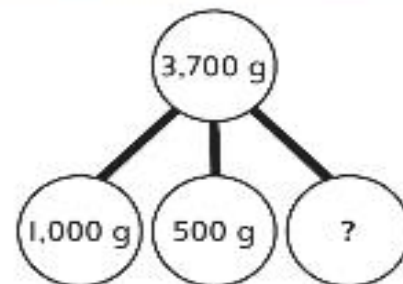
Do you remember what this is called?
We use it to compare amounts.



We will need some maths words.
Do you know what they all mean?

addition	total	more than
subtraction	less than	column method
estimate	how much	strategy
efficient	accurate	exact
fact	diagram	

We need to use the part-whole model too. It helps us to break down and solve problems.



Unit 4

Measure – perimeter



We will need some maths words.
Which of these are new?

length width perimeter
distance rectangle square
rectilinear shape centimetre (cm)
metre (m) kilometre (km)
equivalent to



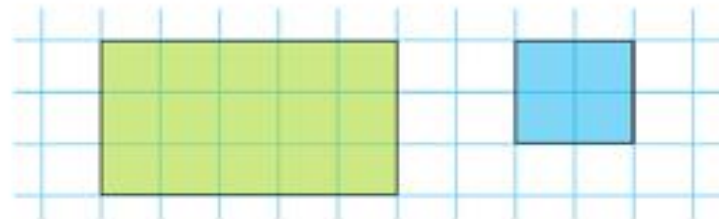
In this unit we will ...

- ⚡ Convert between kilometres and metres
- ⚡ Find perimeters of shapes
- ⚡ Work out missing lengths
- ⚡ Find solutions involving perimeter

Do you remember how to
measure length using squares?
How long is this line?



What do you remember about the
sides of a rectangle and a square?



Unit 5

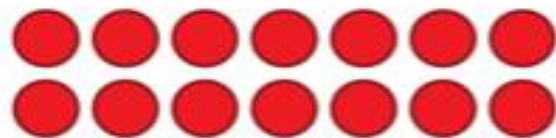
Multiplication and division 1



In this unit we will ...

- ⚡ Multiply by and divide multiples of 10 and 100
- ⚡ Multiply and divide by 0 and 1
- ⚡ Learn all of our times-tables from 1 to 12
- ⚡ Understand related multiplication and division facts
- ⚡ Find solutions to multiplication and division word problems

Do you remember what this is called?
Use it to find 2×7 or 7×2 .

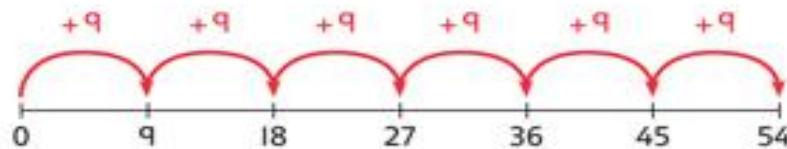


We will need some maths words.
Are any of these new?

multiply (\times)	divide (\div)		
multiplication fact	division fact		
lots of	groups of	times-table	array

We need to use the number line too! Use it to support your counting in groups.

$$6 \times 9 = 54$$





Year 4

Power Maths Book B
Knowledge organisers
Units 6 - 10



Unit 6

Multiplication and division 2

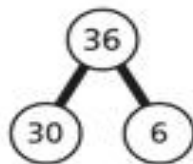


We will need some maths words. How many of these have you used before?

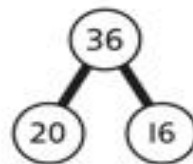
multiply	divide	times-tables
partition	array	bar model
part-whole model		remainder
factor pair	factors	commutative

We need to know how to use a part-whole model to multiply or divide. First, we need to know how to partition a number. Is there another way to partition 36?

$$36 = 30 + 6$$



$$36 = 20 + 16$$



In this unit we will ...

- ⚡ Learn how to multiply a number using the written method
- ⚡ Learn how to multiply and divide numbers in our heads
- ⚡ Find the remainder when a number is divided
- ⚡ Use bar models and part-whole models to solve multiplication and division problems

We have already learnt the times-tables facts. Can you use the facts to work out how many chocolates I have? Is there a quicker way?



Unit 7

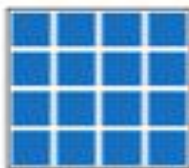
Measure – area



In this unit we will ...

- ⚡ Learn what 'area' means
- ⚡ Find areas of shapes by counting squares
- ⚡ Draw shapes with different areas
- ⚡ Compare the area of different shapes

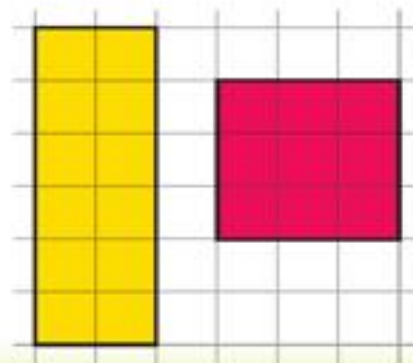
How many small squares fit into this large square?



We will need some maths words. Which of these are new?

length	width	area	space
	rectangle	square	
rectilinear shape		unit	least
greatest	triangle	quadrilateral	
	reflection	rotation	

Which shape do you think is larger? Why?



Unit 8

Fractions 1



In this unit we will ...

- ⚡ Find the links between tenths and hundredths
- ⚡ Identify equivalent fractions
- ⚡ Simplify fractions
- ⚡ Look at fractions that are greater than 1

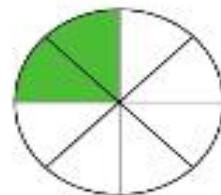
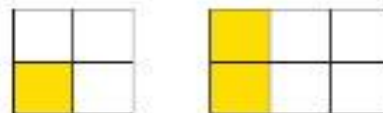
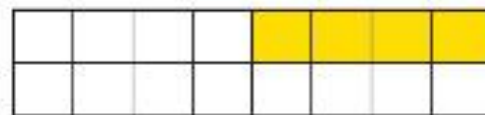
How many tenths are shown here?



We will need some maths words.
Which of these have you met before?

tenths	hundredths	equivalent
simplify	numerator	denominator
	fraction	mixed number
improper fraction		simplest fraction

Which one of these fractions is not equivalent to the others?



Unit 9

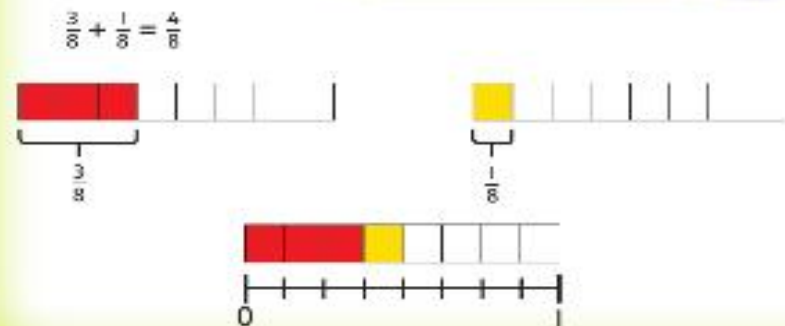
Fractions 2



In this unit we will ...

- ⚡ Learn to add and subtract fractions with the same denominator
- ⚡ Learn to subtract a fraction from a whole number
- ⚡ Understand how to find a fraction of an amount

We will use fraction strips to add and subtract fractions.



We will need some maths words. How many of these do you remember?

numerator	denominator	add
subtract	improper fraction	
mixed number	fraction of an amount	

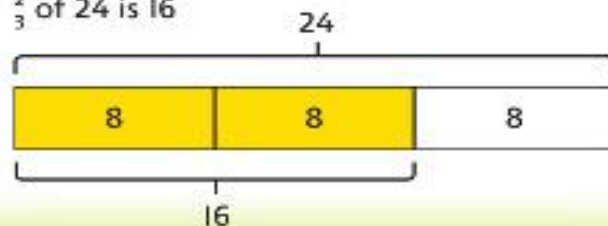
You need to be able to find a fraction of an amount.

Find $\frac{2}{3}$ of 24

$$24 \div 3 = 8$$

$$8 \times 2 = 16$$

$\frac{2}{3}$ of 24 is 16



Unit 10

Decimals 1



In this unit we will ...

- ⚡ Learn about the decimal point, and tenth and hundredth columns
- ⚡ Explore tenths and hundredths as decimals
- ⚡ Understand how to divide 1- and 2-digit numbers by 10 and 100
- ⚡ Complete calculations resulting in a decimal answer

Here is a place value grid. What columns have we used before? What columns are new? Is there anything else we have not seen before?

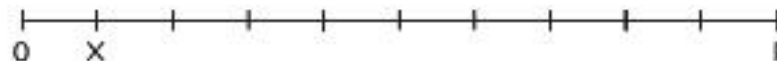
T	O	•	Tth	Hth
1	2	•	3	4



We will need some maths words.
Which words have you seen before?

tens ones decimal point
tenths hundredths greater than
equivalent less than
decimal centimetre millimetre

We will need this too!
What should be shown at X?





Year 4

Power Maths Book C
Knowledge organisers
Units 11 - 16



Unit 11

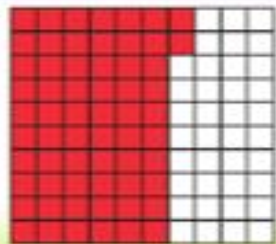
Decimals 2



In this unit we will ...

- ⚡ Work out what we need to make a whole
- ⚡ Write a decimal and represent it on a place value grid
- ⚡ Compare and order decimals
- ⚡ Round decimals to the nearest whole number
- ⚡ Learn the decimal equivalents of fractions such as $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{3}{4}$
- ⚡ Convert different units of measurement

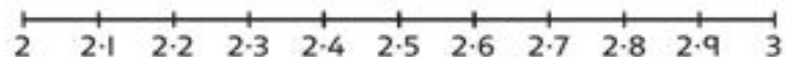
In the last unit, we learnt how to show a decimal. What decimal is shown here?



We will need some maths words. How many of these can you remember?

tenths hundredths decimal point
0.1 and 0.01 equivalent whole number
rounding greater than (>)
less than (<) equal to (=) order
compare convert decimal place
ascending descending

We will also need to know where to find a decimal on a number line. This will help us round the number.



Unit 12

Money



In this unit we will ...

- ⚡ Write money in pounds and pence, using a decimal point
- ⚡ Order, add and subtract amounts of money
- ⚡ Round money to the nearest 10p or nearest £1
- ⚡ Find change
- ⚡ Solve simple word problems involving money

Do you know how to work out how much money there is? Remember to add the pounds first and then the pence.



We will need some maths words. Do you know what they all mean?

notes	coins	pounds (£)	pence (p)
	add	subtract	change
	round to the nearest		order
	greater than (>)		less than (<)
cheaper	more expensive		estimate
over estimate			under estimate
	total		notation

We need to be able to add and subtract using column methods.

$$56p + 89p$$

$$56p + 89p = 145p$$

$$145p = \text{£}1 \text{ and } 45p$$

	H	T	O
		5	6
+		8	9
	1	4	5



Unit 13

Time



Here are some maths words we will be using. Are any of these words new?

convert	compare	units of time
seconds	minutes	hours
days	weeks	months
years	12-hour	24-hour
analogue	digital	am/pm



In this unit we will ...

- ⚡ Convert between units of time
- ⚡ Write times in different ways
- ⚡ Compare times by converting units
- ⚡ Solve problems about units of time

How many minutes are in one hour?



5 minutes



Which time do you think is shortest? Why?



Unit 14

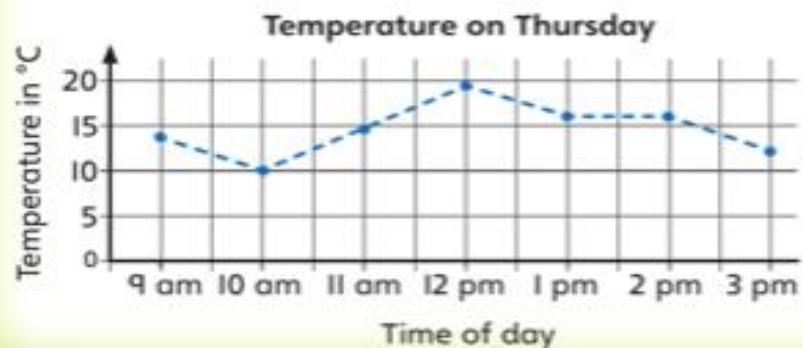
Statistics



In this unit we will ...

- ⚡ Present data in pictograms, bar charts and tables
- ⚡ Explore line graphs
- ⚡ Solve problems based on data

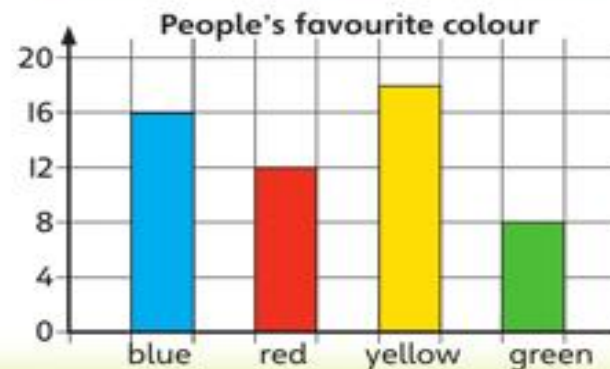
We are going to meet this type of graph in this unit. What was the temperature at 10 am?



We will need some maths words. Which ones have you seen before?

data	line graph	pictogram
bar chart	table	altogether
more than	greatest	smallest
continuous data		compare

We need this too! How many people's favourite colour is yellow?



Unit 15

Geometry – angles and 2D shapes



In this unit we will ...

- ⚡ Learn to recognise obtuse, acute and right angles
- ⚡ Understand regular and irregular shapes
- ⚡ Name and describe quadrilaterals and triangles
- ⚡ Identify lines of symmetry in shapes and patterns

Do you remember quarter turns and half turns?



We will need some maths words.
Do you recognise any of these words?

quadrilateral triangle regular
irregular interior angle angle
acute obtuse reflect
right angle symmetrical
isosceles scalene equilateral
line of symmetry reflective symmetry

Can you identify the right angle?
Describe it to your partner.



Unit 16

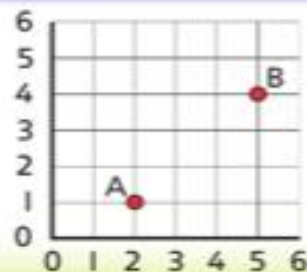
Geometry – position and direction



In this unit we will ...

- ⚡ Use numbers to say where things are on a grid
- ⚡ Plot points on a grid
- ⚡ Use our knowledge of shapes to complete diagrams
- ⚡ Describe movements on a grid

Point A is '2 across and 1 up'.
Where is Point B?



We will need some maths words.
Which ones go together?

position	horizontal	vertical
up	down	left
right	coordinate	square
rectangle	plot	vertex
vertices	point	grid



You will need to know
how to find numbers
on a number line. What
are the numbers marked
with letters?

