



Year 3

Power Maths Books A, B and C
Knowledge organisers





Year 3

Power Maths Book A
Knowledge organisers
Units 1 - 4



Unit 1

Place value within 1,000



In this unit we will ...

- ⚡ Count in 100s
- ⚡ Partition a number in 100s, 10s and 1s
- ⚡ Find 100, 10 and 1 more or less
- ⚡ Compare and order numbers up to 1,000
- ⚡ Count in 50s

In Year 2 we used place value grids to organise our work.
What number does this show?

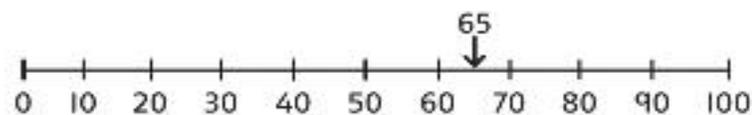
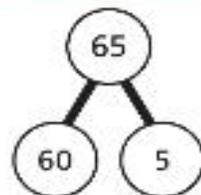
T	O



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

hundreds (100s)	tens (10s)
ones (1s)	place value
less	more
greater than (>)	less than (<)
equal to	order
estimate	exchange

We will also use part-whole models and number lines.



Unit 2

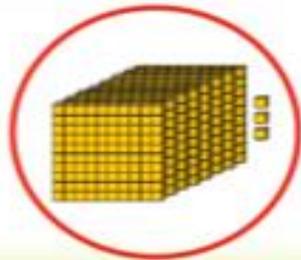
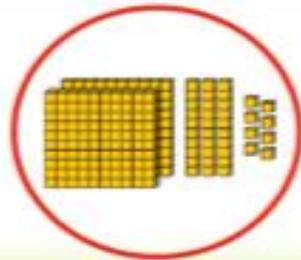
Addition and subtraction 1



In this unit we will ...

- ⚡ Add 1s and 10s to 3-digit numbers
- ⚡ Subtract 1s and 10s from 3-digit numbers
- ⚡ Add and subtract 3-digit and 2-digit numbers
- ⚡ Learn when to exchange 1s, 10s and 100s
- ⚡ Add and subtract using mental and written methods

Do you remember how to use place value? What numbers do these represent?



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

addition

subtraction

mental method

column method

exchange

We need this too! Use it to write the number two hundred and thirty-four using digits.

H	T	O



Unit 3

Addition and subtraction 2



We will need some maths words. Which word means to find a rough answer?

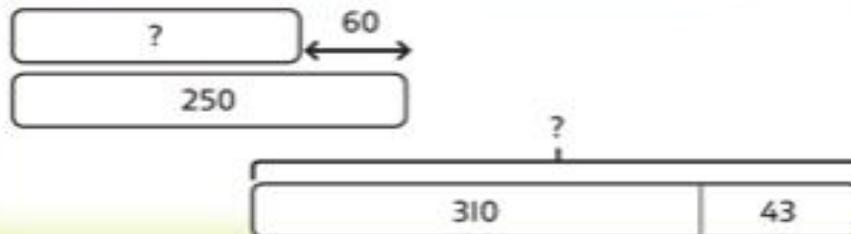
exchange	column method
	mental method
estimate	approximate
digits	multiple



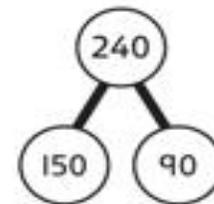
In this unit we will ...

- ⚡ Add and subtract 3-digit numbers
- ⚡ Decide if we need to exchange
- ⚡ Exchange across more than one column
- ⚡ Learn how to check our answers in different ways
- ⚡ Use bar models to solve 1- and 2-step problems

Do you remember how to find the missing information on these bar models?



We need to remember about parts and wholes. Use this model to find a family of 8 facts.



Unit 4

Multiplication and division 1



In this unit we will ...

- ⚡ Recognise when groups are equal and when they are not
- ⚡ Learn the 3, 4 and 8 times-tables
- ⚡ Find a simple remainder when a number is divided
- ⚡ Use a bar model to solve multiplication and division problems

In Year 2, we recognised when groups were equal and unequal.



Equal groups



Unequal groups



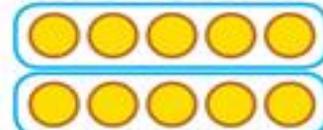
We will need some maths words. How many of these have you used before?

equal	multiply	divide
times-tables	sharing	grouping
array	bar model	remainder
repeated addition	multiplication sentence	
division statement	division facts	

You need to know that an array can tell you two different multiplication facts.



5 groups of 2
 $5 \times 2 = 10$



2 groups of 5
 $2 \times 5 = 10$





Year 3

Power Maths Book B
Knowledge organisers
Units 5 - 9



Unit 5

Multiplication and division 2



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

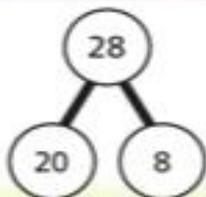
multiplication	division	statement
number sentence	compare	more than
less than (<)	greater than (>)	equal (=)
equally	least	most
share	partition	multi-step



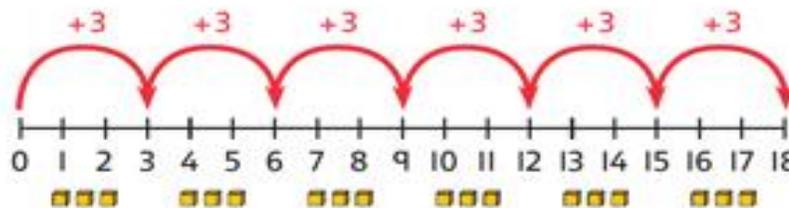
In this unit we will ...

- ⚡ Compare multiplication and division statements using inequality signs
- ⚡ Use known multiplication facts to solve other multiplication problems
- ⚡ Find multiplication and division fact families
- ⚡ Learn to multiply and divide by partitioning
- ⚡ Solve mixed multiplication and division problems including multi-step problems

Do you remember what this is called? We will use it to help partition numbers.



We need to use number lines too.
These will help us understand multiplication and division.



Unit 6

Money



In this unit we will ...

- ⚡ Record money in £ and p
- ⚡ Convert money
- ⚡ Add and subtract amounts of money
- ⚡ Solve problems including ones that involve finding change

In Year 2, we counted money in pounds and in pence. How much money is here?

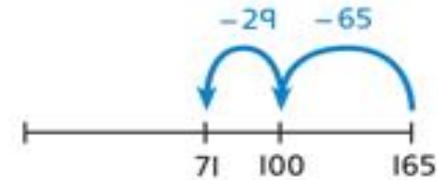


We will need some maths words. How many of these can you remember?

pounds (£) and pence (p)
 convert total
 difference change

We will also need to be able to add and subtract numbers. What calculations are shown here?

$$\begin{array}{r} 56 \\ + 79 \\ \hline 135 \end{array}$$



Unit 7

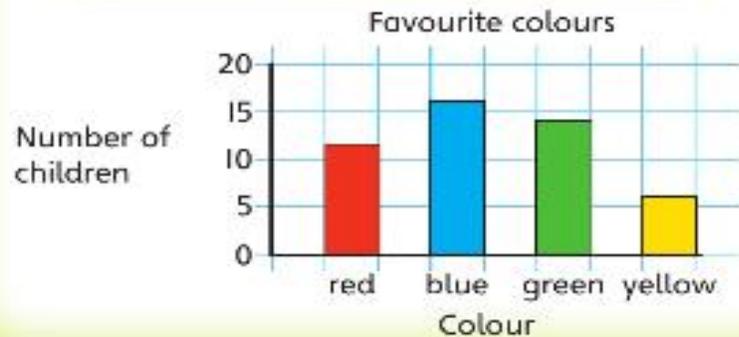
Statistics



In this unit we will ...

- ⚡ Present information in different ways
- ⚡ Use pictograms, bar charts and tables
- ⚡ Answer questions based on information that is presented in different ways

This looks like the block diagrams we used last year. I wonder what it is called.



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

pictogram	key	bar chart
scale	table	row
column	vertical axis	

We need pictograms too! Work out how many people like skiing.

Key: Each 😊 represents 2 people.

Sport	Number of people
skiing	😊😊😊😊😊
snowboarding	😊😊😊😊😊😊



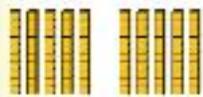
Unit 8

Length



In this unit we will ...

- ⚡ Measure lengths in millimetres, centimetres and metres
- ⚡ Compare lengths
- ⚡ Add and subtract lengths
- ⚡ Measure the perimeter of a shape
- ⚡ Learn about equivalent lengths



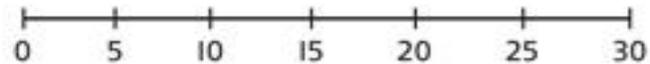
How many 10s go into 100? We could use base 10 equipment or counters to show this.



We will need some maths words. Which ones do you recognise?

length height width perimeter
distance centimetres (cm) millimetres (mm)
metres (m) unit of measurement measure
add subtract multiply equivalent
convert greater than (>) less than (<)
ruler metre stick

Number lines can be useful. Can you find 10 more than 17 on here?



Unit 9

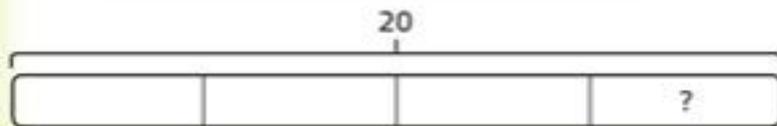
Fractions 1



In this unit we will ...

- ⚡ Make a whole with unit and non-unit fractions
- ⚡ Explore tenths as fractions
- ⚡ Understand fractions as numbers
- ⚡ Calculate fractions of a set of objects

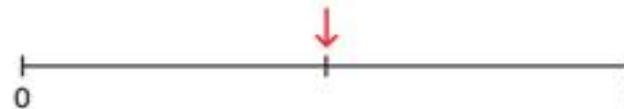
Do you remember what this is called?
How many parts has the whole been split into?
What is the value of one of the parts?



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

equal parts whole unit fraction
equation integer non-unit fraction
numerator denominator represent share
group mixed number whole number
divide set of objects multiply
tenth interval

We need a number line too! What fraction is the arrow pointing to?





Year 3

Power Maths Book C
Knowledge organisers
Units 10 - 14



Unit 10

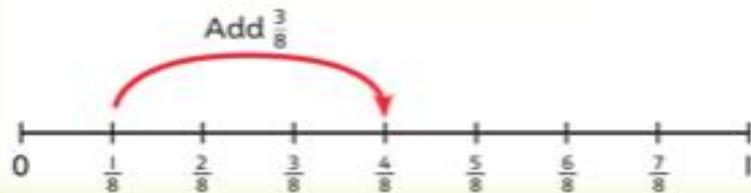
Fractions 2



In this unit we will ...

- ⚡ Find equivalent fractions
- ⚡ Compare fractions
- ⚡ Add and subtract fractions
- ⚡ Solve word problems about fractions and finding fractions of an amount

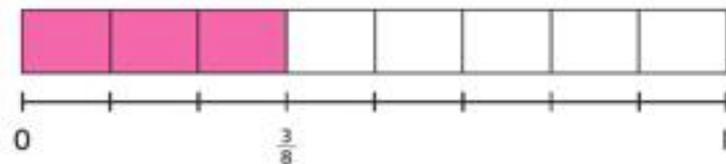
Do you remember what this is called? Use it to find what fraction is $\frac{3}{8}$ more than $\frac{1}{8}$.



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

equivalent numerator denominator
 compare add subtract
 fraction whole equivalent fraction
 greater than (>) less than (<) equal to
 multiply divide difference
 inequality statement

We will need this too! Use the information in the fraction strip and number line to work out what fraction is shaded.



Unit II

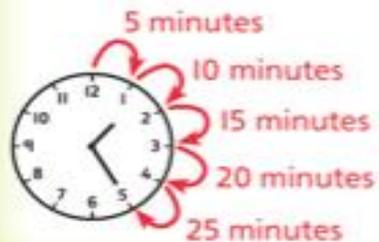
Time



In this unit we will ...

- ⚡ Learn about hours, days, months and years
- ⚡ Estimate times
- ⚡ Tell the time to the nearest minute
- ⚡ Calculate start and end times
- ⚡ Solve time problems

Do you remember how to count the number of minutes past or to an o'clock time?



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

month	year	midnight	midday
am	pm	duration	estimate
consecutive	hour	minute	second
past	to	start	end
duration	digital clock	analogue clock	

How do you know what the time is?



Unit 12

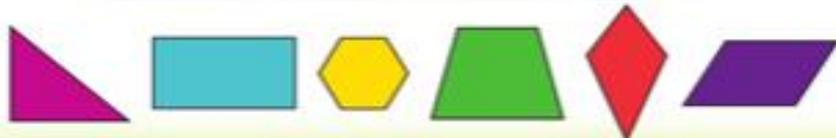
Angles and properties of shapes



In this unit we will ...

- ⚡ Learn about turns
- ⚡ Learn what a right angle is
- ⚡ Understand and draw parallel and perpendicular lines
- ⚡ Identify and draw vertical and horizontal lines
- ⚡ Recognise and describe right angles and parallel and perpendicular lines in 2D shapes
- ⚡ Recognise, describe and construct 3D shapes

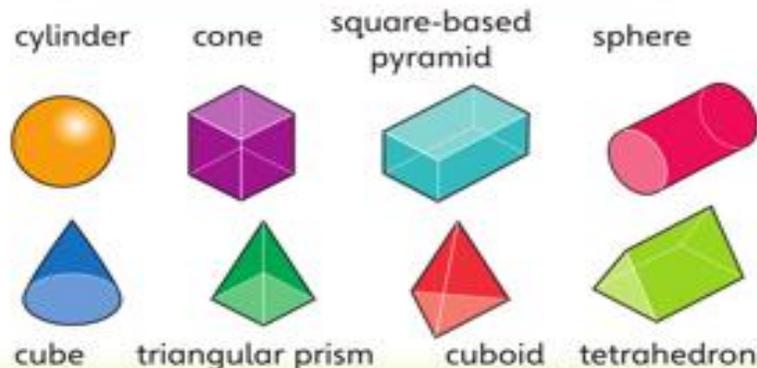
We will see some different 2D shapes. Which of these are quadrilaterals?



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

right angle acute obtuse parallel
perpendicular vertical horizontal
triangle quadrilateral kite trapezium
rhombus parallelogram cuboid
triangular prism square-based pyramid
cone cylinder sphere edges
faces vertices clockwise anticlockwise

We will look at 3D shapes too. Can you match the names to all these shapes?



Unit 13

Mass



In this unit we will ...

- ⚡ Measure mass in kilograms and grams
- ⚡ Work out different intervals on a scale
- ⚡ Add, subtract and compare masses
- ⚡ Solve problems involving mass



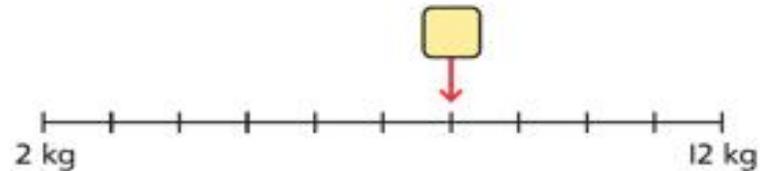
Do you remember what this is called? Use it to find the mass of an object.



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

mass weigh measure
scale interval grams (g)
kilograms (kg)

We need to use this too! Use it to work out the missing number.



Unit 14

Capacity



In this unit we will ...

- ⚡ Measure capacity in litres and millilitres
- ⚡ Convert between litres and millilitres
- ⚡ Compare and order capacities
- ⚡ Add and subtract capacities
- ⚡ Solve problems involving capacities

Do you remember using a bar model to add numbers? Use this one to find the total.

350	500
?	



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

capacity

litre (l)

millilitre (ml)

scale

interval

convert

Can you use part-whole models to partition numbers?

