

# Unit 7

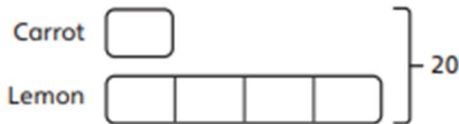
## Ratio and proportion



In this unit we will ...

- ⚡ Calculate ratios
- ⚡ Use ratios to work out amounts
- ⚡ Enlarge shapes by a scale factor
- ⚡ Identify similar shapes
- ⚡ Solve problems involving ratio

We will use bar models to represent ratio problems. For every 1 slice of carrot cake there are 4 slices of lemon cake. If there are 20 slices in total, how many slices are carrot?



We will need some maths words. We will use the phrase, 'For every ... there are ...'. What do you think it might mean?

ratio

proportion

part

whole

scale

scale factor

similar

notation

We will need to know our multiplication and division facts. Write three multiplication or division facts that match this one.

$$8 \times 9 = \square$$



# Unit 8

## Algebra



In this unit we will ...

- ⚡ Find and write algebraic rules
- ⚡ Write algebraic expressions
- ⚡ Write algebraic formulae
- ⚡ Write and solve algebraic equations
- ⚡ Solve equations that have lots of solutions

Do you remember what this model is called? We will use it to represent different equations. Can you predict what equation is being represented here?

36	x
42	



We will need some maths words. Can you identify and explain the words you already recognise?

sequence   rule   term   algebra  
 expression   calculation  
 formula   substitute   generalise  
 operation   calculate  
 equation   solution

We will need to work systematically to find all the solutions to one equation. We can use a table to help us order and record our solutions.

Perimeter of rectangle	If $a =$	Then $b =$
20	$a = 1$	$20 \div 2 - 1 = 9$
20	$a = 2$	$20 \div 2 - 2 = 8$
20	$a = 3$	$20 \div 2 - 3 = 7$



# Unit 9

## Decimals



In this unit we will ...

- ⚡ Recognise the value of each digit in a decimal number
- ⚡ Multiply and divide decimals by 10, 100 and 1,000
- ⚡ Convert between fractions and decimals
- ⚡ Multiply and divide decimals by 1-digit numbers

Do you remember using place value grids?

H	T	O	Tth	Hth	Thth



We will need some maths words. Have you used any of these before? What can you remember about fractions?

multiply   divide   decimal   decimal place (dp)

recurring decimal   placeholder   place value

tenths   hundredths   thousandths

products   fraction

Can you identify the value of each digit? Explain how you know to a partner.

H	T	O	Tth	Hth	Thth
3	0	4	9	0	8



# Unit 10

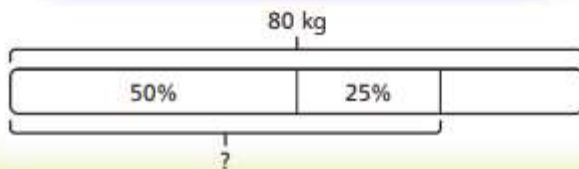
## Percentages



In this unit we will ...

- ⚡ Develop a deeper understanding of percentages as parts of 100
- ⚡ Find equivalent fractions, decimals and percentages
- ⚡ Understand a range of methods to work out percentages
- ⚡ Find 1% and multiples of 1%
- ⚡ Work out missing values, such as 30% of ? = 60
- ⚡ Convert, order and solve problems involving fractions, percentages and decimals

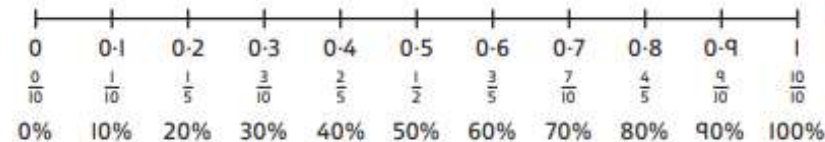
Do you remember what this model is called?  
It can be used to represent percentages of amounts and to solve problems.



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

- per cent (%)
- percentage
- parts
- whole
- decimal
- fraction
- divide
- share
- multiply
- convert
- compare
- order
- equivalent fraction
- simplify
- less than (<)
- greater than (>)

We will need to use a number line too.  
You can use this to help you to order decimals, fractions and percentages.



# Unit II

## Measure – perimeter, area and volume



In this unit we will ...

- ⚡ Find and draw shapes with the same area or perimeter
- ⚡ Explore how the perimeter changes when the area changes and vice versa
- ⚡ Calculate the area of parallelograms and triangles
- ⚡ Calculate and estimate the volume of cubes and cuboids

This regular octagon and regular hexagon have the same perimeter. What is the length of one side of the hexagon?

6 cm



Here are some maths words we will be using. Which words are new?

area

volume

perimeter

parallelogram

height

perpendicular

width

length

square centimetres (cm<sup>2</sup>)

square metres (m<sup>2</sup>)

base

estimate

formula

compound shape

dimensions

cubic centimetres (cm<sup>3</sup>)

cubic metres (m<sup>3</sup>)

Describe the pattern. Draw the next shape. Which shape has the largest perimeter? Which has the largest area? How do you know?

