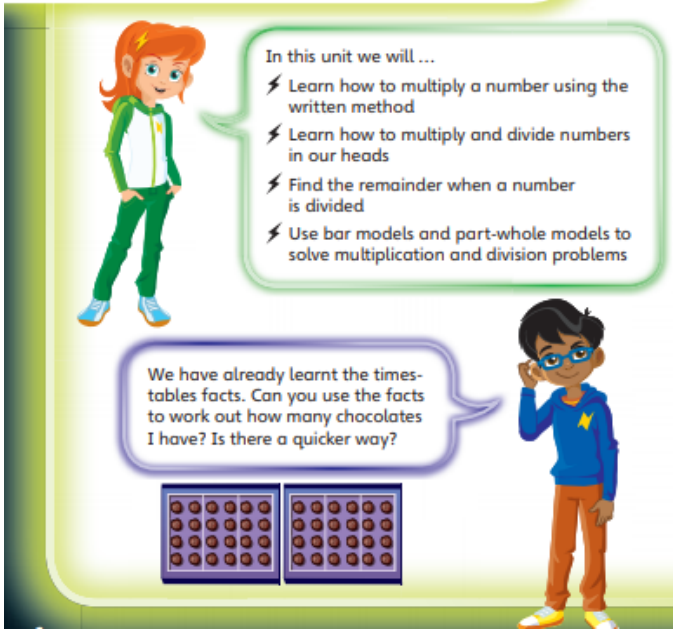
Unit 6
Multiplication and division 2



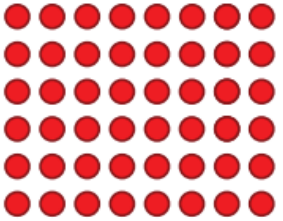
KEY LANGUAGE

There is some key language that children will need to know as part of the learning in this unit.

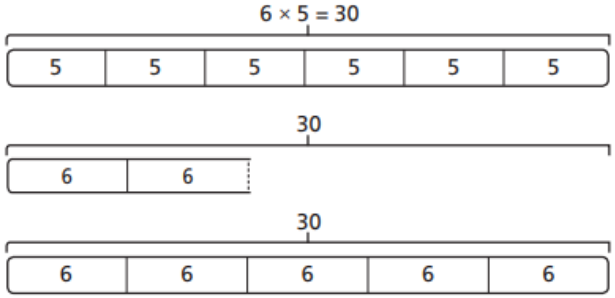
- multiplication (×), multiplication statement
- grouping, groups, equal, total, repeated addition
- correspondence, multiply, divide, combinations
- divide (÷), division statement
- times-tables
- whole, left over, remainder
- one-step, two-step, multi-step
- array, bar model, part-whole model

STRUCTURES AND REPRESENTATIONS

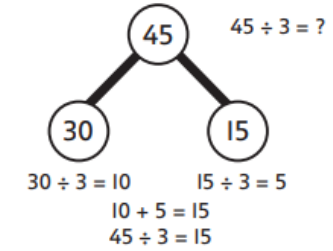
Arrays: This model shows the total of a multiplication and reinforces commutativity. It can also be used to demonstrate sharing and grouping.



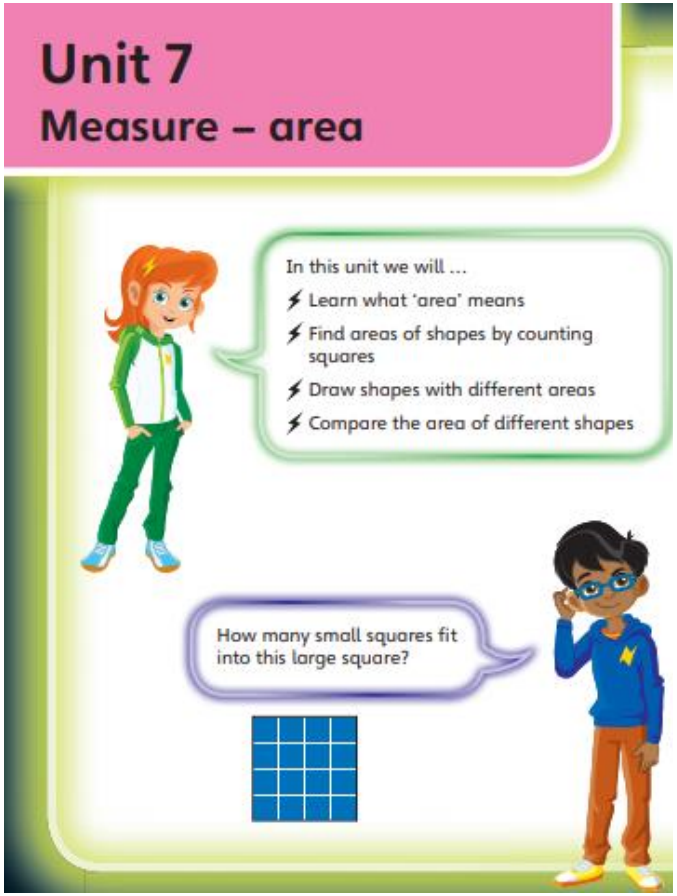
Bar model: This model represents the situation in multiplication and division word problems and shows the link between multiplication and repeated addition.



Part-whole model: This model shows how a number can be partitioned in multiplication and division problems.



Unit 7
Measure – area



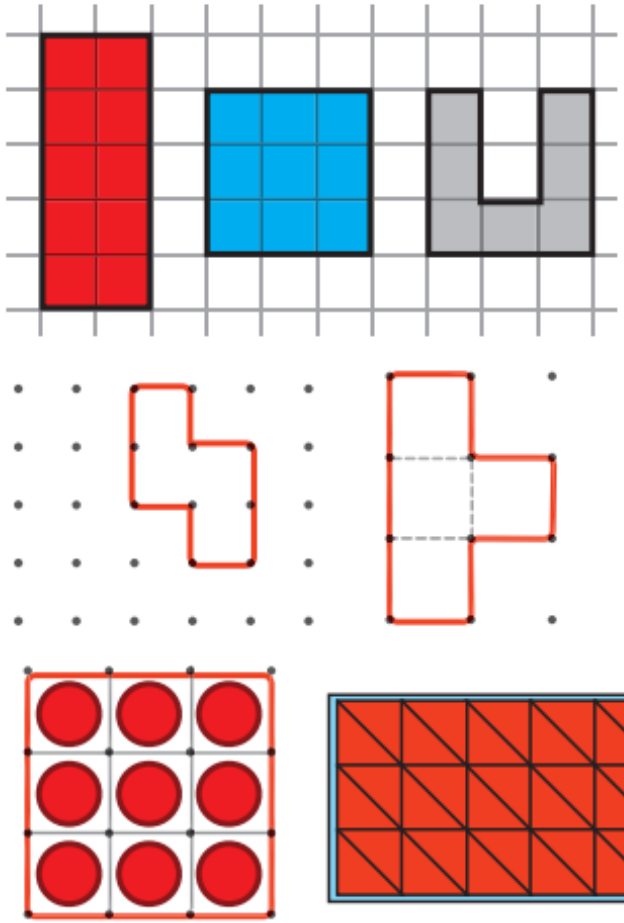
KEY LANGUAGE

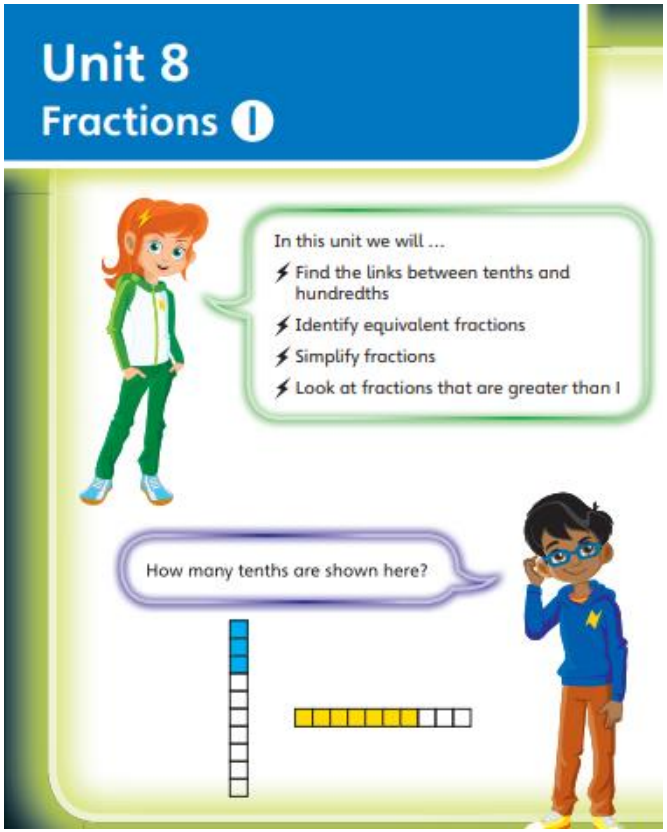
There is some key language that children will need to know as part of the learning in this unit:

- area, space, inside, units, rows
- length, width, measure
- shape, triangle, square, rectangle, trapezium, rectilinear shape, 2D shapes
- larger, more area, smaller, less area, least area, greatest area
- right angle
- counting, subtraction
- reflection, rotation
- compare, order, size

STRUCTURES AND REPRESENTATIONS

Squared paper overlaid with 2D shapes or counters.





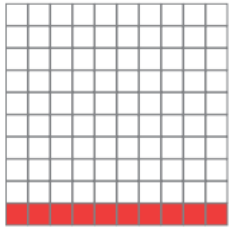
KEY LANGUAGE

There is some key language that children will need to know as part of the learning in this unit:

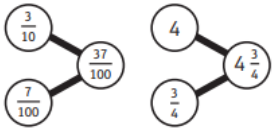
- tenth, hundredth
- equivalent fraction
- improper fraction, mixed number
- simplify, simplest fraction

STRUCTURES AND REPRESENTATIONS

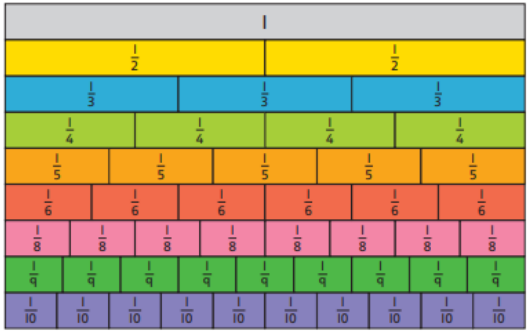
Hundredths grid: This will allow children to see the connection between tenths and hundredths.



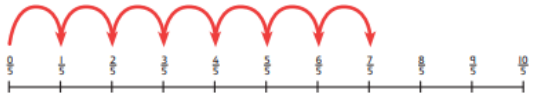
Part-whole model: This will allow children to visualise how hundredths are made up of tenths and hundredths, and how mixed numbers are made of wholes and fractions.

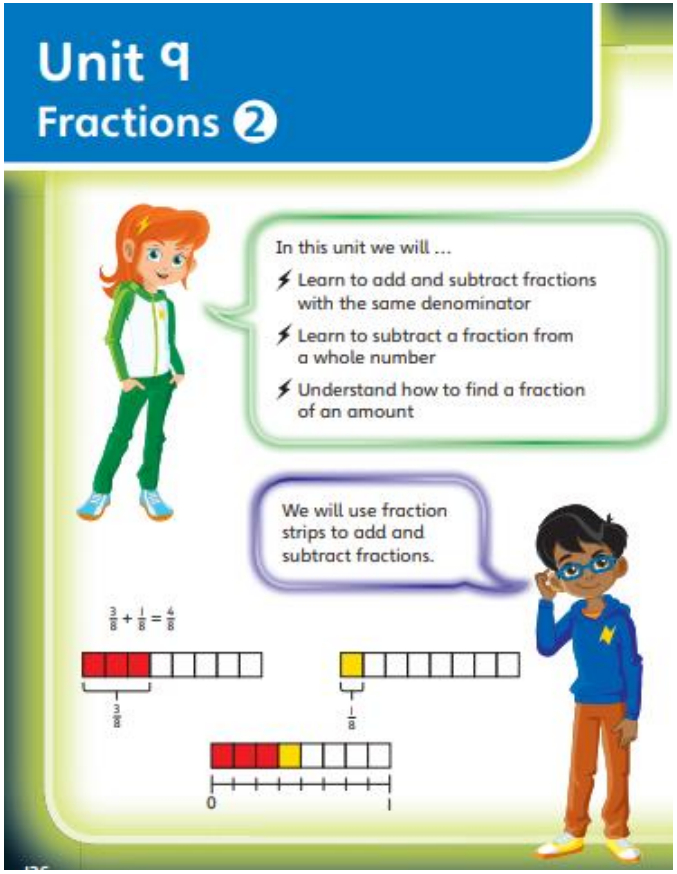


Fraction strips and fraction wall: These will allow children to visualise fractions and identify equivalent fractions.



Number line: This will allow children to count in fractions, on number lines showing mixed numbers or improper fractions.





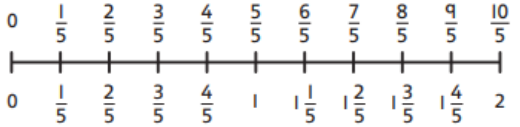
KEY LANGUAGE

There is some key language that children will need to know as a part of the learning in this unit:

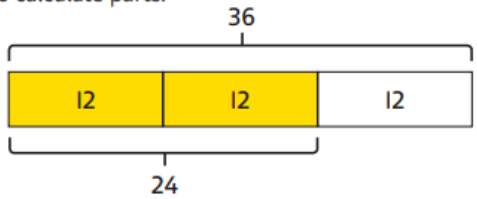
- numerator, denominator
- fraction, whole number, mixed number, proper fraction, improper fraction
- add (+), subtract (–), multiply (×), divide (÷), sign, greater than (>), less than (<)
- whole, part, find … of …
- fraction strip, represent, number line, diagram, problem solving

STRUCTURES AND REPRESENTATIONS

Fraction number line: Fraction number lines are used in this unit to show how whole numbers can be split into fractions. Fractions can be written on number lines either as proper and improper fractions (shown here above the line) or as mixed numbers (shown below the line).

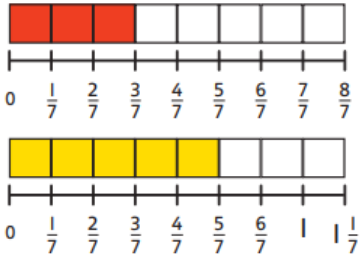


Fraction strips: Fraction strips can be used to find the fraction of an amount of the whole. Braces above and below help to calculate parts.

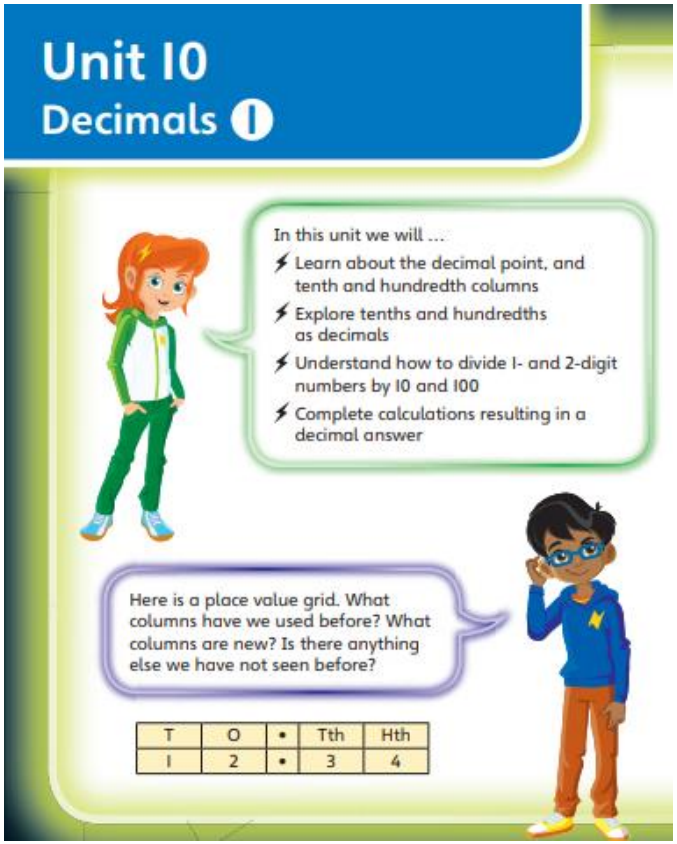


Fraction strips with number line below: Fraction strips are used in this unit to represent fractions of a whole. The fraction number line underneath allows children to add or subtract fractions by adding together on a number line or crossing out. For example:

$\frac{3}{7} + \frac{5}{7}$



$\frac{3}{7} + \frac{5}{7} = \frac{8}{7}$



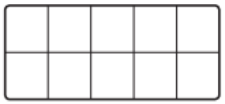
KEY LANGUAGE

There is some key language that children will need to know as a part of the learning in this unit.

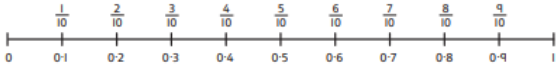
- decimal point, whole, tenths, hundredths, integer, tenths column, hundredths column
- one more, one less, greater than, less than, increase, decrease
- divide, regroup, equivalent, partition

STRUCTURES AND REPRESENTATIONS

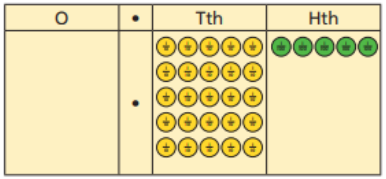
Ten frame: This model helps children to understand how a quantity can be split into 10 equal parts and how 10 of these parts make 1. This resource will be invaluable to stop children counting in tenths incorrectly; for example: 0·9, 0·10, 0·11, and so on. Using place value counters on a ten frame that has tenths recorded as $\frac{1}{10}$ and 0·1 will allow children to make links with to fractions, understanding this concept in greater depth.



Number line: This model helps children to see the position of decimal numbers and their fraction equivalents within given integers and helps them to count on and back in decimal amounts. It is also an important representation to allow children to make links with measure.



Place value grid: This is an important model to show how the place value columns relate to each other. Use it to introduce the tenths and hundredths columns and to visually show the value of each digit within a decimal number, as well as how numbers can be regrouped in different ways to show the same amount.



Part-whole model: This model shows how an amount can be split into different parts, which is useful to see when a part can or cannot be divided by a required amount.