

Strand 1 - I can plot and interpret linear functions

Topics within this strand include:

Working level	A pupil working here should be able to....
Towards	Plot Coordinates in 1 quadrant confidently
	Substitute positive integers into a function/table of values
	Plot simple linear functions with positive
	I understand equations of horizontal and vertical lines
Met	I can plot coordinates in four quadrants
	Substitute any integers into a function and table of values
	Plot 2 step functions
	Plot functions with negative gradients
	Recognise the gradient and intercept
Depth	Plot a function by rearranging first
	Match an equation, to a table of values and to a graph
	To relate parallel lines to pairs of functions

Use this at the end of the topic to assess your understanding.

Strand 2 - I can apply the formulae for area and circumference of circles

Topics within this strand include:

Working level	A pupil working here should be able to....
Towards	To identify the radius, diameter and circumference of a circle
	To understand the relationship between radius and diameter e.g. diameter = 2 x radius
	To understand that π is found from circumference \div diameter
	To recall π to 2 decimal places
Met	To recall and apply the formulae for area and circumference of a circle.
	To apply the formula for area to find semi and quarter circles
	To apply the formulae to worded questions
Depth	To find the radius or diameter when given the area or circumference
	To apply the formula for circumference to find the perimeter of composite shapes
	To apply the formulae for area and circumference to problem solving questions

Use this at the end of the topic to assess your understanding.

Strand 3 – I can apply four operations in a range of contexts

Topics within this strand include:

Working level	A pupil working here should be able to....
Towards	I can add and subtract decimal numbers
	I can add and subtract with negative numbers
	I can multiply and divide negative numbers
	I can multiply by a decimal number
Met	I can answer the above in a range context including money
	I can do the above following the rules of BIDMAS
	I can divide by a decimal number
	I can add and subtract fractions including mixed numbers
	I can multiply and divide fractions including mixed numbers
Depth	I can calculate fractions of amounts including multi-step worded questions
	I can solve a mixture of problems involving all of the above

Use this at the end of the topic to assess your understanding.

Strand 4 – I can simplify and manipulate expressions including factorising

Topics within this strand include:

Working level	A pupil working here should be able to....
Towards	I am more confident with writing fluently using algebra
	I can collect like terms including powers
	I can expand a single bracket
	I can expand and simplify multiple single brackets
Met	I can list factors of algebraic expressions
	I can factorise simple expressions taking out one factor
	I can collect like terms in shape based questions (Perimeter and area of rectangles)
	I can form an expression from a worded scenario
	I can factorise expressions taking out multiple factors
Depth	I can form and solve perimeter questions with one unknown on one side.
	I can form and solve angle questions with one unknown on one side.
	I can factorise any expression into a single bracket

Use this at the end of the topic to assess your understanding.

Strand 5 – I can solve problems involving ratio and proportion

Working level	A pupil working here should be able to....
Towards	To understand that ratio is written in the form a:b and that a:b is different to b:a
	To be able to simplify a ratio
	To share a total amount into a simple ratio
	To solve simple proportion questions by scaling up or down by an integer
Met	To share <u>any</u> amount into a ratio
	To solve basic questions involving best value
	To solve questions involving basic currency
	To solve ingredients based questions
	To understand how ratio relates to fractions
Depth	To solve more complex ratio problems by understanding 'parts' of a ratio
	To solve ratio problems across a range of topics

Strand 6 – I can calculate problems involving averages from tables (10 hours)

Working level	A pupil working here should be able to....
Towards	Calculate the mean, median, mode and range from a list of data
	Understand the link between a list, frequency table and grouped table
	Know the rhyme (or alternative recall method)
	Understand the difference between averages (MMM) and range (spread)
Met	Understand the link between a list of values, a frequency table and a grouped table
	Able to list possible values in an interval
	Able to calculate the mean from a frequency table (and rounding appropriately)
	Able to calculate the estimated mean from a grouped frequency table (and rounding appropriately)
	Able to calculate the median from a frequency table. Able to use $\frac{n+1}{2}$ when finding the median
Depth	Able to calculate the interval in which the median lies from a grouped frequency table
	Able to identify the mode from a frequency table
	Able to identify the modal group from a grouped frequency table
	Able to compare two sets of data. Why is it called an estimate of the mean. Able to check the sensibility of the answers. Understand why you cannot calculate the range for a grouped table.
	Solve missing number problems in tables