

## Year 7 SOW - Middle

Y7 Middle - HT1					
Chapter	Lesson	Learning objective	R	A	G
Using whole numbers	Addition and subtraction - Mental and written strategies	Read and write whole numbers in figures and words.			
		Know what each digit represents			
		Add/subtract any pair of two-digit numbers.			
		use a number line to add two numbers			
		use a number line to find the difference between two numbers			
		Approximate first and use informal pencil and paper methods to support, record or explain addition and subtraction.			
		Develop calculator skills and use a calculator effectively, interpret the display in different contexts			
	Ordering numbers	Use symbols $\geq$ , $\leq$ , $<$ and $>$			
		Use the vocabulary of comparing, ordering, estimating and approximating.			
		Order positive and negative integers (number line, temperature)			
	Multiplication and Division-Mental and written strategies	Recall multiplication facts to 12 x 12 and quickly derive associated division facts			
		Recognise squares to at least 12 x 12 and the corresponding square roots			
		Use repeated doubling and halving; double any two-digit number			
		Partition to multiply mentally, for example, $46 \times 7$			
		To multiply and divide whole numbers/decimals by 10, 100 and 1000			
		Extend written methods to $HTU \times U$ and $HTU \times TU$			
		Know and apply tests of divisibility of 2,3, 5, 10 or 100			
		Extend written methods to $HTU \div U$ and $HTU \div TU$			
		Develop calculator skills and use a calculator effectively, interpret the display in different contexts			
	Managing money	Use all four operations to solve money or 'real life' word problems			
		To work out everyday money problems			
Working with Decimal numbers	Ordering decimals	To order decimal numbers according to size			
		Know what the digits of a decimal number stand for			
	Adding and subtracting decimals	To add and subtract decimal numbers			
	Multiplying and dividing by 10, 100 and 1000	To multiply and divide decimal numbers by 10, 100 and 1000			
	Multiplying and dividing decimals	To be able to multiply and divide decimal numbers by any whole number			
Using numbers in real life	Calculations with measurements	To convert between common metric units			
		To use measurements in calculations			
		To recognise and use appropriate metric units			
	The 12-hour and 24-hour clocks	To read and use 12-hour and 24-hour clocks			
		To convert between the 12-hour and 24-hour systems			
Negative numbers	The calendar	To read and use calendars			
Negative numbers	Negative numbers	To use a number line to order positive and negative whole numbers			
		To use a number line to calculate with negative numbers			
		Calculate temperature rises across $0^{\circ}\text{C}$ and solve problems involving negative temperatures			
		To carry out additions and subtractions involving negative numbers			
		To carry out multiplications / Division involving negative numbers			
Order of operations	BIDMAS	To use the conventions of BIDMAS to carry out calculations			
Review					

Y7 Middle -HT2					
Chapter	Lesson	Learning objective	R	A	G
<b>Rounding / Estimation</b>	Rounding and estimation	To round numbers to the nearest whole number, 10, 100 or 1000			
		To round numbers to 1 dp ,2dp, 3dp			
		<b><u>To round numbers to 1 sf ,2sf, 3sf</u></b>			
		To estimate calculations in order to spot possible errors			
<b>Perimeter, area and volume</b>	Perimeter	To work out the perimeter of 2D shapes.			
		To work out the perimeter of compound shapes			
	Area	To work out the area of 2D shapes by counting the squares			
		To use a simple formula to calculate the area of a rectangle / <b><u>triangle</u></b>			
		<b><u>To work out the area of compound shapes</u></b>			
	Surface area of cuboids	To work out the surface area of cubes and cuboids			
		To work out the volume of cubes and cuboids			
	Volume of cuboids	To work out the volume of a cube and cuboid, using a simple formula			
		To work out the capacity of a cube or cuboid			
<b>Expressions</b>	Expressions and substitution	To use algebra to write expressions			
		To substitute numbers into expressions / formulae			
	Simplifying expressions	To be able to simplify expressions			
<b>Multiples and factors</b>	Using formulae	To use formulae			
	Multiples	To understand multiples and find the lowest common multiple			
	Factors	To understand factors and find the highest common factor			
	Prime numbers	To understand what prime number is			
<b>Review</b>					

Y7 Middle -HT3					
Chapter	Lesson	Learning objective	R	A	G
Sequences	Function machines	To use function machines to generate inputs and outputs			
	Sequences and rules	To recognise, describe and generate sequences that use a simple rule			
		To find missing terms in a sequence			
		<u>To work out the nth term</u>			
	Other sequences	<u>To know and understand the sequences of numbers known as the square numbers, triangular numbers and the Fibonacci sequence</u>			
Equations	Solving equations	To understand what an equation is			
		To solve equations involving one operation			
		To solve equations involving two operations			
		To use algebra to set up and solve equations			
Coordinates and graphs	Drawing graphs	To understand and use coordinates to locate points in all four quadrants			
		To generate a table of values using a calculator and draw the corresponding graphs			
		To draw a graph from a table of values (without a calculator)			
		<u>To recognise and draw lines of the form <math>y= mx+ c</math> using the y-intercept and the gradient</u>			
	Graphs from the real world	To learn how graphs can be used to represent real-life situations			
		To draw and use real-life graphs			
Review					
Y7 Middle -HT4					
Chapter	Lesson	Learning objective	R	A	G
Fractions	Equivalent fractions	To shade a fraction of a shape			
		To find a fraction of a quantity			
		To find equivalent fractions			
		To write fractions in their simplest form			
		To compare and order two fractions			
	Mixed numbers and improper fractions	To convert mixed numbers to improper fractions			
		To convert improper fractions to mixed numbers			
	Adding and subtracting fractions	To add and subtract fractions with the same / different denominator (including mix numbers)			
<u>Multiplying and dividing fractions</u>	<u>To multiply/divide fractions</u>				
Using a calculator	The four operations with fractions using a calculator				
Percentages	Percentages / Fractions of a quantity	To understand the equivalence between a fraction, a decimal and a percentage			
		To find a percentage / fraction of a quantity			
	Percentages of a quantity	To find a percentage of a quantity with/without a calculator			
To work out the result of a simple percentage increase/decrease					
Ratio	Introduction to ratios	To use ratio notation			
		To use ratio to compare quantities			
	Simplifying ratios	To write a ratio as simply as possible			
	Ratios and sharing	To use ratios to find missing quantities			
		To share an amount using a ratio			
		To understand the connections between fractions and ratios			
Solving problems	To understand how ratios can be useful in everyday life				
Review					

Y7 Middle -HT5					
Chapter	Lesson	Learning objective	R	A	G
Averages	Mode, median and range	To understand and calculate the mode, median and range of data			
	The mean	To understand and calculate the mean average of data			
	Comparing mean and range	To use the mean and range to compare data			
Statistical Diagrams	Frequency tables / Tally charts	To create and use a tally chart			
	Grouped frequency	To understand and use grouped data			
	Pictograms	To be able to create/use pictograms			
	Bar Charts	To to be able to use/read data from bar charts			
	Pie charts	To read data from pie charts in which the data is given as percentages			
Probability	Probability words	To learn and use the correct words about probability			
	Probability scales	To learn about and use probability scales from 0 to 1			
		To work out probabilities based on equally likely outcomes			
	Experimental probability	To understand experimental probability			
To understand the difference between theoretical probability and experimental probability					
Review					
Y7 Middle -HT6					
Chapter	Lesson	Learning objective	R	A	G
Symmetry	Line symmetry	To recognise shapes with reflective symmetry			
		To draw lines of symmetry on a shape			
	Reflections	To understand how to reflect a shape			
		To use coordinates to reflect shapes in all four quadrants			
	Rotational symmetry	To recognise shapes that have rotational symmetry			
		To find the order of rotational symmetry for a shape			
	Tessellations	To understand how to tessellate shapes			
Angles	Measuring and drawing angles	To know the different types of angles			
		Estimate size of angles			
		To use a protractor to measure / draw an angle			
	Calculating angles	To calculate angles at a point			
		To calculate angles on a straight line			
		To calculate vertically opposite angles			
	Properties of triangles and quadrilaterals	To understand the properties of parallel, intersecting and perpendicular lines			
		To understand and use the properties of triangles			
		To understand and use the properties of quadrilaterals			
	Angles in a triangle	To know that the sum of the angles in a triangle is 180° including isosceles and equilateral triangle			
Angles in a quadrilateral	To know that the sum of the angles in a quadrilateral is 360°				
3D shapes	Shapes and nets	To be familiar with the names of 3D shapes - faces, vertices and edges			
		To draw nets of 3D shapes			
		To construct 3D shapes from nets			
Review					