

# Year 7 SOW - Higher

## Y7 Higher - 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 x 7				
		To multiply and divide whole numbers/decimals by 10, 100 and 1000				
		Extend written methods to HTU x U and HTU x 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				
		Challenge cards	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				
Using numbers in real life	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				
	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°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 Higher - HT2

Chapter	Lesson	Learning objective	R	A	G
Rounding / Estimation	Rounding and estimation	To round numbers to the nearest whole number, 10, 100 or 1000			
		To round numbers to 1 dp ,2dp, 3dp			
		To round numbers to 1 sf ,2sf, 3sf			
		To estimate calculations in order to spot possible errors			
Challenge cards					
Perimeter, area and volume	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 / <u>triangle</u>			
		To work out the area of compound shapes			
	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					
Challenge cards					
Expressions	Expressions and Formuale	To use algebra to write simple expressions and recognise equivalent expressions			
		To learn how to simplify expressions			
		To use / write formulae			
		To substitute numbers into expressions to work out their values			
Challenge cards					
Multiples, factors and primes	Multiples/ Factors and LCM/HCF	To understand multiples and factors			
		To recognise prime numbers less than 100			
		To work out LCM/HCF by listing multiples/factors			
		To write a number as a product of its prime factors			
		To work out LCM/HCF using decomposition Into prime factors			
Review					

### Y7 Higher - HT3

Chapter	Lesson	Learning objective	R	A	G
<b>Sequences</b>	Function machines	To use function machines to generate inputs and outputs			
		To use given inputs and outputs to work out a function			
	Sequences and Working out the $n$ th term	To recognise, describe and generate sequences that follow a simple rule			
		To work out the term-to-term rule and $n$ th term rule			
	Special sequences	To generate terms of a sequence using the $n$ th term rule			
		To know and understand the square and triangular number sequences, the Fibonacci sequence and Pascal's triangle			
<b>Challenge cards</b>					
<b>Equations</b>	Solving equations	To find missing numbers in simple calculations			
		To understand what an equation is			
		To solve equations involving one operation			
		To solve equations involving two operations			
		<b>To use algebra to set up and solve equations</b>			
<b>Challenge cards</b>					
<b>Coordinates and graphs</b>	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)			
		To recognise and draw graphs of the form $x + y = a$			
		<b>To recognise and draw lines of the form <math>y = mx + c</math> using the y-intercept and the gradient</b>			
	Graphs from the real world	To learn how graphs can be used to represent real-life situations			
		To draw and use real-life graphs			
<b>Challenge cards</b>					
<b>Review</b>					

**Y7 Higher - 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			
	Adding and subtracting mixed	To add and subtract mixed numbers with the same denominator			
To add and subtract mixed numbers with different denominators					
Multiplying and dividing fractions	To multiply/divide fractions <b>(including mix numbers)</b>				
Using a calculator					
Percentages	Fractions, decimals and percentages	To understand the equivalence between a fraction, a decimal and a percentage			
	Calculating simple percentages	To work out a percentage of a quantity with/without a calculator			
		To work out the result of a percentage increase/decrease of a quantity			
<b>Reverse Percentages</b>	<b>To calculate the original amount after a percentage increase/decrease</b>				
Challenge cards					
Ratio	Simplifying ratios	To use ratio notation			
		To use ratio to compare quantities			
		To simplify ratio			
		To write ratios in the form 1 : n where n could be a decimal.			
	Ratios and sharing	To share an amount in a given ratio			
	Solving problems	To understand the connections between fractions and ratios			
To solve everyday life ratio problems					
Challenge cards					

**Review**

**Y7 Higher - HT5**

Chapter	Lesson	Learning objective	R	A	G
Averages	Mean ,mode, median and range	To understand and calculate the mean, mode, median and range of data			
		To use the mean and range to compare data			
Statistical Diagrams	Frequency tables / Tally charts	To create and use a tally chart and frequency tables including 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 use a scaling method to draw a pie chart			
		To read data from pie charts in which the data is given as percentages			
Challenge cards					
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			
	Combined events	To use sample space diagrams to work out the probability of a combined event			
	Experimental probability	To understand experimental probability			
To understand the difference between theoretical probability and experimental probability					
Challenge cards					

**Review**

Y7 Higher - HT6					
Chapter	Lesson	Learning objective	R	A	G
<b>Angles</b>	Measuring and drawing angles	To use a protractor to measure / draw an angle			
	Calculating angles	To calculate angles around a point			
		To calculate angles on a straight line			
		To calculate opposite angles			
	Angles in a triangle	To know that the sum of the angles in a triangle is $180^\circ$			
	Angles in a quadrilateral	To know that the sum of the angles in a quadrilateral is $360^\circ$			
	Corresponding and alternate angles	To understand the properties of parallel, intersecting and perpendicular lines			
		To calculate angles in parallel lines			
<b>Challenge cards</b>					
<b>Transformations</b>	Reflections	To recognise shapes that have reflective symmetry and draw their lines of symmetry			
		To understand how to reflect a shape			
		To use coordinates to reflect shapes in all four quadrants			
	Rotation	To recognise shapes that have rotational symmetry and find the order of rotational symmetry			
		To understand how to rotate a shape			
	Tessellations	To understand how to tessellate shapes			
<b>Challenge cards</b>					
<b>3D shapes</b>	Nets and 3D shapes	To be familiar with the names of 3D shapes - faces, vertices and edges			
		To draw nets of 3D shapes / construct 3D shapes from nets			
<b>Challenge cards</b>					
<b>Review</b>					