

	Topic	Year 7 Knowledge Organiser	☹	☺	😊	/20
1	Place Value and $\times \div$ 10, 100, 1000 etc	Place value and ordering numbers, using $<, >$				
		Multiplication and multiplication by 10, 100, 1000.				
		Multiply and divide by 10, 100, 1000				
		Decimals				
		Ordering decimals, understanding their place on the number line				
		Appreciate the infinite nature of the number line				
2	Rounding and Estimating	Round to nearest 1, 10, 100, 1000				
		Round to decimal places				
		Round to significant figures				
		Rounding to estimate calculations				
		Extension : Upper and Lower Bounds				
3	Adding and Subtracting	Adding and subtracting using a column method (incl. decimals)				
		Adding/subtracting questions in real-life contexts (incl. decimals)				
4	Mental Methods and BIDMAS	Using a calculator and interpreting the results correctly				
		Order of operations simple operations (BIDMAS)				
		Order of operations with more challenging calculation methods required				
		Use information from one calculation to solve another				
		Tests for divisibility				
5	Multiplying and Dividing	Multiplication using a written method (using column method)				
		Division (bus stop by a one/two digit number)				
		Multiplying decimals by wholes and decimals				
		Dividing decimals by whole numbers (extension: decimals by decimals)				
		Multiplying/dividing questions in real-life contexts (incl. decimals)				
Review 1 Assessment						
6	Types of Number	Multiples (incl. worded)				
		Factors (incl. worded)				
		Lowest common multiple (LCM) and highest common factor (incl. worded)				
		Prime numbers				
		Prime factor decomposition (writing as a product of prime factors)				
7	Averages and Spread of Data	Finding the mean of a set of numbers				
		Finding the median, mode and range of a set of numbers				
		Worded problems with data				
		Recognising the advantages and disadvantages of different averages (incl. outliers)				
		Finding missing numbers when given mean/median/mode/range				
8	Negative Numbers	Understand negative numbers in context				
		Adding and subtracting with negative numbers				
		Multiply and divide with negative numbers				
		Adding and subtracting with negative decimal numbers				
9	Basic Algebra	Collecting like terms (e.g. $4a + 5b - a - 8b$)				
		Multiplying terms (e.g. $6a \times 3ab$)				
		Dividing terms (e.g. $20ab \div 2a$)				
		Expanding single brackets (e.g. $5(6a + 8)$)				
		Substitution (e.g. what is $7a + 1$ if $a=3$)				
10	Shapes	Naming 2D/3D shapes (polygons, triangles, quadrilaterals) and their				
		Identifying faces, edges, vertices and nets				
		Identifying properties of shapes (symmetry, parallel sides, equal sides, equal angles etc)				
		Reasoning about shapes (e.g. knowing all squares are rectangles but the converse is not true)				
Review 2 Assessment						
10	Shapes	Perimeter				
		Area in rectangles and triangles (extension: parallelograms and trapeziums)				
11	Fractions	Understand fractions (having equal parts and using a fraction wall)				
		Equivalent fractions and simplifying fractions				
		Comparing using equivalent fractions (or diagrams)				
		Calculate fractions of an amount				
		Convert between fractions and decimals				
12	Graphs	Coordinates in all 4 quadrants				
		Real-life graphs (e.g. water flow, happiness, distance-time etc)				
		Drawing and recognising graphs of $x=a, y=b, x=y$				
		Drawing graphs of $y=mx+c$ using a table of values				
13	FDP	Definition of % and converting between fractions and percentages				
		Converting and comparing FDP				
		Write one quantity as a percentage of another				
		Understanding recurring and terminating fractions				
Review 3 Assessment						
14	Probability	Understanding probability words, their meaning, and the probability scale				
		Find probability for equally likely outcomes including as %, dec, percentages to compare				
		Listing all outcomes (list vs sample space diagrams)				
		Venn diagrams				
		Understanding probability in real-life contexts (ext : understanding experimental probability)				