MATHS – YEAR 7 – Unit 1

1. Tier 3 Vocabulary	
Addend	Any of the numbers in an addition calculation that are added together
Minuend	The number that is to be subtracted from
Subtrahend	The number that is to be subtracted
Decimal	Based on 10
Decimal Point	A small dot used to separate the whole number part from the fractional part of a number
Integer	A whole number, with no fractional (decimal) part
Associative Law	When adding it doesn't matter how we group the numbers e.g. (6+3)+4 = 6+(3+4)
Commutative Law	When we add numbers, it doesn't matter which order we add them in e.g. 3+8=8+3
Significant Figure	Each of the digits of a number that are used to express it to the required degree of accuracy, starting from the first non-zero digit.

2. Key Ideas	
Place Value	The value of where a digit is in a number
Addition	Finding the total when combining two or more numbers together. "total", "sum", "plus", "increase" Addend + Addend = Total
Subtraction	Taking one number away from another "minus", "less", "difference", "decrease", take away", "deduct" Minuend—Subtrahend = Difference
Addition and subtraction, are key concepts in mathematics, with applications to many problem situations and connections to many other topics. Addition determines the whole in terms of the parts, and subtraction determines a missing part.	

3. Numerical Reasoning - Negative Numbers	
Adding a negative	Adding a negative number is the same as subtracting the number. E.g. 6 + -3 = 6 - 3
Subtracting a negative	Subtracting a negative number is the same as adding the number. E.g.8 - -4 = 8 + 4

4. Command Words	
Estimate the value of (used with a calculation)	Use approximations to work out a value. Unless told otherwise, students should round the given values to 1 significant figure.
Show that...	Give every step of a process that will lead to the required outcome.
Factorise (fully)	Take out any common factors of an expression or convert a quadratic expression into two linear factors. This should always be done fully, even if that word is absent from the instruction. Use of the word 'fully' is a hint that more than one factor can be taken out.
Why	Give a calculation and/or written evidence to support the given statement.
Solve	Find the value(s) that satisfy a given equation or inequality.
Construct	Draw accurately. If told to use compasses, all construction arcs and lines should be shown.

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5. History

Although counting can be thought of as a form of addition, the earliest discovered artefacts suggest addition has been used between 20.000 and 18.000 years BC. The first written evidence though, indicates that Egyptians and Babylonians were using it as early as 2.000 BC. Due to the complexity of the numeral systems in use in that time, performing basic mathematical operations was also a complicated task. With the development of positional numeral systems, especially the Hindu-Arabic system, and the use of a digit representing zero, enabled the use of simpler methods of calculation, like the ones we use in modern times.

Only three cultures, as far as we know, invented a place value numeration system: the Mayans, the Babylonians, and the Hindu people of India. The current, almost planetary wide, place value numeration system is derived from the Hindu system. It was transmitted to western Europe by the Moslem world.

6. Numerical Reasoning - Rounding	
Rounding	Making a number simpler, but keeping its value close to what it was
Decimal Places (dp)	The number of digits to the right of the decimal point. The examples below highlight the second decimal place 1.3<u>6</u>59 0.3<u>0</u>46
Significant Figures (sf)	Counting from the first non zero digit of a number. The examples below highlight the third significant digit of each number: 15<u>9</u>6785 0.003<u>5</u>08

7. Statistical Reasoning - Median and Range	
Median	The "middle" of a sorted list of numbers. To find the Median, place the numbers in value order and find the middle number.
Range	The difference between the lowest and highest values.

8. Geometrical Reasoning – Perimeter	
Perimeter	The distance around the outside of a 2D shape, the perimeter of a circle is called the circumference