



Maths Knowledge Organiser
Year 5

Autumn (14 weeks)	Spring (11 weeks)	Summer (13 weeks)
Number - 2 weeks	Number - 1 week	Number - 1 week
Read, write, order and compare numbers up to a million	Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 1,000,000	Read Roman numerals to 1000 and years in Roman numerals
Count forwards and backwards in steps of powers of 10 for any given number up to 1,000,000	Interpret negative numbers in context and count forwards and backwards with positive and negative numbers	Multiply and divide mentally using known facts
Determine the value of each digit in numbers up to 1,000,000	Addition and Subtraction - 2 weeks	Addition and Subtraction - 2 weeks
Addition and Subtraction – 3 weeks	Solve two- step addition and subtraction problems in context	Solve multi step addition and subtraction problems in context
Add and subtract mentally with integers, decimals and fractions	Multiplication and Division - 2 weeks	Multiplication and Division - 2 weeks
Begin to round any number up to 1000000 to the nearest 10, 100, 1000, 10,000 and 1,000,000 (use rounding to check answers)	Recognise and find square numbers	Solve problems involving multiplication and division
Add with more than four-digit numbers including money using an appropriate method	Recognise and find cube numbers	Solve problems involving combinations of all four operations.
Subtract from more than four-digit numbers including money using an appropriate method	Scale numbers up or down and solve problems involving scaling and rates	Fractions, decimals and percentages - 2 weeks
Multiplication and Division - 3 weeks	Multiply numbers up to four-digit by one- or two-digit numbers using an appropriate method (Including word problems)	Read and write decimal fractions as fractions
Find multiples and factors, including pairs of factors of two-digit numbers	Divide numbers up to four-digits by a one-digit number using an appropriate method (to include interpreting remainders in the context)	Multiply proper fractions and mixed numbers by whole numbers
Find common factors of two digit numbers.	Check my answers using number facts and rounding	Solve problems involving numbers up to three decimal places
Know the vocabulary of prime numbers, prime factors and composite numbers		Solve problems which require knowing percentage and decimal equivalents $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{5}$ $\frac{2}{5}$ $\frac{4}{5}$ $\frac{3}{4}$
Establish whether a number is prime and recall prime numbers up to 19	Fractions, decimals and percentages – 2 weeks	Measurement - 2 weeks
Multiply and divide mentally using known facts	Recognise mixed numbers and improper fractions and convert from one to another	Read unmarked scales accurately and to solve problems
Multiply and divide whole numbers and decimals by 10 and 100 and 1000	Find a fraction of an amount (e.g. $\frac{4}{7}$ of 280)	Use all four operations to solve problems involving measure of length
Fractions, decimals and percentages - 3 weeks	Add and subtract fractions with the same denominator or whose denominators are all multiples of the same number	Use all four operations to solve problems involving measure of mass
Identify, name and write equivalent fractions	Round numbers with two decimal places to the nearest whole number to one decimal place	Use all four operations to solve problems involving measure of volume/capacity

Order and compare fractions whose denominators are all multiples of the same number including tenths and hundredths		Add whole numbers and decimals		Use all four operations to solve problems involving measure of money	
Read, write, order and compare numbers with up to three decimal places		Recognise and understand the percent symbol- %		Solve problems involving the conversion between units of time (including reading time tables)	
Recognise and use thousandths		Measurement - 3 weeks		Geometry - 2 weeks	
Measurement - 2 weeks		Work out time durations		Plot and interpret coordinates in the first quadrant	
Read unmarked scales accurately		Estimate and measure capacity and volume (litre and ml.)		Identify, describe and represent the position of a shape following a reflection or translation	
Convert between different units of metric measurement (km-m; cm-m, cm-mm; gram –kg)		Understand and use approximate equivalences between metric units and common imperial equivalents (inches, pounds and pints)		Work with shapes with up to two lines of symmetry accurately	
Choose, use, read and record standard metric units		Measure and calculate perimeters or composite rectilinear shapes		Statistics - 2 weeks	
Answer questions by measuring using kilometres, metres and cm		Measure or calculate the area of a square or rectangle		Make a line graph	
Accurately tell the time to the nearest minute on analogue clocks and digital 12 hour and 24 hour clocks		Geometry – 1 week		Complete, read and interpret tables	
Geometry - 1 week		Know angles are measured in degrees, estimate and compare them		Solve comparison, sum and difference problems using information presented in a line graph	
Distinguish between regular and irregular polygons (including vocabulary such as parallel and perpendicular)		Identify angles at a point and created by turns (up to 360 degrees. Half turn = 180 degrees, $\frac{3}{4}$ turn = 270 degrees etc.)		Draw and use a variety of forms of bar graphs and charts	
Use the properties of rectangles to deduce related facts (e.g length is 5cm, width is 2cm. What is the perimeter?)		Draw angles and measure them accurately in degrees			
		Identify 3D shapes from nets			

AFL starters to include:

- Read, write, order and compare numbers up to a million
- Determine the value of each digit in numbers up to 1,000,000
- Find multiples and factors
- Recall prime numbers up to 19
- Multiply and divide whole numbers and decimals by 10 and 100 and 1000
- Order and compare fractions whose denominators are all multiples of the same number including tenths and hundredths
- Identify equivalent fractions
- Read, write, order and compare numbers with up to three decimal places
- Read unmarked scales accurately
- Convert between different units of metric measurement

- Round any number up to 1000000 to the nearest 10, 100, 1000, 10,000 and 1,000,000
- Count forwards and backwards with positive and negative numbers
- Recognise and find square and cube numbers
- Recognise mixed numbers and improper fractions and convert from one to another
- Find a fraction of an amount
- Add and subtract fractions with the same denominator or whose denominators are all multiples of the same number
- Round numbers with two decimal places to the nearest whole number to one decimal place
- Calculate perimeters or composite rectilinear shapes
- Calculate the area of a square or rectangle
- Estimate and compare angles
- Identify 3D shapes from nets
- **Arithmetic starters**

- Read Roman numerals to 1000 and years in Roman numerals
- Multiply and divide mentally using known facts
- Read and write decimal fractions as fractions
- Multiply proper fractions and mixed numbers by whole numbers
- Revisit percentage and decimal equivalents
- Read unmarked scales accurately
- Solve problems involving the conversion between units of time (including reading time tables)
- Convert between different units of metric measurement
- Interpret coordinates in the first quadrant
- Identify lines of symmetry accurately
- Describe the position of a shape following a reflection or translation
- Interpret graphs and tables
- **Arithmetic starters**

• Accurately tell the time to the nearest minute on analogue clocks and digital 12 hour and 24 hour clocks • Distinguish between regular and irregular polygons • Calculate perimeter of rectangles • Arithmetic starters		
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