

AUTUMN 1 - YEAR 5 MATHEMATICS OBJECTIVES

For all units of work, problem solving and reasoning opportunities are integrated.

Red typing refers to Year 4 objectives

Starters	See objectives in the checklist	
	TOPIC	
Week 1, week 2, week 3	Number and Place Value <i>Counting games and activities</i>	<ul style="list-style-type: none">• Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit. (Start with 10,000 and build up).• Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000.• Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero. (Two lessons please)• Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10000 and 100,000 (Build up)• Solve number problems and practical problems that involve all of the above.• Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.• End of unit assessment
Weeks 4, 5, 6,	Addition and Subtraction	<ul style="list-style-type: none">• Add and subtract numbers mentally with increasingly large numbers.• Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)• Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.• Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why• End of unit assessment
Week 7	Multiplication and division	<ul style="list-style-type: none">• To find factor pairs of numbers• To find common factors of two numbers• To identify multiples of numbers

AUTUMN 2 - YEAR 5 MATHEMATICS OBJECTIVES - 2022

Starters	See objectives in the checklist	
	TOPIC	
Weeks 1,2 and 3	Multiplication and division continued	<ul style="list-style-type: none"> • Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers • Divide numbers up to 4 digits by a one digit number using the formal written method of short division and interpret remainders appropriately for the context. • Establish whether a number up to 100 is prime or composite (non-prime) and recall prime numbers up to 19 • To find prime factors • Recognise and use the notation for square numbers (2) • To recognise and use the notation for cube numbers (3) • Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. • Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign. • End of unit assessment
Week 4	Statistics	<ul style="list-style-type: none"> • Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs • Present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. • Complete, read and interpret information in tables including timetables • Solve comparison, sum and difference problems using information presented in a line graph.
Weeks 5 and 6	Measurement- Perimeter and area	<ul style="list-style-type: none"> • Measure the perimeter of rectangles and find missing sides. • Measure and calculate the perimeter of composite rectilinear shapes in cm and m. • Calculate and compare the area of rectangles (including squares), and including using standard units, cm^2, m^2 estimate the area of irregular shapes • Arithmetic test
Week 7	Time	<ul style="list-style-type: none"> • To read and write the time shown on analogue clocks to the nearest minute. • To read and write the time shown on analogue clocks and draw hands on a clock. • Convert between different units of measure eg hour to minute.



- End of unit assessment and arithmetic test

Spring 1 - YEAR 5 MATHEMATICS OBJECTIVES - 2023

Starters	See objectives in the checklist	
	TOPIC	
Week 1	Time (continued...)	<ul style="list-style-type: none"> • To read and write the time shown on analogue clocks to the nearest minute. • To read and write the time shown on analogue clocks and draw hands on a clock. • Convert between different units of measure eg hour to minute.
Week 2	Geometry-position and direction	<ul style="list-style-type: none"> • Describe positions on a 2D grid as coordinates in the first quadrant (year 4 coordinates) Revision • Describe movements between positions as translations of a given unit to the left/ right and up/ down. • Plot specified points and draw sides to complete a given polygon. • Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed. Year 5
Weeks 3,4,5, 6	Fractions	<ul style="list-style-type: none"> • Recognise and show, using diagrams, families of common equivalent fractions. • Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths. • Compare and order fractions whose denominators are multiples of the same number. • Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. • Find fractions of a number (revise from year 4) • Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example $1\frac{1}{2} = 1\frac{1}{2}$] • Read and write decimal numbers as fractions [for example $0.71 = \frac{71}{100}$] Add and subtract fractions whose denominators that are multiples of the same number by linking to equivalent fractions. ($\frac{1}{3} + \frac{1}{6}$)

Spring 2 - YEAR 5 MATHEMATICS OBJECTIVES - 2023

Spring 2 - YEAR 5 MATHEMATICS OBJECTIVES - 2023		
Starters	See objectives in the checklist	
	TOPIC	
Weeks 1 and 2	Geometry-properties of shape	<ul style="list-style-type: none"> Identify 3D shapes, including cubes and other cuboids, from 2D representations. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Draw given angles, and measure them in degrees (o) Identify: angles at a point and one whole turn (total 360o), angles at a point on a straight line and ½ a turn (total 180o) other multiples of 90o End of unit assessment
Weeks 3, 4 and part of week 5	Number - Place value Decimals and percentages End of year tests	<ul style="list-style-type: none"> Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit. (Start with 10,000 and build up). Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero. Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10000 and 100,000 Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal. . Find percentages of numbers. (Only find 10%, 50% and 25% in year 5) Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$ and those fractions with a denominator of a multiple of 10 or 25 End of unit assessment
Week 6	Assessment and consolidation Investigations	Assessment of skills Complete a longer investigation.

Summer 1 - YEAR 5 MATHEMATICS OBJECTIVES - 2023

Starters	See objectives in the checklist	
	Topic	
Weeks 1,2 and 3.	Fractions	<ul style="list-style-type: none"> • To solve money word problems (linked to last half term) • Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths. • Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example $1\frac{1}{2} = 1\frac{2}{2} = 1\frac{1}{1}$] • Add and subtract fractions whose denominators that are multiples of the same number by linking to equivalent fractions. ($\frac{1}{3} + \frac{1}{6}$) • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. • Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. • End of unit assessment
Week 4, 5 and 6	Decimals	<ul style="list-style-type: none"> • Recognise and write decimal equivalents of any number of tenths or hundredths. • Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ starter • Read, write, order and compare numbers with up to two, then three decimal places. • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. • Round decimals with one and then two decimal places to the nearest whole number • Round decimals with one and then two decimal places to one decimal place. • Compare numbers up to three decimal places and solve problems. • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. • Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling. • Add and subtract decimals with different numbers of decimal places • To solve money word problems • End of unit assessment

Summer 2 - YEAR 5 MATHEMATICS OBJECTIVES - 2023

Starters	See objectives in the checklist	
	TOPIC	
Weeks 1, 2 and 3	Measure - Converting units	<ul style="list-style-type: none"> • Convert between different units of metric measure (for example, km and m; cm and m; cm and mm; g and kg; l and ml) See objectives below. All should include reasoning and problem solving. • To measure mass and read a variety of scales. • To convert between units of length (cm to m and m to cm) • To convert between units of mass (g to kg and kg to g) • To measure the volume of liquid in a container and explore capacities of different containers. • To convert between units of capacity (ml to l and l to ml) • To convert between units to solve word problems. • Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. • Solve problems involving converting between units of time. • To calculate time intervals. • To solve money word problems • End of unit assessment
Week 4	Measure-volume	<ul style="list-style-type: none"> • Estimate volume [for example using 1cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water] • Use all four operations to solve problems involving measure
Week 5	Place value	<ul style="list-style-type: none"> • Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit. • Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10000 and 100,000 • Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero.

Week 6 +	Assessment and Consolidation	<p>Consolidation</p> <p>Ensure that all children can add and subtract 5+ digit numbers</p> <p>Ensure that all children can multiply 4 by 2 digit numbers using column multiplication and divide 4 digit by 1 digit numbers fluently using short division.</p> <p>Complete a longer investigation.</p>
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