Year 5

Maths Overview 2020

Adapted following school closure as a result of Covid-19

Red text represents objectives not covered in previous year group

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Mental Objectives
Autumn	Place value			Number – addition and subtraction		Number – multiplication and division				Statistics		Assessment	Measurement – area and perimeter		Consolidation	◦ Money – pounds and pence. Money problems, ◦ Time – 12 to 24 hour ◦ Time - hours to mins, months to years etc ◦ Coordinates - translation
	Statistics (Year 4)							Geometry – position and direction (Year 4)								
Spring	Number- Multiplication and division			Number - Fractions			Geometry - angles		Number - Fractions		Assessment	Geometry – Position and direction				◦ Mental calculation strategies Converting units of measure ◦ Time ◦ Decimals ◦ Identify angles ◦ Classify 2D shapes – quadrilaterals and triangles, ◦ Counting in powers of 10 ◦ Negative numbers ◦ X / 10, 100, 1000
	Number – decimals (Year 4)							Geometry – properties of shape (Year 4)								
Summer	Number - Decimals & Percentages			Geometry – Properties of shape		Number – Decimals (calculations)		Measurement – Converting Units		Measures - Volume	Assessment	Application – Problem solving and puzzles				◦ Mental calculation strategies ◦ Calculating with fractions ◦ Area and perimeter ◦ Statistics – data handling ◦ Angles ◦ Rounding decimals ◦ Fluent in 5
	Measurement – converting units (Year 4)															

Autumn Term

Consolidation units: (Year 4 objectives)

Statistics:

- Interpret and represent discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
- Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

Geometry – position and direction

- Describe positions on a 2-D grid as coordinates in the first quadrant.
- Plot specified points and draw sides to complete a given polygon.
- Describe movements between positions as translations of a given unit to the left/ right and up/ down.

Block 1: Place Value

- Read, write, order and compare numbers to at least 1000000 and determine the value of each digit.
- Count forwards or backwards in steps of powers of 10 for any given number up to 1000000.
- Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero.
- Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000
- 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.

Block 2: Addition and subtraction

- 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.

Block 3: Multiplication and Division

- Multiply and divide numbers mentally drawing upon known facts.
- Multiply and divide whole numbers by 10, 100 and 1000.
- Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.
- Recognise and use square numbers and cube numbers and the notation for squared (2) and cubed (3)
- Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.
- Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.
- Establish whether a number up to 100 is prime and recall prime numbers up to 19.

Block 4: Statistics

- Solve comparison, sum and difference problems using information presented in a line graph.
- Complete, read and interpret information in tables including timetables.

Block 5: Measurement - Area and perimeter

- 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, cm2,m2 estimate the area of irregular shapes.

Spring Term

Consolidation units: (Year 4 objectives)

Decimals:

- Compare numbers with the same number of decimal places up to two decimal places.
- Round decimals with one decimal place to the nearest whole number.
- Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$
- Find the effect of dividing a one or two digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths

Geometry: Properties of shape:

- Identify acute and obtuse angles and compare and order angles up to two right angles by size.
- Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.
- Identify lines of symmetry in 2-D shapes presented in different orientations.

Block 1: Multiplication and division

- Multiply and divide numbers mentally drawing upon known facts.
- 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.
- Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign.

Block 2: Fractions

- Compare and order fractions whose denominators are multiples of the same number.
- 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 $^{2}/_{5} + {}^{4}/_{5} = {}^{6}/_{5} = 1\,{}^{1}/_{5}$]

Block 3: Geometry - angles

- Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.
- Draw given angles, and measure them in degrees (σ)
- Identify: angles at a point and one whole turn (total 360σ), angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180σ) other multiples of 90σ

Block 4: Fractions

- 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 $^{2}/_{5} + {}^{4}/_{5} = {}^{6}/_{5} = 1\,{}^{1}/_{5}$]
- Add and subtract fractions with the same denominator and denominators that are multiples of the same number.
- Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
- Read and write decimal numbers as fractions [for example 0.71 = $^{71}/_{100}$]
- Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.

Block 5: Geometry – Position and direction

- 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.

Summer Term

Consolidation unit: (Year 4 objectives)

Measurement: conversion of units:

- Convert between different units of measure [for example, kilometre to metre]
- Convert between different units of measure [for example, kilometre to metre; hour to minute]
- Read, write and convert time between analogue and digital 12- and 24-hour clocks.

Block 1: Decimals and percentages

- Read, write, order and compare numbers with up to three decimal places.
- Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.
- Round decimals with two decimal places to the nearest whole number and to one decimal place.
- Solve problems involving number up to three decimal places.
- 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.
- Solve problems which require knowing percentage and decimal equivalents and those fractions with a denominator.

Block 2: Geometry – properties of shape

- 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.

Block 3: Decimals - calculations

- Calculate with decimal numbers
- Solve problems involving number up to three decimal places.
- 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.

Block 4: Measures – converting units

- Convert between different units of metric measure [for example, km and m; cm and m; cm and mm; g and kg; l and ml]
- 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.

Block 5: Measures – Volume

- Estimate volume [for example using 1cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water]
- Use all four operations to solve problems involving measure.