

BARNSTON PRIMARY SCHOOL MEDIUM TERM PLANNING AUTUMN



SUBJECT: Mathematics

YEAR GROUP: 4

YEAR IN CYCLE: Yearly

	NATIONAL CURRICULUM	ADDITIONAL SCHOOL CURRICULUM
Autumn	<p>Number – number and place value</p> <ul style="list-style-type: none"> Count in multiples of 6, 7, 9, 25 and 1000 Find 1000 more or less than a given number Count backwards through zero to include negative numbers Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value. Order and compare numbers beyond 1000 Identify, represent and estimate numbers using different representations Round any number to the nearest 10, 100 or 1000 Solve number and practical problems that involve all of the above and with increasingly large positive numbers Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value. <p>Number – addition and subtraction</p> <ul style="list-style-type: none"> Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate Estimate and use inverse operations to check answers to a calculation <p>Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</p> <p>Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency (see Mathematics Appendix 1).</p> <p>Number – multiplication and division</p> <ul style="list-style-type: none"> Recall multiplication and division facts for multiplication tables up to 12×12 Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three 	<p>Number – number and place value</p> <p>Notes and guidance (non-statutory) Using a variety of representations, including measures, pupils become fluent in the order and place value of numbers beyond 1000, including counting in tens and hundreds, and maintaining fluency in other multiples through varied and frequent practice. They begin to extend their knowledge of the number system to include the decimal numbers and fractions that they have met so far. They connect estimation and rounding numbers to the use of measuring instruments. Roman numerals should be put in their historical context so pupils understand that there have been different ways to write whole numbers and that the important concepts of zero and place value were introduced over a period of time.</p> <p>Number – multiplication and division</p> <p>Notes and guidance (non-statutory) Pupils continue to practise recalling and using multiplication tables and related division facts to aid fluency. Pupils practise mental methods and extend this to three-digit numbers to derive facts,</p>

numbers

- Recognise and use factor pairs and commutativity in mental calculations
- Multiply two-digit and three-digit numbers by a one-digit number using formal written layout
- Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Number – fractions (including decimals)

- Recognise and show, using diagrams, families of common equivalent fractions
- Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.
- Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number
- Add and subtract fractions with the same denominator
- Recognise and write decimal equivalents of any number of tenths or hundredths
- Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$
- Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
- Round decimals with one decimal place to the nearest whole number
- Compare numbers with the same number of decimal places up to two decimal places
- Solve simple measure and money problems involving fractions and decimals to two decimal places

Measurement

- Convert between different units of measure [for example, kilometre to metre; hour to minute]
- Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres
- Find the area of rectilinear shapes by counting squares
- Estimate, compare and calculate different measures, including money in pounds and pence
- Read, write and convert time between analogue and digital 12- and 24-hour clocks
- Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days

Geometry – properties of shapes

for example $600 \div 3 = 200$ can be derived from $2 \times 3 = 6$).

Pupils solve two-step problems in contexts, choosing the appropriate operation, working with increasingly harder numbers. This should include correspondence questions such as the numbers of choices of a meal on a menu, or three cakes shared equally between 10 children.

Number – fractions (including decimals)

Notes and guidance (non-statutory)

Pupils should connect hundredths to tenths and place value and decimal measure.

They extend the use of the number line to connect fractions, numbers and measures.

Pupils are taught throughout that decimals and fractions are different ways of expressing numbers and proportions.

Pupils' understanding of the number system and decimal place value is extended at this stage to tenths and then hundredths. This includes relating the decimal notation to division of whole number by 10 and later 100.

Pupils learn decimal notation and the language associated with it, including in the context of measurements. They make comparisons and order decimal amounts and quantities that are expressed to the same number of decimal places. They should be able to represent numbers with one or two decimal places in several ways, such as on number lines.

Measurement

Notes and guidance (non-statutory)

Pupils build on their understanding of place value and decimal notation to record metric measures, including money.

Geometry – properties of shapes

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

Geometry – position and direction

- Describe positions on a 2-D grid as coordinates in the first quadrant
- 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.

Statistics

- Interpret and present 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.

Notes and guidance (non-statutory)
Pupils draw symmetric patterns using a variety of media to become familiar with different orientations of lines of symmetry; and recognise line symmetry in a variety of diagrams, including where the line of symmetry does not dissect the original shape.

Statistics

Notes and guidance (non-statutory)
Pupils understand and use a greater range of scales in their representations. Pupils begin to relate the graphical representation of data to recording change over time.

ENTERPRISE

SOCIAL, SPIRITUAL, MORAL & CULTURAL

SCHOOL DRIVERS

Delivered through cross-curricular links (Science, geography, creative curriculum).
Children to independently self-assess theirs and their partners work.
Children to develop the understanding of the importance of applying their skills across the curriculum.
Children to take responsibility for the presentation and the content of their work.

- I can work with my partner.
- I can share ideas with my group.
- I can work as part of a team.
- I can listen, concentrate and contribute in lessons
- I can work responsibly with other people.
- I can be honest and not copy from another person's work
- I can respect the opinions of other people.
- I can take turns speaking.
- I can be conscientious listener.