

## Medium Term Planning — Number - Year 6

Where possible, the contents of this unit should be taught through cross-curricular opportunities.

	Year 6 Objectives AUTUMN	Year 6 Objectives SPRING	Year 6 Objectives SUMMER
Cross Phase Elements	To explain logically their strategies and solutions using mathematical language and give reasons to justify.		
	To provide real life contexts for mathematical learning e.g. real life problems, world of work, financial literacy, patterns in nature		
	To understand, investigate and apply the range of ways maths can be used to solve practical problems.		
	To explore number through practical and visual resources, models and equipment including structured maths equipment.		
	Use mathematical literacy, estimation, problem-solving and organising work, etc.		
	To use known facts and the inverse to check.		
	To recognise and use the appropriate method of calculation - mental, written or calculator.		
	To explore the history and development of maths in different cultures and periods of time and investigate the work of famous mathematicians		
Using and Applying	B1q. To solve problems using an extensive range of strategies and equipment, presenting information in a clear and organised way, and checking results.		
	B1r. To explain their strategies and solutions using mathematical language and give reasons to justify.		
Counting and Understanding Number	B1a. To read, write, order and compare positive and negative numbers up to 1 million and beyond.	B1a. To read, write, order and compare positive and negative numbers up to 1 million and beyond.	
	B1b. Use place value to multiply and divide by 10, 100 and 1000	B1b. Use place value to multiply and divide by 10, 100 and 1000	B1b. Use place value to multiply and divide by 10, 100 and 1000
	B1l. To understand and use decimals up to three decimal places.	B1l. To understand and use decimals up to three decimal places.	
	B1j. To understand and use fractions including improper fractions and mixed numbers, and be able to recognise equivalence, order and simplify	B1j. To understand and use fractions including improper fractions and mixed numbers, and be able to recognise equivalence, order and simplify	
Knowing and Using Number Facts	B1c. To use estimation and rounding in solving problems and in checking reasonableness of solutions.	B1c. To use estimation and rounding in solving problems and in checking reasonableness of solutions.	B1c. To use estimation and rounding in solving problems and in checking reasonableness of solutions.
	B1d. To understand and identify properties of numbers including factors, multiples, prime, squares, square roots, cubes	B1d. To understand and identify properties of numbers including factors, multiples, prime, squares, square roots, cubes	
	B1g. To recall instantly the multiplication facts up to 10 x 10 and quickly derive corresponding division facts	B1g. To recall instantly the multiplication facts up to 10 x 10 and quickly derive corresponding division facts	B1g. To recall instantly the multiplication facts up to 10 x 10 and quickly derive corresponding division facts
	B1m. To round decimals to 1 or 2 decimal places.	B1m. To round decimals to 1 or 2 decimal places.	
Calculating	B1c. To use estimation and rounding in solving problems and in checking reasonableness of solutions.	B1c. To use estimation and rounding in solving problems and in checking reasonableness of solutions.	B1c. To use estimation and rounding in solving problems and in checking reasonableness of solutions.
	B1f. To use appropriate written methods of addition and subtraction to	B1f. To use appropriate written methods of addition and	B1f. To use appropriate written methods of addition and subtraction

	numbers with whole numbers and decimals.	subtraction to numbers with whole numbers and decimals.	to numbers with whole numbers and decimals.
	B1h. To use appropriate written methods of multiplication with whole numbers and decimals.	B1h. To use appropriate written methods of multiplication with whole numbers and decimals.	B1h. To use appropriate written methods of multiplication with whole numbers and decimals.
	B1i. To use appropriate written methods of division with whole numbers and decimals, expressing remainders as a fraction or a decimal.	B1i. To use appropriate written methods of division with whole numbers and decimals, expressing remainders as a fraction or a decimal.	B1i. To use appropriate written methods of division with whole numbers and decimals, expressing remainders as a fraction or a decimal.
	B1k. To calculate fractions of amounts and recognise the equivalence between fractions, decimals, percentages, ratio and proportion.	B1k. To calculate fractions of amounts and recognise the equivalence between fractions, decimals, percentages, ratio and proportion.	
		B1n. To understand and use percentages; find a percentage of an amount and increase/decrease by a percentage.	B1n. To understand and use percentages; find a percentage of an amount and increase/decrease by a percentage.
			B1o. To solve simple problems involving ratio and direct proportion.
			B1p. To start to use order of operations in calculation.

### Medium Term Planning — Algebra - Year 6

Where possible, the contents of this unit should be taught through cross-curricular opportunities.

	Year 6 Objectives AUTUMN	Year 6 Objectives SPRING	Year 6 Objectives SUMMER
Cross Phase Elements	To explain logically their strategies and solutions using mathematical language and give reasons to justify.		
	To provide real life contexts for mathematical learning e.g. real life problems, world of work, financial literacy, patterns in nature		
	To understand, investigate and apply the range of ways maths can be used to solve practical problem		
	Explore algebra through practical and visual resources, models and equipment including structured maths equipment.		
Using and applying	B1q. To solve problems using an extensive range of strategies and equipment, presenting information in a clear and organised way, and checking results.		
	B1r. To explain their strategies and solutions using mathematical language and give reasons to justify.		
Algebra	B4a. To generate and explore a range of number patterns and be able to explain the relationships	B4a. To generate and explore a range of number patterns and be able to explain the relationships	
	B4b. To construct, express in symbolic form, and use simple formulae involving one or two operations.	B4b. To construct, express in symbolic form, and use simple formulae involving one or two operations.	B4b. To construct, express in symbolic form, and use simple formulae involving one or two operations.
		B4c. To identify and collect like terms and simplify expressions.	B4c. To identify and collect like terms and simplify expressions.
		B4d. To solve linear equations with unknowns on one side.	B4d. To solve linear equations with unknowns on one side.
		B4e. To identify coordinates on a given line using all 4 quadrants.	

### Medium Term Planning — Shape, space and measure - Year 6

**Where possible, the contents of this unit should be taught through cross-curricular opportunities.**

	Year 6 Objectives AUTUMN	Year 6 Objectives SPRING	Year 6 Objectives SUMMER
Cross Phase Elements	To explain logically their strategies and solutions using mathematical language and give reasons to justify		
	To provide real life contexts for mathematical learning e.g. real life problems, world of work, financial literacy and patterns in nature		
	To understand, investigate and apply the range of ways maths can be used to solve practical problems		
	To explore shape and measures through practical and visual resources, models and equipment including structured maths equipment		
	<b>To experience real shape and measures through a range of indoor and outdoor experiences.</b>		
	To estimate using appropriate measures.		
Using and applying	B2q. To solve problems using an extensive range of strategies and equipment, presenting information in a clear and organised way, and checking results.		
	B2r. To explain their strategies and solutions using mathematical language and give reasons to justify.		
Understanding Shape			B2a. To identify and classify more complex 2D and 3D shapes, including quadrilaterals, by their properties.
			B2b. To visualise geometric objects and to recognise and make 2D representations of 3D shapes and vice versa. To construct nets of 3D shapes.
		B2c. To explore shape and pattern in nature, art and architecture and find out about its origins, and its use in different cultures, religions and architecture	
			B2d. To explore tessellation in real life and in the context of art and find out about its origins, and its use in different cultures, religions and architecture.
			<b>B2e. To identify all lines of symmetry, including rotational symmetry, in shapes and patterns and be able to reflect a shape across a line in different orientations.</b>
Position and Movement			<b>B2f. To enlarge 2d shapes given scale factors (negative and fractional) and translate 2d shapes using vectors.</b>
			B2n. To extend positional language showing an understanding and awareness of horizontal, vertical, diagonal, oblique, parallel and perpendicular.
Measure	B2g. To use a range of standard units to estimate and measure length, mass and capacity with appropriate accuracy.	B2g. To use a range of standard units to estimate and measure length, mass and capacity with appropriate accuracy.	
	B2h. To further extend understanding of scale to include a range of intervals, including decimals and fractions, with appropriate accuracy.	B2h. To further extend understanding of scale to include a range of intervals, including decimals and fractions, with appropriate accuracy.	

	B2i. To convert between units within the metric system.	B2i. To convert between units within the metric system.	
		B2j. To convert between metric and imperial units of measurement. To begin to solve problems involving the conversion of units, using a graph.	B2j. To convert between metric and imperial units of measurement. To begin to solve problems involving the conversion of units, using a graph.
			B2k. To measure and calculate the area and the perimeter of regular and irregular shapes, including compound shape with understanding of the associated formulas
			B2l. To use a protractor to measure and draw angles in degrees, with increasing accuracy and classify angles.
			B2m. To calculate missing angles in shapes and around a point.
		2o. To develop and extend understanding of time to include concepts such as nano-seconds, light years, etc	
		B2p. To tell the time using digital and analogue clocks and apply this knowledge to read and understand timetables and calendars.	B2p. To tell the time using digital and analogue clocks and apply this knowledge to read and understand timetables and calendars.
			B2s. To begin to construct circles, triangles and bisectors using appropriate equipment

### Medium Term Planning — Handling Data - Year 6

Where possible, the contents of this unit should be taught through cross-curricular opportunities.

	Year 6 Objectives AUTUMN	Year 6 Objectives SPRING	Year 6 Objectives SUMMER
Cross Phases Elements	To explain logically their strategies and solutions using mathematical language and give reasons to justify.		
	To provide real life contexts for mathematical learning e.g. real life problems, world of work, financial literacy, patterns in nature		
	To understand, investigate and apply the range of ways maths can be used to solve practical problems		
	To explore data handling through practical and visual resources, models and equipment including structured maths equipment.		
	To experience data handling through a range of contextual indoor and outdoor experiences.		
	To use digital technology to collect, store, present and analyse relevant and contextual data.		
Using and applying	B2q. To solve problems using an extensive range of strategies and equipment, presenting information in a clear and organised way, and checking results.		
	B1r. To explain their strategies and solutions using mathematical language and give reasons to justify.		
Handling Data	B3a. To make appropriate prediction or hypotheses based on knowledge and experience.		
	B3c. To make decisions on what data to collect, how to collect it and how to record it using increasingly larger sets of real life data		

	B3d. To understand and construct the full range of data representations (bar charts, tally charts, frequency tables and diagrams, infographic and pictograms) to include drawing and interpreting pie charts and line graphs.		B3d. To understand and construct the full range of data representations (bar charts, tally charts, frequency tables and diagrams, infographic and pictograms) to include drawing and interpreting pie charts and line graphs.
	B3e. To decide on appropriate scales for a graph, choosing most appropriate interval.  To compare data in graphs with different scales.  To interpret line graphs where the intermediate values have meaning.		B3e. To decide on appropriate scales for a graph, choosing most appropriate interval.  To compare data in graphs with different scales.  To interpret line graphs where the intermediate values have meaning.
	B3f. To use observations, measurements or other data to interpret and draw conclusions and attempt to explain findings using mathematical language.		
	B3g. To understand, use and calculate mean, median, mode and ranges to summarise and compare data sets		B3g. To understand, use and calculate mean, median, mode and ranges to summarise and compare data sets
			B3h. To use data to assess likelihood and risk and develop an understanding of probability through computer simulations, games and consideration of outcomes of everyday situations.  To discuss, sort and order events according to their likelihood of occurring.

## Medium Term Planning — Financial Literacy - Year 6

Where possible, the contents of this unit should be taught through cross-curricular opportunities.

	Year 6 Objectives AUTUMN	Year 6 Objectives SPRING	Year 6 Objectives SUMMER
Cross Phases Elements	Students have an entitlement to take part in an enterprise activity in a meaningful context in each phase of their education.		
	Students are aware of the achievements of successful (and unsuccessful) entrepreneurs locally, nationally and internationally.		
	Aware of a range of currencies and their relative values		
	To be made aware of the abstract and invisible nature of money and spending		
	Participate in a range of fundraising activities that benefit on a personal level, the community and internationally.		
Using and Applying	B1b. To use all four operations to solve problems involving money using decimal notation, including scaling within a range of financial contexts.		
Financial Understanding and Competence			B1e. To develop an understanding of the concepts of budgeting and costs, income, expenditure, savings, borrowing and repayments.
			B1f. To understand the concepts of credit and debt in terms of positive & negative balances.
			B1g. To understand the role and functions of a bank including bank accounts.

Financial Responsibility			B2a. To be equipped with the skills to think critically and debate political questions, to enable them to manage their money on a day-to-day basis, and plan for future financial needs.
			B2b. To understand the functions and uses of money, the importance and practice of budgeting, and managing risk.
			B2c. To be aware of debt and the impact it can have on their lives, their family.
			B2d. To be aware of the impact on local businesses of buying online/from catalogues.
	B3a. To develop the skills and qualities required to engage in enterprise, including seeing opportunity, managing risk, marketing, productivity, understanding the concept of quality, cash flow and profit		
	B3b. To understand how personal financial choices can affect oneself and others and about rights and responsibilities as consumers.		
Decision Making and Critical Thinking	B4a. To prepare, use and evaluate budgets and justify their decision.		