

Mathematics Medium Term Planning Grid Year 5

Autumn Term 1 st half		
Strand	Objective	Lessons
Number - number and place value	Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit	2
Number - number and place value	Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000	3
Number - fractions (including decimals and percentages)	Compare and order fractions whose denominators are all multiples of the same number	1
Number - fractions (including decimals and percentages)	Read, write, order and compare numbers with up to three decimal places	1
Number - multiplication and division	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers	5
Number - multiplication and division	Establish whether a number up to 100 is prime and recall prime numbers up to 19	2
Number - multiplication and division	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	2
Number - multiplication and division	Multiply and divide numbers mentally drawing upon known facts	1
Number - multiplication and division	Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes	2
Periodic Assessment: Headstart. Number - Multiplication and division. Version A		1
Number - fractions (including decimals and percentages)	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	2
Number - fractions (including decimals and percentages)	Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $2/5 + 4/5 = 6/5 = 1\ 1/5$)	3
Number - fractions (including decimals and percentages)	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	2
Measurement	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	2
Measurement	Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm ²) and square metres (m ²) and estimate the area of irregular shapes	2

Periodic Assessment: Headstart. Number - Measurement. Version A		1
Geometry - properties of shapes	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	3
Geometry - properties of shapes	Use the properties of rectangles to deduce related facts and find missing lengths and angles	2
Periodic Assessment: Headstart. Geometry. Version A		1
Total Lessons		38

Ongoing objectives for this half term

Strand	Objective
Number - number and place value	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
Number - number and place value	Solve number problems and practical problems that involve all of the above
Number - addition and subtraction	Add and subtract numbers mentally with increasingly large numbers
Number - multiplication and division	Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers
Number - multiplication and division	Multiply and divide numbers mentally drawing upon known facts
Number - fractions (including decimals and percentages)	Read and write decimal numbers as fractions (e.g. $0.71=71/100$)
Number - fractions (including decimals and percentages)	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents

Opportunities for cross curricular links for this half term

Subject(s)	Applied skill in...

Autumn Term 2 nd half		
Strand	Objective	Lessons
Number - number and place value	Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	2
Number - number and place value	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero	2
Number - number and place value	Solve number problems and practical problems that involve all of the above	1
Periodic Assessment: Headstart. Number - Number and place value. <i>Version A</i>		1
Number - addition and subtraction	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	1
Number - addition and subtraction	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	2
Periodic Assessment: Headstart. Number - Addition and subtraction. <i>Version A</i>		1
Number - multiplication and division	Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers	3
Number - multiplication and division	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	3
Number - multiplication and division	Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	3
Number - fractions (including decimals and percentages)	Add and subtract fractions with the same denominator and denominators that are multiples of the same number	2
Number - fractions (including decimals and percentages)	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	2
Periodic Assessment: Headstart. Number - Fractions (including decimals). <i>Version A</i>		1
Measurement	Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	2
Measurement	Solve problems involving converting between units of time	2
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.	2

Geometry - properties of shapes	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations	2
Statistics	Solve comparison, sum and difference problems using information presented in a line graph	2
Periodic Assessment: Headstart. Statistics. Version A		1
Total Lessons		35

Ongoing objectives for this half term	
Strand	Objective
Number - number and place value	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
Number - number and place value	Solve number problems and practical problems that involve all of the above
Number - multiplication and division	Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)
Number - addition and subtraction	Add and subtract numbers mentally with increasingly large numbers
Number - multiplication and division	Multiply and divide numbers mentally drawing upon known facts
	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000

Opportunities for cross curricular links for this half term	
Subject(s)	Applied skill in...

Spring Term 1 st half		
Strand	Objective	Lessons
Number - number and place value	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	1
	Solve number problems and practical problems that involve all of the above	2
Number - addition and subtraction	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	2
	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	2
Number - multiplication and division	Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)	3
	Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	2
Number - fractions (including decimals and percentages)	Compare and order fractions whose denominators are all multiples of the same number	7
	Read and write decimal numbers as fractions e.g. $0.71 = 71/100$	
	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	
Periodic Assessment: Headstart. Number - Fractions (including decimals). <i>Version B</i>		1
Measurement	Estimate volume [for example, using 1 cm ³ blocks to build cuboids (including cubes)] and capacity [for example, using water]	4
	Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	
Periodic Assessment: Headstart. Measurement. <i>Version B optional</i>		1
Geometry - properties of shapes	Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles	
	Draw given angles, and measure them in degrees (°)	

	Identify: □ angles at a point and one whole turn (total 360°) □ angles at a point on a straight line and a turn (total 180°) □ other multiples of 90° 2 1	4
Periodic Assessment: Headstart. Geometry. Version B optional		1
Total Lessons		30

Ongoing objectives for this half term

Strand	Objective
Number - number and place value	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
	Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.
Number - addition and subtraction	Add and subtract numbers mentally with increasingly large numbers
Number - multiplication and division	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
	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
	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
	Multiply and divide numbers mentally drawing upon known facts

Opportunities for cross curricular links for this half term

Subject(s)	Applied skill in...

Spring Term 2 nd half		
Strand	Objective	Lessons
Number - addition and subtraction	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	4
	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	
Periodic Assessment: Headstart. Number - Addition and subtraction. <i>Version B</i>		1
Number - multiplication and division	Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers	4
	Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	
Periodic Assessment: Headstart. Number - Multiplication and division. <i>Version B</i>		1
Number - fractions (including decimals and percentages)	Read, write, order and compare numbers with up to three decimal places	5
	Solve problems involving number up to three decimal places	
	Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.	
Measurement	Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	6
	Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints	
	Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	
Geometry- properties of shapes	Use the properties of rectangles to deduce related facts and find missing lengths and angles	3
Periodic Assessment: Headstart. Geometry. <i>Version B optional</i>		1
Statistics	Solve comparison, sum and difference problems using information presented in a line graph	4
Periodic Assessment: Headstart. Statistics. <i>Version B optional</i>		1
Total Lessons		30

Ongoing objectives for this half term	
Strand	Objective
Number - number and place value	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
	Solve number problems and practical problems that involve all of the above
Number - addition and subtraction	Add and subtract numbers mentally with increasingly large numbers
Number - multiplication and division	Multiply and divide numbers mentally drawing upon known facts
	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000

Opportunities for cross curricular links for this half term	
Subject(s)	Applied skill in...

Summer Term 1 st half		
Strand	Objective	Lessons
Number - number and place value	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero	2
Periodic Assessment: Headstart. Number - Number and place value. <i>Version B or C</i>		1
Number- addition and subtraction	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	4
	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	
Periodic Assessment: Headstart. Number - Addition and subtraction. <i>Version C</i>		1
Number- multiplication and division	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.	4
	Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.	
Number- fractions (including decimals and percentages)	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	4
	Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.	
Measurement	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	4
	Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm ²) and square metres (m ²) and estimate the area of irregular shapes	
Geometry- properties of shape	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	2
Statistics	Complete, read and interpret information in tables, including timetables.	3
Total Lessons		25

Ongoing objectives for this half term	
Strand	Objective
Number - number and place value	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
	Solve number problems and practical problems that involve all of the above (all p.v. objectives)
Number - addition and subtraction	Add and subtract numbers mentally with increasingly large numbers
Number - multiplication and division	Multiply and divide numbers mentally drawing upon known facts
	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000

Opportunities for cross curricular links for this half term	
Subject(s)	Applied skill in...

Summer Term 2 nd half		
Strand	Objective	Lessons
Number - number and place value	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero	3
	Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000	
Number - multiplication and division	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	5
	Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	
	Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	
Periodic Assessment: Headstart. Number - Multiplication and division. <i>Version C</i>		1
Number- fractions (including percentages and decimals)	Add and subtract fractions with the same denominator and denominators that are multiples of the same number	5
	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	
Periodic Assessment: Headstart. Number - Fractions (including decimals). <i>Version C</i>		1
Measurement	Estimate volume [for example, using 1 cm ³ blocks to build cuboids (including cubes)] and capacity [for example, using water]	7
	Solve problems involving converting between units of time	
	Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	
Periodic Assessment: Headstart. Measurement. <i>Version C</i>		1
Geometry- properties of shape	Use the properties of rectangles to deduce related facts and find missing lengths and angles	5
	Identify: -angles at a point and one whole turn (total	

	<p>360°)</p> <p>-angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°)</p> <p>-other multiples of 90°</p>	
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.	4
Periodic Assessment: Headstart. Geometry Version C		1
Statistics	Solve comparison, sum and difference problems using information presented in a line graph	4
	Complete, read and interpret information in tables, including timetables.	
Periodic Assessment: Headstart. Statistics. Version C		1
Total Lessons		38

Ongoing objectives for this half term	
Strand	Objective
Number - number and place value	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
	Solve number problems and practical problems that involve all of the above
Number - addition and subtraction	Add and subtract numbers mentally with increasingly large numbers
Number - multiplication and division	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
	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
	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
	Multiply and divide numbers mentally drawing upon known facts

Opportunities for cross curricular links for this half term	
Subject(s)	Applied skill in...