

Year 5 Maths long term plan

Autumn

Week	Learning Outcome	Previous learning check/Pre-teaching	DfE Guidance	NC Link	Vocabulary Used	Representations and Resources Used	Planned Assessment	Oracy - Sentence Stems
1	<u>Place Value</u> - Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit - Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 - Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000 - Identify, represent and estimate numbers using different representations - Solve number and practical problems	- Know that 10 hundreds are equivalent to 1 thousand and that 1000 is 10 times the size of 100 - Recognise the place value of digits in four-digit numbers and partition using standard and non-standard partitioning - Compare and order numbers beyond 1000 - Find 1000 more or less than a given number - Round any number to the nearest 10, 100 and 1000		NPV-1 NPV-2 NPV-4 NPV-5	- Ones, tens, hundreds, thousands, ten thousands, hundred thousands, millions - Equivalent - Partition - Recombine - Grouping - Multiples - Powers of 10 - Rounding - Represent - Greater than > - Less than <	- Place value counters - Dienes - Place value chart - Part-whole model - Standard and non-standard partitioning - Number lines - Gattegno chart		'The previous multiple of 10,000 is 80,000. The next multiple of 10,000 is 90,000.' 'The previous multiple of 1000 is 86,000. The next multiple of 1000 is 87,000.' 'The closest multiple of 10,000 is 90,000. 86,581 rounded to the nearest ten thousand is 90,000.' '__ is greater than __.' '__ is less than __.'
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3	<u>Place Value (decimals)</u> - Recognise the place value of each digit in numbers with up to 2 decimal places - Read, write, order and compare numbers with up to 3 decimal places - Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.	- Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each. - Compare numbers with the same number of decimal places up to two decimal places - Round decimals with one decimal place to	5NPV-1 5NPV-2 5NPV-3 5NPV-4	NF-8 NF-9 NF-10	- Ones, tenths, hundredths - Decimal point - Equivalent - Equal parts - Greater than > - Less than <	- Place value counters - Place value chart - Dienes - Tens frames - Standard and non-standard partitioning - Gattegno chart - Bar models - Part-whole model - Number lines - Variety of scales (measuring	5NPV-1 5NPV-2 5NPV-3 5NPV-4	'1 is 10 times the size of one-tenth.' 'One-tenth is 10 times the size of one-hundredth.' '1 is 100 times the size of one-hundredth.' '10 tenths are equivalent to 1 one.' '10 hundredths are equivalent to 1 tenth.' '100 hundredths are equivalent to 1 one.' '18 hundredths is equal to 10 hundredths and 8
4								

		- Recognise and use factor pairs and commutativity in mental calculations						number can be divided by without giving a remainder.' '21 is a multiple of 3. 3 is a factor of 21.' '21 is a multiple of 3, so... 2,100 is a multiple of 300 and 2,100 is a multiple of 3.'
3	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 - 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, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	- Fluency in multiplication table facts, and corresponding division facts - Multiply two-digit and three-digit numbers by a one-digit number using formal written layout - Divide using the short division method with exact answers - Solve problems involving multiplying and adding, scaling problems and harder correspondence problems	5MD-3 5MD-4	NMD-4 NMD-6 NMD-10	Commutative - Inverse - Factor - Product - Multiple - Multiplier - Multiplicand - Dividend - Divisor - Quotient - Regrouping - Exchange	- Place value counters - Formal written methods	5MD-3 5MD-4	Opportunities to verbalise each multiplication fact. '2 times 4 ones is equal to 8 ones: write 8 in the ones column.' '2 times 3 tens = 6 tens: write 6 in the tens column.' '8 tens divided by 4 is equal to 2 tens: write 2 in the tens column.' '4 ones divided by 4 is equal to 1 one: write 1 in the ones column.'
4								
5	Fractions - Find non-unit fractions of quantities - Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths - Compare and order fractions whose denominators are all multiples of the same number - Recognise mixed numbers and improper fractions and convert from one form to the other and	- Find unit fractions of quantities using known division facts - Recognise and show, using diagrams, families of common equivalent fractions - Count up and down in tenths and hundredths	5F-1 5F-2 4F-1 4F-2	NF-2 NF-1 NF-3	- Fraction - Decimal - Ones - Tenths - Hundredths - Thousandths - Equal parts - Equivalent - Unit fraction - Non-unit fraction	- Fractions in different representations e.g. shape, quantities, number lines - Number line - Bar model - Concrete objects - Cuisenaire - Diagrams - Fraction wall - Paper strips - Place value chart	5F-1 5F-2 4F-1 4F-2	Counting forwards and backwards in fractions 'To find $\frac{1}{5}$ of 15, we divide 15 into 5 equal parts. 15 divided by 5 is equal to 3, so $\frac{1}{5}$ of 15 is equal to 3.' 'Three-fifths is equal to 3 one-fifths. To find 3 one-fifths of 40, first find one-fifth of 40 by dividing by 5, and then multiply by 3.'

	write mathematical statements > 1 as a mixed number				- Part of a whole - Numerator - Denominator - Mixed number - Improper fraction - Compare - Order - Ascending - Descending - Greater than > - Less than <		'1/4 and 3/12 are equivalent because 1 is the same portion of 4 as 3 is of 12.' 'The whole is divided into 100 equal parts. Each part represents one hundredth.' 'The whole is divided into 3 equal parts. 1 of these parts is shaded.' 'The whole is divided into 3 equal parts. Each part is one-third of the whole.' 'The whole is divided into 8 equal parts and 5 of those parts are shaded. 5/8 of the shape is shaded. 5/8 is 5 one-eighths.' 'The denominator tells us how many equal parts the whole is divided into. The numerator tells us how many equal parts of the whole there are.' 'When you find equivalent fractions you either need to multiply or divide the numerator and denominator by the same number.' 'An improper fraction is a fraction where the numerator is greater than the denominator.' 'A mixed number is a number consisting of an integer and a proper fraction.'
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6	FDP - Read and write decimal numbers as fractions - Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents - 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 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.	- Make a whole from any number of tenths and hundredths - Recognise and write decimal equivalents of any number of tenths or hundredths - Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ - First time being introduced to percentages	5F-3	NF-6 NF-7 NF-11 NF-12	- Decimal - Ones - Tenths - Hundredths - Thousandths - Equivalent - Place holder	- Place value chart - Counters - Dienes - Hundred square - Bar model - Part whole model - Standard and non-standard partitioning - Number line	NFER Assessment in Week 6 5F-3	Counting forwards and backwards in decimals and fractions. '10 tenths make one whole.' '10 hundredths make 1 tenth.' '100 hundredths make one whole.' '1000 thousandths make one whole.' '10 thousandths make one hundredth.' 'Per cent means number of parts per hundred.'
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Spring

Week	Learning Outcome	Previous learning check/Pre-teaching	DfE Guidance	NC Link	Vocabulary Used	Representations and Resources Used	Planned Assessment	Oracy - Sentence Stems
1	Measurement - Convert between different units of metric measure - 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.	- Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 - Convert between different units of measure [for example, kilometre to metre; hour to minute] - Estimate, compare and calculate different measures, including money in pounds and pence	5NPV-5	M-1 M-2 M-7	- Millimetres, centimetres, metres, kilometres, grams, kilograms, millilitres, litres - Ounces, pounds, gallons, yards, feet, pints, inches - Pounds - Pence - Convert - Approximate	- Bar models - Place value chart - Measuring equipment e.g. scales, measuring cylinders	5NPV-5	'100cm is equivalent to 1m.' '10mm is equivalent to 1cm.' '1000m is equivalent to 1km.' '1000g is equivalent to 1kg.' '1000ml is equivalent to 1l.' '100p is equivalent to £1.'

2	<u>Measurement (area and perimeter)</u> - Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres - 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	- Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres - Find the area of rectilinear shapes by counting squares	5G-2	M-3 M-4	- Length - Width - Area - Perimeter - Rectilinear shapes - Compare - Compound shapes - Irregular shapes	- 2D shapes - Larger shapes - Shapes presented in a variety of orientations - Scale drawings	5G-2	'Perimeter is the total distance around the outside of a shape.' 'Area is the amount of space taken up by a 2D shape or surface.' 'To find the area of a rectangle, multiply the length by the width.'
3	<u>Geometry (angles)</u> - Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles - Draw given angles, and measure them in degrees (°) - Identify:	- Identify acute and obtuse angles and compare and order angles up to two right angles by size - First time being introduced to reflex angles	5G-1	GPS-2 GPS-3 GPS-4	- Angle - Acute - Obtuse - Reflex - Right angle - Degrees - Compare - Order	- Protractor - Angles presented in a variety of sizes and orientations - Angles presented in shapes - Compass directions - Bar model	5G-1	'An acute angle is less than 90°.' 'An obtuse angle is greater than 90° but less than 180°.' 'A reflex angle is greater than 180° but less than 360°.'

4	Angles at a point and one whole turn (total 360°) Angles at a point on a straight line and $\frac{1}{2}$ of a turn (total 180°) Other multiples of 90°				- Ascending - Descending - Estimate - Scales	- Part whole model		'A full turn is 360°.' 'A half-turn is 180°.' 'A quarter-turn (right angle) is 90°.' 'The angles on a straight line add up to 180°.' 'Two right angles are equivalent to a straight line.'
5	<u>Geometry (shape)</u> - Identify 3-D shapes, including cubes and other cuboids, from 2-D 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.	- Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes		GPS-1 GPS-5 GPS-6	- Polygon - Triangles (equilateral, scalene, isosceles) - Quadrilateral (square, rectangle, rhombus, trapezium, parallelogram) - Regular - Irregular - Properties - Symmetry - Symmetrical - Horizontal - Vertical - Orientations - Parallel - Perpendicular - 3D shapes (cubes, cuboids, prisms, pyramids) - Faces - Vertices - Edges	- 2D shapes represented in a variety of sizes and orientations - 3D shapes - Nets of 3D shapes		'This is a regular polygon, because all of the sides are the same length, and all of the interior angles are equal.' 'A line that runs from left to right across the page is called a horizontal line.' 'A line that runs straight up and down the page is called a vertical line.' 'This is a line of symmetry because it splits the shape into two equal parts which are mirror images.'

6	<u>Geometry (position and direction)</u> - 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.	- 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. - 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.		GPD-1	- Polygon - Coordinate - Quadrant - Axis - Reflection - Translation - Left/right - Up/down - Vertex/vertices	- Grids represented in various sizes - 2D shapes - Mirrors		'The polygon has been translated 4 squares to the right and 3 squares down.' 'Shape A is translated ____ left/right and ____ up/down to shape B.' 'First count along the x-axis, then count along the y-axis.' 'The shape does not change size or orientation when it is translated.'
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HALF TERM

Week	Learning Outcome	Previous learning check/Pre-teaching	DfE Guidance	NC Link	Vocabulary Used	Representations and Resources Used	Planned Assessment	Oracy - Sentence Stems
1	<u>Place Value</u> - 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, 10 000 and 100 000	- Count backwards through zero to include negative numbers - Round any number to the nearest 10, 100 or 1000 - Read Roman numerals to 100 (I to C)		NPV-3 NPV-4 NPV-6	- Ones, tens, hundreds, thousands, ten thousands, hundred thousands, millions - Multiples - Negative - Rounding	- Pictorial - Number lines (vertical and horizontal) - Real life representations - Thermometer - Lolly sticks		'The previous multiple of 10,000 is 80,000. The next multiple of 10,000 is 90,000.' 'The previous multiple of 1000 is 86,000. The next multiple of 1000 is 87,000.' 'The closest multiple of 10,000 is 90,000. 86,581 rounded to

	- Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.				- Roman numerals			the nearest ten thousand is 90,000.' Opportunities for counting forwards and backwards out loud.
2	<u>Addition and Subtraction</u> - Apply place value knowledge to known additive number facts (scaling facts by 1 tenth or 1 hundredth) - Add and subtract numbers mentally with increasingly large numbers - Add and subtract whole numbers with more than 4 digits, including using formal written methods - 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.	- Apply place value knowledge to known additive facts (scaling by 100) - Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate - Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	5NF-2	NAS-1 NAS-2 NAS-3 NAS-4	- Column addition and subtraction - Regrouping - Exchange - Addend - Sum - Minuend - Subtrahend - Inverse - Difference	- Tens frames - Dienes - Number line - Bar model - Part whole model - Column methods	5NF-2	'8 plus 6 is equal to 14, so 8 tenths plus 6 tenths is equal to 14 tenths. 14 tenths is equal to 1 one and 4 tenths.'

3	<u>Multiplication and Division</u> - 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 - Recognise and use square numbers and cube numbers, and the notation for squared and cubed - Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes	- Recall multiplication and division facts for multiplication tables up to 12x12	5MD-2	NMD-1 NMD-2 NMD-3 NMD-8 NMD-9	- Factor - Common factor - Product - Multiple - Common multiple - Dividend - Divisor - Quotient - Remainder - Prime numbers - Prime factors - Composite numbers - Square numbers - Cube numbers - Systematic	- Venn diagrams - Carroll diagrams - Arrays - Counters - Factor trees	NFER Assessment in Week 3 5MD-2	Opportunities to verbalise each multiplication fact. 'Factor times factor is equal to product.' 'A multiple of a given number is the product of the given number and any whole number.' 'A factor of a given number is a whole number that the given number can be divided by without giving a remainder.' 'A prime number has exactly 2 factors, 1 and itself.' 'A composite number can be divided by numbers other than 1 and itself to give a whole number answer.' 'Square numbers have an odd number of factors and are the result of multiplying a number by itself.' 'A cube number is the result of multiplying a number by itself 3 times.'
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4	<u>Multiplication and Division</u> - 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 - 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, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	- Multiply two-digit and three-digit numbers by a one-digit number using formal written layout - Divide using the short division method with exact answers - Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders and interpret remainders appropriately	5MD-3 5MD-4	NMD-4 NMD-6 NMD-10	Commutative - Inverse - Factor - Product - Multiple - Multiplier - Multiplicand - Dividend - Divisor - Quotient - Regrouping - Exchange	- Place value counters - Formal written methods	5MD-3 5MD-4	Opportunities to verbalise each multiplication fact. '2 times 4 ones is equal to 8 ones: write 8 in the ones column.' '2 times 3 tens = 6 tens: write 6 in the tens column.' '8 tens divided by 4 is equal to 2 tens: write 2 in the tens column.' '4 ones divided by 4 is equal to 1 one: write 1 in the ones column.'
5	<u>Fractions and Decimals</u> - Compare and order fractions whose denominators are all multiples of the same number - Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number - Add and subtract fractions with the same denominator and denominators that are multiples of the same number	- Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths - Add and subtract fractions with the same denominator - 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	4F-1 4F-2 4F-3 5NPV-2 5NPV-3	NF-1 NF-3 NF-4 NF-5 NF-8 NF-9 NF-10	- Unit fraction - Non-unit fraction - Improper fraction - Mixed number - Equal parts - Divide - Equivalent - Part of a whole - Numerator - Denominator - Add - Subtract - Simplify - Integer - Ones - Tenths - Hundredths - Thousandths - Round - Compare	- Concrete objects - Cuisenaire rods - Paper strips - Diagrams - Bar model - Number line - Fraction wall - Part whole model - Pie model	4F-1 4F-2 4F-3 5NPV-2 5NPV-3	Counting forwards and backwards in fractions and decimals. 'Each interval is divided into 4 equal parts, so we count in quarters.' '1 $\frac{1}{3}$ ' is between 1 and 2. The previous whole number is 1. The next whole number is 2.' 'When adding/subtracting fractions with the same denominators, just add/subtract the numerators.' 'The denominator remains the same, whilst the numerator is multiplied by the integer.'
6	- Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams - Round decimals with two decimal places to the nearest whole number and to one decimal place - Read, write, order and compare numbers with up to three decimal places							

3	Measurement - Convert between different units of metric measure - 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. - Estimate volume [for example, using 1 cm ³ blocks to build cuboids (including cubes)] and capacity [for example, using water] - Solve problems involving converting between units of time	- Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 - Convert between different units of measure [for example, kilometre to metre; hour to minute] - Estimate, compare and calculate different measures, including money in pounds and pence	5NPV-5	M-1 M-2 M-5 M-6 M-7	- Millimetres, centimetres, metres, kilometres, grams, kilograms, millilitres, litres - Ounces, pounds, gallons, yards, feet, pints, inches - Metric - Imperial - Volume - Convert - Approximate - Equivalent - Hours - Seconds - Minutes	- Bar models - Place value chart - Measuring equipment e.g. scales, measuring cylinders - Cubes - Clocks	5NPV-5	'100cm is equivalent to 1m.' '10mm is equivalent to 1cm.' '1000m is equivalent to 1km.' '1000g is equivalent to 1kg.' '1000ml is equivalent to 1l.' '100p is equivalent to £1.' 'Volume is the amount of solid space something takes up.' 'Capacity is the amount a container can hold.'
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5	Measurement (area and perimeter) - Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres - 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	- Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres - Find the area of rectilinear shapes by counting squares - Use the properties of rectangles to deduce related facts and find missing lengths and angles	5G-2	M-3 M-4	- Length - Width - Area - Perimeter - Rectilinear shapes - Compare - Compound shapes - Irregular shapes	- 2D shapes - Larger shapes - Shapes presented in a variety of orientations - Scale drawings	5G-2	'Perimeter is the total distance around the outside of a shape.' 'Area is the amount of space taken up by a 2D shape or surface.' 'To find the area of a rectangle, multiply the length by the width.'

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1	<u>Place Value</u> - 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 - Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 - Solve number problems and practical problems	- Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit - Round any number to the nearest 10, 100 or 1000 - Count backwards through zero to include negative numbers		NPV-2 NPV-3 NPV-4 NPV-5	- Ones, tens, hundreds, thousands - Four-digit - Equivalent - Partition - Recombine - Grouping - Multiples - Greater than > - Less than < - Ascending - Descending - Negative	- Place value counters - Dienes - Place value chart - Part-whole model - Standard and non-standard partitioning - Pictorial - Number lines - Bar models - Thermometer	NFER Assessment in Week 1	'The previous multiple of 10,000 is 80,000. The next multiple of 10,000 is 90,000.' 'The previous multiple of 1000 is 86,000. The next multiple of 1000 is 87,000.' 'The closest multiple of 10,000 is 90,000. 86,581 rounded to the nearest ten thousand is 90,000.'
2	<u>Geometry</u> - Identify 3-D shapes, including cubes and other cuboids, from 2-D representations - Distinguish between regular and irregular polygons based on reasoning about equal sides and 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 ½ of a turn (total 180°) Other multiples of 90°	- Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles	5G-1	GPS-1 GPS-3 GPS-4 GPS-6	- Angle - Acute - Obtuse - Reflex - Right angle - Degrees - Compare - Order - Ascending - Descending - Estimate - Scales	- 2D shapes represented in a variety of sizes and orientations - 3D shapes - Nets of 3D shapes - Protractor - Angles presented in a variety of sizes and orientations - Angles presented in shapes - Compass directions - Bar model - Part whole model	5G-1	'This is a regular polygon, because all of the sides are the same length, and all of the interior angles are equal.' 'A line that runs from left to right across the page is called a horizontal line.' 'A line that runs straight up and down the page is called a vertical line.' 'This is a line of symmetry because it splits the shape into two equal parts which are mirror images.' 'An acute angle is less than 90°.' 'An obtuse angle is greater than 90° but less than 180°.'

								'A reflex angle is greater than 180° but less than 360° .' 'A full turn is 360° .' 'A half-turn is 180° .' 'A quarter-turn (right angle) is 90° .' 'The angles on a straight line add up to 180° .' 'Two right angles are equivalent to a straight line.'
3	<u>Multiplication and Division</u> - Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers - Establish whether a number up to 100 is prime and recall prime numbers up to 19 - Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) - 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 - 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	- Secure in multiplication table facts, and corresponding division facts - Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers	5MD-3 5MD-4	NMD-1 NMD-3 NMD-4 NMD-6 NMD-8	- Factor - Common factor - Product - Multiple - Common multiple - Remainder - Prime numbers - Prime factors - Composite numbers - Square numbers - Cube numbers - Systematic Commutative - Inverse - Multiplier - Multiplicand - Dividend - Divisor - Quotient - Regrouping - Exchange	- Venn diagrams - Carroll diagrams - Arrays - Counters - Factor trees - Formal written methods	5MD-3 5MD-4	'Factor times factor is equal to product.' 'A multiple of a given number is the product of the given number and any whole number.' 'A factor of a given number is a whole number that the given number can be divided by without giving a remainder.' 'A prime number has exactly 2 factors, 1 and itself.' 'A composite number can be divided by numbers other than 1 and itself to give a whole number answer.' 'Square numbers have an odd number of factors and are the result of multiplying a number by itself.' 'A cube number is the result of multiplying a number by itself 3 times.'

	4/5 and those fractions with a denominator of a multiple of 10 or 25.	equivalents of any number of tenths or hundredths			- Integer			
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