Leigh Academy Marden

Maths Curriculum Year 1

Year 1 - Key knowledge and skills

Number Bonds

Number bonds to 10: 1+9, 3+7, 2+8, 3+7, 4+6, 5+5

Addition and Subtraction

Key Strategy: Use number bonds to + and - in 10 (partitioning 10)

Number Facts

Place Value:

- Know one more and one less of any given 2-digit number

Doubling and halving:

- Know double and half of numbers within 20

Fractions

- A half = 1 of 2 equal parts of an object, shape, quantity
- A quarter = 1 of 4 equal parts of an object, shape, quantity

Geometry

Know the names of common 2D and 3D shapes.

Position and Direction:

- Recognise whole, half and quarter turns

Measures

Know and use standard units:

- °C
- cm and m
- g and kg
- L and ml
- £ and p

Key Instant Recall Facts

Module 1	Module 2	Module 3	Module 4	Module 5	Module 6
Know number bonds to 5.	Know number bonds to 10.	Know number bonds to 20 (addition).	Know number bonds to 20 (subtraction).	Count forwards and backwards in steps of 2, 5 and 10.	Know number bonds to 20 (addition and subtraction).

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Maths Curriculum
Year 1 - Module 1 and 2

Area of Learning:	Place Value (within 10)	Addition and Subtraction (within 10)	Shape
Vocabulary:	Compare, count on, digit, fewest, greater than, greatest, less than, most, one(s), order, partition, represent, ten(s), ordinal numbers (first, second, third, etc)	Addition, add together, subtraction/subtract, difference, double, efficient, equal to, fact family, greater, group, inverse, less, minus, near double, number bond, plus, symbol, systematic, total	Properties
Objectives:	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number Count numbers to 100 in numerals; count in multiples of twos, fives and tens Identify and represent numbers using objects and pictorial representations, including the number line Read and write numbers to 100 in numerals Read and write numbers from 1 to 20 in numerals and words Given a number, identify one more and one less	Add and subtract one-digit and two-digit numbers to 20, including zero Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems such as 7 = __ – 9	Select, rotate and manipulate shapes to develop spatial reasoning skills Recognise and name common 2- D shapes Recognise and name common 3- D shapes
Progression:	Maths Progressions Vocabulary Progression Calculation Policy - Addition and Subtraction Calculation Policy - Multiplication and Division		

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Maths Curriculum
Year 1 - Module 3 & 4

Area of Learning:	Place Value (within 20)	Addition and Subtraction (within 20)	Place Value (within 50)	Length and Height	Mass and Volume
Vocabulary:	Compare, count on, digit, fewest, greater than, greatest, less than, most, one(s), order, partition, represent, ten(s), ordinal numbers (first, second, third, etc)	Addition, add together, subtraction/subtract, difference, double, efficient, equal to, fact family, greater, group, inverse, less, minus, near double, number bond, plus, symbol, systematic, total	Compare, count on, digit, fewest, greater than, greatest, less than, most, one(s), order, partition, represent, ten(s), ordinal numbers (first, second, third, etc)	Centimetres, ruler	Capacity, container, non-standard, volume
Objectives:	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number Count numbers to 100 in numerals; count in multiples of twos, fives and tens Identify and represent numbers using objects and pictorial representations, including the number line Read and write numbers to 100 in numerals Read and write numbers from 1 to 20 in numerals and words Given a number, identify one more and one less	Add and subtract one-digit and two-digit numbers to 20, including zero Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems such as 7 = __ – 9	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number Count numbers to 100 in numerals; count in multiples of twos, fives and tens Identify and represent numbers using objects and pictorial representations, including the number line Read and write numbers to 100 in numerals Read and write numbers from 1 to 20 in numerals and words Given a number, identify one more and one less	Compare, describe and solve practical problems for lengths and heights Measure and begin to record the following lengths and heights	Compare, describe and solve practical problems for mass, capacity and volume Measure and begin to record the following mass, capacity and volume
Progression:	Maths Progressions Vocabulary Progression Calculation Policy - Addition and Subtraction Calculation Policy - Multiplication and Division				

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Maths Curriculum
Year 1 - Module 5 & 6

Area of Learning:	Multiplication and Division	Fractions	Position and Direction	Place Value (within 100)	Money	Time
Vocabulary:	Array, divide, repeated addition	Equal parts, half, quarter, whole	Far, full turn, half turn, left, near, quarter turn, right, three-quarter turn, direction	Compare, count on, digit, fewest, greater than, greatest, less than, most, one(s), order, partition, represent, ten(s), ordinal numbers (first, second, third, etc)	Amount, coin, note, money, pence (p), pound (£), unitise, value	Half past, hour, month, o'clock, second, watch, week
Objectives:	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number Count numbers to 100 in numerals; count in multiples of twos, fives and tens Identify and represent numbers using objects and pictorial representations, including the number line Read and write numbers to 100 in numerals Read and write numbers from 1 to 20 in numerals and words Given a number, identify one more and one less	Recognise, find and name a half as one of two equal parts of an object, shape or quantity Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	Describe position, direction and movement, including whole, half, quarter and three-quarter turns	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number Count numbers to 100 in numerals; count in multiples of twos, fives and tens Identify and represent numbers using objects and pictorial representations, including the number line Read and write numbers to 100 in numerals Read and write numbers from 1 to 20 in numerals and words Given a number, identify one more and one less	Recognise and know the value of different denominations of coins and notes	Sequence events in chronological order using language [e.g., before and after, next, first, today, yesterday, tomorrow, morning, afternoon, evening] Recognise, use language relating to dates, including days of the week, weeks, months and years Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times
Progression:	Maths Progressions Vocabulary Progression Calculation Policy - Addition and Subtraction Calculation Policy - Multiplication and Division					

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Maths Curriculum Year 2

Year 2 - Key knowledge and skills

Number Bonds

Number bonds to 20: e.g. 19+1, 18+2, 17+3.

Addition and Subtraction

Key Strategy: Add and subtract within 100 by applying knowledge of number bonds to ten.

Number Facts

Place Value:

- Recognise the place value of each digit in two-digit numbers

Times table facts:

- Know, recall multiplication and division facts for the 2, 5 and 10 times tables

Fractions

- Whole (set, length, shape)
- Find ⅓ ¼ ²/₄ ¾ of lengths, shapes, sets of objects
- Find simple fractions of quantities: ½ of 6 = 3
- Know ½ = ²/₄

Geometry

Properties of common shapes:

- 2D - sides and lines of symmetry
- 3D - edges, vertices, faces

Position and Direction:

- Recognise right angles, quarter, half and three-quarter turns (clockwise, anti-clockwise)

Measures

Know and convert between intervals of time:

- 1 hour = 60 minutes
- 1 day = 24 hours
- 1 week = 7 days

Key Instant Recall Facts

Module 1

Know all number bonds for 10 and 20.

Module 2

Know multiplication and division facts for 2 x table.

Module 3

Know multiplication and division facts for 10 x table.

Module 4

Know multiplication and division facts for 5 x table.

Module 5

Know all addition and subtraction facts for multiples of 10 to 100

Module 6

Know all doubles and halves of even numbers to 20

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Maths Curriculum
Year 2 - Module 1 and 2

Area of Learning:	Place Value	Addition and Subtraction	Shape
Vocabulary:	Exchange, interval, least, multiple, value	Calculation, exchange, method, multiple, one(s), operation, partition, related facts, ten(s), value, increase, decrease, sum	Edge, line of symmetry, symmetrical, vertex, vertices
Objectives:	Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward Read and write numbers to at least 100 in numerals and in words Identify, represent and estimate numbers using different representations, including the number line Recognise the place value of each digit in a two-digit number (tens, ones) Compare and order numbers from 0 up to 100; use <, > and = signs Use place value and number facts to solve problems	Add and subtract numbers using concrete objects, pictorial representations and mentally including: • 2-digit number and ones • 2-digit number and tens • two 2-digit numbers • adding three 1-digit numbers Solve problems with addition, subtraction: • using concrete objects and pictorial representations, including those involving numbers, quantities and measures • applying their increasing knowledge of mental and written methods	Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line Identify 2-D shapes on the surface of 3-D shapes, [e.g., a circle on a cylinder and a triangle on a pyramid] Compare and sort common 2-D shapes and everyday objects Recognise and name common 3- D shapes [for example, cuboids (including cubes), pyramids and spheres] Compare and sort common 3-D shapes and everyday objects
Progression:	Maths Progressions Vocabulary Progression Calculation Policy - Addition and Subtraction Calculation Policy - Multiplication and Division		

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Maths Curriculum
Year 2 - Module 3 and 4

Area of Learning:	Money	Multiplication and Division	Length and Height	Mass, Capacity and Temperature
Vocabulary:	Change, cost, worth	Divide, even, half, lots of, multiply, odd, twice, times, times-table	Metres	Celsius, circular scales, degrees, grams, kilograms, litres, millilitres, temperature, thermometer
Objectives:	Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value Find different combinations of coins that equal the same amounts of money Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	Choose and use appropriate standard units to estimate and measure: • length and height in any direction (m/cm) to the nearest appropriate unit using rulers Compare and order lengths and record the results using >, < and =	Choose and use appropriate standard units to estimate and measure: • mass (kg/g); • temperature (°C); • capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels Compare and order mass, volume/capacity and record the results using >, < and =
Progression:	Maths Progressions Vocabulary Progression Calculation Policy - Addition and Subtraction Calculation Policy - Multiplication and Division			

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Maths Curriculum
Year 2 - Module 5 and 6

Area of Learning:	Fractions	Time	Statistics	Position and Direction
Vocabulary:	Numerator, denominator, equivalent, unit fraction, non-unit fraction, third, two-quarters, three-quarters	Five-minute intervals, midnight, noon, quarter past, quarter to	Block diagram, key, pictogram, table, tally chart, collect, record	Anti-clockwise, between, clockwise
Objectives:	Recognise, find, name and write fractions ⅓, ¼ , 2/4, ¾ of a length, shape, set of objects or quantity Recognise the equivalence of 2/4 and ½ Write simple fractions for example, ½ of 6 = 3	Compare and sequence intervals of time Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times Know the number of minutes in an hour and the number of hours in a day	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables Ask and answer simple questions by counting the number of objects in each category and sorting categories by quantity Ask and answer questions about totalling and comparing categorical data	Order, arrange combinations of mathematical objects in patterns and sequences Use mathematical vocabulary to describe position, direction, movement, include in a straight line and distinguishing between rotation as a turn and right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)
Progression:	Maths Progressions Vocabulary Progression Calculation Policy - Addition and Subtraction Calculation Policy - Multiplication and Division			

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Maths Curriculum Year 3

Year 3 - Key knowledge and skills

Addition and Subtraction

Key Strategy: Add and subtract using formal written columnar methods (3-digit numbers)

Mental strategies:
Know all the number bonds to 100 that include multiples of 5: e.g., 15+85, 45+55, 40+60, 25+75
Add 1s, 10s, 100s to 3-digit numbers

Number Facts

Place Value:

- Recognise the place value of each digit in 3-digit numbers
- Know 10 and 100 more and less than a given number (3-digits)

Times table facts:

- Know, recall multiplication and division facts for the 2, 3, 4, 5, 8 and 10 times tables

Fractions and Decimals

- Find unit and non-unit fractions (with small denominators) of discrete sets of objects
- Compare and order unit fractions and fractions with the same denominator

Geometry

- Know terms: right angle, horizontal line, perpendicular lines, parallel lines
- Know angles as a property of shape and turn

Measures

- Use standard units: °C, cm and m, g and kg, L and ml, £ and p
- Know and convert between intervals of time:
  - 1 minute = 60 seconds
  - 1 hour = 60 minutes
  - 1 day = 24 hours
  - 1 week = 7 days
  - 1 month = 28/29/30/31 days
  - 1 year = 365/366 days

Key Instant Recall Facts

Module 1	Module 2	Module 3	Module 4	Module 5	Module 6
Know all addition and subtraction facts for multiples of 10 to 100.	Know multiplication and division facts for 2,5 and 10 tables.	Know multiplication and division facts for 3 tables.	Know multiplication and division facts for 4 tables.	Know multiplication and division facts for 8 tables.	Know number bonds to 100 (any given number)

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Maths Curriculum
Year 3 - Module 1 and 2

Area of Learning:	Place Value	Addition and Subtraction	Multiplication and Division
Vocabulary:	Ascending, descending, hundred(s), part, whole	Column addition, column subtraction, digit, estimate, exchange, hundred(s), inverse, crossing the 10, crossing the 100	Commutative, inverse, multiple, product, remainder, scaling
Objectives:	Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number Identify, represent and estimate numbers using different representations Read and write numbers up to 1000 in numerals and in words Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) Compare and order numbers up to 1000 Solve number problems and practical problems involving these ideas	Add and subtract numbers mentally, including: • 3-digit number and ones • 3-digit number and tens • 3-digit number and hundreds Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit numbers times 1-digit numbers, using mental and progressing to formal written methods
Progression:	Maths Progressions Vocabulary Progression Calculation Policy - Addition and Subtraction Calculation Policy - Multiplication and Division		

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Maths Curriculum
Year 3 - Module 3 and 4

Area of Learning:	Multiplication and Division	Length and Perimeter	Fractions	Mass and Capacity
Vocabulary:	Commutative, inverse, multiple, product, remainder, scaling	Convert, millimetres, perimeter	Scale, compare, convert	Convert
Objectives:	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit numbers times 1-digit numbers, using mental and progressing to formal written methods Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	Measure, compare, add and subtract: • lengths (m/cm/mm) Measure the perimeter of simple 2-D shapes	Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing 1-digit numbers or quantities by 10 Recognise, find and write fractions of a discrete set of objects: unit and non unit fractions with small denominators Recognise and use fractions as numbers: unit and non-unit fractions with small denominators Recognise and show, using diagrams, equivalent fractions with small denominators Compare and order unit fractions, and fractions with the same denominators Solve problems that involve all of the above	Measure, compare, add and subtract: • mass (kg/g); • volume/capacity (l/ml)
Progression:	Maths Progressions Vocabulary Progression Calculation Policy - Addition and Subtraction Calculation Policy - Multiplication and Division			

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Maths Curriculum
Year 3 - Module 5 and 6

Area of Learning:	Fractions	Money	Time	Shape	Statistics
Vocabulary:	Scale, compare, convert	Convert	Analogue clock, 12-hour clock, 24-hour clock, digital clock duration, leap year, am, pm, Roman numerals	Acute, obtuse, angle, vertical horizontal, parallel, perpendicular, polygon, right angle	Axis, bar chart, cell, horizontal axis, label, scale, two-way table, title, vertical axis
Objectives:	Add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7] Solve problems that involve the above	Add and subtract amounts of money to give change, using both £ and p in practical contexts	Tell and write the time from an analogue clock, include: Roman numerals from I to XII, and 12- hour and 24-hour clocks Estimate, read time with more accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary (e.g. o'clock, a.m./p.m., morning, afternoon, noon and midnight) Know the number of seconds in a minute, the number of days in each month, year and leap year Compare durations of events [e.g., to calculate the time taken by particular events or tasks]	Draw 2-D shapes Make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them Recognise angles as a property of shape or a description of a turn Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	Interpret and present data using bar charts, pictograms and tables Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables
Progression:	Maths Progressions Vocabulary Progression Calculation Policy - Addition and Subtraction Calculation Policy - Multiplication and Division				

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Maths Curriculum Year 4

Year 4 - Key knowledge and skills

Addition and Subtraction

Key Strategy: Add and subtract using formal written columnar methods (4-digit numbers)

Mental strategies:
Add 1s, 10s, 100s to 4-digit numbers

Number Facts

Place Value:

- Recognise the place value of each digit in 4-digit numbers
- Round any number to the nearest 10, 100 or 1,000

Times table facts:

- Recall multiplication and division facts for times tables up to 12 × 12
- Know effect of dividing 1 and 2-digit numbers by 10 and 100

Fractions and Decimals

- Add and subtract fractions with the same denominator
- Know decimal equivalents to ½ ¼ /10 /100
- Compare numbers up to 2 decimal places
- Reason about the location of any fraction within 1 in the linear number system.

Geometry

Properties of shape:

- Know and use terms: acute and obtuse angles, lines of symmetry, quadrilateral
- Know and classify quadrilateral types and triangle types based on their properties

Position and direction:

- Know and read coordinates in the first quadrant

Measures

- Convert between metric units: km/m, £/p, h/mins,

Key Instant Recall Facts

Module 1	Module 2	Module 3	Module 4	Module 5	Module 6
Consolidate multiplication and division facts for the 3, 4 and 8 times tables.	Know multiplication and division facts for the 6 times table.	Know multiplication and division facts for the 7 times table.	Know multiplication and division facts for the 9 times table.	Know multiplication and division facts for the 11 and 12 times table.	Know decimal number bonds to 1.

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Maths Curriculum
Year 4 - Module 1 and 2

Area of Learning:	Place Value	Addition and Subtraction	Area	Multiplication and Division
Vocabulary:	Place holder, Roman, numeral, round, thousands	Efficient, inverse, round, thousand(s)	Area, kilometres, rectilinear, width	Factor, factor pair, inverse, triple, efficient
Objectives:	Count in multiples of 6, 7, 9, 25 and 1000 Count backwards through zero to include negative numbers Identify, represent and estimate numbers using different representations 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 Find 1000 more or less than a given number Recognise the place value of each digit in a four-digit number (thousands,hundreds, tens, and ones) Order and compare numbers beyond 1000 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	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	Find the area of rectilinear shapes by counting squares	Recall multiplication and division facts for times 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 numbers Recognise and use factor pairs and commutativity in mental calculations
Progression:	Maths Progressions Vocabulary Progression Calculation Policy - Addition and Subtraction Calculation Policy - Multiplication and Division			

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Maths Curriculum
Year 4 - Module 3 and 4

Area of Learning:	Multiplication and Division	Length and Perimeter	Fractions	Decimals
Vocabulary:	Factor, factor pair, inverse, triple, efficient	Kilometres, rectilinear, width	Equivalent, hundredths, improper fractions, mixed numbers, proper fractions, tenths	Decimal, decimal place, decimal point, hundreths, tenths, round
Objectives:	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	Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten Recognise and show, using diagrams, families of common equivalent fractions Add and subtract fractions with the same denominator 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 Solve simple measure and money problems involving fractions	Recognise and write decimal equivalents of any number of tenths or hundredths Recognise, write decimal equivalents to ¼ ½ ¾ 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 decimals to two decimal places
Progression:	Maths Progressions Vocabulary Progression Calculation Policy - Addition and Subtraction Calculation Policy - Multiplication and Division			

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Maths Curriculum
Year 4 - Module 5 and 6

Area of Learning:	Decimals	Money	Time	Shape	Statistics	Position and Direction
Vocabulary:	Decimal, decimal place, decimal point, hundreths, tenths, round	Decimal	(no new vocabulary)	Equilateral, regular, irregular, isosceles, parallelogram, quadrilateral, rhombus, scalene, trapezium	Data, estimate, line graph	Coordinates, grid, reflection, translation
Objectives:	Recognise and write decimal equivalents of any number of tenths or hundredths Recognise, write decimal equivalents to ¼ ½ ¾ 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 decimals to two decimal places	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	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 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 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	Interpret, 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	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
Progression:	Maths Progressions Vocabulary Progression Calculation Policy - Addition and Subtraction Calculation Policy - Multiplication and Division					

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Maths Curriculum Year 5

Year 5 - Key knowledge and skills

Place Value and Calculation

Key Strategy: Formal written methods for addition, subtraction, multiplication and short division.

- Recognise the value of each digit in numbers
- Round numbers up to the nearest 10, 100, 1,000 etc
- Multiply and divide by 10/100/1000 using place value
- Count back/forwards with negative and positive numbers through 0

Number Facts

Prime numbers:

- A prime number has exactly 1 factor pair - 1 and the number itself.
- 1 is not a prime number, as it only has one factor: 1 x 1 = 1
- 2 is the only even prime number.
- Know the first 10 prime numbers: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29

Square numbers:

- A square number is a number multiplied by itself.
- Memorise the first 10 square numbers: $1^2 = 1 \times 1 = 1$, $2^2 = 2 \times 2 = 4$, ...

Fractions and Decimals

- Know how to calculate equivalent fractions, use to compare, order, calculate fractions
- Write equivalent decimals and fractions
- Compare and order decimals up to 3 d.p.

Geometry

Angle Facts

- Acute <90°
- Right angle = 90°
- Obtuse between 91-179°
- Straight line angle = 180°
- One whole turn = 360°

Measures

Know how to convert metric units:

- 10mm = 1cm, 1000mm = 1m and 100cm = 1m
- ½ m = 50cm = 500mm= 0.5m
- 100000cm = 1km and 1000m = 1km
- ½ km = 500m = 0.5km
- 1000g = 1kg
- ½ kg = 500g ¼ kg = 250g = 0.25kg
- 1000ml = 1 l, ½ l = 500ml, ¼ l = 250ml = 0.25 l

Key Instant Recall Facts

Module 1

Consolidate multiplication and division facts for all times tables up to 12 x 12.

Module 2

Know the prime numbers within 100.

Module 3

Multiply and divide whole and decimal numbers by 10, 100 and 1000.

Module 4

Recognise square and cube numbers within 100.

Module 5

Know decimal numbers bonds to 1 and 10.

Module 6

Know the decimal and percentage equivalents of the fractions 1/2, 1/4, 3/4, 1/3, 2/3, tenths and fifths.

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Maths Curriculum
Year 5 - Module 1 and 2

Area of Learning:	Place Value	Addition and Subtraction	Multiplication and Division	Fractions
Vocabulary:	Hundred, ten million, thousand(s), integer, negative number, millions, power of 10, ten thousand	Accurate, approximate, constant difference, strategy	Common multiple, common factor, cube number, prime number, square number	Common denominator, fractional part
Objectives:	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 Count forwards and backwards with positive and negative whole numbers, including through zero Read, write, (order and compare) numbers to at least 1 000 000 and determine the value of each digit Read Roman numerals to 1000 (M) and recognise years written in Roman numerals Interpret negative numbers in context 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 that involve all of the above	Add and subtract whole numbers with more than 4-digits, including using formal written methods (columnar addition and subtraction) Add and subtract numbers mentally with increasingly large numbers Solve + and - multi-step problems in contexts, deciding which operations and methods to use and why Solve problems with all 4 operations and a combination of these, including understanding the meaning of the equals sign	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 (no prime) numbers Establish whether a number up to 100 is prime, recall prime numbers up to 19 Recognise and use square and cube numbers, and the notation for squared and cubed Multiply numbers up to 4 digits by a 1- or 2-digit number using a formal written method, include long X for 2-digit numbers Multiply and divide mentally drawing upon known facts Divide numbers up to 4 digits by a 1-digit number using formal written method of short division and interpret remainders appropriately for the context Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	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, ⅖ + ⅘ = 6/5 = 1 ⅕] Compare and order fractions whose denominators are all multiples of the same number
Progression:	Maths Progressions Vocabulary Progression Calculation Policy - Addition and Subtraction Calculation Policy - Multiplication and Division			

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Maths Curriculum
Year 5 - Module 3 and 4

Area of Learning:	Multiplication and Division	Fractions	Decimals and Percentages	Perimeter and Area	Statistics
Vocabulary:	Common multiple, common factor, cube number, prime number, square number	Common denominator, fractional part	Percentage	Imperial, inches, metric, volume	Timetable, variable
Objectives:	Solve problems involving multiplication and division include use of knowledge of factors and multiples, squares and cubes Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	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] Recognise, 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 Read, write, order and compare numbers with up to three decimal places Recognise the percent symbol (%) and understand that percent 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 ½, ¼, ⅛, ⅜, ⅝ and those fractions with a denominator of a multiple of 10 or 25	Convert between different units of metric measure Understand and use approximate equivalences between metric units and common imperial units, e.g. inches Use all four operations to solve problems involving measure Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres Calculate, compare the area of rectangles (including squares) and including using standard units, square cm (cm2) and square m (m2) and estimate the area of irregular shapes	Complete, read and interpret information in tables, including timetables Solve comparison, sum and difference problems using information presented in a line graph
Progression:	Maths Progressions Vocabulary Progression Calculation Policy - Addition and Subtraction Calculation Policy - Multiplication and Division				

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Maths Curriculum
Year 5 - Module 5 and 6

Area of Learning:	Shape	Position and Direction	Decimals	Negative Numbers	Converting Units	Volume
Vocabulary:	Adjacent, degrees, reflex angle	Quadrant	Thousandth	Hundred, ten million, thousand(s), integer, negative number, millions, power of 10, ten thousand	Imperial, metric, pints, pounds	Cubic centimetres
Objectives:	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Use the properties of rectangles to deduce related facts and find missing lengths and angles Identify 3-D shapes, including cubes and other cuboids, from 2-D representations	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 a whole turn (total 360°) • angles at a point on a straight line and ½ a turn (total 180°) • other multiples of 90° 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	Read and write decimal numbers as fractions [for example, 0.71 = 71/100] Recognise, 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 Read, write, order and compare numbers with up to three decimal places Recognise the percent symbol (%) and understand that percent 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 ½, ¼, ⅕, ⅖, ⅘ and those fractions with a denominator of a multiple of 10 or 25	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 Count forwards and backwards with positive and negative whole numbers, including through zero	Solve problems involving converting, including between units of time	Estimate volume [e.g., using blocks to build cuboids] and capacity [e.g., using water]
Progression:	Maths Progressions Vocabulary Progression Calculation Policy - Addition and Subtraction Calculation Policy - Multiplication and Division					

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Maths Curriculum Year 6

Year 6 - Key knowledge and skills

Place Value and Calculation

Key Strategy: All formal written methods including long division

- Calculate intervals across 0

Number Facts

Cubed numbers:

- A cubed number is a number multiplied by itself twice, for example: $3^3 = 3 \times 3 \times 3$

Fractions and Decimals

- Know how to calculate equivalent fractions, use to compare, order, calculate fractions
- Write equivalent percentages, decimals and fractions
- Know the value of digits in numbers given to 3 d.p. and use to multiply and divide by 10 etc
- Use common factors to simplify fractions

Geometry

Angle Facts:

- Angles in a triangle = 180°
- Quadrilateral angles= 360°

Position and direction:

- describe positions on the full coordinate grid (all 4 quadrants)
- draw and translate simple shapes on the coordinate plane, and reflect them in the axes

Measures

- Know how to convert metric units

Key Instant Recall Facts

Module 1

Derive multiplication and division facts using multiples of 10 and decimal numbers
eg 50 x 7 = 350,
8 x 0.7 – 5.6

Module 2

Know the test for divisibility for numbers up to 10.

Module 3

Multiply and divide decimal numbers by 10, 100 and 1000.

Module 4

Know square roots of square numbers to 15 x 15.

Module 5

Know all previous number bonds including decimals that total 1 or 10 (two decimal places).

Module 6

Know doubles and halves of all 2 digit numbers including 2 digit decimals.

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Maths Curriculum
Year 6 - Module 1 and 2

Area of Learning:	Place Value	Addition, Subtraction, Multiplication and Division	Fractions	Converting Units
Vocabulary:	Ten million	Order of operations, composite number, order of operations, powers of	Simplify, simplest form, recurring	Formula, gallon, ounces, tonnes
Objectives:	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit Round any whole number to a required degree of accuracy Use negative numbers in context, and calculate intervals across zero Solve number and practical problems that involve all of the above	Perform mental calculations, including with mixed operations and large numbers Use their knowledge of the order of operations to carry out calculations involving the four operations Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Identify common factors, common multiples and prime numbers Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy Multiply numbers up to 4 digits by a 2-digit whole number using formal written method long multiplication Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context Divide numbers by a 2-digit number using formal written method short division, interpreting remainders according to the context Perform mental calculations with mixed operations, large numbers Solve problems involving addition, subtraction, multiplication and division Use their knowledge of the order of operations to carry out calculations involving the four operations	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination Compare and order fractions, including fractions >1 Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, ¼ × ½ = ⅛] Divide proper fractions by whole numbers [for example ⅓ ÷ 2 = ⅙]	Solve problems involving the calculation conversion of units of measure, using decimal notation up to 3 d.p. Use, read, write,convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 d.p. Convert between miles and kilometres Use, read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa

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[Maths Progressions]
[Vocabulary Progression]
[Calculation Policy - Addition and Subtraction]
[Calculation Policy - Multiplication and Division]

Progression:	

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Maths Curriculum
Year 6 - Module 3 and 4

Area of Learning:	Ratio	Algebra	Decimals	Fractions, Decimals and Percentages	Area, Perimeter and Volume	Statistics
Vocabulary:	Additive, enlargement, multiplicative, proportion, ratio, scale factor, scaling, simplest form	Algebra, equation, expression, function, input, linear output, rule, solve, substitution, value	Recurring	Simplify, simplest form, recurring	Formula	Average, dual bar chart, mean, pie chart
Objectives:	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts Solve problems involving the calculation/use of percentages for comparison Solve problems involving similar shapes where the scale factor is known or can be found Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples	Use simple formulae Generate and describe linear number sequences Express missing number problems algebraically Find pairs of numbers that satisfy an equation with two unknowns Enumerate the possibilities of combinations of two variables	Identify the value of each digit in numbers given to three decimal places Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, ⅜] Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts	Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, ⅜] Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts	Recognise that shapes with the same areas can have different perimeters and vice versa Recognise when it is possible to use formulae for area, volume of shapes Calculate the area of parallelograms and triangles Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic cm (cm^3) and cubic m (m^3), extending to other units	Interpret and construct pie charts and line graphs and use these to solve problems Calculate and interpret the mean as an average
Progression:	Maths Progressions Vocabulary Progression Calculation Policy - Addition and Subtraction Calculation Policy - Multiplication and Division					

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Maths Curriculum
Year 6 - Module 5 and 6

Area of Learning:	Shape	Position and Direction	Problem Solving and Consolidation
Vocabulary:	Base, circumference, diameter, dimensions, interior angles, intersect, net, opposite, angles, radius	X axis, Y axis	
Objectives:	Draw 2-D shapes using given dimensions and angles Compare and classify geometric shapes based on their properties and sizes Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius Recognise, describe and build simple 3-D shapes, including making nets Find unknown angles in any triangles, quadrilaterals, and regular polygons Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles	Describe positions on the full coordinate grid (all four quadrants) Draw and translate simple shapes on the coordinate plane, and reflect them in the axes	
Progression:	Maths Progressions Vocabulary Progression Calculation Policy - Addition and Subtraction Calculation Policy - Multiplication and Division		