Maths Curriculum

2025-26

Greswold Primary School

Subject Intent

For every child to develop a sound understanding of Maths, equipping them with the skills of calculation and applying these skills to reasoning and problem solving tasks that they will use beyond school, in real life.

At Greswold, we will provide exciting, ambitious and empowering learning that develops resilience in pupils through the use of Growth Mindset. Our Maths curriculum is devised in a way that allows children to store knowledge to long term memory. We give children the opportunity to apply their maths skills that allow them to see how it is used in real life situations. We use curriculum enhancements, such as extra-curricular activities and theme days, to provide opportunities for children to apply and develop personal, social and academic skills.

Maths in Early Years

From the beginning of their learning journey at Greswold, the children in early years are encouraged to engage with, and eventually, master number as well as the full range of mathematical topics and concepts. Through interactions with skilled practitioners, children will verbally reason and problem solve.

The Greswold Mathematician

The Greswold...

Mathematician

Key facts, instant recalls and mental math strategies.

Have an understanding and awareness of where maths is used in real-life e.g. famous mathematicians.

Usage of mathematical vocabulary.

Perseverance, positivity, enjoyment, growth mindset and independence.

Apply learning and problem solving in real life.

Subject Long-Term Plan – Maths

Year Group	Autumn	Spring	Summer
Year 1	• Number: Place Value (within 10 and 20) • Number: Addition and Subtraction (within 10 and 20) • Geometry: Shape	• Number: Place Value (within 50) • Number: Addition and Subtraction (within 20) • Measurement: Length and Height • Measurement: Mass and Volume	• Number: Multiplication and Division • Number: Fractions • Geometry: Position and direction • Number: Place Value (within 100) • Measurement: Money • Measurement: Time
Year 2	• Number: Place Value • Number: Addition and Subtraction • Geometry: Shape	• Measurement: Money • Number: Multiplication and Division • Measurement: Length and Height • Measurement: Mass, Capacity and Temperature	• Statistics • Number: Fractions • Geometry: Position and Direction • Problem Solving • Measurement: Time
Year 3	• Number: Place Value • Number: Addition and Subtraction • Number: Multiplication and Division	• Measurement: Length and Perimeter • Number: Fractions A • Measurement: Mass and Capacity • Number: Fractions B	• Measurement: Money • Measurement: Time • Geometry: Shape • Statistics
Year 4	• Number: Place Value • Number: Addition and Subtraction • Measurement: Area • Number: Multiplication and Division A	• Number: Multiplication and Division B • Measurement: Length and Perimeter • Number: Fractions • Number: Decimals A	• Number: Decimals B • Measurement: Money • Measurement: Time • Geometry: Shape • Statistics • Geometry: Position and Direction
Year 5	• Number: Place Value • Number: Addition and Subtraction • Number: Multiplication and Division A • Number: Fractions A	• Number: Multiplication and Division B • Number: Fractions B • Number: Decimals and Percentages • Measurement: Perimeter and Area • Statistics • Geometry: Shape	• Geometry: Position and Direction • Number: Decimals • Number: Negative Numbers • Measurement: Converting Units • Measurement: Volume
Year 6	• Number: Place Value • Number: Addition, Subtraction, Multiplication and Division • Number: Fractions A • Number: Fractions B • Measurement: Converting Units • Ratio	• Number: Multiplication and Division B • Number: Fractions B • Number: Decimals and Percentages • Measurement: Perimeter and Area • Statistics • Geometry: Shape	• Geometry: Shape • Geometry: Position and Direction • Themed Projects, Consolidation and Problem Solving

Subject Long-Term Plan – Times Tables

	Autumn	Spring	Summer
Year 3		**Doubles** (5 weeks) **2 Times Table** (5 weeks) (8 facts) **Square Times Table** (5 weeks) (7 new facts) **5 Times Tables** (5 weeks) (6 new facts) **Consolidation** (3-5 weeks) *21 out of 35 facts learnt by end of Year 3*	
Year 4	**Recap** (3 weeks) **3 Times Table** (5 weeks) (5 new facts) **4 Times Table** (5 weeks) (4 new facts) *30 out of 36 facts learnt by end of Autumn Term*	**6 Times Table** (3 weeks) (3 new facts) **7 Times Table** (3 weeks) (3 new facts) **8 TT** (2 weeks) (1 new fact) **9 TT** (2 weeks) (0 new facts) **More squares** (1 wk) **10 & 11 TT** (1 wk) *All 36 facts learnt by mid Spring 2*	**12 Times Table** (4 weeks) **MTC Prep** (3 weeks) **MTC** 1 wk **Consolidation**
Year 5	**Daily Consolidation**	**Weekly Consolidation (weekly fluency lesson and weekly conceptual animation)**	
Year 6	**Weekly Consolidation**		

Subject Outcomes

	Autumn	Spring	Summer
EYFS	**30-50 months** •To build up vocabulary that reflects the breadth of their experiences. •To recite numbers in order to 10. •To realise not only objects, but anything can be counted including steps, claps or jumps. •To use some number names and number language spontaneously. •To know that numbers identify how many objects are in a set. •To show an interest in representing numbers. •To begin to represent numbers using fingers, marks on paper or pictures. •To separate a group of three or four objects in different ways, beginning to recognise that the total is still the same. •To sometimes match numeral and quantity correctly. •To show an interest in numerals in the environment. •To use some number names accurately in play. •To compare two groups of objects, saying when they have the same number. •To show curiosity about numbers by offering comments or asking questions •To show an interest in number problems. •To show an interest in shape and space by playing with shapes or making arrangements with objects. •To show interest in shape by sustained construction activity or by talking about shapes or arrangements. •To show interest in shapes in the environment. •To use shapes appropriately for tasks. •To begin to talk about shapes in everyday objects, e.g. 'round' and 'tall'. •To show awareness of similarities of shapes in the environment. •To use positional language.	**40-60 months** •To extend vocabulary, especially by grouping and naming, •To count up to three or four objects by saying one number name for each item. •To count out up to six objects from a larger group. •To count actions or objects which cannot be moved. •To count objects to 10 and beginning to count beyond •To count an irregular arrangement of up to 10 objects. •To estimate how many objects they can see and check by counting them. •To select the correct numeral to represent 1 to 5, then 1 to 10 objects. •To say the number that is one more than a number. •To find one more or one less from a group of up to five objects, then ten objects. •To recognise some numerals of personal significance. •To recognise numerals 1 to 5. •To use the language of 'more' and 'fewer' to compare two sets of objects. •To begin to identify own mathematical problems based on own interests and fascinations. •To find the total of items in two groups by counting all of them. •To begin to use the vocabulary involved in adding and subtracting in practical activities and discussion. •To order two or three items by length or height. •To order two items by weight or capacity. •To use everyday language related to time. •To order and sequence familiar events. •To measure short periods of time in simple ways. •To begin to use mathematical names for 'solid' 3D shapes and 'flat' 2D shapes, and mathematical terms to describe shapes. •To select particular named shapes. •To begin to use everyday language related to money. •To describe their relative position, such as 'behind' or 'next to'. •To use familiar objects and common shapes to create and recreate patterns and build models. •To record, uing marks that they can interpret and explain.	**ELG** •To count reliably with numbers from one to 20. •To say which number is one more or one less than a given number from one to 20. •To place numbers one to 20 in order. •To add and subtract two single-digit numbers and count on back to find the answer using quantities and objects. •To solve problems, including doubling, halving and sharing. •To use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and solve problems. •To explore characteristics of everyday objects and shapes and use mathematical language to describe them. •To recognise, create and describe patterns.
Year 1	**Place value** 1. Count to 10, forwards and backwards, beginning with 0 or 1, or from any given number 2. Identify and represent numbers using objects and pictorial representations including the number line, & use language of: equal to, more than, less than (fewer), most, least 3. Read and write numbers from 1 to 20 in numerals and words	**Place value** 1. Count, read and write numbers to 50 in numerals; count in multiples of twos, fives and tens. 2. Pupils begin to recognise place value in numbers beyond 20 by reading, writing, counting **Addition and subtraction**	**Multiplication and division** 1. Through grouping and sharing small quantities, pupils begin to understand: multiplication and division; doubling numbers and quantities; and finding simple fractions of objects, numbers and quantities. 2. They make connections between arrays, number patterns, and counting in twos, fives and tens.

4. Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs
5. Pupils practise counting (1, 2, 3…), ordering (for example, first, second, third…), and to indicate a quantity (for example, 3 apples, 2 centimetres), including solving simple concrete problems, until they are fluent.
6. Pupils begin to recognise place value in numbers to 20 by reading, writing, counting and comparing numbers supported by objects and pictorial representations.
7. Count to 50, forwards and backwards, beginning with 0 or 1, or from any given number
8. Given a number, identify one more and one less

Addition and subtraction

9. Add and subtract one-digit and two-digit numbers to 20, including zero
10. Represent and use number bonds and related subtraction facts within 20

Geometry - shape

11. Recognise and name common 2-D shapes (e.g. Square, circle, triangle)
12. Recognise and name common 3-D shapes (e.g. Cube, sphere, cone)

1. Pupils memorise and reason with number bonds to 10 and 20 in several forms (for example, 9 + 7 = 16; 16 – 7 = 9; 7 = 16 – 9).
2. They should realise the effect of adding or subtracting zero. This establishes addition and subtraction as related operations.
3. Pupils combine and increase numbers, counting forwards and backwards Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ – 9.

Measurement – Length and height

1. Compare, describe and solve practical problems for: length/height
2. Measure and begin to record length/height.
3. In order to become familiar with standard measures, pupils begin to use measuring tools such as a ruler.

Measurement – Weight

1. Compare, describe and solve practical problems for: weight.
2. Measure and begin to record weight.
3. In order to become familiar with standard measures, pupils begin to use measuring tools such as a ruler.

Measurement- volume

1. Compare, describe and solve practical problems for: volume
2. Measure and begin to record volume
3. In order to become familiar with standard measures, pupils begin to use measuring tools such as containers.

3. Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

Fractions

1. Recognise, find and name a half as one of two equal parts of an object, shape or quantity
2. Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.
3. Pupils are taught half and quarter as 'fractions of' discrete and continuous quantities by solving problems using shapes, objects and quantities.
4. Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number

Geometry – position and direction

1. Describe position, direction and movement, including whole, half, quarter and three-quarter turns.
2. Pupils use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside.

Place value

3. Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens.
4. comparing numbers up to 100, supported by objects and pictorial representations.

Measurement – money

1. Recognise and know the value of different denominations of coins and notes

Measurement – Time

4. Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times
5. Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times
6. Pupils use the language of time, including telling the time throughout the day, first using o'clock and then half past.
7. Pupils make whole, half, quarter and three-quarter turns in both directions and connect turning clockwise with movement on a clock face.
8. Sequence events in chronological order using language
9. Recognise and use language relating to dates, including days of the week, weeks, months and years

Year 2	**Place Value** 1. Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward 2. Recognise the place value of each digit in a two-digit number 3. Compare and order numbers from 0 up to 100; use <, > and = signs 4. Identify, represent and estimate numbers using different representations, including the number line 5. Read and write numbers to at least 100 in numerals and in words 6. Use place value and number facts to solve problems **Addition and subtraction** 1. Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 2. Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: TU+U, TU+T, TU+TU and U+U+U 3. Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot 4. Solve problems with addition and subtraction, using concrete, pictorial and abstract representations 5. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. **Shape** 1. Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line 2. Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces 3. Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid 4. Compare and sort common 2-D and 3-D shapes and everyday objects.	**Money** 1. Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value 2. Find different combinations of coins that equal the same amounts of money 3. Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change **Multiplication and Division** 1. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs 2. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot 3. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. **Measurement – length and height** 1. Choose and use appropriate standard units to estimate and measure length/height (m/cm) **Measurement – Mass, capacity and temperature** 1. 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 2. Compare and order lengths, mass, volume/capacity and record the results using >, < and =	**Statistics** 1. Interpret and construct simple pictograms, tally charts, block diagrams and simple tables 2. Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity 3. Ask and answer questions about totalling and comparing categorical data. **Fractions** 1. Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2. 2. Recognise, find, name and write fractions , and of a length, shape, set of objects or quantity **Position and Direction** 1. Order and arrange combinations of mathematical objects in patterns and sequences 2. Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise). 3. Order and arrange combinations of mathematical objects in patterns and sequences. 4. Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and ¾ turns **Measurement – Time** 1. Compare and sequence intervals of time 2. 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 3. Know the number of minutes in an hour and the number of hours in a day
Year 3	**Place value** 1. Count from 0 in multiples of 4, 8, 50 and 100. 2. Recognise the place value of each digit in a three-digit number. 3. Compare and order numbers up to 1000. 4. Read and write numbers up to 1000 in numerals and in words **Addition and subtraction** 1. Add and subtract numbers mentally, including: HTU+U, HTU+T and HTU+H	**Measurement – length and perimeter** 1. Measure, compare, add and subtract: lengths (m/cm/mm) 2. Measure the perimeter of simple 2-D shapes **Fractions** 1. Compare and order unit fractions, and fractions with the same denominators 2. Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	**Money** 1. Add and subtract amounts of money to give change, using both £ and p in practical contexts **Time** 1. Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks 2. Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and

	2. Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction 3. Estimate the answer to a calculation and use inverse operations to check answers 4. Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction **Multiplication and Division** 1. Write and calculate mathematical statements for multiplication using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental methods 2. Progress to formal written methods calculations as above 3. Write and calculate mathematical statements for division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental methods 4. Progress to formal written methods calculations as above	3. Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators 4. Count up and down in tenths; 5. Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 6. Recognise and show, using diagrams, equivalent fractions with small denominators 7. Add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7] **Measurement – capacity and mass** 1. Measure, compare, add and subtract: mass (kg/g); volume/capacity (l/ml) 2. Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight 3. Know the number of seconds in a minute and the number of days in each month, year and leap year 4. Compare durations of events **Shape** 1. Draw 2-D shapes 2. Make 3-D shapes using modelling materials 3. Recognise 3-D shapes in different orientations and describe them **Statistics** 1. Interpret and present data using bar charts, pictograms and tables
Year 4	**Place value** 1. Count in multiples of 6, 7, 9, 25 and 1000 2. Find 1000 more or less than a given number 3. Count backwards through zero to include negative numbers 4. Recognise the place value of each digit in a four-digit number 5. Order and compare numbers beyond 1000 6. Round any number to the nearest 10, 100 or 1000 7. Identify, represent and estimate numbers using different representations 8. 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 **Addition and subtraction** 1. Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate 2. Estimate and use inverse operations to check answers to a calculation 3. Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why **Measurement – length and perimeter** 1. Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres **Multiplication and Division** 1. Recall multiplication and division facts for multiplication tables up to 12 × 12 2. 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	**Multiplication and Division** 1. Recognise and use factor pairs and commutativity in mental calculations 3. Multiply two-digit and three-digit numbers by a one-digit number using formal written layout 4. 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 **Measurement – Length, Perimeter and Area** 1. Find the area of rectilinear shapes by counting squares **Fractions** 1. Count up and down in hundredths; 2. Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. 3. Recognise and show, using diagrams, families of common equivalent fractions 4. 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 5. Add and subtract fractions with the same denominator **Decimals** 1. Recognise and write decimal equivalents of any number of tenths or hundredths 2. Recognise and write decimal equivalents to ¼, ½ and ¾ 3. Solve simple measure and money problems involving fractions and decimals to two decimal places	**Measurement - Money** 1. Estimate, compare and calculate different measures, including money in pounds and pence 2. Pupils build on their understanding of place value and decimal notation to record metric measures, including money. **Measurement – Time** 1. Convert between different units of measure (e.g. Hours to minutes) 2. Read, write and convert time between analogue and digital 12- and 24-hour clocks 3. Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days **Statistics** 1. Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs 2. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. 3. Pupils understand and use a greater range of scales in their representations. 4. Pupils begin to relate the graphical representation of data to recording change over time. **Shape** 1. Compare and classify geometric shapes, including quadrilaterals and triangles, based on properties and sizes 2. Identify lines of symmetry in 2-D shapes presented in different orientations 3. Complete a simple symmetric figure with respect to a specific line of symmetry.

		4. Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths 5. Round decimals with one decimal place to the nearest whole number 6. Compare numbers with the same number of decimal places up to two decimal places	4. Identify acute and obtuse angles and compare and order angles up to two right angles by size **Geometry** 1. Describe positions on a 2-D grid as coordinates in the first quadrant 2. Describe movements between positions as translations of a given unit to the left/right and up/down 3. Plot specified points and draw sides to complete a given polygon
Year 5	**Place value** 1. Count forwards or backwards in steps of powers of 10 for any given number up to 1000000 2. Read, write, order and compare numbers up to 1 000 000 and determine the value of each digit 3. Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 4. Read Roman numerals to 1000 (M) and recognise years written in Roman numerals **Addition and subtractions** 1. Add and subtract numbers mentally with increasingly large numbers 2. Add and subtract whole numbers with more than 4 digits, including using formal written methods 3. Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy 4. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why **Multiplication and Division** 1. Recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³) 2. Multiply and divide numbers mentally drawing upon known facts 3. Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes 4. Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign 5. Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates **Fractions** 6. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number 7. Compare and order fractions whose denominators are all multiples of the same number 8. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	**Multiplication and Division** 1. 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 2. 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. 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 **Fractions, Decimals and percentages** 1. Round decimals with two decimal places to the nearest whole number and to one decimal place 2. Read, write, order and compare numbers with up to three decimal places 3. 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 involving number up to three decimal places 5. Solve problems which require knowing percentage and decimal equivalents of ½ , ¼ , 1/5 , 2/5 , 4/5 and those fractions with a denominator of a multiple of 10 or 25 **Perimeter and Area** 1. Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres 2. Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes **Statistics** 1. Complete, read and interpret information in tables, including timetables Solve comparison, sum and difference problems using information presented in a line graph **Shape** 1. Use the properties of rectangles to deduce related facts and find missing lengths and angles	**Decimals** 1. Add and subtract decimals 2. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 **Position and direction** 1. Identify angles at a point and one whole turn (total 360°); at a point on a straight line and ½ a turn (total 180°) 2. Identify other multiples of 90° 3. 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 **Negative numbers** 1. Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero **Measurement** 1. Convert between different units of metric measure 2. Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints 3. Estimate volume and capacity 4. Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling 5. Solve problems involving converting between units of time

	9. Add and subtract fractions with the same denominator and denominators that are multiples of the same number 10. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams 11. Read and write decimal numbers as fractions 12. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	2. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. 3. Identify 3-D shapes, including cubes and other cuboids, from 2-D representations 4. Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles 5. Draw given angles, and measure them in degrees (°)	
Year 6	**Place value** 1. Use negative numbers in context, and calculate intervals across zero 2. Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit 3. Round any whole number to a required degree of accuracy 4. Perform mental calculations, including with mixed operations and large numbers 5. Identify common factors, common multiples and prime numbers 6. Perform mental calculations, including with mixed operations and large numbers **Addition, subtraction, multiplication and division** 1. Pupils practise addition, subtraction, multiplication and division for larger numbers, using the formal written methods of columnar addition and subtraction, short and long multiplication, and short and long division 2. Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication 3. Divide numbers up to 4 digits by a two-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 4. Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to context 5. Use their knowledge of the order of operations to carry out calculations involving the four operations 6. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why 7. Solve problems involving addition, subtraction, multiplication and division 8. Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy **Measurement** 1. Use, read, write and 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 three decimal places 2. Convert between miles and kilometres	**Decimals and Percentages** 1. Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places 2. Multiply one-digit number with up to two decimal places by whole numbers 3. Use written division methods in cases where the answer has up to two decimal places 4. Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison 5. Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate 6. Solve problems which require answers to be rounded to specified degrees of accuracy 7. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. **Area and perimeter** 1. Recognise that shapes with the same areas can have different perimeters and vice versa 2. Recognise when it is possible to use formulae for area and volume of shapes 3. Calculate the area of parallelograms and triangles 4. Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units. **Statistics** 1. Interpret and construct pie charts and line graphs 2. Calculate and interpret the mean as an average 3. Use pie charts and line graphs to solve problems **Shape** 5. Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius 6. Draw 2-D shapes using given dimensions and angles 7. Compare and classify geometric shapes based on their properties and sizes	**SATs Revision** **Themed Projects, Consolidation and Problem Solving**

	Fractions 1. Use common factors to simplify fractions 2. Use common multiples to express fractions in the same denomination/ 3. Compare and order fractions, including fractions > 1 4. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions 5. Multiply simple pairs of proper fractions, writing the answer in its simplest form/ 6. Divide proper fractions by whole numbers 7. Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction/ 8. Identify the value of each digit in numbers given to three decimal places **Ratio and Algebra/** 1. Use simple formulae/ 2. Generate and describe linear number sequences 3. Express missing number problems algebraically 4. Find pairs of numbers that satisfy an equation with two unknowns 5. Enumerate possibilities of combinations of two variables. 6. Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts 7. Solve problems involving similar shapes where the scale factor is known or can be found/ 8. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.	8. Recognise, describe and build simple 3-D shapes, including making nets 9. Find unknown angles in any triangles, quadrilaterals, and regular polygons 10. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles **Geometry** 1. Describe positions on the full coordinate grid (all four quadrants) 2. Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.	

Subject Progression

EYFS
Number
Have a deep understanding of number to 10, including the composition of each number.
Subitise (recognise quantities without counting) up to 5.
Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.
Numerical Patterns
Verbally count beyond 20, recognising the pattern of the counting system.
Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.
Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.
Shape, Space and Measures
There are no early learning goals that directly relate to shape, space and measure objectives. However, children will have experienced rich opportunities to develop their spatial reasoning skills in shape, space and measure.

Year One
Number and Place Value
Count within 100, forwards and backwards, starting with any number.
Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =.
Number Facts
Develop fluency in addition and subtraction facts within 10.
Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any mu count forwards and backwards through the odd numbers.
Addition and Subtraction
Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.
Read, write and interpret equations containing addition (+), subtraction (–) and equals (=) symbols, and relate additive expressions and equations to real-life contexts.
Geometry
Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.
Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.

Year Two
Number and Place Value
Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning.
Reason about the location of any two-digit number in the linear number system, including identifying previous and next multiple of 10.
Number Facts
Secure fluency in addition and subtraction facts within 10, through continued practice.
Addition and Subtraction
Add and subtract across 10.
Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more...?".
Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number.
Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.
Multiplication and Division
Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.
Relate grouping problems where the number of groups is unknown to multiplication or division equations with a missing factor.
Geometry
Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.

Year Three
Number and Place Value
Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10.
Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning.
Reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10.
Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.
Number Facts
Secure fluency in addition and subtraction facts that bridge 10, through continued practice.
Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.
Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).
Addition and Subtraction
Calculate complements to 100.
Add and subtract up to three-digit numbers using columnar methods.
Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.
Multiplication and Division
Apply known multiplication and division facts to solve contextual problems with different structures.
Fractions
Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.
Find unit fractions of quantities using known division facts (multiplication tables fluency).
Reason about the location of any fraction within 1 in the linear number system.
Add and subtract fractions with the same denominator, within 1.
Geometry
Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations.
Draw polygons by joining marked points, and identify parallel and perpendicular sides.

Year Four
Number and Place Value
Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100.
Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning.
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.
Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.
Number Facts
Recall multiplication and division facts up to 12 × 12, and recognise products in multiplication tables as multiples of the corresponding number.
Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context.
Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100).
Multiplication and Division
Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.
Manipulate multiplication and division equations, understand and apply the commutative property of multiplication.
Understand and apply the distributive property of multiplication.
Fractions
Reason about the location of mixed numbers in the linear number system.
Convert mixed numbers to improper fractions and vice versa.
Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.
Geometry
Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.
Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons.
Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.

Year Five
Number and Place Value
Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.
Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning.
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.
Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.
Convert between units of measure, including using common decimals and fractions.
Number Facts
Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.
Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).
Multiplication and Division
Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.
Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors.
Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.
Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.
Fractions, Decimals and Percentages
Find non-unit fractions of quantities.
Find equivalent fractions and understand that they have the same value and the same position in the linear number system.
Recall decimal equivalents for 1/2, 1/4, 1/5 and 1/10, and for multiples of these proper fractions.
Geometry
Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size.
Compare areas and calculate the area of rectangles (including squares) using standard units.

Year Six
Number and Place Value
Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).
Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and non-standard partitioning.
Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.
Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.
Addition, Subtraction, Multiplication and Division
Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).
Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.
Solve problems involving ratio relationships.
Solve problems with 2 unknowns.
Fractions, Decimals and Percentages
Recognise when fractions can be simplified, and use common factors to simplify fractions.
Express fractions in a common denomination and use this to compare fractions that are similar in value.
Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy.
Geometry
Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.

Vocabulary

Number- Number and place value						
Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
count	sort	count in steps	ascending	negative numbers	ten thousands	millions
subitise	represent	count in multiples	descending	roman numerals	one hundred thousands	ten millions
order/ordinal	multiples	place value	10 or 100 more	1000 more	powers of	
compare	partitioning	estimate	10 or 100 less	1000 less	integer	
forwards	ones	compare	hundreds	thousands		
backwards	tens			round		
numerals						
digit						
one more						
one less						
equal to						
more than						
less than (fewer)						

Addition and subtraction						
Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
add	addition/add	sum	column addition	4-digit number		
plus	subtraction	3-digit number	column subtraction	operations		
altogether	difference	commutative	exchange	methods		
total	equals		estimate			
take away /minus	facts					
number bonds	problems					
part	missing number problems					
whole	2-digit number					

digit	inverse					

Multiplication and division						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
double	multiplication	multiplication tables	exchange	factor pairs	multiples	multi-digit numbers
half	division	commutative	mathematical statements	formal written layout	factors	long division
twice as many	arrays	repeated addition	missing number problems	distributive law	prime numbers	
equal			integer scaling problems	remainders	square numbers	
unequal			correspondence problems		cube numbers	
share			derived facts		short division	
group					product	
odd					dividend	
even					divisor	
					quotient	
					operations	

Fractions/Decimals/Percentages						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	whole	three quarters	tenths	decimal equivalence	fifth	
	half	third		hundredths	thousandths	
	quarter	equivalent fractions		convert	mixed numbers	
	equal parts	unit fractions		proper fractions	per cent %	
		non unit fractions		improper fractions	factors	
		numerator		decimal point	integer	
		denominator			complements	
		one whole				

Ratio and proportion						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

						relative/size/
						missing values
						integer multiplication/
						percentages
						scale/factor
						unequal/sharing & grouping

Algebra/						
Reception/	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
						formulae/
						linear number sequences
						algebraically
						equation/
						unknowns
						combinations
						variables

Measurement (Measure and/Length)						
Reception/	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
measure/	compare/	standard/units	millimetre/mm/	kilometres/km/	decimal/notation/	conversion/
wide(er)		estimate/	perimeter	rectilinear/figure/	scaling	miles
narrow(er)		order		area/	metric/units	formulae/
compare/		record/results			imperial/units	parallelograms
long(er)(est)		centimetre/cm/			inches	triangles
short(er)(est)		metre/m/			compound/shape/	feet/
length/					irregular shapes	
					square/centimetres	

					square metres	

Measurement (Height, Weight and Capacity)						
Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
height	mass	kilogram/kg			cubic centimetre	cubic metre
long(er)/short(er)	volume	gram/g			pounds	cubic millimetre
tall(er)/short(er)		quarter full			pints	cubic kilometre
weight		three quarters full				gallons
capacity		litres l				stones
heavy/light		millilitres ml				ounces
heavier than		temperature				
lighter than		Celsius				
big/bigger/biggest						
full/empty						
more than						
less than						
half/half full						

Measurement (Time)						
Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
time	chronological order	intervals of time	analogue clock	convert		
quicker	days of the week	quarter past/to	roman numerals			
slower	months of the year	duration	12-hour clock			
earlier	month		24-hour clock			
later	year		a.m./p.m.			
before	o'clock		noon			
after	half past		midnight			

first	second		leap year			
next			digital			
today						
yesterday						
tomorrow						
morning						
afternoon						
evening						
day						
week						
hour						
minutes						

Measurement (Money)						
Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	money	value				
	coins	change				
	notes					
	pounds £					
	pence/p					

Geometry – Properties of Shape						
Reception	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
2-d shapes	sides	pentagon	right-angle triangle	isosceles	regular polygon	radius
rectangle	corners	hexagon	heptagon	equilateral	irregular polygon	diameter
square	properties	line of symmetry	octagon	scalene		circumference
circle	pyramids	properties	polygon	trapezium		dimensions

triangle/	faces	cylinder	properties	rhombus		
characteristics		edges	prism/	parallelogram/		
3-d/ shapes		vertices		kite/		
cuboids		vertex		geometric/ shapes		
cubes				quadrilaterals		
cone/						
spheres						
curved/						
straight						
flat						

Geometry – Properties of shape/ (2)						
Reception/	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
			orientations		reflex angles	
			angles		degrees	
			acute/ angle/		one/ whole/ turn/	
			obtuse/ angle/		angles on/ straight line/	
			turn/		angles around/ a/ point	
			right angles		vertically opposite/	
			half-turn/		missing angles	
			three quarters of a/ turn/			
			greater than/ right angle/			
			less than/ right angle/			
			horizontal/ lines			
			vertical/ lines			
			perpendicular lines			
			parallel/ lines			

Geometry – Position and direction						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
over	position	clockwise/anti-clockwise		co-ordinates	reflection	four quadrants
under	direction	straight line		first quadrant		co-ordinate/plane
between	movement	rotation		grid		
around	whole turn	arrange		translation		
through	quarter turn	sequences		plot		
on	half turn			polygon		
into	three-quarter turn			axis		
next to						
behind						
beneath						
order						
repeat						
patterns						
on top of						

Statistics						
Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		pictograms	table	time graph	timetable	pie chart
		tally chart	bar chart	discrete data	two-way tables	mean
		block diagram	one-step problem	continuous data		
		category	two-step problem	line graph		
		sorting		comparison problem		
		totalling		sum problem		
		comparing		difference problem		
		horizontal		calculate		
		vertical		interpret		