STROUD GREEN PRIMARY
MATHEMATICS – LONG TERM PLANS

Teaching for Mastery

These medium term plans support a mastery approach to teaching and learning across the school. They have been design in line with the aims and objectives of the NC 2014.

Concrete – Pictorial - Abstract

All pupils, when introduced to a new concept, should have the opportunity to build competency through the following processes. These concepts should be differentiated using this approach.

Concrete: pupils have the opportunity to use concrete objects and manipulatives to help them understand what they are doing.

Pictorial: Pupils then build on this concrete approach by using pictorial representations. These representations can then be used to reason and solve problems.

Abstract: Pupil now have the foundations firmly laid and can move to an abstract approach using numbers, symbols and key concepts with confidence.

How to use this document

This document should be used in conjunction with the Calculation Policy and Target Tracker Statements.

There is a medium term plan for each year group from Reception to Y6. These are split in to the three terms. A significant amount of time is devoted to developing key number concepts. This is to build their fluency. Number sense will affect their success in other areas of mathematics. Pupils who are successful with number are more confident overall mathematicians.

Early Years Foundation Stage

Autumn Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Get to know your learners			**Numbers** *(Using numbers 1 – 5)* Children count reliably with numbers from 1 to 5 Recognise some numerals of personal significance. Recognises numerals 1 to 5. Counts up to three or four objects by saying one number name for each item. Count actions or objects which cannot be moved. Selects the correct numeral to represent 1 to 5 objects. Counts an irregular arrangement of up to 5 objects.			**Shape, space and measures** Explore characteristics of everyday objects and shapes and use mathematical language to describe them. Recognise, create and describe patterns. Beginning to use mathematical names for 'flat' 2D shapes, and mathematical terms to describe shapes. Selects a particular named shape. Use familiar objects and common shapes to create and recreate patterns and build models.		**Shape, space and measures** Children use everyday language to talk about money. Beginning to use everyday language related to money.	**Numbers** *(Securing numbers 1-5)* Place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. Uses the language of 'more' and 'fewer' to compare two sets of objects. Finds the total number of items in two groups by counting all of them. Says the number that is one more than a given number. Finds one more or one less from a group of up to five objects. In practical activities and discussion, begin to use the vocabulary		

Early Years Foundation Stage

Spring Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Numbers *(Using numbers 1 – 10)* **Children count reliably with numbers from 1 to 10** Recognises numerals 1 to 10. Counts out up to 10 objects from a larger group. Count actions or objects which cannot be moved. Selects the correct numeral to represent 1 to 10 objects. Counts objects to 10. Counts an irregular arrangement of up to 10 objects.			**Shape, space and measures** Children use everyday language to talk about size, weight and capacity to compare quantities and objects and to solve problems. Orders two or three items by length or height. Orders two items by weight or capacity.			**Numbers** *(Securing numbers 1-10)* Place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. Uses the language of 'more' and 'fewer' to compare two sets of objects. Finds the total number of items in two groups by counting all of them. Says the number that is one more than a given number. Finds one more or one less from a group of up to 10 objects. In practical activities and discussion, begin to use the vocabulary involved in adding and subtracting. Estimates how many objects they see and checks by counting them.			**Shape, space and measures** Explore characteristics of everyday objects and shapes and use mathematical language to describe them. Recognise, create and describe patterns. Beginning to use mathematical names for 'solid' 3D shapes and mathematical terms to describe shapes. Selects a particular named shape. Use familiar objects and common shapes to create and recreate patterns and build models.		**Shape, space and measures** **Children use everyday language to talk about time to compare quantities and to solve problems.** Uses everyday language related to time. Orders and sequences familiar events. Measures short periods of time in simple ways.

Early Years Foundation Stage

Summer Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Numbers *(Using numbers 1 – 20)* Children count reliably with numbers from 1 to 20 Recognises numerals 1 to 20. Counts out up to 20 objects from a larger group. Count actions or objects which cannot be moved. Selects the correct numeral to represent 1 to 20 objects. Counts objects to 20. Counts an irregular arrangement of up to 20 objects.		**Numbers** *(Securing numbers 1-20)* Place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. Uses the language of 'more' and 'fewer' to compare two sets of objects. Finds the total number of items in two groups by counting all of them. Says the number that is one more than a given number. Finds one more or one less from a group of up to 20 objects. In practical activities and discussion, begin to use the vocabulary involved in adding and subtracting. Estimates how many objects they can see and checks by counting them.		**Numbers Solve problems including doubling, halving and sharing** In practical activities and discussion, begin to use the vocabulary involved in doubling, halving and sharing.			**Shape, space and measures** Children use everyday language to talk about position and distance to compare quantities and objects and to solve problems. Can describe their relative position such as 'behind' or 'next to'.			Time at the beginning or end of the term for consolidation, gap filling, seasonal activities, assessments, etc.	

Year One

Autumn Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Number: Place Value Count to ten, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 10 in numerals and words. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. Given a number, identify one more or one less. Count in multiples of twos.			**Number: Addition and Subtraction** Represent and use number bonds and related subtraction facts (within 10) Add and subtract one digit numbers (to 10), including zero. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems.			**Geometry: Shape** Recognise and name common 2D and 3D shapes, including rectangles, squares, circles and triangles, cuboids, pyramids and spheres. Describe position, direction and movement, including whole, half, quarter and three quarter turns		**Number: Place Value** Count to twenty, forwards and backwards, beginning with 0 or 1, from any given number. Count, read and write numbers from 1 to 20 in numerals and words. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. Count in multiples of twos and fives		**Number: Addition and Subtraction** Represent and use number bonds and related subtraction facts within 20. Add and subtract one digit and two digit numbers to 20, including zero. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7= ? – 9	

Spring Term

Year One

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Time Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. Recognise and use language relating to dates, including days of the week, weeks, months and years. Compare, describe and solve practical problems for time [for example, quicker, slower, earlier, later] and measure and begin to record time (hours, minutes, seconds) Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening.		**Place Value** Count to 40 forwards and backwards, beginning with 0 or 1, or from any number. Count, read and write numbers from 1-40 in numerals and words. Identify and represent numbers using objects and pictorial representations. Given a number, identify 1 more or 1 less.	**Number: Addition and Subtraction** Add and subtract one digit and two digit numbers to 40, including zero. Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two digit number and ones; a two digit number and tens; two two digit numbers; adding three digit numbers. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems.		**Measures: Length and height** Compare, describe and solve practical problems for: lengths and heights for example, long/short, longer/short er, tall/short, double/half Measure and begin to record lengths and heights.	**Number: Multiplication and Division** Count in multiples of twos, fives and tens. 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.		**Number: Fractions** 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.		Time at the beginning or end of the term for consolidation, gap filling, seasonal activities, assessments, etc.	

Year One

Summer Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Number: Place Value Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers from 1- 100 in numerals and words. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than, most, least. Given a number, identify one more and one less.			**Number: Addition and Subtraction** Represent and use number bonds and related subtraction facts within 20. Add and subtract one digit and two digit numbers to 100, including zero. Add and subtract numbers using concrete objects, pictorial representations, and mentally including: a two digit number and ones; a two digit number and tens; two two digit numbers; adding three one digit numbers. Read, write and interpret mathematical statements involving addition (+) subtraction (-) and equals (=) signs. Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems.			**Measurement: Money** Recognise and know the value of different denominations of coins and notes. Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems.		**Measurement: weight and volume** Compare, describe and solve practical problems for mass/weight [for example, heavy/light, heavier than, lighter than]; capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] Measure and begin to record mass/weight, capacity and volume.		Time at the beginning or end of the term for consolidation, gap filling, seasonal activities, assessments, etc.	

Year Two

Autumn Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Number – place value Count in steps of 2, 3 and 5 from 0 and in tens from any number, forward and backward. Recognise the place value of each digit in a two digit number (tens, ones) Identify, represent and estimate numbers to 100 using different representations including the number line. Compare and order numbers from 0 up to 100; use <, > and = signs. Read and write numbers to at least 100 in numerals and words. Use place value and number facts to solve problems.		**Number – addition and subtraction** Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. Show that the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two digit number and ones; a two digit number and tens; two two digit numbers; adding three one digit numbers. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods.				**Measurement: length and mass** Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) and mass (kg/g) to the nearest appropriate unit, using rulers and scales. Compare and order length and mass and record the results using >, < and =.		**Graphs** Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. Ask+ answer simple questions by counting the number of objects in each category and sorting the categories by quantity. Ask and answer questions about totalling and comparing categorical data	**Multiplication and Division** Recall and use multiplication and division facts for the 2, 5 and 10 times tables, including recognising odd and even numbers. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) sign. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts. Show that the multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.		

Year Two

Spring Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Measurement: Money Recognise and use symbols of 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.			**Geometry- properties of shape** Identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line. Identify and describe the properties of 3D shapes, including the number of edges, vertices and faces. Identify 2D shapes on the surface of 3D shapes, [for example, a circle on a cylinder and a triangle on a pyramid.] Compare and sort common 2D and 3D shapes and everyday objects. Order and arrange combinations of mathematical objects in patterns and sequences.			**Number – fractions** Recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity. Write simple fractions for example, ½ of 6 = 3 Recognise the equivalence of 2/4 and 1/2 .				Time at the beginning or end of the term for consolidation, gap filling, seasonal activities, assessments, etc.	

Year Two

Summer Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Measurement: 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. Compare and sequence intervals of time.		**Measurement: Capacity, volume and temperature** Choose and use appropriate standard units to estimate and measure capacity (litres/ml) and temperature (oC) to the nearest appropriate unit, using thermometers and measuring vessels. Compare and order volume/capacity and record the results using >, < and =.		**Consolidation and gap filling in preparation for SATS**			**End of Term Project:**				

Year Three

Autumn Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12

Number – place value

Identify, represent and estimate numbers using different representations.

Find 10 or 100 more or less than a given number; recognise the place value of each digit in a three digit number (hundreds, tens, ones). Compare and order numbers up to 1000

Read and write numbers up to 1000 in numerals and in words.
Solve number problems and practical problems involving these ideas.
Count from 0 in multiples of 50 and 100

Number – addition and subtraction

Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three digit number and hundreds.

Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.

Estimate the answer to a calculation and use inverse operations to check answers. Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

Add and subtract amounts of money to give change, using both £ and p in practical contexts.

Number – multiplication and division

Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.

Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), 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 context.

Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.

Measurement

Measure, compare, add and subtract: lengths (m/cm/mm).

Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

Measure the perimeter of simple 2D shapes.

Continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed and simple equivalents of mixed units.

Year Three

Spring Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Number – multiplication and division Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which *n* objects are connected to *m* objectives. Write and calculate mathematical statements for multiplication and division using the multiplication tables they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.			**Measurement** Tell and write the time from an analogue clock, including using Roman numerals and 12-hour and 24-hour clocks. Estimate and read time with increasing accuracy to the nearest minute. Record and compare time in terms of seconds, minutes and hours. Use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight. Know the number of seconds in a minute and the number of days in each month, year and leap year. Compare durations of events (for example to calculate the time taken by particular events or tasks).			**Number – fractions** Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. Count up and down in tenths. Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10				Time at the beginning or end of the term for consolidation, gap filling, seasonal activities, assessments, etc.	

Year Three

Summer Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Number – fractions Recognise and show, using diagrams, equivalent fractions with small denominators. Add and subtract fractions with the same denominator within one whole. Compare and order unit fractions, and fractions with the same denominators. Solve problems that involve all of the above.				**Geometry – properties of shape** Recognise angles as a property of shape or a description of a turn. Identify right angles, recognise that two right angles make a half-term, 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. Draw 2-D shapes and make 3-D shapes using modelling materials. Recognise 3-D shapes in different orientations and describe them.			**Measurement** Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. Continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed units (for example, 1kg and 200g) and simple equivalents of mixed units (for example, 5m = 500cm).			**Statistics** 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.	Time at the beginning or end of the term for consolidation, gap filling, seasonal activities, assessments, etc.

Year Four

Autumn Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12

Number – place value

Count in multiples of 6, 7, 9. 25 and 1000.

Find 1000 more or less than a given number.

Count backwards through zero to include negative numbers.

Recognise the place value of each digit in a four digit number (thousands, hundreds, tens and ones)

Order and compare numbers beyond 1000.

Identify, represent and estimate numbers using different representations.

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.

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.

Number- addition and subtraction

Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.

Estimate and use inverse operations to check answers to a calculation.

Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why.

Number – multiplication and division

Recall and use multiplication and division facts for multiplication tables up to 12 x 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. 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.

Measurement- Area

Find the area of rectilinear shapes by counting squares.

Year Four

Spring Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Fractions Recognise and show, using diagrams, families of common equivalent fractions. Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. 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. Add and subtract fractions with the same denominator.				**Time** Convert between different units of measure eg hour to minute. Read, write & convert time between analogue and digital 12 and 14 hour clocks. Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	**Decimals** Recognise and write decimal equivalents of any number of tenths or hundredths. Recognise and write decimal equivalents to ¼, ½, ¾ Find the effect of dividing a one or two digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths 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.				**Measurement- Money** Solve simple measure and money problems involving fractions and decimals to two decimal places. Estimate, compare and calculate different measures, including money in pounds and pence.		Time at the beginning or end of the term for consolidation, gap filling, seasonal activities, assessments, etc.

Year Four

Summer Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Measures: Perimeter and Length Convert between different units of measure eg kilometre to metre. Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m	**Geometry: Angles** Identify acute and obtuse angles and compare and order angles up to two right angles by size.	**Geometry: Shape and symmetry** Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Identify lines of symmetry in 2D shapes presented in different orientations. Complete an simple symmetric figure with respect to a specific line of symmetry.		**Geometry- Position and Direction** Describe positions on a 2D 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.		**Statistics** Interpret and 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.		**Measurement: Area and Perimeter** Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres Convert between different units of measure [for example, kilometre to metre] Find the area of rectilinear shapes by counting squares.		Time at the beginning or end of the term for consolidation, gap filling, seasonal activities, assessments, etc.	

Year Five

Autumn Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12

Number – place value

Read, write, order and compare numbers to at least 1000000 and determine the value of each digit.

Count forwards or backwards in steps of powers of 10 for any given number up to 1000000.

Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero.

Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000

Solve number problems and practical problems that involve all of the above.

Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

Number- addition and subtraction

Add and subtract numbers mentally with increasingly large numbers.

Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)

Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.

Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why.

Number – multiplication and division

Multiply and divide numbers mentally drawing upon known facts.

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

Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers.

Divide numbers up to 4 digits by a one digit number using the formal written method of short division and interpret remainders appropriately for the context.

Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.

Recognise and use square numbers and cube numbers and the notation for squared (2) and cubed (3)

Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.

Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign.

Statistics

Solve comparison, sum and difference problems using information presented in a line graph.

Complete, read and interpret information in tables including timetables.

Year Five

Spring Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Number: Fractions Compare and order fractions whose denominators are multiples of the same number. 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 2/5 + 4/5 = 6/5 = 1 1/5] 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] Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.					**Number: Decimals** Read, write, order and compare numbers with up to three decimal places. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. Round decimals with two decimal places to the nearest whole number and to one decimal place. Solve problems involving number up to three decimal places. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.			**Number: Percentages** Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal. Solve problems which require knowing percentage and decimal equivalents of 1/4, 1/5, 2/5 , 4/5 and those fractions with a denominator of a multiple of 10 or 25.			Time at the beginning or end of the term for consolidation, gap filling, seasonal activities, assessments, etc.

Year Five

Summer Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Geometry- Angles Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Draw given angles, and measure them in degrees (o) Identify: angles at a point and one whole turn (total 360o), angles at a point on a straight line and ½ a turn (total 180o) other multiples of 90o		**Geometry- Shapes** Identify 3D shapes, including cubes and other cuboids, from 2D representations. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.		**Geometry- position and direction** Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.	**Measurement- converting units** Convert between different units of metric measure (for example, km and m; cm and m; cm and mm; g and kg; l and ml) Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. Solve problems involving converting between units of time.		**Number- Prime Numbers** Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers. Establish whether a number up to 100 is prime and recall prime numbers up to 19	**Perimeter and Area** Measure and calculate the perimeter of composite rectilinear shapes in cm and m. Calculate and compare the area of rectangles (including squares), and including using standard units, cm2,m2 estimate the area of irregular shapes.	**Measures Volume** Estimate volume [for example using 1cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] Use all four operations to solve problems involving measure	Time at the beginning or end of the term for consolidation, gap filling, seasonal activities, assessments, etc.	

Year Six

Autumn Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12

Number: Place Value

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.

Number- addition subtraction, multiplication + division

Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why.

Multiply multi-digit number up to 4 digits by a 2-digit number using the formal written method of 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 up to 4 digits by a 2 digit number using the formal written method of short division, interpreting remainders according to context.

Perform mental calculations, including with mixed operations and large numbers.

Identify common factors, common multiples and prime numbers.

Use their knowledge of the order of operations to carry out calculations involving the four operations.

Solve problems involving addition, subtraction, multiplication and division.

Use estimation to check answers to calculations and determine in the context of a problem, an appropriate degree of accuracy.

Fractions

Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.

Compare and order fractions, including fractions > 1

Generate and describe linear number sequences (with fractions)

Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions. Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example $1/4 \times 1/2 = 1/8$]

Divide proper fractions by whole numbers [for example $1/3 \div 2 = 1/6$]

Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example 3/8]

Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Year Six

Spring Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Number: Decimals Identify the value of each digit in numbers given to three decimal places and multiply numbers by 10, 100 and 1000 giving answers up to 3dp. Multiply one digit numbers with up to 2dp by whole numbers. Use written division methods in cases where the answer has up to two decimal places. Solve problems which require answers to be rounded to specified degrees of accuracy.		**Number: Percentages** Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison. Recall and use equivalences between simple FDP including in different contexts.	**Measurement** Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. 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 3dp. Convert between miles and kilometres. Recognise that shapes with the same areas can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using standard units, including cm3, m3 and extending to other units (mm3, km3)			**Number: Algebra** 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 possibilities of combinations of two variables.		**Number: ratio** 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 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.		**Geometry and Statistics** Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. Interpret and construct pie charts and line graphs and use these to solve problems. Calculate the mean as an average.	Time at the beginning or end of the term for consolidation, gap filling, seasonal activities, assessments, etc.

Year Six

Spring Term

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Geometry- Properties of Shapes Draw 2D shapes using given dimensions and angles. Compare and classify geometric shapes based on their properties and sizes and 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.		**Geometry- Position and Direction** 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.	**Consolidation and gap filling in preparation for SATS**		**Post SATS Project**						