Fairway Primary School

Maths Long Term Planning

EXPLORE ---KNOW---COMMUNICATE

CONCEPTS

FLUENCY

This concept ensures children to become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

PROBLEM SOLVING

This concept ensures children to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.

REASONING

This concept ensures children can solve problems by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

EYFS

The statutory EYFS framework aims to ensure that all pupils reach the early learning goal of:

- 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.
- 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.

PURPOSE OF STUDY KS1 AND KS2

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

AIMS

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. **Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.**

YEAR 1 MATHS LONG TERM PLAN

CONTINUOUS OBJECTIVES

- Count to and across 100 forwards.
- Count to and across 100 backwards.
- Count, read and write numbers to 100 in numerals.
- Count in multiples of twos, fives and tens.
- Identify one more and one less than a given number.
- Write numbers to 20 in words.
- Represent and use number bonds and related subtraction facts within 20.

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8

Autumn 1	**Number and Place Value** Count to and across 20, forwards and backwards, beginning with 0 or 1, or from any given number. Count in multiples of twos **(including language of odd and even)** Count, read and write numbers to 10 in numerals Given a number, identify one more and one less 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 **Read** numbers from 1 to 20 in numerals and words. **Write** numbers from 1 to 10 in words.		**Addition and Subtraction** **Please refer to calculation policy.** Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs Represent and use number bonds and related subtraction facts **within 20.** Add and subtract one-digit and two-digit numbers to 20, including zero. Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 =? – 9.		**Geometry: Properties of Shapes** Recognise and name common 2-D and 3-D shapes, including: -2-D shapes [for example, rectangles (including squares), circles and triangles] - 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]. **Geometry: Position and Direction** Describe position, direction and movement, including whole, half, quarter and three-quarter turns	**ASSESSMENT and MISCONCEPTION WEEK**	**Measurement** Measure and begin to record the following: -lengths and heights Compare, describe and solve practical problems for: -lengths and heights	
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Autumn 2	**Number and Place Value** Count to and across 50, forwards and backwards, beginning with 0 or 1, or from any given number. Count in multiples of twos and fives Count, read and write numbers to 20 in numerals. Given a number, identify one more and one less 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		**Addition and Subtraction** **Please refer to calculation policy.** 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		**Fractions** Recognise, find and name a half as one of two equal parts of an object, shape or quantity	**ASSESSMENT and MISCONCEPTION WEEK**	**Measurement** Measure and begin to record the following: - 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] Recognise and use language relating to dates, including days of the week, weeks, months and years Tell the time to the hour and half past the hour and draw the hands on a clock face to	

	Read and write numbers from 1 to 20 in numerals and words.				show these times. Compare, describe and solve practical problems for: time	
Spring 1	**Number and Place Value** Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. Count in multiples of twos and fives and tens Count, read and write numbers to 20 in numerals Given a number, identify one more and one less 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 Read and write numbers from 1 to 20 in numerals and words.	**Addition and Subtraction** **Please refer to calculation policy.** 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	**ASSESSMENT and MISCONCEPTION WEEK**	**Fractions** Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.		

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Spring 2	**Measurement** 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.		**Multiplication** **Please refer to calculation policy.** Solve one-step problems involving multiplication by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher, **including doubling.**	**ASSESSMENT and MISCONCEPTION WEEK**	**Division Please refer to calculation policy.** Solve one-step problems involving division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.			

Summer 1	**Geometry: Properties of Shapes** Recognise and name common 2-D and 3-D shapes, including: -2-D shapes [for example, rectangles (including squares), circles and triangles] - 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]. **Geometry: Position and Direction** Describe position, direction and movement, including whole, half, quarter and three-quarter turns.	**Multiplication and Division** **Please refer to calculation policy.** 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.	**Measurement** Measure and begin to record the following: -mass/weight - capacity and volume Compare, describe and solve practical problems for: -mass/weight -capacity/volume	**ASSESSMENT and MISCONCEPTION WEEK**	**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.			
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
	Teachers will use Summer 1 Assessment Data to inform their planning for the final half term of the year. Teaching will aim to plug any remaining gaps in maths learning and ensure that the children remember key facts and vocab in order to effectively transition into the following year group's maths curriculum.							
Summer 2								

YEAR 2 MATHS LONG TERM PLAN

CONTINUOUS OBJECTIVES

- Count in steps of 2, 3 and 5 from 0 forwards.
- Count in steps of 2, 3 and 5 backwards.
- Count in tens from any given number forwards.
- Count in tens from any given number backwards.
- Recognise the place value of each digit in a two-digit number (tens, ones)
- Compare and order numbers from 0 up to 100 using < > and = signs
- Read and write numbers to at least 100 in numbers ands words.
- Recall addition facts to 20 fluently.
- Recall subtraction facts to 20 fluently.

- Recall multiplication facts for the 2, 5 and 10 multiplication tables.
- Recall division facts for the 2, 5 and 10 multiplication tables.

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Autumn 1	**Number and Place Value** Count forward and backwards in steps of 2, 3, and 5 from 0, and in tens from any number. Recognise the place value of each digit in a two-digit number (tens, ones) Identify, represent and estimate numbers 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 in words. Use place value and number facts to solve problems.		**Addition and Subtraction Please refer to calculation policy.** Recall and use addition and subtraction facts to 20 fluently. Derive and use related facts up to 100 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 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. Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.		**Measurement** Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) using rulers and mass (kg/g) using scales. Compare and order lengths; mass and record the results using >, < and =	**ASSESSMENT and MISCONCEPTION WEEK**	**Geometry: properties of Shapes** Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] Compare and sort common 2-D and 3-D shapes and everyday objects.	

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Autumn 2	**Fractions** Recognise, find, name and write fractions 1/3, 1/4 , 2/4and ¾ of a length, shape, set of objects or quantity. Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2 .		**Multiplication and Division** **Please refer to calculation policy.** Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.		**Statistics** Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.	**ASSESSMENT and MISCONCEPTION WEEK**	**Measurement** Compare and sequence intervals of time. Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times Know the number of minutes in an hour and the number of hours in a day	

			Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.		Ask and answer questions about totalling and comparing categorical data.			
Spring 1	**Addition and Subtraction** **Please refer to calculation policy.** -Recall and use addition and subtraction facts to 20 fluently. -Derive and use related facts up to 100 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 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. Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.		**Measurement** Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value Find different combinations of coins that equal the same amounts of money Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change		**ASSESSMENT and MISCONCEPTION WEEK**	**Fractions** Recognise, find, name and write fractions 1/3, 1/4 , 2/4and ¾ of a length, shape, set of objects or quantity. Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2 .		
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8

Spring 2	**Multiplication and Division** **Please refer to calculation policy.** Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.		**Geometry: Position and Direction** Order and arrange combinations of mathematical objects in patterns and sequences. 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 anticlockwise).	**ASSESSMENT and MISCONCEPTION WEEK**	**Measurement** Compare and sequence intervals of time. Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times Know the number of minutes in an hour and the number of hours in a day.			
Summer 1	**All 4 operations (including money)** **Please refer to calculation policy.**		**Measurement** Choose and use appropriate standard units to estimate and measure temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using thermometers and measuring vessels. Compare and ordervolume/capacity and record the results using >, < and =	**Geometry: properties of Shapes** Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] Compare and sort common 2-D and 3-D shapes and everyday objects.	**KS1 SATS**			
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8

	Teachers will use Summer 1 Assessment Data to inform their planning for the final half term of the year. Teaching will aim to plug any remaining gaps in maths learning and ensure that the children remember key facts and vocab in order to effectively transition into the following year group's maths curriculum.							
Summer 2								

YEAR 3

CONTINUOUS OBJECTIVES:

- Count from 0 in multiples of 4, 8, 50 and 100.
- Find 10 more or less than a given number.
- Find 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 using < > signs.
- Read and write numbers up to 1000 in numerals and words.
- Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.
- Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.
- Read time with increasing accuracy to the nearest minute

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Autumn 1	**Place Value and Number**		**Addition and**	**Addition and**	**Measurement**	**ASSESSMENT and**	**Measurement**	

	Count from 0 in multiples of 4, 8, 50 and 100. 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. Identify, represent and estimate numbers using different representations Read and write numbers up to 1000 in numerals and in words Solve number problems and practical problems involving these ideas.	**Subtraction Mental Calculation with Jottings** **Please refer to calculation policy.** Add and subtract numbers mentally, including: - a three-digit number and ones 356 + 6= 455-7= - a three-digit number and tens 356+20= 455-70= -a three-digit number and hundreds 356+400= 677-300= 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.	**Subtraction Formal Methods** **Please refer to calculation policy.** 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.	Tell and write the time from an analogue clock, including using Roman numerals from I to XII, 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	**MISCONCEPTION WEEK**	Tell and write the time from an analogue clock, including using Roman numerals from I to XII, 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	

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Autumn 2	**Fractions** 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. 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, Recognise and show, using diagrams, equivalent fractions with small denominators Solve problems that involve all of the above.		**Multiplication and Division** **Mental calculation with jottings** **Please refer to calculation policy.** Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental calculation methods and jottings. 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 objects.	**Multiplication and Division** **Formal methods of calculation** **Please refer to calculation policy.**	**Geometry: Properties of Shapes** Recognise angles as a property of shape or a description of a turn. Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle. Identify horizontal and vertical lines and pairs of perpendicular and parallel lines .	**ASSESSMENT and MISCONCEPTION WEEK**	**Statistics** Interpret and present data using pictograms and tables Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in pictograms and tables	**Measurement** Know the number of seconds in a minute and the number of days in each month, year and leap year,

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Spring 1	**Addition and Subtraction** **Mental Calculation with Jottings** **Addition and Subtraction** **Formal Methods** **Please refer to calculation policy.** **Measurement** Add and subtract amounts of money to give change, using both £ and p in practical contexts		**Measurement** Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) .	**Geometry: Properties of Shapes** Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them. Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	**ASSESSMENT and MISCONCEPTION WEEK**	**Fractions** Add and subtract fractions with the same denominator within one whole [for example, 7/5 + 7/1 = 7/ 6] Compare and order unit fractions, and fractions with the same denominators Solve problems that involve all of the above		

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	
Spring 2	**Fractions** 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. 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, Recognise and show, using diagrams, equivalent fractions with small denominators Solve problems that involve all of the above.	**Multiplication and Division** **Mental Calculation with Jottings** **Please refer to calculation policy.**	**Multiplication and Division** **Formal calculation** **Please refer to calculation policy.**	**ASSESSMENT and MISCONCEPTION WEEK**	**Statistics** Interpret and present data using bar charts and pictograms. 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.			

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Summer 1	**All 4 operations** **Please refer to calculation policy.**	**Measurement** Compare durations of events [for example to calculate the time taken by particular events or tasks]. Know the number of seconds in a minute and the number of days in each month, year and leap year,	**Measurement** Measure the perimeter of simple 2-D shapes. Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle. Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	**Fractions** Add and subtract fractions with the same denominator within one whole [for example, 7/5 + 7/1 = 7/ 6] Compare and order unit fractions, and fractions with the same denominators Solve problems that involve all of the above	**ASSESSMENT and MISCONCEPTION WEEK**	**Statistics** Interpret and present data using tables and barcharts. Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts tables.		

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
	Teachers will use Summer 1 Assessment Data to inform their planning for the final half term of the year. Teaching will aim to plug any remaining gaps in maths learning and ensure that the children remember key facts and vocab in order to effectively transition into the following year group's maths curriculum.							
Summer 2								

YEAR 4

CONTINUOUS OBJECTIVE

- 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 four-digit numbers (thousands, hundreds, tens and ones)
- Order and compare numbers beyond 1000 using < and >
- Round any number to the nearest 10, 100 or 1000 (4 digit numbers)
- Read Roman numeral to 100.

- Recall multiplication and division facts for multiplication tables up to 12 x12

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Autumn 1	**Place Value** Count in multiples of 6,7,9,25 and 1000. Find 1000 more or less than a given number. Recognise the place value of each digit in a 4- 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 with increasingly large positive numbers.		**Addition and Subtraction Mental Calculation with Jottings** **Please refer to calculation policy.**	**Addition and Subtraction Formal Methods** **Please refer to calculation policy.** Add and subtract numbers with up to 4 digits using formal written methods. Estimate and use inverse operations to check answers to a calculation. Solve addition and subtraction 2 step problems deciding which operations and methods to use and why.	**Geometry: Properties of Shapes** Compare and classify geometric shapes, including quadrilaterals and triangles based on their properties and sizes. **Measurement** Find the area of rectilinear shapes by counting squares. Measure and calculate the perimeter of a rectilinear figure (including squares)	**ASSESSMENT and MISCONCEPTION WEEK**	**Measurement** Convert between different units of measure. km to m kg to g L to M Estimate, compare and calculate different measures.	

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Autumn 2	**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. Add and subtract fractions with the same denominator.		**Multiplication and Division** **Mental calculation with jottings** **Please refer to calculation policy.** Recognise and use factor pairs and commutativity in mental calculations. Use place value, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1	**Multiplication and Division** **Formal methods of calculation** **Please refer to calculation policy.** Multiply 2-digit and 3-digit numbers by 1 digit number using formal written method Multiplying together 3 numbers 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.	**Statistics** Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	**ASSESSMENT and MISCONCEPTION WEEK**	**Place Value** Count backwards through zero to include negative numbers Solve number and practical problems that involve negative numbers.	**Place Value** Read Roman numerals to 100 (I to C) and understand that over time the numeral system changes to include the concept of zero and place value.
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Spring 1	**Addition and Subtraction** **Mental Calculation with Jottings** **Addition and Subtraction** **Formal Methods** **Please refer to calculation policy.** Revise Mental addition and subtraction methods. Add and subtract numbers with up to 4 digits using formal written methods. Estimate and use inverse operations to check answers to a calculation. Solve addition and subtraction 2 step problems deciding which operations and methods to use and why. **Measurement** Estimate, compare and calculate different measures, including money in pounds and pence		**Measurement** Read, write and convert time between analogue and digital 12- and 24 hour clocks	**Geometry: position and Direction** Describe positions on a 2D grid as coordinates in the first quadrant. Plot specified points and draw sides to complete a given polygon. Describe movements between positions as translations of a given unit to the left/right and up/down	**ASSESSMENT and MISCONCEPTION WEEK**	**Fractions** Recognise and write decimal equivalents of any number of tenths and hundredths Recognise and write decimal equivalents to ¼ ½ 3/4		

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Spring 2	**Fractions** Round decimals with one decimal place to the nearest whole number. Compare numbers with the same number of decimal places up to 2 decimal places Solve simple measure and money problems involving fractions and decimals to 2 decimal places.	**Multiplication and Division Mental Calculation with Jottings** **Please refer to calculation policy.** Find the effect of dividing a 1 or 2-digit number by 10 and 100, identifying the value of the digits as ones, tenths and hundredths. Recognise and use factor pairs and commutativity in mental calculations.	**Multiplication and Division Formal calculation** **Please refer to calculation policy.** Divide 2 digit and 3 digit numbers by a single digit using short division method. Multiply 2-digit and 3-digit numbers by 1 digit number using formal written method Multiplying together 3 numbers 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.	**ASSESSMENT and MISCONCEPTION WEEK**	**Statistics** Interpret and present data using appropriate graphical methods, including -bar charts -time graphs			

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Summer 1	**All four operations: formal methods** **Please refer to calculation policy.**	**Measurement** Convert between different units of measure. TIME Solve problems involving converting from hours to mins, mins to seconds, years to months and weeks to days.	**Geometry: Properties of Shape** . Identify lines of symmetry in 2D shapes presented in different orientations. Complete a simple symmetric figure with respect to a specific line of symmetry. Describe movements between positions as translations of a given unit to the left/right and up/down	**Fractions** Calculate fractions of quantities, including non-unit fractions. Solve simple measure and money problems involving fractions and decimals to 2 decimal places.	**ASSESSMENT and MISCONCEPTION WEEK**	**Multiplication** Revision in final preparation for Multiplication Times Table Check		
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
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Summer 2	**Y4 Multiplication and Times Table Check**							

YEAR 5

CONTINUOUS OBJECTIVE

- Read and write numbers to at least 1,000,000
- Order and compare numbers to at least 1,000,000 using < >
- Determine the value of each digit in umbers to at least 1,000,000
- Count forwards or backwards in steps of powers of 10 for any given number up to 1, 000, 000
- Count forwards and backwards with positive and negative whole numbers, including through zero.
- Round any number up to 1,000,000,000 to the nearest 10, 100, 1000, 10,000 and 100.000
- Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
- Read roman numerals to 1000.
- Find all factor pairs for a number and common factors of 2 numbers.
- Establish whether a number up to 100 is prime and recall prime numbers up to 19
- Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Autumn 1	**Place value** Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. Solve number problems and practical problems that involve all of the above		**Addition and Subtraction- Mental calculation with jottings** **Please refer to calculation policy.** Add and subtract numbers mentally with increasingly large numbers 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.	**Addition and Subtraction- Formal calculation** **Please refer to calculation policy.** 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.	**Measurement** Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	**ASSESSMENT and MISCONCEPTION WEEK**	**Geometry: Properties of Shape** 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	

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Autumn 2	**Fractions** Compare and order fractions whose denominators are all multiples of the same number. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths, Add and subtract fractions with the same denominator and denominators that are multiples of the same number		**Multiplication and Division** **Mental calculation with jottings** **Please refer to calculation policy.** Multiply and divide numbers mentally drawing upon known facts. Identify multiples and factors, including all factor pairs of a number, and common factors of 2 numbers. Know and use the vocabulary of prime numbers, prime factors and composite (non-prime numbers). Establish whether a number up to 100 is prime and recall prime numbers up to 19. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	**Multiplication and Division** **Formal methods of calculation** **Please refer to calculation policy.** Multiply numbers **up to 4 digits by a one- digit number** using a formal written method. (short multiplication) Divide numbers up to 4 digits by a one-digit number using the formal written method of short division	**Statistics** Solve comparison, sum and difference problems using information presented in a line graph Complete, read and interpret information in tables.	**ASSESSMENT and MISCONCEPTION WEEK**	**Place Value** Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	**Geometry: Properties of shape** Identify 3-D shapes, including cubes and other cuboids, from 2-D representations

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Spring 1	**Multiplication and Division** **Mental Calculation with Jottings** **Please refer to calculation policy.** Recognise and use square numbers and the notation for squared (2) and cube numbers, and the notation cubed (3) **Multiplication and Division** **Formal calculation** Multiply numbers **up to 4 digits by a two-digit number** using a formal written method, (long multiplication) Divide numbers up to 4 digits by a one-digit number using the formal written method of short division Interpret remainders appropriately for the context Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.		**Measurement** Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes,	**Geometry: Position and Direction** 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 2 1 a turn (total 180o) - other multiples of 90o	**ASSESSMENT and MISCONCEPTION WEEK**	**Fractions** 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= 5/6 = 1 AND 1/5]. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams		

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Spring 2	**Fractions (decimals)** Read and write decimal numbers as fractions [for example, 0.71 = 100 71] 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 Read, write, order and compare numbers with up to three decimal places Solve problems involving number up to three decimal places		**Statistics** Complete, read and interpret information in **timetables.** **Measurement** Solve problems involving converting between units of time	**ASSESSMENT and MISCONCEPTION WEEK**	**All 4 operations** **Please refer to calculation policy.** Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates			

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Summer 1	**All 4 operations** **Please refer to calculation policy.** Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	**Measurement** Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water] Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints,	**Geometry: Properties of Shape** . 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.	**Fractions (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 ½. 1/4 , 1/5 , 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25.	**ASSESSMENT and MISCONCEPTION WEEK**			

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
	Teachers will use Summer 1 Assessment Data to inform their planning for the final half term of the year. Teaching will aim to plug any remaining gaps in maths learning and ensure that the children remember key facts and vocab in order to effectively transition into the following year group's maths curriculum							
Summer 2								

YEAR 6

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Autumn 1	**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		**Addition and Subtraction- Mental calculation with jottings** **Please refer to calculation policy.** Perform mental calculations, including with mixed operations and large numbers. **Addition and Subtraction- Formal calculation** Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. Use estimation to check answers to calculations and determine, in the	**Multiplication** Identify common factors, common multiples and prime numbers. **Division** **Please refer to calculation policy.** 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 the context. context of a problem, an appropriate degree of accuracy.	**Measurement** 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. Convert between miles and kilometres. Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.	**SATS ASSESSMENT and MISCONCEPTION WEEK** **PRACTICE SATS**	**Geometry: properties of Shapes** Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. Draw 2D shapes using given dimensions and angles. Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.	

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Autumn 2	**Fractions (including decimals and percentages)** Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. Compare and order fractions, including fractions > 1 Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.		**Multiplication and Division including Fractions and Decimals** **Multiplication and Division- Mental calculation** **Please refer to calculation policy.** Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places **Multiplication-mental calculation** Perform mental calculations, including with mixed operations and large numbers. **BIDMAS** Use their knowledge of the order of operations to carry out calculations involving the four operations. **Multiplication- Formal Calculation** Multiply multi-digit numbers by a two-digit number using the formal method of long multiplication.		**Measurement** 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.	**ASSESSMENT and MISCONCEPTION WEEK** **PRACTISE SATS**	**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.	**Measurement** 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 (for example mm3 and km3)

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Spring 1	**Fractions (including decimals and percentages)** Recall and use equivalences between simple fractions, decimals and percentages including in different contexts. Solve problems involving the calculation of percentages (for example, of measures, and such as 15% of 360) and the use of percentages for comparison.	**Fractions (including decimals and percentages** Multiply one-digit numbers with up to two decimal places 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 **Division- Formal Calculation** Divide numbers up to 4 digits by a two-digit whole number using a formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.		**Fractions** Multiply simple pairs of proper fractions, writing the answer in its simplest form (for example ¼ x ½= 1/8). Divide proper fractions by whole numbers (for example 1/3 ÷ 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).	**ASSESSMENT and MISCONCEPTION WEEK** **PRACTISE SATS**	**Geometry: Properties of Shapes** Recognise, describe and build simple 3-D shapes, including making nets. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.		

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Spring 2	**Ratio and Proportion** 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.	**Statistics** Interpret and construct pie charts and line graphs and use these to solve problems. Calculate and interpret the mean as an average	**All Four Operations** **Please refer to calculation policy.** Solve problems involving addition, subtraction, multiplication and division.	**ASSESSMENT and MISCONCEPTION WEEK** **PRACTICE SATS**	**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.			
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Summer 1	Revision Week	Revision Week	Revision Week	**SATS ASSESSMENT WEEK**				

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
	Teachers will use Summer 1 Assessment Data to inform their planning for the final half term of the year. Teaching will aim to plug any remaining gaps in maths learning and ensure that the children remember key facts and vocab in order to effectively transition into the KS3 maths curriculum.							
Summer 2								