



Frimley Church of England School

Approach to Maths



Purpose

Maths is the study of numbers, shape and space, and how they are all related to each other and the real world.

Intent:

At Frimley, we believe that enjoyment is paramount to our aim of developing confident mathematicians. Through a rich and engaging mathematical curriculum, pupils will have opportunities to develop and apply their fluency, reasoning and problem-solving skills to support their attainment so that they are ready for further progress at the next stage of their educational development.

We aim to ensure that mathematics is exciting, engaging, appropriately challenging and provides all learners with the chance to achieve successes in every lesson so to foster a positive attitude and growth-mindset towards the subject. Fluency, reasoning and problem-solving are the focal points of learning; this along with a small-step approach with a focus on mastery ensures that children develop and secure their understanding of mathematical concepts and have the opportunity to demonstrate a deep understanding of the areas taught.

Implementation:

Through careful planning, use of a small-step approach and pre-teaching of processes and mathematical vocabulary, where appropriate, all learners are able to access each lesson. Assessment of learning, both during and after lessons, ensures that learners can be supported fluidly or extended appropriately thus providing all with the opportunity to deepen their learning in every lesson. In lessons, teachers provide pupils with appropriate models and scaffolds whilst resources are utilised, where appropriate, so that pupils can secure concrete and pictorial understanding of concepts or processes before applying their understanding to a range of abstract representations.

When planning lessons, teachers work collaboratively to ensure the needs of all learners across the year group are met: pre-teaching, representations during teaching inputs, assessment for learning tasks, accessible starting points, lesson progressions and appropriate challenge are carefully considered. Pupils are provided with retrieval challenges in all lessons to support retention and long-term memory of previously taught areas. Wherever possible, pupils are given opportunities to practise their fluency, reasoning and problem-solving skills in each lesson. Through full coverage of the National Curriculum, links to prior learning and real-life situations are explicitly made so that pupils are building on previous experiences whilst also recognising the links that can be made across the curriculum and beyond. In lessons, resources from White Rose Hub are used to support the small-step approach; a range of other resources such as NCETMs mastery materials, Nrich, Teach Active and online platforms TTRockstars and Numbots are also regularly used to ensure that teaching is active, relevant and engaging. The intervention Number Stacks is also used to assess gaps and provide input for learners working below age related expectations to help close gaps and support progress.

Monitoring of maths provision will be an ongoing process throughout the academic year. Maths leaders will monitor lesson flip charts (including teacher models and inputs, learning scaffolds, resources used and learning activities) and learning outcomes through scrutiny of work and pupil and staff voice – both formally and informally. Assessment outcomes will also be monitored and analysed to identify wider school trends. Subsequent actions will be taken in response to all formats of monitoring to continually improve maths provision.

Possessing a range of mental maths strategies supports learning and progress in the 3 key areas of maths: fluency, reasoning and problem-solving. Regular mental maths lessons (at least once a week) support pupils' development in this area. Half-termly, children are assessed on their year group objectives for mental maths; whole class and individual progress is tracked and the focus of subsequent teaching and interventions are informed by this. TTRockstars is one of the online resources used to help inspire pupils in this area of learning.

Weekly TTrackstars tasks are set to provide pupils with the chance to consolidate the learning they have done in school.

Throughout the academic year, pupils will have opportunities to attend maths competitions and the maths leaders will continue to explore and utilise opportunities to raise the profile of maths across the school.

Impact:

- Pupils will enjoy maths, approaching the subject with a positive attitude and growth-mindset.
- All pupils will be able to access learning and appropriate challenge for all will be provided in all lessons.
- The percentage of pupils achieving age related expectations or higher by the end of the academic year will increase thus ensuring they are ready for further progress in the next stage of their educational development.
- Pupils will have a deep understanding of the methodology in maths and be able to explain their understanding. This will develop their reasoning and problem-solving skills.
- Pupils will possess a wide range of mental strategies and will understand the importance of times tables and number bonds with the majority being able to recall all times tables by the end of Year 4.
- Mental maths methods will be embedded and be independently applied to solve challenging problems.
- Pupils will be able to make mathematical links to other areas of the curriculum and wider life.
- Pupils working below age related expectations will be supported to close gaps and make accelerated progress.
- Pupils will be actively engaged in representing the school in mathematical competitions.

National curriculum expectations:

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. By the end of key stage 2, pupils are expected to know, apply and understand the matters, skills and processes as specified in the document below.

Pupils should be taught:

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| <ul style="list-style-type: none">• 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.• To reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.• To solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. |
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Maths Long term plan

	Year 3	Year 4	Year 5	Year 6
Autumn 1	Number - Place value Addition and subtraction	Number - Place value Addition and subtraction	Number - Place Value Addition and Subtraction	Number - Place value Addition, subtraction, multiplication and division
Autumn 2	Multiplication and division	Measurement – Area Multiplication and division	Multiplication and Division A Fractions A	Position and Direction Fractions Decimals
Spring 1	Further Multiplication and division Measurement – Length and Perimeter	Further Multiplication and division Measurement – Length and Perimeter	Multiplication and Division B Fractions B	Percentages Measure Ratio
Spring 2	Fractions and decimals Mass and Capacity	Fractions Decimals	Decimals and Percentages Perimeter and Area Statistics	Properties of shape Algebra
Summer 1	Further Fractions Measurement – Money	Measurement – Money Time	Shape Position and Direction	Statistics Consolidation and investigations based on previous learning.
Summer 2	Time Geometry – Properties of shape Statistics – Graphs	Statistics – Graphs Geometry – Properties of shape Geometry - Position and movement	Decimals Negative Numbers Converting Units Volume	Consolidation and investigations based on previous learning.

What Frimley offers to its pupils: (Maths medium term plans)

		Year 3	Year 4	Year 5	Year 6
Autumn term	Knowledge	Number- Place value - 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 - 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 problems	Number- Place value - Numbers up to 4 digits Introduction to decimals - Find 1000 more or less than a given number. Count backwards through and past zero - Round to the nearest 10, 100 or 1000 & solve problems Roman numerals to 100	Number- Place value - Numbers up to 1,000,000 Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 Round to the nearest 10 000 and 100 000 - Roman numerals to 1000 and recognise years Prime numbers, prime factors and composite	Number- Place value Numbers up to 10 000 000
	<i>Crucial Learning</i>	<i>A number in the hundreds has at least 3 digits.</i> <i>There are 10 ones in 10.</i> <i>There are 10 tens in 100.</i> <i>There are 10 hundreds in 1,000.</i> <i>When comparing numbers, I start with the highest place value column.</i>	<i>A number in the thousands has at least 4 digits.</i> <i>There are 10 thousands in 10,000.</i> <i>When rounding to the nearest 10, I look at the ones column.</i> <i>When rounding to the nearest 100, I look at the tens column.</i> <i>When rounding to the nearest thousand, I look at the hundreds column.</i> <i>In Roman numerals, I = 1, V = 5, x = 10, L = 50, C = 100</i>	<i>A number in the ten thousands has at least 5 digits.</i> <i>A number in the hundred thousands has 6 digits.</i> <i>There are 10 ten thousands in 100,000.</i> <i>There are 100 hundred thousands in 1,000,000.</i> <i>When rounding to the nearest ten thousand, I look at the thousands column.</i> <i>When rounding to the nearest hundred thousand, I look at the ten thousands column.</i> <i>In Roman numerals, M = 1,000</i>	<i>A number in the millions has at least 7 digits.</i> <i>There are 10 millions in 10 million.</i> <i>When rounding to the nearest million, I look at the hundred thousands column.</i> <i>I must include 0 when adding or subtracting with negative numbers.</i>
	Knowledge	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 Columnar addition and subtraction – up to 3 digits	Addition and Subtraction - Add and subtract numbers with up to 4 digits 2 step +/- problems deciding which operations & methods to use/ why	Addition and Subtraction Add and subtract whole numbers with more than 4 digits (and mentally)	Addition, Subtraction, Multiplication and Division Multiply one-digit numbers with up to two decimal places by whole numbers Multiply multi-digit numbers up to 4 digits (long multiplication) Short and long division 4 divided by 2 digits (with decimals) Interpret remainders to context

		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			Use estimation to check answers to calculations BIDMAS
	Crucial Learning	<i>It does not matter what order I layout an addition.</i> <i>When adding I must line up the place value columns correctly.</i> <i>If I have 10 or more in a column, I can exchange with the column to the left.</i> <i>Subtraction is the inverse of addition.</i> <i>I must put the greater number on top when subtracting.</i> <i>When subtracting I must line the place value columns up correctly.</i> <i>If the digit I am subtracting is greater, I must exchange 1 with the column to the left.</i> <i>Addition is the inverse of subtraction.</i>	<i>Application of crucial learning to higher level challenge/problems</i>	<i>Application of crucial learning to higher level challenge/problems</i>	<i>When multiplying a number by tens, I must use 0 as a placeholder.</i> <i>When multiplying decimals by integers, I must put the digits in the correct place value column.</i> <i>The decimal point does not move when multiplying numbers with decimals by integers.</i> <i>0.5 x an integer is the same as finding half of the integer.</i> <i>When dividing by a composite number, I use factor pairs to solve the division.</i> <i>Application of crucial learning to higher level challenge/problems</i>
	Knowledge	Multiplication and Division - Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. Use x, ÷ and = to write statements Multiplication of two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. Recognise odd and even numbers - Solve problems, including missing number problems, involving multiplication and division.	Multiplication and Division Count in multiples of 6,7,9,25,1000 Find the effect of dividing a one- or two-digit number by 10 and 100 Multiplication and division facts up to 12×12 Multiplying together three numbers Factor pairs Multiply 3-digit numbers by a 1-digit Harder correspondence problems such as n objects are connected to m objects	Multiplication and Division - Multiply numbers up to 4 digits by a one- or two digit - Divide numbers up to 4 digits by a one-digit number - Multiply and divide decimal numbers by 10, 100 and 1000 Squared and cubed numbers Common factors of two numbers Multi-step problems	Position and Direction
	Crucial Learning	<i>Multiplying a number means I have ____ equal groups of the number I am multiplying.</i> <i>To multiply a 2 digit number by 1 digit, I can multiply the ones and tens and add the answers together.</i> <i>Divide means to share into equal groups.</i>	<i>To multiply a 3 digit number by 1 digit, I can multiply the ones, tens and hundreds and add the answers together.</i> <i>When multiplying a number by 10 my digits move 1 place to the left.</i> <i>When multiplying by 100 my digits move 2 places to the left.</i>	<i>To find a missing number I must do the inverse.</i> <i>A common multiple is a multiple found in two or more numbers.</i> <i>Factors are numbers we can multiply together to get a product.</i> <i>A prime number can only be divided by 1 and itself.</i>	<i>When reading or plotting coordinates, I go across the x axis then up or down the y axis</i>

		- If a division has a remainder of 2, I write it as r2 3, 4 and 8 multiplication tables - I know that the 8 times table is double my 4 times table.	- When dividing a number by 10 my digits move 1 place to the right. - When dividing a number by 100 my digits move 2 places to the right. - When dividing a 3 digit number by 1 digit I can partition my number and divide each place value column into equal groups. - multiplication tables up to 12×12.	- When multiplying by 1,000 my digits move 3 places to the left. - When dividing by 1,000 my digits move 3 places to the right.	
	Knowledge		Measurement- Area Convert between different units of measure	Fractions - Scaling by simple fractions and problems involving simple rates - Compare, order, add and subtract fractions with the same multiple denominators	Fractions - Fraction, decimal and percentage equivalences - Use common factors to simplify fractions - Compare and order fractions > 1 - Add and mixed numbers - Multiply simple pairs of proper fractions - Divide proper fractions by whole numbers
	Crucial Learning		Area is the measurement of space inside a 2d shape.	To convert a mixed number to an improper fraction, I multiply the denominator by the whole then add the numerator.	- To simplify a fraction, I divide the numerator and denominator by their highest common factor. - To find the product of 2 fractions, multiply the numerator by the numerator and denominator by denominator. - To divide fractions by a whole, I can multiply the denominator by the integer and simplify if needed - To find the whole when I know a fraction of an amount, I can divide by the numerator and multiply by the denominator.
	Knowledge				Decimals To calculate with decimals
	Crucial Learning				- There are 1,000 thousandths in 1. - There are 10 thousandths in 1 hundredth. - When multiplying decimals by integers, I must layout the numbers in the correct place value column.

					<i>I can use short division to divide numbers with decimals by integers.</i> <i>To convert decimals to fractions, I use place value.</i>
	Theology and vision links	Children enjoy spotting patterns which can be reflected in nature, and the concept of proof. The idea of God as a creationist is reinforced by proof in maths as it is in the bible, things don't just happen by chance. Explicit links can be made where possible e.g Christian values such as 'love thy neighbour' are demonstrated when children help others to understand the work.			
Spring term	Knowledge	Multiplication and Division - Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. Use $\times$, $\div$ and $=$ to write statements Multiplication of two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. Recognise odd and even numbers - Solve problems, including missing number problems, involving multiplication and division.	Multiplication and Division Count in multiples of 6,7,9,25,1000 Find the effect of dividing a one- or two-digit number by 10 and 100 Multiplication and division facts up to 12×12 Multiplying together three numbers Factor pairs Multiply 3-digit numbers by a 1-digit Harder correspondence problems such as n objects are connected to m objects	Multiplication and Division B - Multiply numbers up to 4 digits by a one- or two digit - Divide numbers up to 4 digits by a one-digit number - Multiply and divide decimal numbers by 10, 100 and 1000 Squared and cubed numbers Common factors of two numbers Multi-step problems	Percentages Find percentages of amounts.
	Crucial Learning	<i>Multiplying a number means I have ___ equal groups of the number I am multiplying.</i> <i>To multiply a 2 digit number by 1 digit, I can multiply the ones and tens and add the answers together.</i> <i>Divide means to share into equal groups.</i> <i>If a division has a remainder of 2, I write it as r2</i> <i>3, 4 and 8 multiplication tables</i> <i>I know that the 8 times table is double my 4 times table.</i>	<i>To multiply a 3 digit number by 1 digit, I can multiply the ones, tens and hundreds and add the answers together.</i> <i>When multiplying a number by 10 my digits move 1 place to the left.</i> <i>When multiplying by 100 my digits move 2 places to the left.</i> <i>When dividing a number by 10 my digits move 1 place to the right.</i> <i>When dividing a number by 100 my digits move 2 places to the right.</i> <i>When dividing a 3 digit number by 1 digit I can partition my number and divide each place value column into equal groups.</i> <i>multiplication tables up to 12×12.</i>	<i>To find a missing number I must do the inverse.</i> <i>A common multiple is a multiple found in two or more numbers.</i> <i>Factors are numbers we can multiply together to get a product.</i> <i>A prime number can only be divided by 1 and itself.</i> <i>When multiplying by 1,000 my digits move 3 places to the left.</i> <i>When dividing by 1,000 my digits move 3 places to the right.</i>	<i>To find 10% of an amount, divide the amount by 10.</i> <i>To find 50% of an amount, divide the amount by 2.</i> <i>To find 25% of an amount, divide the amount by 4.</i> <i>To find 1% of an amount, divide the amount by 100.</i> <i>To find 5% of an amount, divide the amount by 10 and then divide the answer by 2.</i>

	Knowledge	Length and Perimeter Measure the perimeter of simple 2-D shapes.	Measurement- length and perimeter - Convert between different units of measure - Measure and calculate the perimeter of a rectilinear figure - Compare and calculate different measures, including money	Fractions B - Convert mixed numbers and improper fractions - Multiply proper fractions and mixed numbers by whole numbers	Measures - Convert between miles and kilometres - Same areas can have different perimeters and vice versa - Formulae for area and volume of shapes - Area of parallelograms and triangles
	<i>Crucial Learning</i>	10 mm = 1 cm. 100 cm = 1 m. Perimeter is the total lengths of the outside of a 2D shape.	1,000 m = 1 km. - Area is the measurement of space inside a 2d shape.	- To convert an improper fraction to a mixed number, I divide the numerator by the denominator and include any left over parts. - To add or subtract fractions with different denominators, I make both denominators the same by finding their lowest common multiple.	- To find the area of a triangle, I multiply the base by the perpendicular height and then divide by 2. - To find the area of a parallelogram, I multiply the base by the perpendicular height. - To find the volume of a cuboid, I can do length x width x height.
	Knowledge	Fractions and Decimals - Count up and down in tenths; - Recognise, find and write and use 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	Fractions and Decimals - Common equivalent fractions - Count up and down in hundredths - Recognise and write decimal equivalents of any number of tenths or hundredths - Recognise and write decimal equivalents to 1/4, 1/2 and 3/4 - Solve simple measure and money problems involving fractions and decimals to two decimal places - Round decimals with 1dp to the nearest whole number	Decimals and Percentages - Equivalences between tenths, hundredths and thousandths - Read, write, order and compare 3d - Decimal/ percentage equivalences	Ratio and proportion
	<i>Crucial Learning</i>	- A fraction is part of a whole. - The parts in a fraction are equal. - A unit fraction is when the numerator is 1. - A non-unit fraction is when the numerator is more than 1. $\frac{1}{2} = \frac{2}{4}$ - There are 10 tenths in a whole. - Equivalent fractions have different numerators and denominators but are equal to the same value. - When adding or subtracting fractions with the same denominator, only the numerator changes.	- When finding equivalent fractions, I must multiply or divide both the numerator and denominator by the same number. - An improper fraction is when the numerator is greater than the denominator. - An improper fraction has a whole or wholes with equal parts left over. - To find fractions of amounts, I divide the amount by the denominator and multiply the answer by the numerator.	50% is equal to $\frac{1}{2}$ and 0.5 25% is equal to $\frac{1}{4}$ and 0.25 75% is equal to $\frac{3}{4}$ and 0.75 - I can convert a percentage to a fraction by making the denominator 100 and then simplifying if possible. - I can convert a percentage to a decimal by dividing the percentage by 100.	- Ratio shows the relationship between 2 or more values. - Scale factor is when you enlarge a shape by multiplying each side by the same number

		• <i>There are 10 tenths in 1.</i> • <i>There are 100 hundredths in 1.</i> • <i>There are 10 hundredths in a tenth.</i> • <i>The tenths column is after the decimal point.</i> • <i>The hundredths column is 2 places after the decimal point.</i> • <i>When rounding to the nearest one, I look at the tenths column.</i> • <i>When comparing numbers with decimals, I start with the highest place value column.</i> • $0.5 = \frac{1}{2}$ • $0.25 = \frac{1}{4}$ • $0.75 = \frac{3}{4}$		
Knowledge	Mass and Capacity • Measure, compare, add and subtract metric measures.		Perimeter and Area • Calculate and compare the area of rectangles	Properties of Shape • Make nets • Calculate angles in any triangles, quadrilaterals, and regular polygons (and missing angles) • Illustrate and name parts of circles
<i>Crucial Learning</i>	• <i>1,000 grams = 1 kilogram</i> • <i>Capacity is the total amount of liquid that can be contained in a container.</i>		• <i>To find the area of a rectangle, I multiply the length by the width.</i>	• <i>Vertically opposite angles are equal to each other.</i> • <i>The angles in a triangle total 180 degrees.</i> • <i>The angles in a quadrilateral total 360 degrees.</i> • <i>The angles in a pentagon total 540 degrees.</i> • <i>The angles in a hexagon total 720 degrees.</i>
Knowledge			Statistics • Introducing a line graph • Complete, read and interpret information on timetables	Algebra
<i>Crucial Learning</i>			• <i>A line graph is used to show data that changes over time.</i>	• <i>I can use the inverse to find a value.</i> • <i>When solving a 2-step equation, I can work backwards to find the missing value.</i> • <i>I can work systematically to find values.</i>

	Theology and vision links	Children enjoy spotting patterns which can be reflected in nature, and the concept of proof. The idea of God as a creationist is reinforced by proof in maths as it is in the bible, things don't just happen by chance. Explicit links can be made where possible e.g Christian values such as 'love thy neighbour' are demonstrated when children help others to understand the work.			
Summer term	Knowledge	Further Fractions - Add and subtract fractions with the same denominator <1 - Compare and order unit fractions, and fractions with the same denominators. - Solve problems that involve all of the above.	Measurement- Money - Convert between different units of measure - Compare and calculate different measures, including money	Shape and Position and Direction - Estimate and compare angles in degrees - Draw and measure angles in degrees - Use the properties of rectangles to deduce related facts - Distinguish between regular and irregular polygons based on reasoning	Statistics - Interpret and construct pie charts - Calculate and interpret the mean
	Crucial Learning	- A fraction is part of a whole. - The parts in a fraction are equal. - A unit fraction is when the numerator is 1. - A non-unit fraction is when the numerator is more than 1. $\frac{1}{2} = \frac{2}{4}$ - There are 10 tenths in a whole. - Equivalent fractions have different numerators and denominators but are equal to the same value. - When adding or subtracting fractions with the same denominator, only the numerator changes.	When writing an amount of money in pounds, I must include a decimal point and 2 digits after the decimal point.	- When measuring angles with a protractor, I must line up the vertex of the angle with the dot at the centre of the protractor. - Angles on a straight line total 180 degrees. - Angles around a point total 360 degrees. - An irregular polygon is a 2D shape that has straight lines that are not equal and angles that are not equal. - When translating a shape, just the position changes. - When reflecting a shape, a vertex in the reflected shape will be the same distance from the mirror line as the original shape.	- There are 360 degrees in a circle. - The mean is the total of the numbers divided by how many numbers there is.
	Knowledge	Measurement – Money Add and subtract amounts of money to give change, using both £ and p	Measurement- Time Convert between different units of measure	Decimals	Consolidation and investigations based on previous learning.
	Crucial Learning	100p= £1.	There are 12 months in a year	- The decimal point does not move when adding numbers with decimals. - When adding or subtracting numbers with decimals, I must layout digits in the correct place value column. - When adding or subtracting numbers with different decimal places, I can use 0 as a place holder.	
	Knowledge	Time Tell and write the time from an analogue clock with accuracy of minutes including using Roman	Statistics - Interpret and present data using bar charts, pictograms and tables - Solve one-step and two step questions using information	Negative Numbers Problems involving negative numbers	

		numerals from I to XII, and 12-hour and 24-hour clocks - 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	presented in scaled bar charts and pictograms and tables.		
	Crucial Learning	- There are 60 seconds in a minute. - There are 60 minutes in an hour. - There are 24 hours in a day. - There are 7 days in a week. - There are 30 days in April, June, September and November. - There are 31 days in January, March, May, July, August, October and December. - There are 28 days in February except a leap year when there are 29 days. - There are 365 days in a year except for a leap year when there are 366. - AM is 00:00 to 11:59 - PM is 12:00 to 23:59	- The horizontal axis is the x axis. - The vertical axis is the y axis. - I write the values on the line when drawing a bar chart.	Negative numbers are numbers below 0.	
	Knowledge	Properties of Shape - Draw 2-D shapes and make 3-D shapes using modelling materials - Recognise 3-D shapes in different orientations and describe them. - Recognise angles as a property of shape or a description of a turn. - Identify right angles and discuss rotation in terms of '1/4 turns' etc. - Identify whether angles are greater than or less than a right angle. - Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	Properties of Shape and Position and Direction - Plot points and draw sides to complete a given polygon - Describe positions on a 2- D grid - Translations - Complete a simple symmetric figure with respect to a specific line of symmetry	Converting units - Metric and imperial units - Converting between units of time - Use all four operations using decimal notation	
	Crucial Learning	There is 1 right angle in a quarter turn, 2 right angles in a half turn, 3 right angles in a three-quarters turn and 4 right angles in a full turn.	- There are 90 degrees in a right angle. - An acute angle is less than 90 degrees. - An obtuse angle is more than 90 degrees and less than 180 degrees.	1,000 grams = 1 kilogram 1000ml= 1 litre	

		- Parallel lines are always the same distance apart and never meet. - Perpendicular lines are lines that meet at a right angle. - A triangle has 3 sides. - A quadrilateral has 4 sides - A pentagon has 5 sides - A hexagon has 6 side. - A face is a flat surface on a 3D shape. - An edge is where 2 faces meet. - A vertex is a corner where 2 edges meet.	- A straight angle is 180 degrees. - A polygon is a 2D shape with straight lines that is fully closed. - An equilateral triangle has 3 equal sides and 3 angles of 60 degrees. - An isosceles triangle has 2 equal lengths and angles and 3 angles that total 180 degrees. - A scalene triangle has 3 different length sides and 3 different angles that equal 180 degrees. - Something is symmetrical when one side is a mirror image of the other side. - A 2D shape is symmetrical when a line can be drawn through it so that either side of the line look exactly the same. - When reading or plotting coordinates, I go across the x axis then up the y axis		
	Knowledge	- Interpret and present data using bar charts, pictograms and tables - Solve one-step and two step questions using information presented in scaled bar charts and pictograms and tables.		Volume	
	Crucial Learning	- The horizontal axis is the x axis. - The vertical axis is the y axis. - I write the values on the line when drawing a bar chart.		- Volume is the amount of space a 3d shape takes up. - I write volume as the measurement cubed, i.e. 12 cm³	
	Theology and vision links	Children enjoy spotting patterns which can be reflected in nature, and the concept of proof. The idea of God as a creationist is reinforced by proof in maths as it is in the bible, things don't just happen by chance. Explicit links can be made where possible e.g Christian values such as 'love thy neighbour' are demonstrated when children help others to understand the work.			
	Skills applied in all areas	- Collaboration - Problem solving - Reasoning - Comparing Applying - Handling money and calculating change - Calculating with the four operations - Telling the time - Reading tables and charts - Represent data visually	- Collaboration - Problem solving - Reasoning - Comparing - Applying - Handling money - Calculating with the four operations - Telling the time - Reading tables and charts - Represent data visually - Make comparison between equivalences	- Collaboration - Problem solving Analysing - Reasoning Interpreting - Comparing Calculations with money – life skills - Calculating with the four operations Solving problems with time - Reading timetables, tables and charts - Represent data visually	- Collaboration - Problem solving - Analysing - Reasoning - Interpreting - Comparing - Calculating with the four operations Calculating sales (%) - Reading timetables, tables and charts - Represent data visually - Make comparison between equivalences

		- Make comparison between equivalences - Accuracy with measure - Estimating	- Accuracy with measure - Estimating	- Make comparison between equivalences - Accuracy with measure - Estimating	- Accuracy with measure - Estimating
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