



KS5 Maths & Finance Teaching and Learning Framework

Intent

Our students will enjoy developing their numeracy skills and take satisfaction in problem solving. We place emphasis on the mathematical process rather than the final answer, placing value on learning from mistakes and building on prior learning. Pupils will leave us understanding that maths is in the world around us and does not solely take place in the classroom.

Our maths curriculum will ensure that pupils are able to apply their mathematical skills to the world around them , ensuring they are as fully prepared for adulthood as possible.

Rationale

Mathematics plays a crucial role in our everyday lives, providing us with the tools to understand and engage with the world around us. It nurtures the natural ability of students to think logically, solve puzzles, and apply these skills to real-life problems. Our goal is to foster creative thinking and establish connections between mathematical concepts by exploring patterns in numbers, shapes, measurements, and statistics. Through the principles of fluency, reasoning, and problem-solving, we aim for our students to not only explain their reasoning but also justify their answers. This development will equip them with the necessary skills, knowledge, and efficient calculation methods to succeed economically and solve daily challenges. Mastering mathematics will be instrumental in preparing our students to confidently and resiliently navigate their transition to college or the workforce.

To ensure comprehensive learning, we have designed a spiral curriculum that allows our students to revisit topics and areas multiple times throughout their academic journey. Running through the framework there will be a focus on students ability to solve problems mentally whenever possible. With each revisit, the complexity of the subject matter increases, while maintaining connections with prior learning and placing it in context. This approach offers numerous benefits as it reinforces and strengthens

information and learning each time a topic is revisited. It enables a logical progression from basic concepts to more advanced ones. Additionally, students are encouraged to apply their foundational knowledge to achieve later learning objectives.

Cycle One			
Autumn 1		Autumn 2	
Place Value & Four Operations		Number 1	
Encountering	Developing	Encountering	Developing
<p>Understanding Addition - Recognize and count objects and actions to understand addition as combining groups.</p> <p>Understanding Subtraction - Identify situations where subtraction is needed, such as taking away objects.</p> <p>Introduction to Multiplication - Explore multiplication as repeated addition, e.g., 2 groups of 3 is the same as 3 +</p>	<p>Understanding Place Value (1-1000) - Identify the value of digits in numbers up to 1000 and beyond. - Recognize the importance of the position of digits in a number.</p> <p>Column Addition and Subtraction - Add and subtract numbers using the vertical column method. - Carry over and borrow when needed in column addition and subtraction.</p>	<p>Identifying Simple Number Patterns: - Recognize basic number patterns in sequences, such as counting by twos or threes. - Extend and predict simple patterns in numerical sequences, like adding the same number repeatedly.</p> <p>Writing Whole Numbers as Words: - Develop the ability to express whole numbers in word form. - Practise converting numerical expressions to written words accurately for whole numbers up</p>	<p>Exploring Square Numbers, Square Roots, and Powers: - Learn the concept of square numbers (e.g., 4, 9, 16) and square roots (e.g., $\sqrt{9} = 3$). - Understand the concept of powers and how they relate to exponentiation (e.g., $2^3 = 8$).</p> <p>Factors and Highest Common Factors (H.C.F): - Understand factors as numbers that divide evenly into another number. - Calculate the highest common factor (H.C.F) of two or more numbers.</p>

<p>3.</p> <ul style="list-style-type: none"> - Begin to solve simple multiplication problems, like 2×1, by counting or grouping objects. <p>Introduction to Division</p> <ul style="list-style-type: none"> - Understand division as sharing or grouping objects into equal parts. - Divide a small set of objects into equal groups to introduce basic division concepts. <p>Recognizing Symbols</p> <ul style="list-style-type: none"> - Learn and recognize the addition (+), subtraction (-), multiplication (\times), and division (\div) symbols. - Associate these symbols with their respective operations. <p>Using Basic Maths Facts</p> <ul style="list-style-type: none"> - Recall basic addition and subtraction facts for numbers 0-5. - Begin to use these facts to solve simple maths problems 	<p>Ordering Decimals and Negative Numbers</p> <ul style="list-style-type: none"> - Arrange decimals in ascending and descending order. - Understand the concept of negative numbers and place them on a number line. <p>Multiplication Timetables</p> <ul style="list-style-type: none"> - recall multiplication tables up to $12 \times$ - Solve multiplication problems beginning with a 2 and a single-digit number. <p>Long Multiplication</p> <ul style="list-style-type: none"> - Perform long multiplication using the grid method. - Multiply multi-digit numbers step by step, aligning digits correctly. <p>Division Using Written Methods</p> <ul style="list-style-type: none"> - Learn various methods for performing division. - Divide two numbers using the long division method. 	<p>to 100.</p> <p>Introduction to Negative Numbers:</p> <ul style="list-style-type: none"> - Explore basic negative numbers as values less than zero. - Begin to understand basic operations involving negative numbers, such as $-3 + 2$. <p>Basic Rules for Arithmetic Operations:</p> <ul style="list-style-type: none"> - Learn and apply basic rules for addition, subtraction, multiplication, and division with small numbers. - Practise these operations with simple calculations involving numbers up to 20. <p>Halving and Doubling (Numbers up to 20):</p> <ul style="list-style-type: none"> - Practice halving and doubling small numbers efficiently. - Apply halving and doubling techniques for mental calculations with numbers up to 20. <p>Making Sensible Guesses with</p>	<p>Multiples and Lowest Common Multiples (L.C.M):</p> <ul style="list-style-type: none"> - Understand multiples as numbers that are products of another number. - Calculate the lowest common multiple (L.C.M) of two or more numbers. <p>Identifying Prime Numbers:</p> <ul style="list-style-type: none"> - Define prime numbers and their characteristics. - Recognize prime numbers within a specified range and understand their properties <p>Using Rounding for Estimations:</p> <ul style="list-style-type: none"> - Students should be able to understand the concept of rounding numbers and apply it as a practical strategy for making estimations. - They should be able to identify situations where rounding is useful, round numbers to the nearest ten, hundred, or other specified place value, and use rounded numbers to estimate the results of mathematical calculations and real-world problems with
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	<p>Remainders in Division</p> <ul style="list-style-type: none"> - Understand what a remainder is in division. - Solve division problems and express the remainder appropriately. <p>Advanced Currency Recognition and Handling:</p> <ul style="list-style-type: none"> - Demonstrate a comprehensive understanding of various coins and notes, including their denominations and distinguishing features. - Apply this knowledge during a visit to a local supermarket, where you will identify and handle different currency denominations for real-life transactions. <p>Money Management and Practical Budgeting:</p> <ul style="list-style-type: none"> - Develop practical money management skills by creating and managing a realistic shopping list based on specific needs, preferences, and budget constraints. - Calculate the estimated total cost of items on the 	<p>Rounding:</p> <ul style="list-style-type: none"> - Learners will hopefully be able to grasp the idea of rounding numbers as a way to make sensible guesses. -They should understand that rounding makes numbers easier to work with and helps in making quick and reasonable estimations in simple everyday situations, like guessing the number of candies in a jar or the cost of a small toy. -Students should feel confident using rounding to make sensible and approximate guesses. 	<p>reasonable accuracy.</p> <ul style="list-style-type: none"> -Students should also develop the ability to assess the appropriateness of their rounded estimations in different contexts and explain their reasoning for choosing specific rounding strategies.
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	<p>shopping list, considering quantities, prices, and potential discounts to stay within budget.</p> <p>Transaction Calculations and Efficient Payment Handling:</p> <ul style="list-style-type: none"> - Apply mathematical calculations to determine the total cost of items selected during the supermarket visit, considering any discounts or special offers. - Practise efficient payment handling by calculating change accurately and confirming receipts during real-life transactions at the supermarket. <p>Financial Decision-Making:</p> <ul style="list-style-type: none"> - Engage in informed financial decision-making by evaluating product options, comparing prices, and making choices based on quality, value, and personal preferences during the supermarket visit. - Reflect on and analyse the financial decisions made 		
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	during the visit, considering how easy or difficult it was to remain within budget.		
Spring 1		Spring 2	
Geometry & Measure		Number 2	
Encountering	Developing	Encountering	Developing
<p>Using a Ruler to Measure Lines: -Introduce learners to the concept of measurement using a ruler. Help them understand how to place a ruler alongside an object or line and count the units to find its length. Focus on measuring lines of different sizes in a hands-on and practical manner.</p> <p>Identifying Straight Lines: -Teach learners to recognize and distinguish straight lines from other shapes and objects. Use everyday examples, such as the edges of a book or the sides of a door, to help them identify</p>	<p>Calculate the Area of Triangles: -By the end of this lesson, students should be able to accurately calculate the area of triangles using the formula $A = 0.5 * \text{base} * \text{height}$, demonstrating a clear understanding of how to measure and apply the base and height of a triangle.</p> <p>Decompose and Calculate Compound Shape Areas: -Develop the ability to decompose complex shapes into simpler geometric</p>	<p>Understanding What Fractions Represent: - Recognize that fractions represent parts of a whole or a group. - Understand that fractions are used to show how something is divided into smaller, equal parts.</p> <p>Identifying Basic Fractions: - Recognize and name simple fractions, such as halves ($1/2$) and quarters ($1/4$). - Learn to identify these fractions in everyday objects, like dividing a pizza into halves or sharing cookies into quarters.</p> <p>Comparing Fractions: - Understand the concept of</p>	<p>Solving Word Problems (Multiplying Proper Fractions): - Solve word problems that involve the multiplication of proper fractions and express answers in simplified form.</p> <p>Adding Improper Fractions and Mixed Numbers (Unlike Denominators): - Add improper fractions and mixed numbers with different denominators, simplifying answers where possible.</p> <p>Subtracting Mixed Numbers with Regrouping: - Apply regrouping techniques to</p>

<p>and understand the characteristics of straight lines.</p> <p>Recognizing Basic Shapes: -Introduce simple geometric shapes like circles, squares, triangles, and rectangles. Help learners identify these shapes in their surroundings and understand their basic properties, such as the number of sides and corners.</p> <p>Calculating Area in Basic Shapes: -Begin to introduce the concept of area by focusing on basic shapes like squares and rectangles. Show young learners how to count the number of squares inside these shapes to find their area in a visual and concrete way.</p> <p>Practical Application of Measurement: -Encourage practical application by having learners measure everyday objects, identify straight lines, and recognize</p>	<p>components, such as triangles and rectangles. Students will then calculate the total area of compound shapes by summing the areas of these individual components, demonstrating proficiency in breaking down and solving more complex area problems.</p> <p>Understanding Pythagoras' Theorem: -By the end of this lesson, students should have a clear and comprehensive understanding of Pythagoras' Theorem, recognizing it as a fundamental principle that applies to right-angled triangles. They should be able to state the theorem and its significance in geometry.</p> <p>Angle Properties in Triangles and Quadrilaterals: -Students should be able to identify and apply angle</p>	<p>"more" or "less" when comparing fractions.</p> <ul style="list-style-type: none"> - Compare basic fractions (e.g., $\frac{1}{2}$ and $\frac{1}{4}$) to identify which represents a larger or smaller part. <p>Practical Use of Fractions:</p> <ul style="list-style-type: none"> - Apply the concept of fractions in everyday situations, such as sharing toys or snacks with friends. - Use simple fractions to describe how objects or groups are divided or shared in a practical context. 	<p>subtract mixed numbers accurately.</p> <p>Understanding Percentage Increase and Decrease with Multipliers: -Students should be able to comprehend the concepts of percentage increase and decrease and how to use multipliers to calculate these changes. They should be able to apply this knowledge to solve problems involving price changes, discounts, markups, salary adjustments, and other scenarios where percentages are used to represent changes in values.</p> <ul style="list-style-type: none"> - Additionally, students should be able to explain how the multiplier method simplifies the calculation of these percentage changes and demonstrate proficiency in its application.
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basic shapes in their environment. Provide simple, hands-on activities that reinforce these concepts in a real-world context.

properties within triangles and quadrilaterals, including recognizing that the sum of interior angles in a triangle is always 180 degrees, and in a quadrilateral, it is always 360 degrees. They should be able to calculate missing angles in these polygons using this knowledge.

Understanding Exterior Angles around a Point:

-Develop an understanding of exterior angles formed around a point. Students should be able to recognize that the sum of the exterior angles around a point is always 360 degrees and apply this concept to solve problems involving angles formed from a common point and 2 angles on a line (180 degrees).

	<p>Understanding Angle Relationships in Parallel Lines: -Introduce mid-level learners to the concept of angle relationships within parallel lines. Students should be able to identify and apply angle rules, such as corresponding angles, alternate interior angles, and alternate exterior angles, to solve problems involving intersecting lines and parallel lines. They should also be able to distinguish between these angle relationships and apply them effectively in various geometric scenarios.</p> <p>Introduction to Trigonometric Ratios: - Students should be able to define and differentiate between the sine, cosine, and tangent ratios and understand how they are calculated in a</p>		
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	<p>right-angled triangle in relation to its sides and angles.</p> <p>Missing Side Lengths: -Students should be proficient in using the sine, cosine, and tangent ratios to calculate the lengths of missing sides in a right-angled triangle when given an angle measure and one side length.</p> <p>Determine Unknown Angles: - Learners should be capable of using inverse trigonometric functions to find the measures of unknown angles in right-angled triangles when the lengths of two sides are known.</p> <p>Solve Real-World Problems: - Students should be able to apply sine, cosine, and tangent ratios to solve practical problems involving right-angled triangles, such as</p>		
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calculating heights, distances, and angles in real-world scenarios, including those related to navigation, engineering, and surveying.

Apply Trigonometry to 3D Shapes:

- After mastering the fundamentals of trigonometric ratios in right-angled triangles, students should be able to extend their knowledge to solve problems involving 3D shapes, such as rectangular prisms or pyramids, by calculating dimensions, surface areas, and volumes using trigonometric principles, especially when right-angled triangles are present within the 3D figure.

Summer 1		Summer 2	
Algebra		Statistics & Probability	
Encountering	Developing	Encountering	Developing
<p>Recognizing Numbers and Counting</p> <ul style="list-style-type: none"> - Develop the ability to recognize and identify numbers from 1 to 10. - Practise counting objects and understanding numerical order. <p>Matching Objects to Numbers</p> <ul style="list-style-type: none"> - Connect objects to their corresponding numbers, such as matching three apples with the number "3." - Begin to understand that 	<p>Finding Function Machines from Two-Step Expressions:</p> <ul style="list-style-type: none"> - Identify function machines within two-step algebraic expressions. - Relate expressions with two-step operations to the concept of function machines. <p>Substitution with Two-Step Expressions:</p> <ul style="list-style-type: none"> - Practise substituting values into two-step algebraic expressions. - Calculate the outcomes of expressions with multiple steps 	<p>Collecting Data:</p> <ul style="list-style-type: none"> - Learn to gather information by counting or asking questions in a structured way. - Understand that data is a collection of facts or details about something. <p>Creating Simple Pictograms:</p> <ul style="list-style-type: none"> - Use basic symbols or pictures to represent collected data. - Create simple pictograms to display data related to familiar objects or preferences. 	<p>Analysing Data Distribution:</p> <ul style="list-style-type: none"> - Use pie charts to analyse the distribution of data among different categories or components. - Identify which categories are more or less significant based on their respective sector sizes. <p>Constructing and Labelling Pie Charts:</p> <ul style="list-style-type: none"> - Construct pie charts to represent data, ensuring that the sum of the angles equals 360 degrees (or 100%). - Label pie charts with category names and percentages for each

<p>numbers represent quantities.</p> <p>Understanding Basic Operations</p> <ul style="list-style-type: none"> - Explore basic addition and subtraction as combining or taking away objects. - Use physical objects or pictures to grasp the concept of adding and subtracting. <p>Introducing Simple Patterns</p> <ul style="list-style-type: none"> - Recognize and create simple patterns, like alternating colours or shapes in a sequence. - Begin to understand the idea of repetition and predictability. <p>Exploring Shapes and Sizes</p> <ul style="list-style-type: none"> - Identify and differentiate between basic shapes, such as circles, squares, and triangles. - Compare and describe the size of objects using terms like "big," "small," "short," and "long." <p>Creating and Extending Patterns</p>	<p>when values are substituted.</p> <p>Generating Sequences from Algebraic Rules:</p> <ul style="list-style-type: none"> - Learn how to generate sequences of numbers using given algebraic rules. - Apply these rules to create and extend numerical sequences. <p>Using Graphs to Represent Functions:</p> <ul style="list-style-type: none"> - Create graphical representations of one-step functions using coordinates. - Extend this knowledge to represent two-step functions graphically 	<p>Interpreting Pictograms:</p> <ul style="list-style-type: none"> - Recognize and understand that each symbol or picture in a pictogram represents a piece of information or data. - Read and interpret simple pictograms to answer questions about the collected data. <p>Comparing Data Sets with Pictograms:</p> <ul style="list-style-type: none"> - Use pictograms to compare data from different categories or groups. - Make basic comparisons, such as identifying which category has more or fewer items based on the pictogram. 	<p>sector, enhancing data comprehension.</p> <p>Interpreting Histograms:</p> <ul style="list-style-type: none"> - Define histograms as graphical representations of data that show the frequency or count of data points within specific intervals or bins. - Learn to read histograms by analysing the height of bars within each interval. <p>Analysing Data Distribution in Histograms:</p> <ul style="list-style-type: none"> - Use histograms to analyse the distribution of data values, including identifying trends, modes, and data spread. - Understand how the shape of a histogram can provide insights into the data's characteristics, such as symmetry or skewness.
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<ul style="list-style-type: none"> - Build on the concept of patterns by creating and extending more complex patterns, such as ABAB or ABBABB. - Recognize patterns in everyday objects and activities. 			
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Cycle Two			
Autumn 1		Autumn 2	
Number 1		Geometry & Measure	
Encountering	Developing	Encountering	Developing
Understanding Addition:	Column Addition and Subtraction <ul style="list-style-type: none"> - Add and subtract numbers using the vertical column 	Recognizing Clocks <ul style="list-style-type: none"> - Identify and recognize the appearance of both analogue and digital clocks. 	Converting Analogue to Digital Time (24-Hour Format): <ul style="list-style-type: none"> - Understand and demonstrate the conversion of time from

<ul style="list-style-type: none"> - Build on the concept of addition by applying it to more complex scenarios. - Develop the ability to recognize and apply addition as a fundamental operation for combining quantities in various contexts, including numbers and word problems. <p>Understanding Subtraction:</p> <ul style="list-style-type: none"> - Extend the understanding of subtraction to more diverse situations where it is necessary to subtract or remove items from a given set. - Identify and solve subtraction problems involving larger numbers and real-world scenarios, such as calculating change or comparing quantities. <p>Exploring Multiplication Concepts:</p>	<p>method.</p> <ul style="list-style-type: none"> - Carry over and borrow when needed in column addition and subtraction. <p>Ordering Decimals and Negative Numbers</p> <ul style="list-style-type: none"> - Arrange decimals in ascending and descending order. - Understand the concept of negative numbers and place them on a number line. <p>Multiplication Timetables</p> <ul style="list-style-type: none"> - recall multiplication tables up to 12 x - Solve multiplication problems beginning with a 2 and a single-digit number. <p>Long Multiplication</p> <ul style="list-style-type: none"> - Perform long multiplication using the grid method. - Multiply multi-digit numbers step by step, aligning digits correctly. <p>Division Using Written Methods</p> <ul style="list-style-type: none"> - Learn various methods for 	<ul style="list-style-type: none"> - Distinguish between the hour and minute hands on an analogue clock. <p>Telling Time to the Hour</p> <ul style="list-style-type: none"> - Learn to tell time to the nearest hour on both analogue and digital clocks. - Practise matching the position of the hour hand to the correct hour on an analogue clock. <p>Telling Time to the Half-Hour</p> <ul style="list-style-type: none"> - Understand how to tell time to the half-hour on analogue and digital clocks. - Associate the position of the minute hand with half-past the hour. <p>Understanding Day and Night</p> <ul style="list-style-type: none"> - Differentiate between daytime and nighttime. - Recognize that the sun is typically up during the day and down during the night. <p>Sequencing Daily Activities</p> <ul style="list-style-type: none"> - Arrange daily activities in chronological order, emphasising 	<p>analogue clocks to the 24-hour digital format.</p> <ul style="list-style-type: none"> - Practise converting time accurately, including recognizing AM and PM distinctions. <p>Using Timetables</p> <ul style="list-style-type: none"> - Learn to interpret and use timetables, such as bus schedules or train timetables. - Apply timetables to plan and schedule activities and transportation. <p>Worded Time Problems</p> <ul style="list-style-type: none"> - Solve complex word problems involving time, incorporating various time units (seconds, minutes, hours, days). - Analyse and extract relevant information from worded time problems. <p>Adding Time of Events and Calculating Duration</p> <ul style="list-style-type: none"> - Calculate the total time elapsed when multiple events occur at different times during the day. - Apply addition and subtraction skills to find the duration of events spanning multiple time periods.
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<p>- Deepen the understanding of multiplication by exploring it as a method for scaling up or repeated addition, e.g., 3 groups of 4 is equivalent to $4 + 4 + 4$.</p> <p>- Apply multiplication to solve more complex problems involving larger numbers, arrays, and real-world situations.</p> <p>Introduction to Division Concepts:</p> <p>- Expand the comprehension of division by delving into the concepts of sharing and grouping objects into equal parts for more extensive sets.</p> <p>- Solve division problems involving larger dividends, divisors, and quotients, and explore remainders and fractions.</p> <p>Recognizing Mathematical Symbols:</p>	<p>performing division.</p> <p>- Divide two numbers using the long division method.</p> <p>Remainders in Division</p> <p>- Understand what a remainder is in division.</p> <p>- Solve division problems and express the remainder appropriately.</p>	<p>morning, afternoon, and evening routines.</p> <p>- Begin to comprehend the concept of a daily schedule.</p> <p>Basic Time-Related Vocabulary</p> <p>- Learn and use simple time-related vocabulary, such as "morning," "afternoon," "night," "today," and "tomorrow."</p> <p>- Practice using these words in everyday conversations related to time.</p>	
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- Continue to learn and recognize mathematical symbols such as addition (+), subtraction (-), multiplication (\times), and division (\div).
- Gain a deeper understanding of how these symbols represent mathematical operations and apply them to more intricate mathematical expressions.

Applying Basic Maths Facts:

- Build upon the recall of basic addition and subtraction facts for numbers 0-5 to include facts for numbers up to 10 or higher.
- Apply these facts confidently and efficiently to solve a wide range of mathematical problems, laying the foundation for more advanced mathematical operations.

Spring 1		Spring 2	
Number 2		Algebra	
Encountering	Developing	Encountering	Developing
<p>Collecting Data from Simple Observations:</p> <ul style="list-style-type: none"> - Develop the ability to collect basic data by counting and observing everyday objects or occurrences. - Practice recording the data in a simple, organised manner, such as tally marks or simple drawings. <p>Creating Basic Pictograms:</p> <ul style="list-style-type: none"> - Learn to represent collected data using simple pictograms, where each picture or symbol represents one unit of data. - Explore using easily recognizable symbols, like smiley faces or stars, to create the pictograms. 	<p>Exploring Square Numbers, Square Roots, and Powers:</p> <ul style="list-style-type: none"> - Learn the concept of square numbers (e.g., 4, 9, 16) and square roots (e.g., $\sqrt{9} = 3$). - Understand the concept of powers and how they relate to exponentiation (e.g., $2^3 = 8$). <p>Factors and Highest Common Factors (H.C.F):</p> <ul style="list-style-type: none"> - Understand factors as numbers that divide evenly into another number. - Calculate the highest common factor (H.C.F) of two or more numbers. <p>Advanced Currency Recognition and Handling:</p> <ul style="list-style-type: none"> - Demonstrate a comprehensive understanding of various coins and notes, 	<p>Recognizing Symbols as unknowns:</p> <ul style="list-style-type: none"> - Learn to recognize that letters or symbols can stand for unknown numbers or quantities in maths. - Practise identifying variables as placeholders for numbers in simple equations. <p>Solving Simple Equations with Concrete Examples:</p> <ul style="list-style-type: none"> - Explore basic equations with a single unknown, using everyday objects like apples or toys to represent numbers. - Begin to solve these equations by finding the value of the unknown through physical manipulation, such as counting objects. 	<p>Understanding unknowns and Constants</p> <ul style="list-style-type: none"> - Define and distinguish between unknowns (representing unknowns) and constants (fixed values) in algebraic expressions and equations. - Identify unknowns and constants in given algebraic expressions. <p>Solving One-Step Equations</p> <ul style="list-style-type: none"> - Solve one-step equations involving addition or subtraction with integers and fractions. - Use inverse operations to isolate the unknown, such as solving equations like $3x + 5 = 11$. <p>Solving One-Step Equations with Multiplication and Division</p> <ul style="list-style-type: none"> - Extend equation-solving skills to include multiplication and division. - Solve equations like $2y/4 = 6$ or

<p>Interpreting Pictograms for Number Patterns:</p> <ul style="list-style-type: none"> - Understand that pictograms represent data visually and that patterns can emerge from the arrangement of symbols. - Begin to identify and discuss simple number patterns, such as which symbol appears most frequently or least frequently in the pictogram. <p>Extending Pictogram Understanding:</p> <ul style="list-style-type: none"> - Progress to more complex pictograms, involving larger sets of data and a variety of symbols. - Begin to recognize more intricate number patterns within these extended pictograms and discuss them with guidance. 	<p>including their denominations and distinguishing features.</p> <ul style="list-style-type: none"> - Apply this knowledge during a visit to a local supermarket, where you will identify and handle different currency denominations for real-life transactions. <p>Money Management and Practical Budgeting:</p> <ul style="list-style-type: none"> - Develop practical money management skills by creating and managing a realistic shopping list based on specific needs, preferences, and budget constraints. - Calculate the estimated total cost of items on the shopping list, considering quantities, prices, and potential discounts to stay within budget. <p>Transaction Calculations and Efficient Payment Handling:</p> <ul style="list-style-type: none"> - Apply mathematical calculations to determine the total cost of items selected during the supermarket visit, considering any discounts or 	<p>Using Shapes and Pictures for Algebraic Ideas:</p> <ul style="list-style-type: none"> - Understand that algebraic concepts can be connected to shapes and pictures. - Practise using drawings or shapes to illustrate basic equations, making the idea of unknowns more tangible. <p>Discovering Balance in Equations:</p> <ul style="list-style-type: none"> - Explore the idea of balance by understanding that equations represent a balance between two sides. - Engage with simple equations like "$2 + 3 = 5$" and "$4 - 2 = 2$" to grasp the concept of keeping both sides equal. 	<p>$8z - 7 = 17$ by applying inverse operations.</p> <p>Translating Word Problems into Equations</p> <ul style="list-style-type: none"> - Translate word problems and real-world scenarios into algebraic equations. - Understand how to represent situations like "twice a number increased by 4 is 18" as algebraic equations. <p>Solving Two-Step Equations</p> <ul style="list-style-type: none"> - Learn to solve two-step equations that involve both addition/subtraction and multiplication/division. - Apply a step-by-step approach to solve equations like $2x + 3 = 11$ or $5y/2 - 1 = 9$. <p>Applying Algebraic Skills to Practical Situations</p> <ul style="list-style-type: none"> - Apply algebraic problem-solving skills to practical scenarios, including calculating dimensions, rates, and prices. - Solve problems that require setting up and solving two-step equations to find unknown
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	<p>special offers.</p> <ul style="list-style-type: none"> - Practise efficient payment handling by calculating change accurately and confirming receipts during real-life transactions at the supermarket. <p>Financial Decision-Making:</p> <ul style="list-style-type: none"> - Engage in informed financial decision-making by evaluating product options, comparing prices, and making choices based on quality, value, and personal preferences during the supermarket visit. - Reflect on and analyse the financial decisions made during the visit, considering how easy or difficult it was to remain within budget. 		<p>quantities.</p> <p>Solve Problems Involving Sequences:</p> <ul style="list-style-type: none"> -Apply understanding of linear number sequences to solve real-world problems and mathematical puzzles, requiring the recognition and manipulation of such sequences to find missing terms or make predictions. <p>Determine Term-to-Term Rules:</p> <p>Learn to identify and establish the term-to-term rule for linear sequences, understanding how each term relates to the previous term through addition or subtraction.</p> <p>Apply Position-to-Term Rules (nth term): Develop the ability to apply position-to-term rules to determine the value of a term at a specific position within a linear sequence without having to generate all previous terms.(nth term)</p>
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Summer 1		Summer 2	
Number 3		Ratio & Proportion	
Encountering	Developing	Encountering	Developing
<p>Basic Rules for Arithmetic Operations:</p> <ul style="list-style-type: none"> - Learn and apply basic rules for addition, subtraction, multiplication, and division with small numbers. - Practise these operations with simple calculations involving numbers up to 20. <p>Making Sensible Guesses with Rounding:</p> <ul style="list-style-type: none"> - Learners will hopefully be able to grasp the idea of rounding numbers as a way to make sensible guesses. -They should understand that rounding makes numbers easier to work with and helps 	<p>Using Rounding for Estimations:</p> <ul style="list-style-type: none"> - Students should be able to understand the concept of rounding numbers and apply it as a practical strategy for making estimations. -They should be able to identify situations where rounding is useful, round numbers to the nearest ten, hundred, or other specified place value, and use rounded numbers to estimate the results of mathematical calculations and real-world problems with reasonable accuracy. -Students should also develop the ability to assess the 	<p>Sharing Equally:</p> <ul style="list-style-type: none"> -Support learners to be able to understand and demonstrate the concept of sharing objects or items equally among a group. Aim to divide a collection of objects into equal parts and ensure that each part has the same number of items. <p>Recognizing Proportion:</p> <ul style="list-style-type: none"> -Help students recognize the idea of proportion by using concrete objects and visual aids. They will hopefully be able to compare the sizes of different groups of 	<p><u>Introduction to Ratio and Proportion:</u></p> <p>Understanding Ratio:</p> <ul style="list-style-type: none"> - Define what a ratio is and distinguish it as a way to compare two or more quantities. - Represent ratios in the form of "a to b" or "a:b" and identify their components. <p>Understanding Proportion:</p> <ul style="list-style-type: none"> - Define proportion as a special type of equation that states that two ratios are equal.

<p>in making quick and reasonable estimations in simple everyday situations, like guessing the number of candies in a jar or the cost of a small toy.</p> <p>-Students should feel confident using rounding to make sensible and approximate guesses.</p>	<p>appropriateness of their rounded estimations in different contexts and explain their reasoning for choosing specific rounding strategies.</p> <p>Understanding Percentage Increase and Decrease with Multipliers:</p> <p>-Students should be able to comprehend the concepts of percentage increase and decrease and how to use multipliers to calculate these changes. They should be able to apply this knowledge to solve problems involving price changes, discounts, markups, salary adjustments, and other scenarios where percentages are used to represent changes in values.</p> <p>- Additionally, students should be able to explain how the multiplier method simplifies the calculation of these percentage changes and demonstrate proficiency in its application.</p>	<p>objects and identify when one group has more or less than the other.</p> <p>Mixing Simple Recipes:</p> <p>-Introduce the concept of mixing and proportion through simple recipes, such as making fruit squash, fruit salad or a sandwich.</p> <p>- Learners will be given the opportunity to follow basic instructions to combine different ingredients in the right proportions to create a simple dish or drink.</p> <p>Using Visual Models: -Teach students to use visual models, such as drawings or pictures, to represent the sharing or mixing of objects or ingredients. They should be able to draw or identify simple visual representations that illustrate equal sharing and proportion.</p>	<p>- Recognize that proportions are used to maintain consistent relationships between quantities.</p> <p><u>Comparison Between Ratio and Proportion:</u></p> <p>Identifying Differences:</p> <p>- Identify the key differences between ratios and proportions, emphasising that a proportion is an equation involving two ratios.</p> <p>- Explain why proportions are used when comparing ratios in specific contexts.</p> <p><u>Exploring the Unitary Method:</u></p> <p>Using the Unitary Method to Solve Simple Problems:</p> <p>- Apply the unitary method to solve basic problems, such as finding the cost of a single item when given the total cost and quantity.</p>
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		<p>Practical Application: -Encourage practical application by having students engage in hands-on activities that involve sharing, proportion, and mixing. For example, they should be able to share a set of toys equally with their peers, compare the sizes of their portions, and help prepare a simple recipe with guidance.</p>	<ul style="list-style-type: none"> - Use the unitary method to calculate one quantity when the unit price and the total are known. <p>Scaling and the Unitary Method:</p> <ul style="list-style-type: none"> - Learn how to use the unitary method to scale quantities up or down, such as converting measurements or adjusting recipes. - Solve problems involving the unitary method in scaling scenarios. <p>Problem-Solving with Ratio, Proportion, and the Unitary Method:</p> <ul style="list-style-type: none"> - Solve complex problems that require the application of ratio, proportion, and the unitary method. - Analyse scenarios where these concepts are essential, and apply them to make informed decisions. <p>Compare Lengths, Areas, and Volumes:</p>
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			<ul style="list-style-type: none">- Students will be able to compare lengths, areas, and volumes using ratio notation and/or scale factors.- Students will make connections between the concept of similarity and the use of trigonometric ratios in solving related problems. <p>Convert Between Compound Units:</p> <ul style="list-style-type: none">- Students will demonstrate the ability to convert between related compound units (e.g., speed, rates of pay, prices, density, pressure) in both numerical and algebraic contexts. <p>Understand Inverse Proportion:</p> <ul style="list-style-type: none">- Students will grasp the concept that "X is inversely proportional to Y" is equivalent to "X is proportional to $1/Y$."- Students will construct and interpret equations that describe direct and inverse proportion.
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			<p>Interpret Straight Line Graphs:</p> <ul style="list-style-type: none">- Students will interpret the gradient (slope) of a straight line graph as a rate of change.- Students will recognize and interpret graphs that illustrate direct and inverse proportionality, including identifying key features and trends in the data represented.
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Cycle Three	
Autumn 1	Autumn 2

Number 1		Geometry & Measure	
Encountering	Developing	Encountering	Developing
<p>Understanding Addition:</p> <ul style="list-style-type: none"> - Build on the concept of addition by applying it to more complex scenarios. - Develop the ability to recognize and apply addition as a fundamental operation for combining quantities in various contexts, including numbers and word problems. <p>Understanding Subtraction:</p> <ul style="list-style-type: none"> - Extend the understanding of subtraction to more diverse situations where it is necessary to subtract or remove items from a given set. - Identify and solve subtraction problems involving larger numbers and real-world scenarios, such as 	<p>Column Addition and Subtraction:</p> <ul style="list-style-type: none"> - Add and subtract numbers using the vertical column method. - Carry over and borrow when needed in column addition and subtraction. <p>Ordering Decimals and Negative Numbers</p> <ul style="list-style-type: none"> - Arrange decimals in ascending and descending order. - Understand the concept of negative numbers and place them on a number line. <p>Multiplication Timetables</p> <ul style="list-style-type: none"> - recall multiplication tables up to 10 x - Solve multiplication problems involving 2 and a single-digit number. 	<p>Using a Ruler to Measure Lines:</p> <ul style="list-style-type: none"> -Introduce learners to the concept of measurement using a ruler. Help them understand how to place a ruler alongside an object or line and count the units to find its length. Focus on measuring lines of different sizes in a hands-on and practical manner. <p>Identifying Straight Lines:</p> <ul style="list-style-type: none"> -Teach learners to recognize and distinguish straight lines from other shapes and objects. Use everyday examples, such as the edges of a book or the sides of a door, to help them identify and understand the characteristics of straight lines. <p>Recognizing Basic Shapes:</p> <ul style="list-style-type: none"> -Introduce simple geometric shapes like circles, squares, triangles, and rectangles. Help learners identify these shapes in 	<p>Calculate the Area of Triangles:</p> <ul style="list-style-type: none"> -By the end of this lesson, students should be able to accurately calculate the area of triangles using the formula $A = 0.5 * \text{base} * \text{height}$, demonstrating a clear understanding of how to measure and apply the base and height of a triangle. <p>Decompose and Calculate Compound Shape Areas:</p> <ul style="list-style-type: none"> -Develop the ability to decompose complex shapes into simpler geometric components, such as triangles and rectangles. Students will then calculate the total area of compound shapes by summing the areas of these individual components, demonstrating proficiency in breaking down and solving more complex area problems.

<p>calculating change or comparing quantities.</p> <p>Exploring Multiplication Concepts:</p> <ul style="list-style-type: none"> - Deepen the understanding of multiplication by exploring it as a method for scaling up or repeated addition, e.g., 3 groups of 4 is equivalent to $4 + 4 + 4$. - Apply multiplication to solve more complex problems involving larger numbers, arrays, and real-world situations. <p>Introduction to Division Concepts:</p> <ul style="list-style-type: none"> - Expand the comprehension of division by delving into the concepts of sharing and grouping objects into equal parts for more extensive sets. - Solve division problems involving larger dividends, 	<p>Long Multiplication</p> <ul style="list-style-type: none"> - Perform long multiplication using the grid method. - Multiply multi-digit numbers step by step, aligning digits correctly. <p>Division Using Written Methods</p> <ul style="list-style-type: none"> - Learn various methods for performing division. - Divide two numbers using the long division method. <p>Remainders in Division</p> <ul style="list-style-type: none"> - Understand what a remainder is in division. - Solve division problems and express the remainder appropriately. 	<p>their surroundings and understand their basic properties, such as the number of sides and corners.</p> <p>Calculating Area in Basic Shapes:</p> <p>-Begin to introduce the concept of area by focusing on basic shapes like squares and rectangles. Show young learners how to count the number of squares inside these shapes to find their area in a visual and concrete way.</p> <p>Practical Application of Measurement: -Encourage practical application by having learners measure everyday objects, identify straight lines, and recognize basic shapes in their environment. Provide simple, hands-on activities that reinforce these concepts in a real-world context.</p>	<p>Understanding Pythagoras' Theorem:</p> <p>-By the end of this lesson, students should have a clear and comprehensive understanding of Pythagoras' Theorem, recognizing it as a fundamental principle that applies to right-angled triangles. They should be able to state the theorem and its significance in geometry.</p> <p>Angle Properties in Triangles and Quadrilaterals:</p> <p>-Students should be able to identify and apply angle properties within triangles and quadrilaterals, including recognizing that the sum of interior angles in a triangle is always 180 degrees, and in a quadrilateral, it is always 360 degrees. They should be able to calculate missing angles in these polygons using this knowledge.</p>
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divisors, and quotients, and explore remainders and fractions.

Recognizing Mathematical Symbols:

- Continue to learn and recognize mathematical symbols such as addition (+), subtraction (-), multiplication (\times), and division (\div).
- Gain a deeper understanding of how these symbols represent mathematical operations and apply them to more intricate mathematical expressions.

Applying Basic Maths Facts:

- Build upon the recall of basic addition and subtraction facts for numbers 0-5 to include facts for numbers up to 10 or higher.
- Apply these facts confidently and efficiently to solve a wide range of mathematical

Understanding Exterior Angles around a Point: -Develop an understanding of exterior angles formed around a point. Students should be able to recognize that the sum of the exterior angles around a point is always 360 degrees and apply this concept to solve problems involving angles formed from a common point and 2 angles on a line (180 degrees).

Understanding Angle

Relationships in Parallel Lines:

-Introduce mid-level learners to the concept of angle relationships within parallel lines. Students should be able to identify and apply angle rules, such as corresponding angles, alternate interior angles, and alternate exterior angles, to solve problems involving intersecting lines and parallel lines. They should also be able to distinguish between these angle relationships and apply them

<p>problems, laying the foundation for more advanced mathematical operations.</p>			<p>effectively in various geometric scenarios.</p> <p>Introduction to Trigonometric Ratios:</p> <ul style="list-style-type: none"> - Students should be able to define and differentiate between the sine, cosine, and tangent ratios and understand how they are calculated in a right-angled triangle in relation to its sides and angles. <p>Missing Side Lengths: -Students should be proficient in using the sine, cosine, and tangent ratios to calculate the lengths of missing sides in a right-angled triangle when given an angle measure and one side length.</p> <p>Determine Unknown Angles:</p> <ul style="list-style-type: none"> - Learners should be capable of using inverse trigonometric functions to find the measures of unknown angles in right-angled
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			<p>triangles when the lengths of two sides are known.</p> <p>Solve Real-World Problems:</p> <ul style="list-style-type: none">- Students should be able to apply sine, cosine, and tangent ratios to solve practical problems involving right-angled triangles, such as calculating heights, distances, and angles in real-world scenarios, including those related to navigation, engineering, and surveying. <p>Apply Trigonometry to 3D Shapes:</p> <ul style="list-style-type: none">- After mastering the fundamentals of trigonometric ratios in right-angled triangles, students should be able to extend their knowledge to solve problems involving 3D shapes, such as rectangular prisms or pyramids, by calculating dimensions, surface areas, and volumes using trigonometric principles, especially
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			when right-angled triangles are present within the 3D figure.	
Spring 1		Spring 2		
Number 2		Algebra		
Encountering	Developing	Encountering	Developing	Enhancing
<p>Collecting Data from Simple Observations:</p> <ul style="list-style-type: none"> - Develop the ability to collect basic data by counting and observing everyday objects or occurrences. - Practice recording the data in a simple, organised manner, such as tally marks or simple drawings. <p>Creating Basic Pictograms:</p> <ul style="list-style-type: none"> - Learn to represent collected data using simple pictograms, where each 	<p>Exploring Square Numbers, Square Roots, and Powers:</p> <ul style="list-style-type: none"> - Learn the concept of square numbers (e.g., 4, 9, 16) and square roots (e.g., $\sqrt{9} = 3$). - Understand the concept of powers and how they relate to exponentiation (e.g., $2^3 = 8$). <p>Factors and Highest Common Factors (H.C.F):</p> <ul style="list-style-type: none"> - Understand factors as numbers that divide evenly into another number. - Calculate the highest common factor (H.C.F) of two or more numbers. 	<p>Recognizing Symbols as unknowns:</p> <ul style="list-style-type: none"> - Learn to recognize that letters or symbols can stand for unknown numbers or quantities in maths. - Practise identifying variables as placeholders for numbers in simple equations. <p>Solving Simple Equations with Concrete Examples:</p> <ul style="list-style-type: none"> - Explore basic equations with a single unknown, using everyday objects like apples or toys to represent numbers. 	<p>Understanding unknowns and Constants</p> <ul style="list-style-type: none"> - Define and distinguish between unknowns (representing unknowns) and constants (fixed values) in algebraic expressions and equations. - Identify unknowns and constants in given algebraic expressions. <p>Solving One-Step Equations</p> <ul style="list-style-type: none"> - Solve one-step equations involving addition or subtraction with integers and fractions. - Use inverse operations to isolate the unknown, such as solving equations like $3x + 5 = 11$. 	

<p>picture or symbol represents one unit of data.</p> <ul style="list-style-type: none"> - Explore using easily recognizable symbols, like smiley faces or stars, to create the pictograms. <p>Interpreting Pictograms for Number Patterns:</p> <ul style="list-style-type: none"> - Understand that pictograms represent data visually and that patterns can emerge from the arrangement of symbols. - Begin to identify and discuss simple number patterns, such as which symbol appears most frequently or least frequently in the pictogram. <p>Extending Pictogram Understanding:</p> <ul style="list-style-type: none"> - Progress to more complex pictograms, involving larger sets of data and a variety of symbols. 	<p>Advanced Currency Recognition and Handling:</p> <ul style="list-style-type: none"> - Demonstrate a comprehensive understanding of various coins and notes, including their denominations and distinguishing features. - Apply this knowledge during a visit to a local supermarket, where you will identify and handle different currency denominations for real-life transactions. <p>Money Management and Practical Budgeting:</p> <ul style="list-style-type: none"> - Develop practical money management skills by creating and managing a realistic shopping list based on specific needs, preferences, and budget constraints. - Calculate the estimated total cost of items on the shopping list, considering quantities, prices, and potential discounts to stay within budget. <p>Transaction Calculations and Efficient Payment Handling:</p>	<ul style="list-style-type: none"> - Begin to solve these equations by finding the value of the unknown through physical manipulation, such as counting objects. <p>Using Shapes and Pictures for Algebraic Ideas:</p> <ul style="list-style-type: none"> - Understand that algebraic concepts can be connected to shapes and pictures. - Practise using drawings or shapes to illustrate basic equations, making the idea of unknowns more tangible. <p>Discovering Balance in Equations:</p> <ul style="list-style-type: none"> - Explore the idea of balance by understanding that equations represent a balance between two sides. - Engage with simple equations like "$2 + 3 = 5$" and "$4 - 2 = 2$" to grasp the concept of keeping both sides equal. 	<p>Solving One-Step Equations with Multiplication and Division</p> <ul style="list-style-type: none"> - Extend equation-solving skills to include multiplication and division. - Solve equations like $2y/4 = 6$ or $8z - 7 = 17$ by applying inverse operations. <p>Translating Word Problems into Equations</p> <ul style="list-style-type: none"> - Translate word problems and real-world scenarios into algebraic equations. - Understand how to represent situations like "twice a number increased by 4 is 18" as algebraic equations. <p>Solving Two-Step Equations</p> <ul style="list-style-type: none"> - Learn to solve two-step equations that involve both addition/subtraction and multiplication/division. - Apply a step-by-step approach to solve equations like $2x + 3 = 11$ or $5y/2 - 1 = 9$. <p>Applying Algebraic Skills to Practical Situations</p> <ul style="list-style-type: none"> - Apply algebraic problem-solving skills to practical
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<p>- Begin to recognize more intricate number patterns within these extended pictograms and discuss them with guidance.</p>	<p>- Apply mathematical calculations to determine the total cost of items selected during the supermarket visit, considering any discounts or special offers.</p> <p>- Practise efficient payment handling by calculating change accurately and confirming receipts during real-life transactions at the supermarket.</p> <p>Financial Decision-Making:</p> <p>- Engage in informed financial decision-making by evaluating product options, comparing prices, and making choices based on quality, value, and personal preferences during the supermarket visit.</p> <p>- Reflect on and analyse the financial decisions made during the visit, considering how easy or difficult it was to remain within budget.</p> <p>Advanced Currency Recognition and Handling:</p> <p>- Demonstrate a</p>		<p>scenarios, including calculating dimensions, rates, and prices.</p> <p>- Solve problems that require setting up and solving two-step equations to find unknown quantities.</p> <p>Solve Problems Involving Sequences:</p> <p>-Apply understanding of linear number sequences to solve real-world problems and mathematical puzzles, requiring the recognition and manipulation of such sequences to find missing terms or make predictions.</p> <p>Determine Term-to-Term Rules:</p> <p>Learn to identify and establish the term-to-term rule for linear sequences, understanding how each term relates to the previous term through addition or subtraction.</p> <p>Apply Position-to-Term Rules (nth term): Develop the ability to apply position-to-term rules to</p>
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	<p>comprehensive understanding of various coins and notes, including their denominations and distinguishing features.</p> <ul style="list-style-type: none"> - Apply this knowledge during a visit to a local supermarket, where you will identify and handle different currency denominations for real-life transactions. <p>Money Management and Practical Budgeting:</p> <ul style="list-style-type: none"> - Develop practical money management skills by creating and managing a realistic shopping list based on specific needs, preferences, and budget constraints. - Calculate the estimated total cost of items on the shopping list, considering quantities, prices, and potential discounts to stay within budget. <p>Transaction Calculations and Efficient Payment Handling:</p> <ul style="list-style-type: none"> - Apply mathematical calculations to determine the total cost of items selected 		<p>determine the value of a term at a specific position within a linear sequence without having to generate all previous terms.(nth term)</p> <p>Understanding Linear Graphs, Gradient, and Y-Intercept:</p> <p>-Students should be able to draw and interpret linear graphs using the equation $y = mx + c$, where "m" represents the gradient (slope) and "c" represents the y-intercept. They should be able to create linear graphs to represent numerical patterns and sequences encountered previously, and understand the relationship between the graph's slope (gradient) and the rate of change in the sequence. Furthermore, students should be able to interpret linear graphs, identify and explain the significance of the gradient and y-intercept, and use graphs to make predictions and draw conclusions about the behaviour of numerical patterns and sequences in graphical form.</p>
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	<p>during the supermarket visit, considering any discounts or special offers.</p> <ul style="list-style-type: none">- Practise efficient payment handling by calculating change accurately and confirming receipts during real-life transactions at the supermarket. <p>Financial Decision-Making:</p> <ul style="list-style-type: none">- Engage in informed financial decision-making by evaluating product options, comparing prices, and making choices based on quality, value, and personal preferences during the supermarket visit.- Reflect on and analyse the financial decisions made during the visit, considering how easy or difficult it was to remain within budget.		
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Summer 1		Summer 2	
Ratio & Proportion		Statistics & Probability	
Encountering	Developing	Encountering	Developing
<p>Sharing Equally: -Support learners to be able to understand and demonstrate the concept of sharing objects or items equally among a group. Aim to divide a collection of objects into equal parts and ensure that each part has the same number of items.</p> <p>Recognizing Proportion: -Help students recognize the idea of proportion by using concrete objects and visual aids. They will hopefully be able to compare the sizes of</p>	<p><u>Introduction to Ratio and Proportion:</u></p> <p>Understanding Ratio: - Define what a ratio is and distinguish it as a way to compare two or more quantities. - Represent ratios in the form of "a to b" or "a:b" and identify their components.</p> <p>Understanding Proportion: - Define proportion as a special type of equation that states that two ratios are equal.</p>	<p>Understanding Likelihood: -Help young learners understand the concept of likelihood by using everyday examples. Teach them to differentiate between things that are likely to happen, like the sun rising every day, and things that are unlikely, like finding a rainbow in their bedroom.</p> <p>Exploring Simple Events: -Introduce the idea of simple events by presenting basic scenarios with two outcomes, such as flipping a coin to get either heads or tails. Help them grasp the idea that there are only</p>	<p>Discovering Mode: -Begin to understand mode as the number that appears the most in a set of numbers. Learn to identify it in simple datasets and recognize that sometimes there may be more than one mode.</p> <p>Exploring Range: -Explore the idea of range as the difference between the biggest and smallest numbers in a set. Practice finding the range in smaller datasets to see how data can vary.</p>

<p>different groups of objects and identify when one group has more or less than the other.</p> <p>Mixing Simple Recipes: -Introduce the concept of mixing and proportion through simple recipes, such as making fruit squash, fruit salad or a sandwich.</p> <p>- Learners will be given the opportunity to follow basic instructions to combine different ingredients in the right proportions to create a simple dish or drink.</p> <p>Using Visual Models: -Teach students to use visual models, such as drawings or pictures, to represent the sharing or mixing of objects or ingredients. They should be able to draw or identify simple visual representations that</p>	<p>- Recognize that proportions are used to maintain consistent relationships between quantities.</p> <p><u>Comparison Between Ratio and Proportion:</u></p> <p>Identifying Differences: - Identify the key differences between ratios and proportions, emphasizing that a proportion is an equation involving two ratios. - Explain why proportions are used when comparing ratios in specific contexts.</p> <p><u>Exploring the Unitary Method:</u></p> <p>Using the Unitary Method to Solve Simple Problems: - Apply the unitary method to solve basic problems, such as finding the cost of a single</p>	<p>a few possible outcomes in some situations.</p> <p>Recognizing More and Less Likely: -Teach very basic comparisons of likelihood, such as recognizing that having sunny weather is more likely during summer than having snow. Use simple visuals or hands-on activities to illustrate these concepts.</p> <p>Basic Probability Language: -Familiarise learners with simple probability words like "likely," "unlikely," "certain," and "impossible." Encourage them to use these words to describe the chances of events happening in their daily lives.</p>	<p>Finding the Median: -Learn to find the median by putting numbers in order and identifying the one in the middle. Recognize that the median helps us find the middle value in a set of numbers.</p> <p>Understanding the Mean: -Introduce the concept of the mean as the average of a set of numbers. Begin to calculate the mean of small datasets by adding the numbers together and dividing by the count.</p> <p>Estimating Mean from Grouped Data: -Explore how to make an estimate of the mean from grouped data, using simple frequency tables with easy-to-understand categories. Learn the basics of finding a central value from grouped information.</p> <p>Comparing Averages:</p>
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<p>illustrate equal sharing and proportion.</p> <p>Practical Application: -Encourage practical application by having students engage in hands-on activities that involve sharing, proportion, and mixing. For example, they should be able to share a set of toys equally with their peers, compare the sizes of their portions, and help prepare a simple recipe with guidance.</p>	<p>item when given the total cost and quantity.</p> <ul style="list-style-type: none"> - Use the unitary method to calculate one quantity when the unit price and the total are known. <p>Scaling and the Unitary Method:</p> <ul style="list-style-type: none"> - Learn how to use the unitary method to scale quantities up or down, such as converting measurements or adjusting recipes. - Solve problems involving the unitary method in scaling scenarios. <p>Problem-Solving with Ratio, Proportion, and the Unitary Method:</p> <ul style="list-style-type: none"> - Solve complex problems that require the application of ratio, proportion, and the unitary method. - Analyse scenarios where these concepts are essential, 		<ul style="list-style-type: none"> -Start comparing mode, range, median, mean, and estimated mean from grouped data in basic datasets. Begin to recognize which measure works best for different types of data. <p>Constructing Histograms: -Students should be able to create histograms for both discrete and continuous data sets, selecting appropriate class widths and labelling axes accurately to represent the data visually.</p> <p>Analysing Data Distribution: -Learners should be proficient in interpreting histograms to identify the shape of the data distribution, including characteristics such as symmetry, skewness, and modes, and drawing conclusions about the data's central tendency and spread.</p> <p>Construct Cumulative Frequency Tables and Graphs: -Students should be able to construct cumulative frequency tables and graphs for discrete and continuous</p>
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	<p>and apply them to make informed decisions.</p> <p>Compare Lengths, Areas, and Volumes:</p> <ul style="list-style-type: none"> - Students will be able to compare lengths, areas, and volumes using ratio notation and/or scale factors. - Students will make connections between the concept of similarity and the use of trigonometric ratios in solving related problems. <p>Convert Between Compound Units:</p> <ul style="list-style-type: none"> - Students will demonstrate the ability to convert between related compound units (e.g., speed, rates of pay, prices, density, pressure) in both numerical and algebraic contexts. <p>Understand Inverse Proportion:</p>		<p>data, organising data into classes or intervals and computing cumulative frequencies accurately.</p> <p>Use Cumulative Frequency for Analysis:</p> <ul style="list-style-type: none"> -Students should be capable of using cumulative frequency graphs to analyse data, including determining median and quartiles, identifying percentiles, and making comparisons between different data sets to draw conclusions about their distribution and variability. <p>Constructing Histograms:</p> <ul style="list-style-type: none"> -Students should be able to create histograms for both discrete and continuous data sets, selecting appropriate class widths and labelling axes accurately to represent the data visually. <p>Analysing Data Distribution:</p> <ul style="list-style-type: none"> -Learners should be proficient in interpreting histograms to identify the shape of the data distribution, including characteristics such as symmetry, skewness, and modes, and drawing conclusions about the
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	<ul style="list-style-type: none"> - Students will grasp the concept that "X is inversely proportional to Y" is equivalent to "X is proportional to 1/Y." - Students will construct and interpret equations that describe direct and inverse proportion. <p>Interpret Straight Line Graphs:</p> <ul style="list-style-type: none"> - Students will interpret the gradient (slope) of a straight line graph as a rate of change. - Students will recognize and interpret graphs that illustrate direct and inverse proportionality, including identifying key features and trends in the data represented. 		<p>data's central tendency and spread.</p> <p>Construct Cumulative Frequency Tables and Graphs: -Students should be able to construct cumulative frequency tables and graphs for discrete and continuous data, organising data into classes or intervals and computing cumulative frequencies accurately.</p> <p>Use Cumulative Frequency for Analysis:</p> <ul style="list-style-type: none"> -Students should be capable of using cumulative frequency graphs to analyse data, including determining median and quartiles, identifying percentiles, and making comparisons between different data sets to draw conclusions about their distribution and variability.
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