

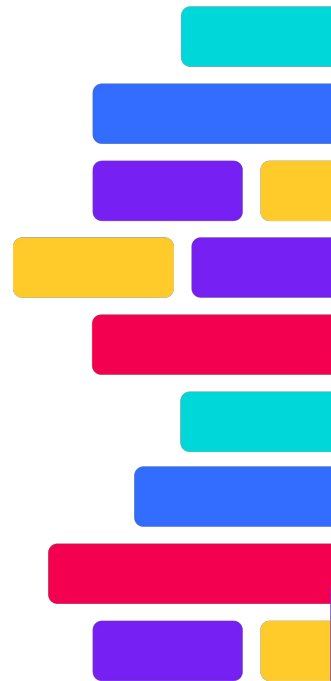
MathsClub

Learning Plans

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Our mastery-focused Learning Plans allow students to dive deeper into the 3 main strands.



These 3 strands are further broken down into the following 6 substrands:

1. Number and Place Value
2. Four Mathematical Operations
3. Fractions and Decimals
4. Measurement
5. Geometry & Shape
6. Statistics & Probability

We recommend that students focus on one substrand over a term, before moving ahead to others.

For each substrand, we offer Support and Stretch plans for each year group to help students work towards achievement standards, at a pace right for them.

- **Support** plans help students to **revise concepts** covered earlier on in school, spending sufficient time plugging learning gaps before teaching new content.
- **Stretch** plans are perfect for students who are on-track to meet or exceed expected level outcomes for their year group, covering **new learning** and providing **challenges**

Mastery Learning Plans: Number & Place Value

Year 4: Needing more support	Year 4	Year 5	Year 6
<ul style="list-style-type: none"> Understanding & classifying odd and even numbers Understanding place value up to ten thousands Partitioning numbers up to ten thousand and rearranging partitions Recognising, comparing and ordering numbers up to ten thousand Rounding numbers to the nearest 10 	<ul style="list-style-type: none"> Properties of odd and even numbers & their usefulness in calculations Recognising, comparing and ordering numbers up to at least tens of thousands Using mathematical symbols to compare numbers Partitioning large numbers to assist calculations and solving problems Rounding numbers to the nearest 10, 100 or 1000 	<ul style="list-style-type: none"> Identifying and describing factors and multiples Understanding the usefulness of factors to check divisibility Highest Common Factor & Lowest Common Multiple Recognising, comparing and ordering numbers up to at least one million Rounding numbers to any place value up to 100,000 Checking calculations using rounding and estimation 	<ul style="list-style-type: none"> Investigating properties of prime, composite, square and triangular numbers Recognising, comparing and ordering numbers up to one hundred million Exploring divisibility with composite numbers Using factor trees to make calculations easier Investigating directed numbers; positioning on a number line, ordering & adding and subtracting

Mastery Learning Plans: Four Mathematical Operations

Year 4: Needing more support	Year 4	Year 5	Year 6
<ul style="list-style-type: none"> Using compensation to add and subtract large numbers Using partitioning to add large numbers (split strategy) Using partitioning to subtract large numbers (without exchanging) Developing fluency of multiplication facts of two, three and five Multiplying 1-digit numbers by 10, and by multiples of 10 Exploring the connection between addition and subtraction 	<ul style="list-style-type: none"> Using partitioning to add and subtract, with exchanging Using the formal method to add and subtract numbers Developing fluency of multiplication and division facts Using informal methods to multiply and divide 2-digit numbers by 1-digit numbers (area model, commutativity, repeated halving) Multiplying and dividing numbers by 10, 100 & 1000 Using knowledge of inverse operations to check calculations 	<ul style="list-style-type: none"> Solving problems involving addition and subtraction using mental and formal methods Using informal and formal methods to multiply & divide 2-or- more-digit numbers by 1-digit numbers (area model; lattice method; formal method; short division) Exploring remainders from division calculations; writing remainders as fractions and as decimals, and understanding appropriate representation in context Using a range of strategies to check solutions to problems 	<ul style="list-style-type: none"> Solving problems involving all four mathematical operations Using informal and formal methods to multiply & divide 2-or- more-digit numbers by 2-digit numbers (area model; formal method; long division) Selecting appropriate methods to add, subtract, multiply and divide & justifying choices Completing division with remainders and representing them accordingly dependent on the context Using a range of strategies to check solutions to problems Exploring the importance of the order of mathematical operations when performing calculations

Mastery Learning Plans: Fractions and Decimals

Year 4: Needing more support	Year 4	Year 5	Year 6
<ul style="list-style-type: none"> • Recognising and modelling quarters, halves, eighths, thirds and fifths • Understanding fractions in real-world contexts • Recognising, modelling and describing unit fractions including diagram representations and number lines • Exploring the decimal system with cents and dollars 	<ul style="list-style-type: none"> • Recognising, modelling and describing unit fractions including diagram representations and positioning on a number line • Counting on in halves, thirds and quarters past one whole • Exploring mixed numbers and improper fractions • Recognising and investigating equivalent fractions • Exploring tenths and hundredths and making connections between decimal & fractional notation 	<ul style="list-style-type: none"> • Comparing and ordering unit fractions and placing them on a number line • Adding and subtracting fractions with the same denominator • Using knowledge of fractions to solve problems in context • Exploring thousandths and beyond and making connections between decimal & fractional notation • Comparing and ordering decimals and placing them on a number line 	<ul style="list-style-type: none"> • Adding and subtracting fractions with the same or related denominators • Understanding how fractions can be used as an operator, and how this is the same as finding a fraction of an amount • Adding and subtracting decimals • Multiplying and dividing decimals by integers, and by powers of 10 • Finding percentages and percentage discounts of an amount • Converting between fractions, decimals and percentages

Mastery Learning Plans: Measurement

Year 4: Needing more support	Year 4	Year 5	Year 6
<ul style="list-style-type: none"> • Understanding what metric units are and how we can measure length, mass and capacity • Comparing measures using metric units • Telling the time to the minute • Reading analogue and digital • Investigating the relationship between units of time 	<ul style="list-style-type: none"> • Reading scales to measure length, capacity and mass • Exploring area informally by comparing shapes • Exploring volume of shapes by counting centicubes • Understanding and converting between units of time; minutes, seconds and hours and solve simple time problems • Reading and interpreting simple timetables, calendars and timelines 	<ul style="list-style-type: none"> • Choosing appropriate units of measurement dependent on the context • Converting between metric units of length, mass and capacity • Calculating the perimeter of 2D shapes • Calculating the area of rectangles • Understanding the 24 hour time format, and converting between 12 hour and 24 hour clocks 	<ul style="list-style-type: none"> • Converting between metric units of length, mass and capacity • Further exploring area and perimeter; understanding how to link the area and perimeter of rectangles • Investigating finding the area of a triangle • Solving problems involving length and area • Understanding volume and capacity, and calculating the volume of rectangular prisms • Creating and interpreting timetables

Mastery Learning Plans: Geometry & Shape

Year 4: Needing more support	Year 4	Year 5	Year 6
<ul style="list-style-type: none"> Identifying and describing regular and irregular shapes Recognising and describing 3D shapes as prisms) Exploring angles and understanding them as measures of turn Recognising angles in real world contexts Interpreting simple maps, exploring position and pathways Understanding symmetry and identifying examples of symmetry in nature 	<ul style="list-style-type: none"> Recognising, describing and comparing types of quadrilaterals Comparing sizes of angles Describing and comparing types of angles in relation to right angles Interpreting simple maps with scales and legends Understanding direction with a compass Using directions to find features on a map 	<ul style="list-style-type: none"> Naming and describing 3D shapes (including prisms and pyramids) Connecting 3D shapes and their nets Estimating, measuring and comparing angles using degrees Interpreting maps and describing locations Investigating types of transformations; translations; reflections; rotations; enlargements Understanding line and rotational symmetry 	<ul style="list-style-type: none"> Identifying 3D shapes (from descriptions of their properties and their nets) Connecting 3D shapes and their nets Understanding angles on a straight line, around a point and vertically opposite angles Calculating missing angles using knowledge of angle facts Understanding how combinations of transformations affect the position and location of a shape Understanding the coordinate system in all four quadrants

Mastery Learning Plans: Statistics & Probability

Year 4: Needing more support	Year 4	Year 5	Year 6
<ul style="list-style-type: none"> Collecting data and organising it into tables Creating and interpreting simple picture graphs (one-to-one scale) Creating and interpreting simple column graphs (one-to-one scale) Understanding simple language of chance (likely; unlikely; certain; uncertain and impossible) 	<ul style="list-style-type: none"> Collecting data and organising it into tables Creating and interpreting picture graphs (one-to-one & one-to-many scale) Creating and interpreting column graphs (one-to-one & one-to-many scale) Investigating chance, dependency and mutually exclusive events 	<ul style="list-style-type: none"> Creating and interpreting dot plots Creating and interpreting line graphs Interpreting data in different contexts Understanding the probability scale Calculating simple probabilities 	<ul style="list-style-type: none"> Creating and interpreting two-way tables Comparing data displays & choosing the most appropriate display for given data Interpreting secondary data Recognising misleading data & reasoning why data can be misleading Describing probabilities using fractions, decimals and percentages

Worked class example



In this example you will see all students have their own **Learning plan** personalised to their requirements.

Group	Student	Year	Substrand	Stretch / Support	Learning Plan
• Mon 1pm	• Jennifer	• Yr 4	• Number & Place Value	• Support	• Y4-NPV-SU
• Mon 1pm	• Lisa	• Yr 4	• Number & Place Value	• Stretch	• Y4-NPV-ST
• Mon 1pm	• Mark	• Yr 4 (working at Yr5 level)	• Number & Place Value	• Support	• Y5-NPV-SU
• Tue & Wed 2pm	• Sam	• Yr 6	• Statistics & Probability	• Support	• Y4-STP-SU
• Tue & Wed 2pm	• Bindi	• Yr 6	• Statistics & Probability	• Stretch	• Y4-STP-ST

For more information or to ask about customised Learning Plans, please email academics@mathsclub.net