



Autumn Learning Journey for Maths

Year 10H Unit 1 - Area and Volume

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How does this unit link to prior learning?

- **Name and sketch as many 2D shapes as possible**
Link to lesson 1 on area of shapes
- **Convert units of measure**
Link to lesson 3 on units of accuracy
- **Be able to round to decimal places and significant figures**
Link to lesson 4 on error intervals
- **Be able to work out the volume of a cuboid**
Link to lesson 6 on volume of prisms
- **Be able to substitute into a formula**
Link to lessons 8-12 on using area and volume formulae
- **Name parts of circles**
Link to lessons 8 – 10 that use circles

Prior Knowledge Check

1. Name as many 2D shapes as you can.
2. Convert the following:
a) $3\text{cm} = \underline{\hspace{1cm}}\text{mm}$ b) $5.5\text{ km} = \underline{\hspace{1cm}}\text{m}$ c) $34\text{m} = \underline{\hspace{1cm}}\text{cm}$
3. Round the following:
a) 5.635 (2dp) b) 63489 (2sf) c) 0.000634 (1sf)
4. What is the volume of cuboid with the dimensions 3m, 5m and 10m?
5. If $a = 5$, calculate the following:
a) $5a + 4$ b) $a^2 - 7$ c) $\frac{1}{2}a + 5a$
6. Name the following parts of the circle: on the right:



What will you be learning about?

- Find the area and perimeter of 2D shapes.
- Calculate the surface area and volume of 3D shapes.
- Solve problems involving parts of shapes or a combination of shapes.
- Convert units and understand boundaries of measurement.

How does this link to the wider curriculum?

- The five British values are embedded in maths lessons through collaborative problem-solving, mutually respecting discussions of different methods, following classroom rules, making independent choices and appreciating diverse perspectives and contributions.

We will develop our learning each week by focusing on:

1) Area of basic shapes

- Recall and use the formulae for area of rectangles, triangles, parallelogram and trapeziums

RAG

2) Perimeter and Area

- Find the perimeter and area of compound shapes.

RAG

3) Units of accuracy

- Convert between metric units of area.
- Convert between metric units of volume.

4) Error Intervals

- Error intervals for rounding and truncating.

5) Bounds Calculate the maximum and minimum possible values of a measurement.				6) Volume of prisms Calculate volumes of prisms.			
7) Surface area of prisms Calculate surface areas of prisms.				8) Area and Circumference of a circle - Calculate the area of a circle - Calculate the are in terms of π. - Calculate the circumference of a circle. - Calculate circumference in terms of π.			
9) Perimeter and area of a Sector - Calculate the perimeter of semicircles and quarter circles. - Calculate arc lengths and angles of sectors of circles. - Calculate the area of semicircles and quarter circles. - Calculate areas of sectors of circles.				10) Volume and surface area of a cylinder - Calculate volume of a cylinder. - Solve problems involving volumes. - Calculate the surface area of a cylinder. - Solve problems involving surface area.			
11) Surface area of spheres, cones and pyramids - Calculate surface area of spheres and hemispheres. - Calculate surface area of pyramids. - Calculate the surface area of cones. - Solve problems involving surface area.				12) Volume of spheres, cones and pyramids - Calculate volume of pyramids. - Calculate the volume of spheres and hemispheres. - Calculate the volume of cones and frustums. - Solve problems involving volumes.			
13) Revision Lesson - Select topics you feel the class need to revise. - Classroom based or Mathswatch.				14) Assessment Lesson (non-calculator) - Do 10-minute top up and go through answers together, students self-assess. - Open book assessment done in silence.			
15) Feedback Lesson - Student to highlight their traffic light sheet. - Teacher to go through test and students to self-assess in green. - Students to complete the NOW section of the WOW-HOW-NOW sheet.							
Key Vocabulary							
Area	Perimeter	Formula	Length	Width	Prism	Measurement	
Polygon	Volume	Nets	Symmetry	Circumference	Bounds	Capacity	

How will this help you in the future?
- Learning area and volume helps people measure space and estimate materials accurately. - These skills are useful for everyday tasks like: - Calculating how much paint is needed for a room - Choosing the right size furniture - Working out how much soil is needed for a garden - Area and volume are important in many careers, including: - Architects and engineers designing buildings - Construction workers calculating materials - Chefs measuring ingredients - Healthcare workers calculating medication dosages and fluid intake - Other careers that rely on these skills include interior design, landscaping, manufacturing, and science. - These skills save time, increase accuracy, and are valuable throughout adult life.



Autumn Learning Journey for Maths

Year 10H Unit 2 – Equations and Inequalities



How does this unit link to prior learning?			
• Solve 2 step equations with integer solutions Link to lesson 1 on solving equations • Find factors of numbers Link to lesson 2 on factorising quadratic expressions • Substitute into a formula Link to lesson 4 on the quadratic formula • Understand the meaning of inequality signs Link to lesson 9 on solving inequalities			
Prior Knowledge Check			
1. Solve: a) $2x + 3 = 19$ b) $7x - 3 = 25$ c) $2x^2 = 128$ 2. Find the all the common factors of the following numbers: a) 16 and 20 b) 35 and 60 c) 30 and 56 3. If $a = 3$, $b = 6$ and $c = -2$, work out the following: a) $5a + 7$ b) $ab - 6$ c) $c^2 + 3a$ 4. Write down 3 integers that would satisfy: a) $x \geq 3$ b) $x < 4$ c) $2 \leq x < 6$			
What will you be learning about?		How does this link to the wider curriculum?	
• Be able to solve quadratic equations (including the quadratic formula). • Solve linear and quadratic simultaneous equations. • Solve inequalities.		• The five British values are embedded in maths lessons through collaborative problem-solving, mutually respecting discussions of different methods, following classroom rules, making independent choices and appreciating diverse perspectives and contributions.	
We will develop our learning each week by focusing on:			
1) Solving Linear Equations • Solve 2 step equations including brackets and fractions • Solve 3 step equations	RAG	2) Factorising quadratic expressions • Factorise quadratic expressions including with coefficients of x^2.	RAG
3) Solving quadratic equations. • Solve quadratic equations by factorising • Find the roots of quadratic functions. • Rearrange and solve simple quadratic equations.		4) Quadratic formula • Solve more complex quadratic equations. • Use the quadratic formula to solve a quadratic equation.	
5) Completing the square • Complete the square for a quadratic expression. • Solve quadratic equations by completing the square.		6) Solving simple simultaneous equations • Solve simple simultaneous equations using the elimination method. • Solve simultaneous equations for real-life situations.	

7) More simultaneous equations - Solve linear simultaneous equations where both equations are multiplied. - Interpret real-life situations involving two unknowns and solve them.				8) Solving linear and quadratic simultaneous equations - Solve simultaneous equations with one quadratic equation using substitution method. - Use real-life situations to construct quadratic and linear equations and solve them.			
9) Solving linear inequalities Solve inequalities and show the solution on a number line and using set notation, including with an expression in-between.				10) Revision Lesson - Select topics you feel the class need to revise. - Classroom based or Mathswatch.			
11) Assessment Lesson (non-calculator) - Do 10-minute top up and go through answers together, students self-assess. - Open book assessment done in silence.				12) Feedback Lesson - Student to highlight their traffic light sheet. - Teacher to go through test and students to self-assess in green. - Students to complete the NOW section of the WOW-HOW-NOW sheet.			
Key Vocabulary							
Quadratic	Linear	Solve	Substitute	Formula	Simultaneous	Set notation	

How will this help you in the future?
Solving Linear Equations - Develops logical problem-solving skills used across mathematics and science. - Provides a foundation for algebra used in engineering, finance, and technology. Factorising Quadratic Expressions - Supports solving more advanced algebraic problems. - Builds skills needed for higher-level mathematics, science, and engineering. Solving Quadratic Equations - Helps model real-life situations involving area, motion, and design. - Develops analytical skills used in STEM subjects and careers. Quadratic Formula - Provides a reliable method for solving any quadratic equation. - Supports advanced studies in mathematics, physics, and engineering. Completing the Square - Helps pupils understand the structure and graphs of quadratic functions. - Develops algebraic fluency needed for higher-level mathematics. Solving Simple Simultaneous Equations - Helps solve problems involving multiple unknown quantities. - Supports applications in economics, science, and engineering. More Simultaneous Equations - Develops resilience and accuracy in multi-step problem solving. - Builds skills used in modelling and analysing real-world situations.



Spring Learning Journey for Maths

Year 10H Unit 3 – Multiplicative Reasoning

How does this unit link to prior learning?			
• Calculate percentages of numbers Links to lesson 1 on percentage increase and decrease • Convert between seconds, minutes and hours Links to lesson 4 on speed, distance and time • Find the highest common factors of numbers Links to lesson 6 on ratio recap • Substitute into formulae Links to lessons 7-9 on proportion			
Prior Knowledge Check			
1. Work out the following: a) 20% of £34 b) 17% of 40 c) 0.5% of £120 d) 12% of 1km 2. Convert the following: a) 2.25 hours into minutes b) 45 seconds into minutes c) 0.6 hours into minutes 3. Find the highest common factors of the following numbers: a) 50 and 35 b) 30 and 18 c) 16, 20 and 32 4. If $a = 5$, work out: a) $3a + 4$ c) $2a^2$ d) $3a^3 + 2a$			
What will you be learning about?		How does this link to the wider curriculum?	
• Use reasoning to work with multiplication and percentages, including ratio and proportion. • Calculate the result of repeated percentage calculation over a period of time. • Use compound measures, including time and speed, in real-life calculations.		• The five British values are embedded in maths lessons through collaborative problem-solving, mutually respecting discussions of different methods, following classroom rules, making independent choices and appreciating diverse perspectives and contributions.	
We will develop our learning each week by focusing on:			
1) Percentage increase and decrease • Work out problems involving percentage increase and decrease • Use a multiplier	RAG	2) Percentage change and reverse percentages. • Find the percentage change from a problem. • Work out reverse percentage problems	RAG
3) Growth and decay • Find an amount after repeated percentage changes. • Solve growth and decay problems.		4) Distance Speed and Time • Calculate rates. • Convert between metric speed measures. • Use a formula to calculate speed and acceleration.	
5) Compound Measures • Use a formula to calculate between mass, density and volume. • Use a formula to calculate between pressure, force and area.		6) Ratio recap • Simplifying ratio. • Simplifying ratio in the form 1:n or n:1. • Share quantities into a given ratio.	

7) Ratio and Proportion problems Solve complex ratio problem Eg. Put together 3 parts/ linking to fractions				8) Direct Proportion Solve problems involving direct proportion.			
9) Inverse Proportion Solve problems involving direct proportion				10) Direct and Inverse Proportion Solve problems combining both direct and inverse proportion.			
11) Revision Lesson - Select topics you feel the class need to revise. - Classroom based or Mathswatch.				12) Assessment Lesson (non-calculator) - Do 10-minute top up and go through answers together, students self-assess. - Open book assessment done in silence.			
13) Feedback Lesson - Student to highlight their traffic light sheet. - Teacher to go through test and students to self-assess in green. - Students to complete the NOW section of the WOW-HOW-NOW sheet.							
Key Vocabulary							
Ratio	Proportion	Speed	Distance	Time	Direct	Indirect	
Growth	Decay	Rate	Depreciation	Density	Pressure	Constant	

How will this help you in the future?
Percentage Increase and Decrease - Helps pupils understand discounts, pay rises, inflation, and changes in prices. - Develops financial skills needed for budgeting and managing money. Percentage Change and Reverse Percentages - Helps pupils work out original values after discounts, tax changes, or percentage increases. - Supports decision-making when interpreting financial information and statistics. Growth and Decay - Helps pupils understand savings, investments, depreciation, and population changes. - Develops skills used in business, science, and economic forecasting. Distance, Speed and Time - Helps pupils plan journeys and calculate travel times efficiently. - Supports careers and real-life situations involving transport, sport, and engineering. Compound Measures - Helps pupils apply mathematical formulas to solve practical scientific and engineering problems. - Supports understanding of how mass, volume, density, pressure, and force are used in the real world. Ratio and Proportion Problems - Develops logical thinking through solving multi-step real-world problems. - Supports applications in finance, construction, design, and manufacturing. Direct Proportion - Helps pupils understand how one quantity changes in relation to another. - Useful in situations involving pay, recipes, scaling, and scientific investigations. Inverse Proportion - Helps pupils understand relationships where increasing one factor decreases another. - Useful for solving problems involving time, speed, efficiency, and resources.



Spring Learning Journey for Maths

Year 10H Unit 4 – Probability



How does this unit link to prior learning?			
• Calculate with fractions and decimals Link to most lessons • Use probability to predict the future Links to lessons 3 and 4 on mutually exclusive events and experimental probability • Draw a two way table from a worded problem Link to lesson 8 on two way tables			
Prior Knowledge Check			
1. Work out the following: a) 0.3×0.4 b) $2/7 + 4/7$ c) $0.12 + 0.145$ d) $4/5 \times 3/8$ 2. In a game, a fair spinner is spun; the probability of landing on each of the four colours is equal. If I spin it 100 times, how often would I expect to see a green? 3. 32 pupils are asked if they wear glasses. 6 of the 18 girls who were asked said they wore glasses. 10 of the boys asked did not wear glasses. a) Draw and complete a two-way table to show this information			
What will you be learning about?		How does this link to the wider curriculum?	
• Calculate probability for mutually exclusive, combined, and independent events. • Calculate probabilities for repeated events and conditional events. • Use Venn diagrams and set notation.		• The five British values are embedded in maths lessons through collaborative problem-solving, mutually respecting discussions of different methods, following classroom rules, making independent choices and appreciating diverse perspectives and contributions.	
We will develop our learning each week by focusing on:			
1) Combined events • Use the product rule for finding the number of outcomes for two or more events.	RAG	2) Sample Space diagrams • Use sample space diagrams to calculate probabilities of events.	RAG
3) Mutually exclusive events • Identify mutually exclusive outcomes and events. • Find the probabilities of mutually exclusive outcomes and events. • Find the probability of an event not happening.		4) Experimental probability • Work out the expected results for experimental and theoretical probabilities. • Compare real results with theoretical expected values to see if a game is fair.	
5) Frequency Trees • Draw and use frequency trees.		6) Tree Diagrams • Draw and use probability tree diagrams. • Calculate probabilities of repeated events.	

7) Conditional probability with Tree Diagrams - Decide if two events are independent. - Draw and use tree diagrams to calculate conditional probability. - Draw and use tree diagrams without replacement.				8) Two-way tables Use two-way tables to calculate conditional probability.			
9) Venn diagrams and set notation - Use Venn diagrams to calculate conditional probability. - Use set notation.				10) Revision Lesson - Select topics you feel the class need to revise. - Classroom based or Mathswatch. - problems involving direct proportion.			
11) Assessment Lesson (non-calculator) - Do 10-minute top up and go through answers together, students self-assess. - Open book assessment done in silence.				12) Feedback Lesson - Student to highlight their traffic light sheet. - Teacher to go through test and students to self-assess in green. - Students to complete the NOW section of the WOW-HOW-NOW sheet.			
Key Vocabulary							
Probability	Set notation	Product Rule	Sample Space	Venn Diagram	Combined	Conditional	
Event	Outcomes	Experimental	Theoretical	Independent	Product	Expected	

How will this help you in the future?
Combined Events - Develops systematic problem-solving and logical thinking skills. - Supports careers involving planning, computing, statistics, and data analysis. Sample Space Diagrams - Helps pupils organise information clearly and accurately. - Builds a foundation for probability, statistics, and decision-making. Mutually Exclusive Events - Develops understanding of risk and chance in everyday situations. - Supports informed decision-making using probabilities. Experimental Probability - Helps pupils interpret real-world data and trends. - Supports scientific investigations and evaluating fairness. Frequency Trees - Develops skills in organising and analysing data. - Useful in statistics, business, and scientific research. Tree Diagrams - Helps model complex situations involving multiple events. - Supports studies in probability, finance, and data science. - Useful for understanding risk, predictions, and real-world decision-making. Two-Way Tables - Helps pupils interpret and analyse data effectively. - Supports statistical studies and evidence-based decision-making. Venn Diagrams and Set Notation - Develops logical thinking and data interpretation skills. - Supports advanced mathematics, computing, and statistical analysis.



Spring Learning Journey for Maths

Year 10H Unit 5 – Similarity and Congruence

How does this unit link to prior learning?

- **Angles in a triangle**
Links to lesson 1 on congruent triangles
- **Properties of 2D shapes**
Links to lesson 2 on proving congruency
- **Volume of 3D shapes**
Links to lesson 4 on similar shapes
- **Squares, cubes and roots**
Links to lesson 4 on similar shapes

Prior Knowledge Check

1. What is the missing angle in a triangle if the other two angles are 65° and 85° ?
2. a) What do you know about opposite angles in a parallelogram?

b) What do you know about adjacent angles in a parallelogram?
3. What is the volume of a cuboid of lengths 4cm, 5cm and 8cm?
4. What are the following?
a) $\sqrt[3]{125}$ b) 4^3 c) $\sqrt{2500}$ d) 0.3^2

What will you be learning about?

- Be able to spot and prove if shapes are congruent.
- To use the ratios to find missing lengths, areas and volumes in similar shapes.

How does this link to the wider curriculum?

- The five British values are embedded in maths lessons through collaborative problem-solving, mutually respecting discussions of different methods, following classroom rules, making independent choices and appreciating diverse perspectives and contributions.

We will develop our learning each week by focusing on:

1) Congruence • Show that two triangles are congruent. • Know the conditions of congruence.	RAG	2) Geometric proof and congruence • Prove shapes are congruent. • Solve problems involving congruence.	RAG
3) Similarity • Use the ratio of corresponding sides to work out scale factors. • Find missing lengths on similar shapes. • Use similar triangles to work out lengths in real life.		4) More similarity • Use the link between linear scale factor and area scale factor to solve problems. • Use the link between scale factors for length, area and volume to solve problems.	
5) Revision Lesson • Select topics you feel the class need to revise. • Classroom based or Mathswatch.		6) Assessment Lesson • Do 10-minute top up and go through answers together, students self-assess. • Open book assessment done in silence.	

7) Feedback Lesson • Student to highlight their traffic light sheet. • Teacher to go through test and students to self-assess in green. • Students to complete the NOW section of the WOW-HOW-NOW sheet.						
Key Vocabulary						
Congruency	Similar	Enlargement	Scale factor	Perimeter	Angle	Side
Shape	Volume	Length	Frustum	Construction	Area	Compass

How will this help you in the future?	
1) Congruence • Architects use congruent shapes when designing buildings and structures. • Manufacturers use congruence to ensure products are made accurately. • Computer game designers use congruent shapes when creating 3D models and environments. • Construction workers use congruent measurements to ensure buildings are safe and symmetrical. • Engineers must justify that designs are safe using logical reasoning and proof. • Scientists use evidence and reasoning to support conclusions. • Lawyers and detectives use logical arguments similar to mathematical proof. • Learning proof develops problem-solving and critical thinking skills useful in many careers.	
2) Similarity • Architects use scale drawings and models before constructing buildings. • Map makers use similarity to represent large distances on small maps. • Photographers enlarge and reduce images while keeping them in proportion. • Surveyors use similar triangles to calculate inaccessible distances and heights. • Engineers use scale models to test designs before building full-size versions. • Builders estimate how much material is needed for larger structures. • Engineers calculate how changes in size affect volume and capacity. • Manufacturers design products in different sizes while predicting material costs. • Scientists use scaling relationships when studying animals, plants and ecosystems. • Packaging designers calculate how much a container can hold and how much material is needed to make it.	



Summer Learning Journey for Maths

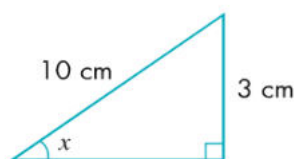
Year 10H Unit 6 – Further Trigonometry

How does this unit link to prior learning?

- **Trigonometry**
Links to lessons 2 and 3 on trigonometry
- **Bearings**
Links to lesson 9 on using the cosine rule to solve bearings problems
- **Pythagoras' Theorem**
Links to lesson 10 on 3D Pythagoras' Theorem and trigonometry

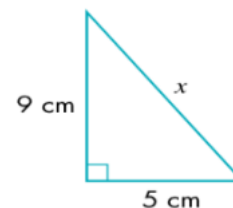
Prior Knowledge Check

1) Find the missing angle



2) The bearing of B from A is 40° .
What is the bearing of A from B?

3) Find the missing side



What will you be learning about?

- Use and understand the trigonometric graphs.
- Use the sine and cosine functions to solve problems.
- Use the sine rule to find the area of triangles.

How does this link to the wider curriculum?

- The five British values are embedded in maths lessons through collaborative problem-solving, mutually respecting discussions of different methods, following classroom rules, making independent choices and appreciating diverse perspectives and contributions.

We will develop our learning each week by focusing on:

1) **Accuracy**

- Understand and use upper and lower bounds in calculations.

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2) **Using Trigonometry to find missing sides and angles.**

- Use sine, cosine and tangent to find any missing side of a triangle.
- Use sine, cosine and tangent to find any missing angles in a triangle.

•

3) **Recognising and using trigonometric graphs (Sine graph)**

- Recognising and drawing the sine graph
- Use the sine graph.

4) **Recognising and using trigonometric graphs (cosine and tangent graphs)**

- Recognising and drawing the cosine and tangent graphs.
- Use the cosine and tangent graphs.

5) **Transforming trigonometric graphs**

- Recognise how changes in a function affect trigonometric graphs.

6) **Sine Rule**

- Understand when to use sine or cosine rule.

7) Cosine rule Use the cosine rule to solve 2D problems.				8) Calculating areas and the sine rule - Find the area of a triangle and a segment of a circle. - Use the sine rule to solve 2D problems.			
9) Bearings Solve bearings problems using trigonometry.				10) 3D Pythagoras' Theorem and Trigonometry - Use Pythagoras' theorem in 3D. - Use trigonometry in 3D.			
11) Revision Lesson - Select topics you feel the class need to revise. - Classroom based or Mathswatch. - problems involving direct proportion.				12) Assessment Lesson - Do 10-minute top up and go through answers together, students self-assess. - Open book assessment done in silence. - Draw and use tree diagrams without replacement.			
13) Feedback Lesson - Student to highlight their traffic light sheet. - Teacher to go through test and students to self-assess in green. - Students to complete the NOW section of the WOW-HOW-NOW sheet.							
Key Vocabulary							
Sine	Cosine	Tangent	Plane	Coordinates	Angle	Transformation	
Axes	Graph	Side	Inverse	Diagonal	2D	3D	

How will this help you in the future?
- Further trigonometry is useful in adult life because it helps people understand and calculate relationships involving angles, distances, and movement, especially in more complex situations. - Adults use trigonometry when estimating heights and distances, navigating using maps or GPS systems, designing objects, or analysing motion. - It is also important for understanding waves, sound, and light, which appear in everyday technologies such as phones, radios, and the internet. - Trigonometry supports accurate problem-solving in situations where direct measurement is difficult or impossible.
Many jobs involve further trigonometry. Engineers use it to design bridges, buildings, machines, and electrical systems. Architects rely on trigonometry to create precise and safe building designs. Surveyors use it to measure land and distances accurately. Physicists and astronomers apply trigonometry to study motion, forces, and space. Pilots, navigators, and maritime officers use trigonometry for navigation and course planning - Careers in computer graphics, animation, and game design also use trigonometry to model movement and create realistic visuals. - Overall, further trigonometry is a key mathematical tool in many technical and scientific careers.



Summer Learning Journey for Maths

Year 10H Unit 7 – Further Statistics



How does this unit link to prior learning?

- **Multiplying fractions and integers**
Links to lesson 1 on sampling
- **Discrete and continuous data**
Links to lesson 1 on sampling
- **Inequalities notation**
Links to lesson 2 on cumulative frequency
- **Averages**
Links to lesson 3 on box plots

Prior Knowledge Check

- Calculate the following:
 a) $\frac{2}{3} \times 4$ b) $\frac{7}{8} \times 3$ c) $\frac{5}{9} \times 6$
- What is the difference between discrete and continuous data? Give examples of each.
- What numbers are represented in these inequalities?
 a) $3 < x < 10$ b) $-2 \leq x < 1$
- Find the median and range of this set of numbers:
 4 2 6 2 5 3 8 3

What will you be learning about?

- Work with data to produce and interpret cumulative frequency graphs, box plots and histogram

How does this link to the wider curriculum?

- The five British values are embedded in maths lessons through collaborative problem-solving, mutually respecting discussions of different methods, following classroom rules, making independent choices and appreciating diverse perspectives and contributions.

We will develop our learning each week by focusing on:

1. Sampling	RAG	2. Cumulative frequency	RAG
• Understand how to take a simple random sample. • Understand how to take a stratified sample.		• Draw and interpret cumulative frequency tables and diagrams. • Work out the median, quartiles and interquartile range from a cumulative frequency diagram.	
3. Box Plots. • Draw and interpret box plots, understanding the relevance of each part.		4. Drawing and interpreting histograms • Understand frequency density. Draw histograms.	

5. Revision Lesson • Select topics you feel the class need to revise. • Classroom based or Mathswatch.				6. Assessment Lesson (non-calculator) • Do 10-minute top up and go through answers together, students self-assess. • Open book assessment done in silence. • Draw and use tree diagrams without replacement.			
7. Feedback Lesson • Student to highlight their traffic light sheet. • Teacher to go through test and students to self-assess in green. • Students to complete the NOW section of the WOW-HOW-NOW sheet.							
Key Vocabulary							
Sample	Population	Frequency	Frequency density	Quartiles	Median	Cumulative	
Bias	Stratified sample	Average	Spread	Comparison	Outlier	Range	

How will this help you in the future?	
1. Sampling - Companies use sampling to find out what customers think about products and services. - Governments use samples to understand the views and needs of the population. - Doctors and scientists use samples when carrying out medical research. - Market researchers use stratified samples to ensure different groups are represented fairly. - Polling organisations use sampling to predict election results. - Sampling helps people make decisions without needing to collect data from everyone.	
2. Cumulative Frequency - Businesses use cumulative data to track sales and profits over time. - Hospitals use cumulative information to monitor patient numbers and waiting times. - Sports analysts use cumulative statistics to measure performance. - Scientists use cumulative frequency graphs to analyse experimental results. - Understanding quartiles helps compare large sets of data in many careers. - Data analysts use cumulative frequency to identify trends and patterns.	
3. Box Plots - Data analysts use box plots to compare different groups quickly. - Scientists use box plots to identify unusual results and outliers. - Businesses compare customer satisfaction data using box plots. - Medical researchers compare treatment outcomes using box plots. - Employers and researchers use box plots to understand variation in data. - Box plots help people make informed decisions based on evidence.	
4. Drawing and Interpreting Histograms - Engineers use histograms to check the consistency of manufactured products. - Scientists use histograms to analyse large sets of experimental data. - Businesses use histograms to understand customer behaviour and trends. - Quality control teams use histograms to identify problems in production. - Environmental scientists use histograms to study weather and climate data. - Histograms help people interpret real-world data and make evidence-based decisions.	