Year 7	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Curriculum Content	Rounding Multiplying and Dividing powers of ten Multiplication Directed Numbers Simplifying Algebra	Metric Units Division Averages Perimeter Factors, multiples and primes	Substitution Fractions, decimals, and percentages Powers and roots Solving equations Area	Equivalent fractions Order of operations Percentages 2d shapes Fractions; addition and subtraction	Angle rules Coordinates Fractions: multiplication and division Sequences Reflection and translation	Interpreting and displaying data Probability Ratio
Prior knowledge (from previous year/ key stage).	**Students will:** Know how to round to 10, 100, 1000. Know times tables Know what negative numbers are.	**Students will:** Know the metric units of length, mass and capacity. Know times tables. Know what averages are. Know how to find the perimeter of simple shapes.	**Students will:** Know what fractions, decimals and percentages are. Know the first 10 square numbers. Know how to find the area of a rectangle.	**Students will:** Know basic equivalent fractions. Know percentage means out of 100. Name 2d shapes. Add and subtract fractions with the same denominator.	**Students will:** Plot coordinates in the first quadrant. Continue simple sequences. Know what reflections are.	**Students will:** Organize data in tally and bar charts. Describe the likelihood of an event using words. Compare quantities by size.
Key skills	**Students will:** Round numbers to a given degree of accuracy. Multiply integers and decimals. Calculate with directed numbers. Simplify algebraic expressions.	**Students will:** Convert between units of measure. Divide integers and decimal. Calculate and use averages. Calculate perimeter. Find LCM and HCF.	**Students will:** Substitute into expressions and formulae. Convert and order fractions, decimals and percentages. Calculate with powers and roots. Form and solve equations. Calculate area.	**Students will:** Find equivalent fractions and order fractions. Calculate using BIDMAS. Calculate percentage increase and decrease. Name and know the properties of 2D shapes. Add and subtract fractions and mixed numbers.	**Students will:** Identify and use angle rules. Read and plot coordinates and draw linear graphs. Multipliy and divide fractions and mixed numbers. Continue sequences and find the rules. Reflect and translate shapes.	**Students will:** Interpret and display data using different charts. Understand probability and calculate the probability of events happening. Simplify ratio and share in a given ratio.
Assessment	Small assessment testing each modules work.	Small assessment testing each modules work. End of term assessment.	Small assessment testing each modules work.	Small assessment testing each modules work.	Small assessment testing each modules work.	Small assessment testing each modules work. End of year assessment.
How can you help?	**Encourage your child to:** Complete Sparx Maths. Learn and discuss key words and definitions.	**Encourage your child to:** Complete Sparx Maths. Learn and discuss key words and definitions.	**Encourage your child to:** Complete Sparx Maths. Learn and discuss key words and definitions.	**Encourage your child to:** Complete Sparx Maths. Learn and discuss key words and definitions.	**Encourage your child to:** Complete Sparx Maths. Learn and discuss key words and definitions.	**Encourage your child to:** Complete Sparx Maths. Learn and discuss key words and definitions.

	Find where negative numbers are used in real life	Calculate the perimeter of each room in your house.	Calculate the area of each room in your house.	Look for and name all the 2D shapes in your house.	Find sequences used in everyday life.	Look at graphs and charts in the news; what do they mean?

Year 8	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Curriculum Content	Place value Fractions, decimals and percentages Simplifying algebra Percentages Data	Ratio Proportion Area and Perimeter Fractions: Four rules	Linear graphs Sequences Indices Product of prime factors, LCM, HCF Averages, misleading data	Scatter diagrams Angle rules Decimal division Substitution Volume and surface area	Angles in polygons Compound measures Standard form Solving equations	Transformations Enlargement Real life graphs
Prior knowledge (from previous year/ key stage)	**Students will:** Know how to round to 10, 100, 1000. Know mental conversions of fractions, decimals and percentages. Know how to collect like terms. Know percentage means out of 100. Organize data in tally, bar charts and pictograms.	**Students will:** Compare quantities by size. Know metric units for mass. Know different forms of currency. Know the names of 2D shapes. Find area and perimeter or rectangles. Add and subtract fractions with the same denominator.	**Students will:** Plot coordinates in all quadrants. Continue simple sequences. Know how to find a term-to-term rule. Know the first 10 square numbers. Know what factors, multiples and primes are. Know what averages are.	**Students will:** Plot coordinates. Know what angles on a line and around a point sum to. Know how to divide using bus stop method.	**Students will:** Know what angles on a line and around a point sum to. Name 2D shapes. Know units of time. Know the inverse operations. Know how to solve one step equations.	**Students will:** Plot coordinates in all quadrants. Know line symmetry. Translate shapes using words. Know how to convert currencies. Know time conversions. Know what speed is.
Key skills	**Students will:** Round numbers and estimate answers. Convert and order fractions, decimals and percentages. Simplify expressions and expand brackets. Calculate percentages. Represent data in different formats.	**Students will:** Simplify ratio and solve ratio problems. Use proportion to change recipes, calculate best buy and exchange currency. Find the area and perimeter of 2D shapes. Add, subtract, multiply and divide fractions.	**Students will:** Draw linear graphs. Continue sequences and find the nth term rule. Use laws of indices to simplify expressions. Calculate HCF and LCM using the product of prime factors. Use averages to understand data and calculate missing values.	**Students will:** Plot and interpret scatter diagrams. Use angle rules to solve angle problems. Divide using decimals. Substitute values into expressions and formulae. Calculate the volume and surface area of 3D shapes.	**Students will:** Find the interior and exterior angles of polygons. Use compound measures to find speed, density and pressure. Form and solve equations.	**Students will:** Reflect, translate, rotate and enlarge shapes. Darw and interpret graphs of real-life situations.

Assessment	Small assessment testing each modules work.	Small assessment testing each modules work.	Small assessment testing each modules work. Half year assessment.	Small assessment testing each modules work.	Small assessment testing each modules work.	Small assessment testing each modules work. End of year assessment.
How can you help?	Complete Sparx Maths. Learn and discuss key words and definitions. Calculate sale prices using percentages.	Complete Sparx Maths. Learn and discuss key words and definitions. Look at recipes and how they can be altered to make different quantities.	Complete Sparx Maths. Learn and discuss key words and definitions. Find the average age of everybody in the family.	Complete Sparx Maths. Learn and discuss key words and definitions. Find the volume of different household containers.	Complete Sparx Maths. Learn and discuss key words and definitions. Look for different polygons around the house and garden.	Complete Sparx Maths. Learn and discuss key words and definitions. Draw a travel graph for the journey to school.

Year 9 Higher	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Curriculum Content	Inequalities Direct and inverse proportion Expressions Construction and loci Equations Quadratics Congruency	Scatter diagrams Errors bounds Percentages Compound measures Equation of a line Circles Stem and leaf diagrams	Sequences Volume and surface area Arcs and sectors Interest Averages Changing the subject of a formula	Pythagoras' theorem Simultaneous equations Standard form Probability Vectors Indices	Transformation Trigonometry Relative frequency Similar shapes Kinematics Recurring decimals	Histograms Cumulative frequency Box plots Functions Graphs Algebraic fractions
Prior knowledge (from previous year/ key stage)	**Students will:** Know how to solve one and two step equations. Find the best value. Change between currencies. Simplify expressions. Draw accurately with a ruler. Name 2D shapes. Know the properties of 2D shapes	**Students will:** Plot coordinates. Know percentage means out of 100. Know how to find mental percentages (50%, 25% 10% and 1%). Know time conversions. Know how to find area of rectangles, triangles and parallelograms. Order numbers.	**Students will:** Continue simple sequences. Know how to find a term-to-term rule. Name 3D shapes. Know how to find area of rectangles, triangles and parallelograms. Find a percentage of a quantity. Know what averages are. Solve one and two step equations.	**Students will:** Know the first 10 square numbers. Solve one and two step equations. Know that probabilities add to 1. Translate shapes using vectors. Know how to use index notation.	**Students will:** Plot coordinates in all four quadrants. Identify line symmetry and rotational symmetry. Identify the hypotenuse of a right-angle triangle. Know that probabilities add to 1. Enlarge shapes by a scale factor. Know how to find speed. Divide decimals using the bus stop method.	**Students will:** Organize data in tally and bar charts. Solve two step equations. Plot coordinates in all four quadrants. Draw linear graphs. Simplify expressions. Expand brackets.
Key skills/ powerful knowledge	**Students will:** Solve inequalities and represent their results on a number line.	**Students will:** Draw and interpret scatter diagrams.	**Students will:** Find the nth term rule of sequences and know special sequences.	**Students will:** Know and use Pythagoras' Theorem to	**Students will:** Reflect, translate, rotate and enlarge shapes and	**Students will:** Know what frequency density is and draw histograms.

	Use direct and inverse proportion to solve problems. Expand brackets and factorise expressions. Construct line and angle bisectors and solve loci problems. Form and solve equations. Factorise and solve quadratics. Know the rules of congruency.	Find error intervals and use them to calculate. Calculate with percentages. Use compound measures to find speed, density and pressure. Find the equation of a line. Find the area and circumference of circles and part circles. Represent and interpret data in stem and leaf diagrams.	Find the volume and surface area of 3D shapes. Find the area of sectors and length of arcs. Calculate compound and simple interest. Calculate with averages. Change the subject of a formulae.	solve problems in right-angled triangles. Form and solve simultaneous equations. Calculate probability using Venn and tree diagrams. Use vectors to describe movement. Use the rules of indices to simplify expressions.	describe transformations. Know the trigonometric ratios and use trigonometry to solve problems in right-angled triangles. Use relative frequency to calculate the chance of an event happening. Find missing sides in similar shapes. Find velocity, time and displacement. Change recurring decimals into fractions.	Plot and interpret cumulative frequency polygons and boxplots. Understand and know how to use function notation. Draw quadratic, cubic and reciprocal graphs. Simplify algebraic fractions.
Assessment	Small assessment testing each modules work.	Small assessment testing each modules work.	Small assessment testing each modules work. Half year assessment.	Small assessment testing each modules work.	Small assessment testing each modules work.	Small assessment testing each modules work. End of year assessment.
How can you help?	Complete Sparx Maths. Learn and discuss key words and definitions. Look at currency exchange rates on different days in the week.	Complete Sparx Maths. Learn and discuss key words and definitions. Calculate the speed for different journeys.	Complete Sparx Maths. Learn and discuss key words and definitions. Look at different savings accounts and compare the interest rates.	Complete Sparx Maths. Learn and discuss key words and definitions. Calculate the probability of winning the National lottery.	Complete Sparx Maths. Learn and discuss key words and definitions. Carry out a survey and calculate the relative frequency.	Complete Sparx Maths. Learn and discuss key words and definitions. Look for histograms in the news.

Year 9 Foundation	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Curriculum Content	Order of operations Rounding Using a calculator Simplifying algebra Ratio Substitution Constructing shapes	Solving Equations Linear Graphs Fractions, decimals and percentages Properties of shapes Sequences Decimals	Area and perimeter Angle rules Volume and surface area Percentages Transformations	Pie charts Powers and roots 3d shapes Probability Decimals Similarity	Fractions; four rules Circles Product of primes, HCF, LCM Representing data Averages	Proportion Plans and elevations Compound measures Scale drawings

Prior knowledge (from previous year/ key stage)	**Students will:** Know the order of operations. Know how to round to 10, 100, 1000. Know what like terms are. Draw accurately using a ruler. Measure and draw angles using a protractor.	**Students will:** Solve one and two step equations Plot coordinates in all four quadrants. Know that percentage means out of 100. Name 2D and 3D shapes. Continue an arithmetic sequence. Write the term-to-term rule for a sequence. Know place value headings.	**Students will:** Find area and perimeter or rectangles. Name 3D shapes Know that percentage means out of 100. Know how to find simple mental percentages (50%, 25% 10% and 1%). Know how to translate a shape from words. Know line symmetry.	**Students will:** Organize data in tally and bar charts. Know the first 10 square numbers. Know that probabilities add to 1. Multiply using column method. Divide using bus stop method.	**Students will:** Change between mixed numbers and improper fractions. Simplify fractions by cancelling. Find area and perimeter or rectangles. Know what factors, multiples and primes are. Organize data in tally and bar charts.	**Students will:** Compare quantities by size. Name 2D and 3D shapes. Know time conversions. Draw accurately using a ruler. Use a protractor to draw and measure angles.
Key skills/ powerful knowledge	**Students will:** Calculate using BIDMAS. Round to a given degree of accuracy and estimate answers. Use a calculator efficiently. Simplify algebraic expressions and expand brackets. Substitute numbers into expressions and formulae. Construct 2D shapes using a ruler, protractor and compass.	**Students will:** Form and solve equations. Plot coordinates and linear graphs. Find percentage increases and decreases. Know the properties of 2D and 3D shapes. Continue sequences and find the nth term rule. Understand and order decimals.	**Students will:** Calculate the area and perimeter of 2D shapes. Find the volume and surface area of 3D shapes. Calculate percentage increases and decreases. Reflect, translate, rotate and enlarge shapes and describe transformations.	**Students will:** Interpret and draw pie charts. Calculate with powers and roots. Find the probability of an event happening and represent data in sample space and Venn diagrams. Multiply and divide using decimals. Understand similarity and find missing lengths in shapes.	**Students will:** Add, subtract, multiply and dive fractions and mixed numbers. Find the area and circumference of circles. Use the product of prime factors to find HCF and LCM. Represent and interpret data using frequency polygons and charts. Calculate and interpret data using averages.	**Students will:** Use proportion to solve problems involving recipes, best buy and currency. Darw 2D plans and elevations of 3D shapes. Use compound measures to find speed, distance and time. Know what bearings are, use bearings and scale to make accurate drawings.
Assessment	Small assessment testing each modules work.	Small assessment testing each modules work.	Small assessment testing each modules work. Half year assessment.	Small assessment testing each modules work.	Small assessment testing each modules work.	Small assessment testing each modules work. End of year assessment.
How can you help?	Complete Sparx Maths. Learn and discuss key words and definitions. Find numbers in the news and round them to the nearest 100.	Complete Sparx Maths. Learn and discuss key words and definitions. Find and name 2D shapes around the home.	Complete Sparx Maths. Learn and discuss key words and definitions. Calculate the area of the walls of a room and calculate the amount of paint needed to paint it.	Complete Sparx Maths. Learn and discuss key words and definitions. Find and name 3D shapes around the home.	Complete Sparx Maths. Learn and discuss key words and definitions. Identify the graphs and charts used to represent data in the news.	Complete Sparx Maths. Learn and discuss key words and definitions. Look at the different brands of beans in the supermarket and work out the best buy.

Year 10 Higher	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Curriculum Content	Solving quadratics Histograms Repeated percentage change Simultaneous equations Circle theorems Completing the square	Proportion Quadratic sequences Cumulative frequency Box plots Indices	Vectors Error bounds Quadratic formula Probability Quadratic graphs Surds	Volume and surface area Similarity Congruency and proof Recurring decimals Trigonometry Graphical inequalities	Exponential function Sampling Algebraic fractions Transformations Simultaneous equations; graphical	Equation of a line Iterative formulas Functions

Prior knowledge (from previous year/ key stage)

KS3 Curriculum:

Number

- Understand place value for integers, decimals, and measures.
- Use positive and negative numbers.
- Work with decimals and fractions.
- Work with factors, multiples, prime numbers, prime factors.
- Use the four operations.
- Work with fractions, decimals, and percentages.

Algebra

- Ability to substitute numerical values into expressions and formulae.
- Manipulate using algebra (e.g. simplifying expressions, solving equations, rearranging formulae, collecting like terms, expanding and factorising).
- Work with coordinates across all four quadrants.
- Recognise various forms of arithmetic and geometric sequences.

Ratio, proportion and rates of change

- Use scale diagrams, maps and scale factors
- Use ratio notation
- Express quantities as fractions
- Solve problems that involve percentage changes, direct and inverse proportion

Geometry and measures

- Solve problems with perimeter, area, and volume
- Draw and measure properties of shapes, including angles and using scales
- Solve problems involving missing angles
- Use Pythagoras' Theorem and trigonometric ratios as a strategy for solving shape-related problems
- Reflect, rotate, and translate shapes with and without coordinate grids

Probability

- Understand that probabilities add 1
- Use tables, grids, and Venn diagrams to report and display sets of data

Statistics

- Calculate the mean, mode, median, and range of data sets
- Display and interpret data through tables and graphical representations
- Demonstrate relationships between two variables using scatter graphs

Assessment objectives (specific skills and knowledge students are expected to demonstrate)

AO1 Use and apply standard techniques

Students should be able to:

- Accurately recall facts, terminology and definitions
- Use and interpret notation correctly
- Accurately carry out routine procedures or set tasks requiring multi-step solutions.

AO2 Reason, interpret and communicate mathematically

Students should be able to:

- Make deductions, inferences and draw conclusions from mathematical information
- Construct chains of reasoning to achieve a given result
- Interpret and communicate information accurately

	• Present arguments and proofs • Assess the validity of an argument and critically evaluate a given way of presenting information. **AO3 Solve problems within mathematics and in other contexts** Students should be able to: • Translate problems in mathematical or nonmathematical contexts into a process or a series of mathematical processes • Make and use connections between different parts of mathematics • Interpret results in the context of the given problem • Evaluate methods used and results obtained • Evaluate solutions to identify how they may have been affected by assumptions made.					
Key skills	**Students will:** Factorise and solve quadratics. Draw and interpret histograms. Calculate repeated percentage change, eg compound interest. Form and solve simultaneous equations. Understand and apply circle theorems to solve angle problems in circles.	**Students will:** Use direct and inverse proportion to solve problems. Find the nth term of quadratic sequences. Draw and interpret cumulative frequency curves and box plots. Use index laws to simplify expressions.	**Students will:** Represent movement using vectors. Find error intervals and use them to solve problems. Use the quadratic formula to solve quadratic equations. Use tree diagrams to calculate probability. Draw and interpret quadratic graphs. Simplify and calculate with surds.	**Students will:** Find the volume and surface area of 3D shapes. Use similarity to find missing lengths, area and volume. Understand the rules of congruency and use the facts to prove congruency. Convert recurring decimals to fractions. Use trigonometry to find missing angles in 2D and 3D. Display inequalities graphically.	**Students will:** Understand what exponential functions are and represent them graphically. Use sampling techniques to sample data. Calculate using algebraic fractions. Combine transformations and describe the resultant. Solve simultaneous equations graphically.	**Students will:** Find the equation of linear graphs. Use iterative formulas to solve equations. Use function, inverse functions and composite functions.
Assessment	Small assessment testing each modules work.	Small assessment testing each modules work.	Small assessment testing each modules work. Half year assessment.	Small assessment testing each modules work.	Small assessment testing each modules work.	Small assessment testing each modules work. End of year assessment.
How can you help?	Complete Sparx Maths. Learn and discuss key words and definitions. Look at savings accounts and calculate the interest of a £2000 investment over 4 years.	Complete Sparx Maths. Learn and discuss key words and definitions. Look for direct and inverse proportion problems connected to real life.	Complete Sparx Maths. Learn and discuss key words and definitions. Investigate how probability is used in horse racing.	Complete Sparx Maths. Learn and discuss key words and definitions. Find the volume of a football.	Complete Sparx Maths. Learn and discuss key words and definitions. Look at a 100-word passage, how could you sample it to find the most common length of word.	Complete Sparx Maths. Learn and discuss key words and definitions. Write function machines to carry out a household task.

Year 10 Foundation	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Curriculum Content	Using a calculator Fractions, decimals and percentages Simplifying algebra Pie charts Sequences Percentages Expanding brackets and factorising Angle rules Solving equations	Ratio Substitution Compound measures Properties of shapes Linear graphs Area and perimeter Scatter diagrams Rounding	Probability Volume and surface area Similarity Decimals Representing data Transformations Powers and roots	Order of operations Averages Product of primes 3d shapes Ordering numbers Fractions; four rules	Circles Scale drawing Angles in parallel lines Standard form Angles in polygons	Proportion Inequalities Construction and loci Pythagoras Plans and elevations Indices

Prior knowledge (from previous year/ key stage)

KS3 Curriculum:

Number

- Understand place value for integers, decimals, and measures.
- Use positive and negative numbers.
- Work with decimals and fractions.
- Work with factors, multiples, prime numbers, prime factors.
- Use the four operations.
- Work with fractions, decimals, and percentages.

Algebra

- Ability to substitute numerical values into expressions and formulae.
- Manipulate using algebra (e.g. simplifying expressions, solving equations, rearranging formulae, collecting like terms, expanding and factorising).
- Work with coordinates across all four quadrants.
- Recognise various forms of arithmetic and geometric sequences.

Ratio, proportion and rates of change

- Use scale diagrams, maps and scale factors
- Use ratio notation
- Express quantities as fractions
- Solve problems that involve percentage changes, direct and inverse proportion

Geometry and measures

- Solve problems with perimeter, area, and volume
- Draw and measure properties of shapes, including angles and using scales
- Solve problems involving missing angles
- Use Pythagoras' Theorem and trigonometric ratios as a strategy for solving shape-related problems
- Reflect, rotate, and translate shapes with and without coordinate grids

Probability

- Understand that probabilities add 1
- Use tables, grids, and Venn diagrams to report and display sets of data

Statistics

- Calculate the mean, mode, median, and range of data sets
- Display and interpret data through tables and graphical representations
- Demonstrate relationships between two variables using scatter graphs

Assessment objectives (specific skills and knowledge students are expected to demonstrate)

AO1 Use and apply standard techniques

Students should be able to:

- Accurately recall facts, terminology and definitions
- Use and interpret notation correctly
- Accurately carry out routine procedures or set tasks requiring multi-step solutions.

AO2 Reason, interpret and communicate mathematically

Students should be able to:

- Make deductions, inferences and draw conclusions from mathematical information

	• Construct chains of reasoning to achieve a given result • Interpret and communicate information accurately • Present arguments and proofs • Assess the validity of an argument and critically evaluate a given way of presenting information. **AO3 Solve problems within mathematics and in other contexts** Students should be able to: • Translate problems in mathematical or nonmathematical contexts into a process or a series of mathematical processes • Make and use connections between different parts of mathematics • Interpret results in the context of the given problem • Evaluate methods used and results obtained • Evaluate solutions to identify how they may have been affected by assumptions made.					
Key skills	**Students will:** Use a calculator effectively. Convert and order fractions, decimals and percentages. Simplify algebraic expressions. Draw and interpret pie charts. Calculate percentage increases and decreases. Expand brackets and factorise expressions. Use angle rules to solve angle problems. Form and solve equations.	**Students will:** Simplify ratio and use ratio to solve problems. Substitute numbers into expressions and formulae. Use compound measures to find speed, density and pressure. Know and use the properties of 2D and 3D shapes. Draw linear graphs. Find the area and perimeter of 2D shapes. Represent and interpret data in a scatter diagram. Round to a given degree of accuracy and estimate answers.	**Students will:** Understand probability phrases and find the probability of events happening. Find the volume and surface area of 3D shapes. Use similarity to find missing lengths. Multiply and divide using decimals. Represent data in stem and leaf diagrams. Reflect, rotate, translate and enlarge shapes and describe transformations. Calculate with powers, roots and indices.	**Students will:** Complete calculations using BIDMAS. Calculate averages and use them to describe data. Use product of primes to find HCF and LCM. Order numbers; positive, negative, fractions, decimals, percentages. Calculate with fractions and mixed numbers.	**Students will:** Solve problems involving the area and circumference of circles. Understand and use scale. Calculate angles in parallel lines. Write numbers in standard form and complete basic calculations. Find exterior and interior angles in polygons.	**Students will:** Use proportion to solve problems involving recipes, currency and best buy. Solve inequalities and represent the answer on a number line. Construct line and angle bisectors and solve loci problems. Draw 2D plans and elevations of 3D shapes. Use the laws of indices to simplify expressions.
Assessment	Small assessment testing each modules work.	Small assessment testing each modules work.	Small assessment testing each modules work. Half year assessment.	Small assessment testing each modules work.	Small assessment testing each modules work.	Small assessment testing each modules work. End of year assessment.
How can you help?	Complete Sparx Maths. Learn and discuss key words and definitions. Calculate 10% of the weight of each	Complete Sparx Maths. Learn and discuss key words and definitions. Find the area of the worktops in the kitchen.	Complete Sparx Maths. Learn and discuss key words and definitions. Find the surface area of a tissue box.	Complete Sparx Maths. Learn and discuss key words and definitions. Calculate the average weight of 10 tins or	Complete Sparx Maths. Learn and discuss key words and definitions. Find pairs of parallel lines around the home.	Complete Sparx Maths. Learn and discuss key words and definitions. Look at how many euros

	can/packet in the cupboard.			boxes in the kitchen cupboard.		you would get for £100 on 5 different days.

Year 11 Higher	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Curriculum Content	Expanding binomials Sine and cosine rule Quadratic inequalities 3d trigonometry and Pythagoras Simultaneous equations: quadratic Trig graphs	Graph transformations Equation of a circle Probability Circle theorem proofs	Topics decided based on mock exam. Past papers.	Topics decided based on mock exam. Past papers every two weeks.	Topics decided based on mock exam. Past papers every two weeks.	Exams

Prior knowledge (from previous year/ key stage)

KS3 Curriculum:

Number
- Understand place value for integers, decimals, and measures.
- Use positive and negative numbers.
- Work with decimals and fractions.
- Work with factors, multiples, prime numbers, prime factors.
- Use the four operations.
- Work with fractions, decimals, and percentages.

Algebra
- Ability to substitute numerical values into expressions and formulae.
- Manipulate using algebra (e.g. simplifying expressions, solving equations, rearranging formulae, collecting like terms, expanding and factorising).
- Work with coordinates across all four quadrants.
- Recognise various forms of arithmetic and geometric sequences.

Ratio, proportion and rates of change
- Use scale diagrams, maps and scale factors
- Use ratio notation
- Express quantities as fractions
- Solve problems that involve percentage changes, direct and inverse proportion

Geometry and measures
- Solve problems with perimeter, area, and volume
- Draw and measure properties of shapes, including angles and using scales
- Solve problems involving missing angles
- Use Pythagoras' Theorem and trigonometric ratios as a strategy for solving shape-related problems
- Reflect, rotate, and translate shapes with and without coordinate grids

Probability
- Understand that probabilities add 1
- Use tables, grids, and Venn diagrams to report and display sets of data

Statistics
- Calculate the mean, mode, median, and range of data sets
- Display and interpret data through tables and graphical representations
- Demonstrate relationships between two variables using scatter graphs

Assessment objectives (specific skills and knowledge students are expected to demonstrate)

AO1 Use and apply standard techniques

Students should be able to:
- Accurately recall facts, terminology and definitions
- Use and interpret notation correctly
- Accurately carry out routine procedures or set tasks requiring multi-step solutions.

AO2 Reason, interpret and communicate mathematically

	Students should be able to: • Make deductions, inferences and draw conclusions from mathematical information • Construct chains of reasoning to achieve a given result • Interpret and communicate information accurately • Present arguments and proofs • Assess the validity of an argument and critically evaluate a given way of presenting information. **AO3 Solve problems within mathematics and in other contexts** Students should be able to: • Translate problems in mathematical or nonmathematical contexts into a process or a series of mathematical processes • Make and use connections between different parts of mathematics • Interpret results in the context of the given problem • Evaluate methods used and results obtained • Evaluate solutions to identify how they may have been affected by assumptions made.					
Key skills	**Students will:** Expand and simplify three brackets. Use the sine and cosine rules to find missing sides and angles in triangles. Solve quadratic inequalities. Use Pythagoras' Theorem and trigonometry to solve problems in 3D. Solve simultaneous equations when one or both equations are quadratic. Draw trigonometrical graphs and use them to solve equations.	**Students will:** Understand what happens to the equation of a graph when the graph is transformed. Find the equation of a circle. Calculate conditional probabilities. Prove the circle theorems.				
Assessment	Small assessment testing each modules work.	Small assessment testing each modules work. Mock exams.	Small assessment testing each modules work.	Small assessment testing each modules work. Mock Exams	Exams	Exams
How can you help?	Complete Sparx Maths. Learn and discuss key words and definitions.	Complete Sparx Maths. Learn and discuss key words and definitions.	Complete Sparx Maths. Learn and discuss key words and definitions.	Complete Sparx Maths. Learn and discuss key words and definitions.		

	Identify areas of weakness and use Maths Genie to work on these topics.	Identify areas of weakness and use Maths Genie to work on these topics.	Identify areas of weakness and use Maths Genie to work on these topics.	Identify areas of weakness and use Maths Genie to work on these topics.		

Year 11 Foundation	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Curriculum Content	Fraction of a quantity Metric measures Fraction Solving equations Transformations Decimals Powers and roots	Ordering numbers Probability Simplifying expressions Area and perimeter Percentages Proportion Representing Data	Topics decided based on mock exam. Past papers.	Topics decided based on mock exam. Past papers	Topics decided based on mock exam. Past papers	Exams
Prior knowledge (from previous year/ key stage)	**KS3 Curriculum:** **Number** • Understand place value for integers, decimals, and measures. • Use positive and negative numbers. • Work with decimals and fractions. • Work with factors, multiples, prime numbers, prime factors. • Use the four operations. • Work with fractions, decimals, and percentages. **Ratio, proportion and rates of change** • Use scale diagrams, maps and scale factors • Use ratio notation • Express quantities as fractions • Solve problems that involve percentage changes, direct and inverse proportion **Probability** • Understand that probabilities add 1 • Use tables, grids, and Venn diagrams to report and display sets of data **Algebra** • Ability to substitute numerical values into expressions and formulae. • Manipulate using algebra (e.g. simplifying expressions, solving equations, rearranging formulae, collecting like terms, expanding and factorising). • Work with coordinates across all four quadrants. • Recognise various forms of arithmetic and geometric sequences. **Geometry and measures** • Solve problems with perimeter, area, and volume • Draw and measure properties of shapes, including angles and using scales • Solve problems involving missing angles • Use Pythagoras' Theorem and trigonometric ratios as a strategy for solving shape-related problems • Reflect, rotate, and translate shapes with and without coordinate grids **Statistics** • Calculate the mean, mode, median, and range of data sets • Display and interpret data through tables and graphical representations • Demonstrate relationships between two variables using scatter graphs				
Assessment objectives (specific skills and knowledge students are	**AO1 Use and apply standard techniques** Students should be able to: • Accurately recall facts, terminology and definitions • Use and interpret notation correctly • Accurately carry out routine procedures or set tasks requiring multi-step solutions.					

expected to demonstrate)	**AO2 Reason, interpret and communicate mathematically** Students should be able to: • Make deductions, inferences and draw conclusions from mathematical information • Construct chains of reasoning to achieve a given result • Interpret and communicate information accurately • Present arguments and proofs • Assess the validity of an argument and critically evaluate a given way of presenting information. **AO3 Solve problems within mathematics and in other contexts** Students should be able to: • Translate problems in mathematical or nonmathematical contexts into a process or a series of mathematical processes • Make and use connections between different parts of mathematics • Interpret results in the context of the given problem • Evaluate methods used and results obtained • Evaluate solutions to identify how they may have been affected by assumptions made.					
Key skills	**Students will:** Solve problems involving fractions. Convert and solve problems using metric measures. Form and solve equations. Calculate with decimals, powers and roots.	**Students will:** Order numbers in different formats. Understand and calculate probability. Simplify algebraic expressions. Find the area and perimeter of 2D shapes. Calculate percentage change. Use proportion to solve problems. Represent data in a variety of formats.				
Assessment	Small assessment testing each modules work.	Small assessment testing each modules work. Mock exams.	Fortnightly practice papers.	Fortnightly practice papers. Mock Exams	Exams	Exams
How can you help?	Complete Sparx Maths. Learn and discuss key words and definitions. Identify areas of weakness and use Maths Genie to work on these topics.	Complete Sparx Maths. Learn and discuss key words and definitions. Identify areas of weakness and use Maths Genie to work on these topics.	Complete Sparx Maths. Learn and discuss key words and definitions. Identify areas of weakness and use Maths Genie to work on these topics.	Complete Sparx Maths. Learn and discuss key words and definitions. Identify areas of weakness and use Maths Genie to work on these topics.		