Nobel

Year: 8

Subject: Mathematics

VISION At Nobel we work hard to give students the confidence to acquire mathematical skills that they can use throughout their lifetime, we hope students can share our love of mathematics and enjoy the challenge it is able to offer.

	Foci	Assessment	Knowledge Organiser
Unit 1	• **Sequences, forming and solving equations.** • Finding the nth term of a linear sequence. • Recognising types of sequences including linear and non-linear. • Forming algebraic equations. • Solving equations with unknowns on both sides. • Introduce solving equations involving algebraic fractions.	Online assessment on Teams for all students. In class assessment.	**Sequences and Equations**
Unit 2	• **Forming and solving inequalities.** • Language and symbols. • Using a number line. • Forming algebraic inequalities. • Solving algebraic inequalities with the unknown on both sides. • Use graphical representations.	Online assessment on Teams for all students. In class assessment. Half term test covering units 1-2	**Forming and solving inequalities**
Unit 3	• **Linear Graphs** • Plot coordinates to generate straight lines. • Identify key features of a linear graph. • Make links between algebraic and linear representations. • Identify parallel lines from algebraic equation.	Online assessment on Teams for all students. In class assessment.	**Linear Graphs**
Unit 4	• **Accuracy and Estimation** • Rounding to a given number of decimal places and significant figures. • Upper and lower bounds. • Estimation.	Online assessment on Teams for all students. In class assessment. Half termly assessment to cover units 1-4.	**Accuracy and Estimation**

	Foci	Assessment	Knowledge Organiser
Unit 5	• **Ratio** • Scales and reading maps.	Online assessment on Teams for all students. In class assessment.	**Ratio**
Unit 6	• **Real life graphs and rates of change** • Rates of change including Speed, Distance and Time. • Read and interpret real life graphs.	Online assessment on Teams for all students. In class assessment.	**Real Life Graphs**

	Foci	Assessment	Knowledge Organiser
Unit 7	• **Direct and Inverse Proportion.** • Similarity as an example of direct proportion. • Represent proportional relationships algebraically, in a table and on graphs. • Solve problems using inverse proportion.	Online assessment on Teams for all students. In class assessment. Half termly assessment to cover units 1-7. Focus on 5-7	**Proportion**
Unit 8	• **Univariate Data.** • Construct and interpret charts and graphs. • Mean, mode, median and range. • Examine outliers.	Online assessment on Teams for all students. In class assessment.	**Statistics**
Unit 9	• **Bivariate Data.** • Scatter graphs. • Correlation. • Constructing a line of best fit. • Interpolation and extrapolation. • Comparisons of Distribution.	Online assessment on Teams for all students. In class assessment. Half termly assessment to cover units 1-9. Focus on 7-9.	**Scatter Graphs**
Unit 10	• **Angles in Polygons.** • Define the sum of interior and exterior angles of polygons. • Solve problems involving angles in polygons.	Online assessment on Teams for all students. In class assessment.	**Angles in Polygons**

Unit 11	**Bearings.** - Understand the conventions of bearings. - Calculate and measure.	Online assessment on Teams for all students. In class assessment.	**Bearings**
Unit 12	**Circles and Composite Shapes.** - Explore relationship between circumference and diameter. - Calculate area and circumference. - Area and perimeter of composite shapes.	Online assessment on Teams for all students. In class assessment. Half termly assessment to cover units 7-12.	**Circles Area and Circumference**

	Foci	Assessment	Knowledge Organiser
Unit 13	• **Volumes of Prisms.** • Use the formulae to calculate the volume of cubes, prisms and composite solids. • Changing between units of volume.	Online assessment on Teams for all students. In class assessment.	**Volume of Prisms**
Unit 14	• **Surface Area of Prisms.** • Recognising and drawing nets of prisms. • Use the formulae to calculate the surface area of cubes, prisms and composite solids.	Online assessment on Teams for all students. In class assessment. End of year test to assess all modules.	**Surface Area of Prisms**