

Subject	Year 9 Foundation Threshold Concepts – Summer Term	How to support students' learning
Mathematics	<u>Unit 6 Geometry (continuation from Spring)</u> 6a Properties of shapes, parallel lines and angle facts 3. Understand and use the angle properties of parallel lines 4. Solve angle problems in triangles 5. Understand angle proofs about triangles 6b. Interior and exterior angles of polygons 1. Calculate the interior and exterior angles of regular polygons 2. Calculate the interior and exterior angles of polygons 3. Explain why some polygons fit together and others do not 4. Solve angle problems using equations 5. Solve geometrical problems showing reasoning <u>Unit 7 – Statistics</u> 7. Statistics, sampling and the averages 1. Calculate averages from a list and from a frequency table 2. Compare sets of data using averages and the range 3. Recognise the advantages and disadvantages of each type of average 3. Find the mode, median and range from stem and leaf diagrams 4. Identify outliers 5. Estimate the range from a grouped frequency table 6. Estimate the mean of grouped data	<u>Unit 6 – Geometry</u> ▪ Encourage your child to have the correct equipment for lessons: pen, pencil, ruler, protractor, compass, calculator ▪ Use www.sparx.com for support if needed. Students can log in using their school email and password. Students can use the Independent Learning feature to review the work done in lessons. ▪ Classroom notes will be available on Microsoft Teams via the Class Notebook after the lesson has taken place. ▪ Encourage your child to show all their working out. When completing homework, they should write their working out in their homework book. <u>Unit 7 – Statistics</u> ▪ Encourage your child to have the correct equipment for lessons: pen, pencil, ruler, protractor, compass, calculator ▪ Use www.sparx.com for support if needed. Students can log in using their school email and password. Students can use the Independent Learning feature to review the work done in lessons. ▪ Classroom notes will be available on Microsoft Teams via the Class Notebook after the lesson has taken place. ▪ Encourage your child to show all their working out. When completing homework, they should write their working out in their homework book.

	7. Find the modal class and the group that contains the median 8. Understand the need for sampling 9. Understand how to avoid bias <u>Unit 8 – Geometry</u> 8 – Perimeter, area and volume 1. Calculate perimeter and area of rectangles, parallelograms and triangles 2. Calculate a missing length, given the area 3. Calculate the area and perimeter of trapeziums 4. Find the height of a trapezium given its area 5. Convert between area measures 6. Calculate the perimeter and area of shapes made from rectangles and triangles 7. Calculate the surface area of a cuboid 8. Calculate the surface area of a prism 9. Calculate the volume of a cuboid 10. Calculate the volume of a prism 11. Convert between measures of volume 12. Solve problems involving surface area and volume <u>Unit 9 – Algebra</u> 9a. Straight-line graphs 1. Find the midpoint of a line segment 2. Recognise, name and plot straight-line graphs parallel to the axes 3. Recognise, name and plot the graphs of $y = x$ and $y = -x$ 4. Generate and plot coordinates from rules 5. Plot straight-line graphs from tables of values	<u>Unit 8 – Geometry</u> ▪ Encourage your child to have the correct equipment for lessons: pen, pencil, ruler, protractor, compass, calculator ▪ Use www.sparx.com for support if needed. Students can log in using their school email and password. Students can use the Independent Learning feature to review the work done in lessons. ▪ Classroom notes will be available on Microsoft Teams via the Class Notebook after the lesson has taken place. ▪ Encourage your child to show all their working out. When completing homework, they should write their working out in their homework book. <u>Unit 9 – Algebra</u> ▪ Encourage your child to have the correct equipment for lessons: pen, pencil, ruler, protractor, compass, calculator ▪ Use www.sparx.com for support if needed. Students can log in using their school email and password. Students can use the Independent Learning feature to review the work done in lessons. ▪ Classroom notes will be available on Microsoft Teams via the Class Notebook after the lesson has taken place.
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	6. Draw graphs to represent relationships 7. Find the gradient of a line 8. Identify and interpret the gradient from an equation 9. Understand that parallel lines have the same gradient 10. Understand what m and c represent in $y = mx + c$ 11. Find the equation of straight-line graphs 12. Sketch graphs given m and c 9b. Real-life graphs 1. Draw and interpret graphs from real data 2. Use distance-time graphs to solve problems 3. Draw distance-time graphs 4. Interpret rate of change on graphs 5. Draw and interpret a range of real-life graphs and understand what predictions are reliable	▪ Encourage your child to show all their working out. When completing homework, they should write their working out in their homework book.
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