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| **Subject**  | **Year 9 Foundation Threshold Concepts – Spring Term**  | **How to support students’ learning**  |
| Mathematics  | **Functions*** Rearrange formulae to change the subject where the subject appears once only.
* Form and substitute into functions

**Sequences*** Generate sequences using the position-to-term rule
* Find the position-to-term rule of arithmetic sequences
* Understand and use special sequences

**Estimation and Approximation*** Round to decimal places
* Round to significant figures
* Estimate calculations by rounding

**Linear Graphs*** Plot horizontal and vertical lines
* Plot straight-line graphs
* Find the gradient of straight lines, graphically and using the equation of a straight-line y = mx + c
* Find the intercept of straight lines, graphically and using the equation of a straight-line y = mx + c
* Write straight lines in the form y = mx + c

**Ratio and Proportion*** Write ratios in the form 1:n
* Understand the link between ratios and fractions
* Sharing amounts in a given ratio
* Solve direct proportion word problems
* Solve inverse proportion word problems
* Perform currency conversions, including graphically

**Transformations*** Perform and describe reflections
* Perform and describe rotations
* Perform and describe translations
* Perform and describe enlargements

**Percentages*** Increase and decrease a quantity by a simple percentage, including understanding what a multiplier is
* Calculate simple interest in financial contexts
 |  * Encourage your child to practise their algebra skills
* Discuss how to substitute and use real-life formulas, e.g. cooking instructions based on weight
* Encourage your child to have the correct equipment for lessons, e.g. a calculator
* Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password
* Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books
* Encourage your child to learn their times tables, prime numbers below 100 and square numbers up to 225 (152)
* Discuss real-life examples of sequences, e.g. house numbers
* Encourage your child to have the correct equipment for lessons, e.g. a pencil, ruler, calculator
* Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password
* Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books
* Encourage your child to understand the base 10 decimal place value system
* Discuss with them situations where numbers have been rounded, e.g. football crowds, newspaper headlines
* Discuss with them where to estimate answers by rounding e.g. estimating a total shopping cost by rounding each item to the nearest £.
* Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password
* Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books
* Encourage your child to use the website www.GeoGebra.org to plot functions to see what their graphs look like
* Encourage your child to have the correct equipment for lessons, e.g. a pencil, ruler, calculator
* Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password
* Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books
* Encourage your child to look at real-life graphs and tables of data
* Discuss real-life applications of ratio and proportion, e.g. baking and currency exchange (direct proportion), the fact it takes longer for 2 people to paint the same fence than 3 people (indirect proportion)
* Encourage your child to have the correct equipment for lessons, e.g. a pencil, ruler, calculator
* Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password
* Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books
* Encourage your child to look at real-life symmetry, rotation and size changes within everyday objects
* Encourage your child to have the correct equipment for lessons, e.g. a pencil, ruler
* Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password
* Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books
* Encourage your child to use a multiplier when solving percentage problems
* Discuss real-life percentage problems, e.g. discounts, interest rates, tax etc
* Encourage your child to have the correct equipment for lessons, e.g. a calculator
* Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password
* Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books
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