|  |  |  |
| --- | --- | --- |
| **Subject**  | **Year 11 Threshold Concepts – Spring Term**  | **How to support students’ learning**  |
| Mathematics  | **Statistics** * Present data using bar charts, pie charts, frequency polygons, stem and leaf diagrams
* Calculate averages and explain their advantages and disadvantages
* Design questionnaires and describe methods of sampling
* Understand time series
* Draw and interpret scatter graphs
* Draw and interpret box plots, cumulative frequency curves and histograms (Higher tier only)

  **Applications of graphs** * Generate points and plot quadratic, cubic, reciprocal and exponential graphs
* Relate factorising of quadratics and completing the square to quadratic graphs (Higher tier only)
* Generate points and plot trigonometric graphs (Higher tier only)
* Find intersection of linear and quadratic graphs (Higher tier only)
* Apply translations and stretches to graphs (Higher tier only)
 |  * At home you can help support your child with revision using [www.mathswatch.co.uk](http://www.mathswatch.co.uk/)  and [www.sparx.com](https://sparxmaths.com/)

(see your teacher for login and password) and in completing past papers on a weekly basis. * Encourage your child to be accurate when drawing charts and diagrams

        |
|   | **Probability** * Basic probabilities and expectation
* Listing outcomes and sample space diagrams
* Relative frequency
* Frequency trees
* Two way tables
* Use simple set notation
* Use tree diagrams
* Construct and interpret Venn Diagrams (Higher tier only)
* Solve problems involving conditional probability

(Higher tier only)  **Surds and Indices** * Calculate squares, cubes and their roots
* Use index laws with integer powers
* Use index laws with fractional and negative powers (Higher tier only)
* Manipulate surds (Higher tier only)
* Use surds to give answers in exact form (Higher tier only)
* Rationalise the denominator (Higher tier only)

 |  • At home you can help support your child with revision using [www.mathswatch.co.uk](http://www.mathswatch.co.uk/)  and [www.sparx.com](https://sparxmaths.com/)(see your teacher for login and password) and in completing past papers on a weekly basis. * At home you can help support your child with revision using [www.mathswatch.co.uk](http://www.mathswatch.co.uk/)  and [www.sparx.com](https://sparxmaths.com/) (see your teacher for login and password) and in completing past papers on a weekly basis.
 |