

# MATHEMATICS



## AUTUMN 1

<b>Number</b> <ul style="list-style-type: none"> <li>- Multiplication</li> <li>- Division</li> <li>- Order of operations</li> <li>- Negative numbers</li> <li>- Using a calculator)</li> </ul>	<b>Fractions</b> <ul style="list-style-type: none"> <li>- Fractions of amounts</li> <li>- Add/subtract/multiply/divide fractions</li> <li>- Problem Solving with fractions</li> </ul>	<b>Decimals &amp; Percentages</b> Percentages of amount: Increase/decrease by a percentage Ordering fractions, decimals, and percentages Write a quantity as a fraction/percentage of an amount Problem solving with percentages and decimals	<b>Prior Learning</b> Times tables (KS2) Basic place value (KS2) Fractions of shapes and amount (KS2) Equivalent fractions (KS2) Percentages (KS2)
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## AUTUMN 2

<b>Algebra</b> <ul style="list-style-type: none"> <li>- Algebraic notation</li> <li>- Collecting like terms</li> <li>- Substitution</li> <li>- Expanding brackets</li> <li>- Factorising</li> <li>- Solving equations</li> <li>- Solving algebraic problems</li> </ul>	<b>Project 1</b> Use probability and fractions, decimals and percentages to investigate whether there is life outside of planet Earth.	<b>Prior Learning</b> Fractions, decimals, and percentages (autumn1) Working with directed number (Autumn1)
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## SPRING 1

<b>Developing Algebra</b> <ul style="list-style-type: none"> <li>- Algebraic notation</li> <li>- Collecting like terms</li> <li>- Substitution</li> <li>- Expanding brackets</li> <li>- Factorising</li> <li>- Solving equations</li> <li>- Solving algebraic problems</li> </ul>	<b>Measures, perimeter and area</b> <ul style="list-style-type: none"> <li>- Metric units</li> <li>- Area of 2D shapes</li> <li>- Perimeter of 2D shapes</li> </ul>	<b>Prior Learning</b> Inverse operations (KS2) Order of operations. (Autumn1) Names and properties of 2D shapes (KS2) Units of lengths and areas (KS2) Multiplication of whole numbers (KS2) Decimals and Fractions (Autumn 1)
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## SPRING 2

<b>Measures, perimeter and area</b> <ul style="list-style-type: none"> <li>- Metric units</li> <li>- Area of 2D shapes</li> <li>- Perimeter of 2D shapes</li> </ul>	<b>Data handling</b> <ul style="list-style-type: none"> <li>- Averages</li> <li>- Solving statistical problems</li> </ul>	<b>Prior Learning</b> What is data? (KS2) Names and properties of 2D shapes (KS2) Units of lengths and areas (KS2) Multiplication of whole numbers (KS2) Decimals and Fractions (Autumn 1)
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## SUMMER 1

<b>Probability</b> <ul style="list-style-type: none"> <li>- Carry out and analyse probability experiments</li> <li>- Equally likely outcomes</li> <li>- Sample space diagrams</li> </ul>	<b>Angles</b> <ul style="list-style-type: none"> <li>- Drawing and measuring angles</li> <li>- Solving angle problems using known angle facts</li> </ul>	<b>Statistical Diagrams</b> <ul style="list-style-type: none"> <li>- Stem and leaf diagrams</li> <li>- Pie Charts</li> <li>- Scatter graphs</li> </ul>	<b>Prior Learning</b> Names and properties of 3D shapes (KS2) How to draw a bar chart and interpret data (KS2) Types of angles (KS2)
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### CAREERS LINKS

Accountancy, chef, banking insurance, bookmaking, risk analyst, news reporting, analyst, businessperson, performance analyst. Actuaries, economist, meteorologist, carpenter, welder, construction, architecture, joinery, games designer, software design & IT, engineering, catering, hairdressing.

### CHARACTER LINKS

Perseverance and determination skills are fostered (performance virtues) particularly when students do not arrive at the correct answer first time and when trial and error skills are needed. Project work encourages critical thinking, judgement and reasoning skills (intellectual virtues) to arrive at the outcome.

### KEY ASSESSMENT DATES

Year 7 have a baseline assessment in October. They will have one large assessment at the end of each term which will test all the topics that the students have covered.

- Tree diagrams
- Venn diagrams

- Understanding angles in a polygon.

Decimals and Fractions (Autumn 1)

## SUMMER 2

### 3D shapes

- Faces, Vertices and Edges
- Plans and Elevations
- Volume and Surface Area of prisms

### Ratio

- Simplifying ratio
- Solving ratio problems
- Using a bar model

### Project 3

Decide who is the most suitable candidate for the mission by using data handling skills of collecting information, representing and analysing.

### Prior Learning

Equivalent fractions (KS2)  
Division (KS2)  
Understanding of the bar model (KS2)