

**Subject: Mathematics**  
**Faculty: Mathematics**  
**Term: Spring**

**EXCELLING (-, =, +)**



**All of the secure criteria plus:**

- Prime factor decomposition and finding HCF/LCM involving the use of venn diagrams
- Conversion between measurements of area and volume

**All of the secure criteria plus:**

- Combining transformations into a single transformation
- More complex ratio problems

**All of the secure criteria plus:**

- Cosine/sine rule
- To investigate pythagorean triples
- To use the area of triangle formula  $\frac{1}{2}ab\sin C$
- Volume and surface area of cones and spheres.
- Incorporating forming and solving equations involving pythagoras' theorem and trigonometry.
- 3D trigonometry.

**SECURE**



**Year 7**

**Year 8**

**Year 9**

**Assessment strategy:**

**Assessment strategy:**

**Assessed strategy:**

Conditional/Composite

**Everything from Autumn term, plus:**

- All of procedural knowledge and skills incorporating algebraic manipulation and interleaving areas of mathematics.

**Everything from Autumn term, plus:**

- Probability for dependent events
- Enlarge a shape by a fractional scale factor.
- Reflect a shape through a  $y=mx+c$  line of reflection.
- Angle problems including ratio.

**Everything from Autumn term, plus:**

- All of procedural knowledge and skills incorporating algebraic manipulation and interleaving areas of mathematics.
- Area and volume of compound shapes.
- Reverse volume and surface area to find a missing length.
- 3D pythagoras

Procedural

**Everything from Autumn term, plus:**

- To be proficient in using all four operations to + - x and divide with integers and decimals.
- To be able to work out factors and multiples, HCF, LCM
- To be able to use metric conversion in mass, capacity and length.
- To be able to substitute values into formulae
- To be able to work out area and perimeter of 2d shapes including parallelogram, trapezium
- To be able to solve problems involving ratio and proportion.

**Everything from Autumn term, plus:**

- Calculating probabilities. To write probability as a fraction. To find the probability of an event not happening. Experimental probability.
- To interpret and draw conversion graphs, line graphs, distance time graphs.
- To become proficient in all 4 operations involving decimals.
- ordering decimals.
- Dividing into a given ratio
- To be able to translate, rotate, enlarge and reflect a shape on a set of axes.

**Everything from Autumn term, plus:**

- To be able to use pythagoras' theorem to calculate missing sides within right angle triangles.
- To be able to use trigonometric ratios to calculate missing sides and angles in right angle triangles.
- To be able to identify and work out missing angles within parallel lines giving reasons.
- To work out exterior/interior/sum of angles within regular polygons.
- Surface area and volume of prisms

<b>Declarative</b>	<p><b>Everything from Autumn term, plus:</b></p> <ul style="list-style-type: none"> <li>-To know square, square roots,</li> <li>-Multiplying and dividing by multiples of 10</li> <li>-To know about factors and multiples</li> <li>-To know rounding of money is to 2dp</li> <li>-To know common unit conversions cm, m, ml, l, g, kg</li> <li>-To know how to plot coordinates</li> <li>-To know the formula of area of rectangles, triangles, parallelograms</li> <li>-To know the colon notation for ratio</li> </ul>	<p><b>Everything from Autumn term, plus:</b></p> <ul style="list-style-type: none"> <li>-To recall the colon notation for ratio</li> <li>-To know the language of probability and the probability scale</li> <li>-To know that data is represented on graphs.</li> <li>-To recognise the inequality symbols in comparing integers and decimals</li> <li>-To know that symmetry is the reflection transformation.</li> <li>-To know the language of enlargement using scale factors</li> </ul>	<p><b>Everything from Autumn term, plus:</b></p> <ul style="list-style-type: none"> <li>-Recall common angle facts.</li> <li>-To know the properties of a right angled triangle and recognise the perpendicular symbol.</li> <li>-To recall area formulae of rectangles, triangles, parallelograms, trapezium, circle.</li> <li>-To recall the formula for the volume of a cuboid and triangular prism.</li> <li>-To identify the hypotenuse, opposite and adjacent lengths on a right angled triangle.</li> <li>-To know the angle facts in parallel lines - alternate, corresponding and co-interior angles.</li> <li>-To define a regular polygon.</li> </ul>
	<b>DEVELOPING (-, =, +)</b>		
	Not yet secure with all of the criteria set out for the term.		