

## Elements Curriculum Plan

### Subject: Mathematics

Building Block 5 ≈ KS3-4 bridging year (Y9)			
Half-Term	Topic/Content	Skills	Personal Development
Autumn 1	Reasoning with Numbers	<ul style="list-style-type: none"> <li>• Revisit types of number- extend to include rational and irrational</li> <li>• Revisit Arithmetic</li> <li>• Revisit Fraction arithmetic</li> <li>• Extend knowledge of HCF and LCM</li> <li>• Revisit Standard form</li> </ul>	Communication Problem Solving Life Skills
	Mathematics and money	<ul style="list-style-type: none"> <li>• Explore financial mathematics including;</li> <li>• Bills and bank statements</li> <li>• Interest</li> <li>• Unit pricing (best buys)</li> </ul>	Communication Problem Solving Life Skills Staying safe
	Using percentages	<ul style="list-style-type: none"> <li>• Revisit percentage increase and decrease- in contexts</li> <li>• Use percentages greater than 100%</li> <li>• Find percentage changes</li> <li>• Use multipliers in a variety of contexts</li> <li>• Solve reverse percentage problems</li> </ul>	Communication Problem Solving Life Skills Staying safe
Assessment			
Autumn 2	Straight line graphs	<ul style="list-style-type: none"> <li>• Interpret straight line graphs</li> <li>• Find and use the equation of a straight line</li> <li>• Reduce equations to the form <math>y=mx+c</math></li> <li>• Compare to linear sequences and finding the nth term</li> </ul>	Communication Problem Solving
	Forming and solving equations and inequalities	<ul style="list-style-type: none"> <li>• Revisit and extend to equations and inequalities with unknowns on both sides, using contexts- angles probability area etc..</li> <li>• Change the subject of a formula</li> </ul>	Communication Problem Solving
	Testing conjectures	<ul style="list-style-type: none"> <li>• Test conjectures in a wide range of contexts</li> <li>• Sums and products of odd and even numbers</li> <li>• Is a given number in a sequence</li> </ul>	Communication Problem Solving Life Skills

## Elements Curriculum Plan

### Subject: Mathematics

		<ul style="list-style-type: none"> <li>• Is this shape?</li> <li>• Are these lines parallel?</li> <li>• What would happen if...</li> </ul>	Self-Awareness Self-motivation
<b>Assessment</b>			
Spring 1	3D shapes	<ul style="list-style-type: none"> <li>• Understand the language of faces, edges and vertices</li> <li>• Know the common prisms and non-prisms</li> <li>• Identify 2D and 3D shapes</li> <li>• Work out the surface area and volume of cuboids and cylinders</li> <li>• Work out the volume of any prism</li> <li>• Work out the missing lengths given area/volume</li> </ul>	Communication Problem Solving Life Skills Staying safe Teamwork
	Constructions and congruency	<ul style="list-style-type: none"> <li>• Construct 3D shapes from nets and construct the net of a 2D shape</li> <li>• Construct and use scale drawings</li> <li>• Construct perpendiculars and bisectors</li> <li>• Understand congruency</li> <li>• Explore congruency via construction</li> </ul>	Communication Problem Solving Life Skills Staying safe
<b>Assessment</b>			
Spring 2	Enlargement and similarity	<ul style="list-style-type: none"> <li>• Enlarge shapes by a positive scale factor</li> <li>• Calculate the lengths of sides in similar shapes</li> <li>• Understand what makes shapes similar</li> <li>• Understand connection of scale factors with area and volumes</li> </ul>	Communication Problem Solving Life Skills Staying safe
	Solving ratio and proportion problems	<ul style="list-style-type: none"> <li>• Direct proportion problems and graphs</li> <li>• Conversion graphs</li> <li>• Solve ratio problems given the whole or part and put into form 1:n</li> <li>• Simple inverse proportion</li> <li>• Unit pricing problems (best buys)</li> </ul>	Communication Problem Solving Life Skills Self-Awareness
	Rates	<ul style="list-style-type: none"> <li>• Work with speed, distance and time</li> <li>• Solve problems using density</li> </ul>	Communication Problem Solving

## Elements Curriculum Plan

### Subject: Mathematics

		<ul style="list-style-type: none"> <li>• Work with compound units</li> </ul>	Life Skills
Assessment			
Summer 1	Geometric deduction	<ul style="list-style-type: none"> <li>• Revisit angle rules, including within special quadrilaterals</li> <li>• Find angles using algebraic methods</li> <li>• Use chains of reasoning to evaluate angles</li> </ul>	Communication Problem Solving
	Rotation and Translation	<ul style="list-style-type: none"> <li>• Identify the order of rotational symmetry of a shape</li> <li>• Find the results of rotating shapes</li> <li>• Translate points and shapes given a vector</li> <li>• Understand variance and invariance in the context of transformations</li> </ul>	Communication Problem Solving Life skills
	Pythagoras Theorem	<ul style="list-style-type: none"> <li>• Identify the Hypotenuse of a right angles triangle</li> <li>• Determine whether a triangle is right angled</li> <li>• Calculate missing angles</li> </ul>	Communication Problem Solving
Assessment			
Summer 2	Probability	<ul style="list-style-type: none"> <li>• Experimental probability and relative frequency</li> <li>• Expected number of outcomes</li> <li>• Independent events</li> </ul>	Communication Problem Solving Life Skills Staying safe
	Algebraic representations	<ul style="list-style-type: none"> <li>• Drawing and reading from quadratics</li> <li>• Interpreting other graphs- reciprocal piece wise</li> <li>• Representing inequalities</li> </ul>	Communication Problem Solving
Assessment			

**Rationale –**

# Elements Curriculum Plan

## Subject: Mathematics

**BB3-5**

- 

**BB6ab**

As above, plus:

-