

BIG PICTURE CURRICULUM PLANNING - KEY STAGE 3 MATHEMATICS

<p>The key Goals of KS 3 Mathematics</p>	<p>To develop understanding of abstract concepts involving broader thinking skills To build resilience and confidence in having “a go” To develop problem solving approaches in a range of contexts To develop confidence to apply themselves to problem solving in a range of context</p>
<p>Characteristic of a compelling learning experience</p>	<ul style="list-style-type: none"> • Open ended problems to explore • Discussion- without fear of being wrong • Collaboration group/paired work encouraged to explore problems • Using a broad range of strategies and resources (low/hi tech)
<p>Key concepts</p>	<p><u>Fluency</u> Applying suitable mathematics accurately within the classroom and beyond.</p> <p><u>Problem-solving</u> When decisions have to be made about the steps to take to tackle a mathematical task, this is called mathematics problem-solving.</p> <p><u>Mathematical reasoning</u> When describing why mathematical knowledge, skills or methods are used, this is called mathematical reasoning.</p> <p><u>Reflection (Metacognition)</u> When thinking about the processes and mental strategies involved when doing mathematics, this is called reflection or metacognition.</p> <p><u>Multiplicative reasoning</u> When deliberately using multiplication (or division) to compare quantities and work out the value of one based on the values of others, this is called multiplicative reasoning.</p> <p><u>Modelling</u> When an attempt is made to understand and describe a real-world situation in mathematical terms, this is called mathematical modelling.</p>
<p>Key skills</p>	<p>Identify the mathematical aspects of a situation or problem Select mathematical information, methods and tools to use Make connections within mathematics. Begin to justify conjectures and generalisations, considering special cases and counter-examples</p>
<p>Key knowledge</p>	<p>Students are expected through the curriculum to gain a mastery of the subject. Pupils can readily use their knowledge of number, algebra, geometry, and statistical skills when solving problems across all topics/units.</p>