Subject: Mathematics
Year 7

Learning Block 1

KNOWLEDGE	• Numbers and the Number System (know all the squares of numbers less than 16 and be able to know the square root given the square number; use prime factorisation to represent a number as a product of its primes using index notation; extend the patterns by using the index law for division established for positive power answers, to show that any number to the power of zero is 1). • Calculating (use the order of operations with brackets, including in more complex calculations; use inverse operations; check a result by considering if it is of the right order of magnitude). • Algebraic Proficiency: Tinkering (simplify algebraic expressions by collecting like terms; construct expressions from worded descriptions, using addition and subtraction). • Calculating Space (Find the perimeter and are of 2-D shapes; know the formulae for the circumference and area of a circle; find the volume and surface area of solids, use and apply Pythagoras' theorem to solve problems).
SKILLS	• Addition. • Subtraction. • Multiplication. • Division. • Mental methods. • Solving multi step word problems. • Pattern recognition. • Addition. • Multiplication. • Use of Mathematical equipment. • Simplifying. • Substitution.
ASSESSMENT	Students' classwork will be assessed on their understanding of the learning objectives outlined in the knowledge section above. This will be done through both quality of verbal responses in lesson and teachers marking students' books. Feedback will be provided in relation to objectives which are secure and areas for improvement. Students will also receive feedback on their quality of their notation and clarity of their mathematical explanations. Students' assessment in Key Stage 3 mirrors that of the assessment of Key Stage 4 so that students are familiar with the rigor and demands of GCSE expectations.

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Year 7

Learning Block 2

KNOWLEDGE	• Angles (understand the angle rules for 2-D shapes, use the sum of the exterior angles of any polygon is 360°). • Exploring Fractions, Decimals and Percentages (add and subtract simple fractions with denominators of any size, find a percentage of a quantity, use a multipliers to calculate with percentages, understand how to multiply with decimals). • Proportional Reasoning (express a multiplicative relationship between two quantities as a ratio or a fraction; compare two quantities; understand scale factors and enlargement). • Basic skills week (purposeful practise of key skills tailored to each students' current level).
SKILLS	• Recognising different shapes. • Recognising parts of shapes. • Use of protractors. • Recognising parts of a whole. • Division. • Multiplication. • Addition. • Understanding how ratio/proportion link together. • Answering worded questions.
ASSESSMENT	Students' classwork will be assessed on their understanding of the learning objectives outlined in the knowledge section above. This will be done through both quality of verbal responses in lesson and teachers marking students' books. Feedback will be provided in relation to objectives which are secure and areas for improvement. Students will also receive feedback on their quality of their notation and clarity of their mathematical explanations. Students' assessment in Key Stage 3 mirrors that of the assessment of Key Stage 4 so that students are familiar with the rigor and demands of GCSE expectations. At the end of the learning block, students will sit a 'Big Test'.

Subject: Mathematics
Year 7

Learning Block 3	
KNOWLEDGE	• Mathematical Movement (use conventions for coordinates and lines in 2-D; recognise where a shape will be after a reflection, rotation, or translation; use a scale factor to enlarge; describe what has happened to a shape after a transformation; use the correct language associated with translations). • Pattern Sniffing (sequences). • Data (collecting data; finding averages and the range; using grouped data; displaying data; interpret simple diagrams and charts; use a frequency table; use information provided to complete a two-way table). • Visualising and constructing (understand the language of constructions; use straight edge and compasses to construct the mid-point and perpendicular bisector of a line segment; draw the locus equidistant between 2 points or from a point; produce shapes and paths by using descriptions of loci). • Understanding Risk (use the vocabulary of probability; apply the property that the probabilities of an exhaustive set of outcomes sum to 1; identify all possible mutually exclusive outcomes of a single event; identify all mutually exclusive outcomes for two successive events with two outcomes in each event; write probabilities in words, fractions, decimals and percentages; find and justify probabilities based on equally likely outcomes in simple contexts; use tree diagrams to calculate the probability of two dependent events; use tree diagrams to calculate the probability of two independent events).
SKILLS	• Reading axes. • Visualising and drawing shapes. • Use of mathematical equipment. • Pattern recognition. • Substitution. • Multiplication. • Division. • Addition. • Subtraction. • Reading Axes. • Interpreting Data. • Recording outcomes. • Use the language of Probability.
ASSESSMENT	Students' classwork will be assessed on their understanding of the learning objectives outlined in the knowledge section above. This will be done through both quality of verbal responses in lesson and teachers marking students' books. Feedback will be provided in relation to objectives which are secure and areas for improvement. Students will also receive feedback on their quality of their notation and clarity of their mathematical explanations. Students' assessment in Key Stage 3 mirrors that of the assessment of Key Stage 4 so that students are familiar with the rigor and demands of GCSE expectations.

Subject: Mathematics
Year 7

Learning Block 4

KNOWLEDGE	• Understanding Risk (list outcomes of combined events; use probability tree diagrams; describe probabilities of combined events). • Algebraic Proficiency: Visualising (plot the graphs of simple linear functions in the form $y = mx + c$ in four quadrants; know that the gradient of a line is the change in y over change in x). • Solving equations and inequalities (solve simple two-step linear equations with integer coefficients, of the form $ax \pm b = c$; use systematic trial and improvement to find the approximate solution to one decimal place of equations such as $x^3 = 29$, rearrange simple equations). • Calculating: Division (whole numbers and decimals). • Checking, approximating and estimating (rounding; use of significant figures; check a result by considering if it is of the right order of magnitude). • Measuring space (convert one metric unit to another, including decimals; solve problems with units; convert between imperial units). • Basic skills week (purposeful practise of key skills tailored to each students' current level).
SKILLS	• Recording outcomes. • Drawing and labelling tree diagrams. • Using Venn diagrams. • Drawing and labelling axes. • Substitution. • Simplifying. • Identify parallel and perpendicular lines. • Division. • Use of Mathematical equipment. • Rounding.
ASSESSMENT	Students' classwork will be assessed on their understanding of the learning objectives outlined in the knowledge section above. This will be done through both quality of verbal responses in lesson and teachers marking students' books. Feedback will be provided in relation to objectives which are secure and areas for improvement. Students will also receive feedback on their quality of their notation and clarity of their mathematical explanations. Students' assessment in Key Stage 3 mirrors that of the assessment of Key Stage 4 so that students are familiar with the rigor and demands of GCSE expectations. At the end of the learning block, students will sit a 'Big Test'.