

Subject Progression Statement

Subject: Maths

Year: 7

Term: Autumn



	Mastery Steps		
Assessment Areas	Foundation	Secure	Mastery
Number Skills	<ul style="list-style-type: none"> identify common factors, common multiples and prime numbers recognise and use square numbers and cube numbers use negative numbers in context compare and order fractions whose denominators are all multiples of the same number multiply and divide numbers by 10, 100 and 1000 solve problems which require answers to be rounded to powers of 10 use estimation to check answers to calculations 	<ul style="list-style-type: none"> use the concepts of prime factors, highest common factor and lowest common multiple use positive integer powers and roots recognise and use sequences of triangular, square and cube numbers, simple arithmetic progressions round numbers and measures to decimal places or significant figures estimate answers to complex calculations order positive and negative decimals and fractions use the symbols =, ≠, <, >, ≤, ≥ 	<ul style="list-style-type: none"> use prime factorisation, including using product notation and the unique factorisation theorem Use error intervals Use prime factorisations to find the highest common factor and lowest common multiple of two numbers Use standard form to write large and small numbers Round numbers using standard form
Number Calculations	<ul style="list-style-type: none"> perform mental calculations with mixed to use formal written methods with whole numbers solve problems in contexts, deciding which operations and methods to use and why multiply and divide by 10, 100 and 1000 carry out calculations using BIDMAS use written division methods in cases where the answer has up to two decimal places 	<ul style="list-style-type: none"> understand and use place value (e.g. when working with very large or very small numbers, and when calculating with decimals) apply the four operations, including formal written methods, to decimals use conventional notation for priority of operations, including brackets recognise and use relationships between operations, including inverse operations 	<ul style="list-style-type: none"> apply the four operations to simple fractions and mixed numbers – all both positive and negative use conventional notation for powers, roots and reciprocals Use a scientific calculator with negative numbers Use a scientific calculator to calculate with fractions, both positive and negative Understand how to use the order of operations including powers and roots
Shape, space and measures	<ul style="list-style-type: none"> identify 3-D shapes from 2-D representations use the properties of rectangles to find lengths and angles distinguish between regular and irregular polygons draw 2-D shapes using given dimensions and angles recognise and describe 3-D shapes, including using nets 	<ul style="list-style-type: none"> use conventional terms and notations: points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, polygons, regular polygons and polygons with reflection and/or rotation symmetries use the standard conventions for labelling sides and angles of triangles draw diagrams from written description 	<ul style="list-style-type: none"> measure line segments and angles in geometric figures, including interpreting maps and scale drawings and use of bearings identify, describe and construct similar shapes, including on coordinate axes, by considering enlargement interpret plans and elevations of 3D shapes use scale factors, scale diagrams and maps
Probability	<ul style="list-style-type: none"> Know and use the vocabulary of probability Understand the use of the 0-1 scale to measure probability Know that the sum of probabilities for all outcomes is 1 	<ul style="list-style-type: none"> Work out theoretical probabilities for events with equally likely outcomes Apply the fact that the sum of probabilities for all outcomes is 1 List all the outcomes for an experiment, including the use of tables 	<ul style="list-style-type: none"> relate relative expected frequencies to theoretical probability, record describe and analyse the frequency of outcomes of probability experiments using tables construct theoretical possibility spaces for single experiments and use these to calculate probabilities
Algebra	<ul style="list-style-type: none"> To be able to write algebraic expressions To be able to simplify expressions by collecting like terms 	<ul style="list-style-type: none"> Substitute positive values into scientific formulae Use a formula to solve problems To be able to use the rules of indices to simplify an expression 	<ul style="list-style-type: none"> simplify algebraic expressions by taking out common factors and using products and powers, including combinations of the rules of indices substitute numerical values into scientific formulae including negative and decimal numbers rearrange formulae to change the subject