Manchester Academy
The 'best in everyone'
Part of United Learning

Know It!
@MEAcad
#KnowIt

Year 9 Big Picture – Maths

Autumn 1 7 weeks	Autumn 2 7 weeks	Spring 1 7 weeks
Content 9.01 Decimal manipulation 9.02 Estimation and Limits of accuracy 9.03 Related calculations 9.04 HCF & LCM of large numbers 9.05 Fraction calculations	**Content** 9.06 Algebraic manipulation 9.07 Index Laws 9.08 Standard form 9.09 Expanding & factorising 2	**Content** 9.10 Forming expressions & Substitution 9.11 Direct and Inverse Proportion 9.12 Probability 1
Assessment Objectives This is the knowledge, application and skills assessed by the Big Test: - Apply all four operations using non calculator methods when working with decimals, including both dividing a decimal by an integer and dividing a number by a decimal - Use rounding in order to complete estimations (rounding to both one significant figure and applying sensible rounding) - Use inequality notation to write error intervals from both rounding and truncation - Recognise and use relationships between operations in order to write down the answer to a related calculation from a given calculation - Use prime factor decomposition and Venn diagrams in order to find the HCF and LCM of large values. - Apply all four operations using non calculator methods when working with fractions and mixed numbers involving different denominators, finding the fraction of an amount, writing one number as a fraction of another and to find the reciprocal of an integer, decimal or fraction.	**Assessment Objectives** This is the knowledge, application and skills assessed by the Big Test: - Collecting like terms and simplifying expressions involving all four operations, using the identity symbol, adding fractions with algebraic numerators, multiplying and dividing simple algebraic fractions - Working with the laws of indices, this includes negative and fractional indices, using index notation for integer powers of 10, including negative powers - Converting between ordinary numbers and standard form. Calculating with standard form including multiplication, division, addition and subtraction - Expanding double brackets, factorising quadratics (where the coefficient of x^2 is 1), difference of two squares	**Assessment Objectives** This is the knowledge, application and skills assessed by the Big Test: - Substitution into algebraic formulae, basic functions - inputs and outputs, use algebra to show expressions are equivalence, know the difference between an equation and an identity - Use proportion to answer problems involving exchange rates and best buys. Introduction to inverse proportion, interpret conversion graphs - Describe probability using the probability scale, calculate expected outcomes, mutually exclusive outcomes, experimental probabilities, probability from two-way tables, sample spaces, samples, set notation and Venn diagrams. Product rule for counting.
Unit Test (marked by teacher) Unit test 9.01 **Unit tests (Self-assessment)** Unit tests 9.02, 9.03, 9.04, 9.05	**Unit Test (marked by teacher)** Unit test 9.06 **Unit tests (Self-assessment)** Unit tests 9.07, 9.08, 9.09	**Big test (marked by teacher)** Big Test 1 **Unit tests (Self-assessment)** Unit tests 9.10, 9.11, 9.12

Intervention	**Intervention**	**Intervention**
Students to complete the questions where they made errors (in purple pen)	Students to complete the questions where they made errors (in purple pen)	Students to complete the questions where they made errors (in purple pen)
		Big Test 1 **Data capture – Big test % and ATL**
ATL Data capture	**ATL Data capture**	

Spring 2 **5 weeks**	**Summer 1** **6 weeks**	**Summer 2** **7 weeks**
Content 9.13 Solving Equations 2 9.14 Inequalities 1 9.15 Sequences	**Content** 9.16 Pythagoras 9.17 Interior and Exterior angles 9.18 Vectors 1 9.19 Transformations 1	**Content** 9.20 Plans and Elevations 9.21 Arcs and Sectors 9.22 Surface Area EOY Revision
Assessment Objectives This is the knowledge, application and skills assessed by the Big Test: • Solve linear equations which contain brackets, fractional coefficients, negative signs, negative solutions. Solving linear equations in one unknown with unknowns on both sides, solving equations that require fraction manipulation • Solve linear inequalities in one variable, represent and interpret solutions sets on a number line, solve two inequalities in one variable and compare to see which value(s) satisfy both • Recognise and use the sequence of triangular, square and cube numbers. Generate terms of a term-to-term sequence. Find the nth term of a linear sequence, use the nth term of a linear sequence to determine whether a given number is in that sequence	**Assessment Objectives** This is the knowledge, application and skills assessed by the Big Test: • Use Pythagoras' Theorem to find missing sides in a right-angled triangle and to find the distance between two points. Justify whether a triangle with three given sides in right-angled or not • To calculate interior and exterior angles of (regular) polygons, find the total angle sum of a given polygon • To use column vectors, addition and subtraction of column vectors and interpretation of diagrammatic vectors. To identify whether a pair of column vectors are equal or not • Reflection and rotational symmetry, understand all 4 Transformations - rotation, reflection, translation, enlargement (with a positive scale factor), identify the equation of a line of symmetry **Unit Test (marked by teacher)**	**Assessment Objectives** This is the knowledge, application and skills assessed by the Big Test: • Construct plans and elevations of 3D shapes, draw sketches of 3D solids from plans and elevations • Define all parts of a circle and know key definitions including, tangent, arc, sector and segment. Use the formula for area and circumference of a circle to find the area of circle and sectors and calculate the circumference and arc lengths of circles • Sketch the nets of cuboids and prisms. Find the surface areas of cuboids, pyramids, spheres, cones and composite solids • EOY Revision programme- Revision of key topics • Preparation for UL tests

Year 9 Big Picture – Maths

Unit Test (marked by teacher) Unit test 9.13 **Unit tests (Self-assessment)** Unit tests 9.14, 9.15 **Intervention** Students to complete the questions where they made errors (in purple pen)	Unit test 9.17 **Unit tests (Self-assessment)** Unit tests 9.16, 9.18, 9.19 **Intervention** Students to complete the questions where they made errors (in purple pen)	**EOY test (marked by teacher)** EOY Paper 1 and Paper 2 **Unit tests (Self-assessment)** Unit tests 9.20, 9.22 **Intervention** Students to complete the questions where they made errors (in purple pen)
ATL Data capture	**ATL Data capture**	**Year 9 UL EOY test (Big Test 2)** **Data capture – Big test and ATL**