Bishop Chadwick Catholic Education Trust

End of KS3 Expectations for Maths

KS2					
KS3	**Number**	**Algebra**	**Ratio, proportion & rates of change**	**Geometry & Measure**	**Probability and Statistics**
Surface	Pupils can understand and represent number e.g. place value, rounding Pupils can use the 4 operations e.g. with whole numbers, fractions Pupils can understand fractions, decimals and percentages e.g. fractions and percentages of	equations etc e.g. simplifying expressions, expanding a single bracket Pupils can solve 1 and 2 step equations and inequalities Pupils can draw different types of graphs e,g, linear, quadratic Pupils can recognise and use different types of sequences e.g. arithmetic, geometric	Pupils can understand and use ratio and proportion e.g. simplifying a ratio, working out the best deal	Pupils can calculate perimeter and area of common 2D shapes and volume and surface area of common 3D shapes Pupils can construct and transform 2D shapes Pupils know and understand the properties of 2D and 3D shapes Pupils know and use angle facts including with parallel lines Pupils understand and use Pythagoras' theorem to find the hypotenuse and know the trig ratios	Pupils can understand and use experimental and theoretical probability for single events Pupils can draw and interpret frequency tables and diagrams Pupils can calculate averages and range for a set of data Pupils can draw and interpret scatter diagrams
Deep	Pupils can apply their understanding of number e.g. product of prime factors Pupils can use the 4 operations with more complex numbers e.g. mixed numbers Pupils can use fractions, decimals and percentages to solve more complex problems e.g. reverse percentages	Pupils can manipulate more complex expressions, equations etc e.g. expanding double brackets Pupils can solve more complex equations and inequalities e.g. brackets, unknowns on both sides Pupils understand the meaning of the equation of a graph e.g. y=mx+c Pupils can find and use the nth term of a sequence	Pupils can apply their knowledge of ratio and proprtion to solve more complex problems e.g. sharing in a ratio questions, repeated percentage change	Pupils can solve more complex area and volume problems such as compound shapes, re-arranging formulas to find missing dimensions. Pupils know and use the criteria for congruent triangles Pupils can test conjectures about shapes e.g. a pentagon can be split into a quadrilateral and a triangle Pupils can derive angle tacts e.g. sum of the interior angles in a polygon. Pupils can find missing sides and angles in right angled triangles	Pupils can solve probabilty questions involving combined events e.g. sample space diagrams, tree diagrams Pupils can compare frequency tables and diagrams and identify errors and misleading information. Pupils can solve more complex problems involving averages and range e.g. frequency tables, finding missing values Pupils can use scatter diagrams as conversion graphs.
Transfer	Pupils can apply their understanding of number to solve complex problem solving questions in an unfamiliar context.	Pupils can solve more complex problems e.g. expanding brackets and finding the missing coefiicient Pupils can form and solve equations and inequalities to solve problems Pupils use their knowledge of graphs to solve problems e.g. simultaneous equations, tariff graphs Pupils use their knowledge of sequences to solve more complex problems e.g. to determine whether a term falls into a given sequence.	Pupils can solve more complex problems such as direct and inverse proportion	Pupils can solve problems involving volumes of cones, cylinders and compound 3D shapes Pupils can reason deductively using geometric constructions Pupils can solve problems involving the properties of 3D shapes Pupils solve angles problems that involve forming and solving equations Pupils apply their knowledge of pythagoras' theorem and trigonometry to solve problems e.g. distance between 2 points, finding an angle in an isosceles triangle	Pupils can solve probability problems algebraically Pupils know what can and cannot be inferred in statistical settings. Pupils can calculate averages and range for a set of algebraic terms Pupils know and understand extrapolation