Broughton Hall Catholic High School

Key Stage 3 Descriptors

Maths - Year 7

	Emerging - a student whose understanding of the Y7 Maths skills is still emerging will be able to:	**Developing** -a student who is developing their Y7 Maths skills will be able to:	**Secure** - a student who is secure in the skills in the Y7 Maths curriculum will be able to:	**Exceeding** - a student who is exceeding in the skills in the Y7 Maths curriculum will be able to:
Analysing and displaying data	Find the mode and range for a set of data Find information from tables and diagrams	Find the median for a set of data Use tally charts, bar line graphs and bar charts Interpret simple charts for grouped data Calculate the mean Understand and draw line graphs	Find the modal class for grouped data Compare sets of data using range and other averages Understand and draw dual and compound bar charts	Exceeding in mathematics means pupils fully understand the topics taught. They can demonstrate full understanding in extensive practice. Work is checked to ensure it is of exemplary standard. They can choose the maths required to solve problems presented in a format they have never seen before. They find their own mistakes, and those of others, and devise strategies to minimise them in the future. Being able to verbalise using the correct mathematical language also displays a student who is exceeding in Maths.
Number skills	Use BIDMAS Use multiplication facts up to 10 x 10 Use a written method to add and subtract whole numbers of any size Round money to the nearest pound or penny Order positive and negative numbers Find the factor pairs for any whole number	Multiply by multiples of 10, 100, 1000 Use inverse operations to check Use a written method to multiply and divide whole numbers Interpret the calculator display Add and subtract positive and negative numbers Recognise prime numbers	Make an estimate to check an answer Round whole numbers to the nearest 10 000, 100 000 and 1 000 000 Use a calculator to solve money and time problems Begin to multiply with negative numbers Find the LCM and HCF of a pair of numbers Use BIDMAS including powers	

	Recognise square numbers	Identify common factors Use mental calculations and a calculator to find squares and square roots	Use index form for powers	
Expressions, functions and formulae	Find outputs of simple functions Describe simple functions Use letters to represent unknowns Write simple formulae in words	Simplify linear expressions by collecting like terms Multiply and divide algebraic terms Substitute positive whole numbers into simple formulae written with letters Write simple formulae using letter symbols	Use brackets with numbers and letters Write expressions from word descriptions using + ,-, x and ÷ Substitute positive whole numbers into simple formulae written with words Identify formulae and functions and the unknowns in them	Exceeding in mathematics means pupils fully understand the topics taught. They can demonstrate full understanding in extensive practice. Work is checked to ensure it is of exemplary standard. They can choose the maths required to solve problems presented in a format they have never seen before. They find their own mistakes, and those of others, and devise strategies to minimise them in the future. Being able to verbalise using the correct mathematical language also displays a student who is exceeding in Maths.
Decimals and measures	Measure and draw lines to the nearest mm Round decimals to the nearest whole number Multiply and divide by 10, 100 and 1000 Read scales Add and subtract decimals Work out the perimeters of simple shapes Find areas of irregular shapes by counting squares Choose suitable units to measure length and area Use metric units	Write decimals in order of size Round decimals to 1 decimal place Solve simple problems involving length, mass and capacity Use scale diagrams Multiply decimals by multiples of 10, 100 and 1000 Multiply and divide decimals by single-digit whole numbers Work out the perimeters of composite shapes Calculate areas of shapes made from rectangles Use units of measure to solve	Round decimals to make estimates and approximations of calculations Convert measurements into the same units to compare metric units of length, mass and capacity Interpret metric measures displayed on a calculator Multiply decimal mentally Understand where to position the decimal point using equivalent calculations Divide decimals that give decimal answers Solve perimeter and area problems	

		problems Use imperial units		
Fractions and Percentages	Use fractions to describe parts of a shape Compare simple fractions with or without a diagram Identify equivalent fractions Understand percentages as 'the number of parts per 100'	Order fractions Simplify fractions Find a fraction of a quantity Write one fraction as a quantity of another Express one quantity as a percentage of another	Change an improper fraction to a mixed number Add and subtract simple fractions Work with equivalent fractions, decimals and percentages Convert a percentage to a fraction or a decimal Use different strategies to calculate with percentages	Exceeding in mathematics means pupils fully understand the topics taught. They can demonstrate full understanding in extensive practice. Work is checked to ensure it is of exemplary standard. They can choose the maths required to solve problems presented in a format they have never seen before. They find their own mistakes, and those of others, and devise strategies to minimise them in the future. Being able to verbalise using the correct mathematical language also displays a student who is exceeding in Maths.
Probability	Use a probability scale with words Record data from a simple experiment	Use a probability scale from 0 to 1 Identify outcomes and equally likely outcomes Calculate probabilities Calculate the probability of an event not happening	Calculate more complex probabilities Estimate and make conclusions probability based on experiment data Use probability to estimate the expected number of times an outcome will appear Apply probabilities from experimental data in simple situations	
Ratio and Proportion	Use and solve simple problems involving direct proportion in simple contexts	Use the unitary method to solve simple word problems involving direct proportion Use ratio notation	Reduce a three part ratio to its simplest form Divide a quantity into two parts in a given ratio	Exceeding in mathematics means pupils fully

		Simplify ratios Find equivalent ratios Use percentages to describe and compare proportions	Solve ratio word problems Use fractions to describe and compare proportions Understand and use the relationship between fractions, ratio and proportion	understand the topics taught. They can demonstrate full understanding in extensive practice. Work is checked to ensure it is of exemplary standard. They can choose the maths required to solve problems presented in a format they have never seen before. They find their own mistakes, and those of others, and devise strategies to minimise them in the future. Being able to verbalise using the correct mathematical language also displays a student who is exceeding in Maths.
Lines and angles	Use a protractor to measure and draw angles Recognise acute, obtuse and reflex angles Identify and name types of quadrilaterals	Estimate the size of angles Describe and label lines, angles and triangles Identify angle and side properties of triangles Use a ruler and protractor to draw triangles accurately	Use the rules for angles on a straight line, angles around a point, vertically opposite angles, angles in a triangle and a quadrilateral Calculate interior and exterior angles and other problems involving triangles and quadrilaterals	
Sequences and graphs	Recognise, describe and continue number sequences Describe how a pattern sequence grows Find missing terms in a number sequence	Generate and plot coordinates from a rule Describe and continue special sequences Recognise an arithmetic sequence and a geometric sequence Plot straight-line graphs using a table of values Generate terms of a sequence using a position to term rule	Write and use number sequences to model real life problems Find the midpoint of a line segment Recognise, name and plot graphs parallel to the axes, the lines y = x and y = -x Find the nth term of simple sequences	
Transformations	Identify congruent shapes Use the language of	Enlarge shapes given a scale factor	Identify reflection symmetry in 3D shapes	

	enlargement Work out the scale factor given an enlargement and its image Recognise and carry out reflections in a mirror line	Identify all the symmetries of 2D shapes Recognise rotational symmetry in 2D shapes Reflect a shape on a coordinate grid Describe reflections and rotations on a coordinate grid Translate 2D shapes	Solve problems using line symmetry Transform 2D shapes by combinations of rotations, reflection and translations	