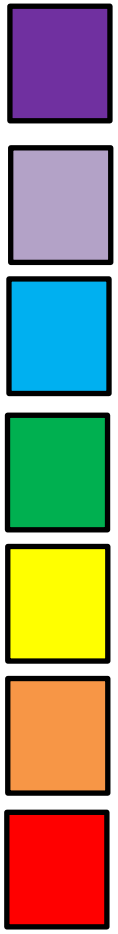
Name: Class:

Maths Progression 2017 -2018

Stage 5	Number	Number	Measurement	Geometry
	To read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit To count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 To interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero To round any number up to 1 000 000 to the nearest 10,100, 1000, 10 000 and 100 000 To solve number problems and practical problems that involve all of the above To read Roman numerals to 1000 (M) and recognise years written in Roman numerals. To add whole numbers with more than 4 digits, including using formal written methods of column addition To subtract whole numbers with more than 4 digits, including using formal written methods of column subtraction To add and subtract numbers mentally with increasingly large numbers To use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy To solve addition multi-step problems in contexts, deciding methods to use and why. To solve subtraction multi-step problems in contexts, deciding which methods to use and why. To identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. To know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers To establish whether a number up to100 is prime and recall prime numbers up to19 To multiply numbers up to 4 digits by a one-or two-digit number using a formal written method, including long multiplication for two-digit numbers To multiply and divide numbers mentally drawing upon known facts To divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	To multiply and divide whole numbers and those involving decimals by 10,100 and 1000 To recognise and use square numbers and cube numbers and their notation To solve problems involving multiplication and division including using their knowledge of factors and multiples , squares and cubes To solve problems involving all 4 operations and a combination of these , including understanding the equals sign To solve problems involving multiplication and division , including scaling by simple fractions and problems involving simple ratio To compare and order fractions whose denominators are all multiples of the same number To identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths To recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number(e.g. $^{2}/_{5}+ ^{4}/_{5} = ^{6}/_{5} = 1^{1}/_{5}$) To add fractions with the same denominator and denominators that are multiples of the same number To subtract fractions with the same denominator and denominators that are multiples of the same number To multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams To read and write decimal numbers as fractions(e.g.0.71 = $^{71}/_{100}$) To recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents To round decimals with two decimal places to the nearest whole number and to one decimal place To read, write, order and compare numbers with up to three decimal places To solve problems involving number up to three decimal places To recognise the percent symbol (%)and understand that per cent relates to “number of parts per hundred”, To write percentages as a fraction with denominator 100,and as a decimal To solve problems which require knowing percentage and decimal equivalents of $^{1}/_{2}$, $^{1}/_{4}$, $^{1}/_{5}$, $^{2}/_{5}$, $^{4}/_{5}$ and those with a denominator of a multiple of 10 or 25.	To convert between different units of metric measure • kilometre and metre • centimetre and metre • centimetre and millimetre • gram and kilogram • litre and millilitre To understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints To measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres To calculate and compare the area of squares and rectangles including using standard units, square centimetres(cm^2)and square metres (m^2) and estimate the area of irregular shapes To estimate volume (e.g. using 1 cm^3 blocks to build cubes and cuboids) and capacity(e.g. using water) To solve problems involving converting between units of time To use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.	To identify 3-D shapes, including cubes and other cuboids, from 2-D representations To know angles are measured in degrees To estimate and compare acute, obtuse and reflex angles To draw given angles and measure them in degrees To identify: • angles at a point and one whole turn (total 360^o) • angles at a point on a straight line and ½ a turn (total 180^o) • other multiples of 90^o To use the properties of rectangles to deduce related facts and find missing lengths and angles To distinguish between regular and irregular polygons based on reasoning about equal sides and angles. To identify, describe and represent the position of a shape following a reflection, using the appropriate language, and know that the shape has not changed. To identify, describe and represent the position of a shape following a translation, using the appropriate language, and know that the shape has not changed.
				Statistics To solve comparison, sum and difference problems using information presented in a line graph To complete, read and interpret information in tables, including timetables.

End of year: Below POS Emerging High Emerging Expected High Expected Exceeding High Exceeding