

Stage 6 Maths Expectations – National Standards

A pupil is able to demonstrate sufficient evidence of the following:

Solve number and practical problems that involve place value, rounding and negative numbers.	To read, write, compare and order numbers up to 10 000 000 and determine the value of each digit including decimals.	Use all four operations to calculate mentally with increasingly large numbers using efficient strategies. Show understanding of commutative and distributive properties.	To solve multi-step problems in context, deciding which operations and methods to use and why.	
Use approximation to estimate and check answers to calculations and determine, in the context of a problem, levels of accuracy.	Identify common factors, multiples and prime numbers.	Divide numbers up to four digits by a two digit number using formal written method of long/short division where appropriate. Interpret remainders according to context.	Use understanding of place value to multiply and divide whole numbers and decimals where the answer has up to two decimal places.	
Fluently divide numbers with up to 4 digits by a 1-digit number using the formal written method.	Fluently multiply numbers up to 4 digits by a 2-digit number using the long multiplication method.	Fluently add and subtract decimal numbers and round when required to specified degrees of accuracy.	To divide proper fractions by whole numbers e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$	
Solve problems and reason about fractions, decimals and percentages.	Multiply simple pairs of proper fractions, writing the answer in its simplest form.	Solve problems involving the calculation of % and the use of percentages for comparison.	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.	
Substitute values in to a simple formula to solve problems (eg perimeter of a rectangle or area of a triangle).	Use common factors to: <ul style="list-style-type: none"> simplify fractions; identify equivalent fractions, using common multiples to express fractions in the same denomination. 	Associate a fraction with division and begin to calculate decimal fraction equivalents.	Use simple ratio and proportional reasoning to solve problems.	
Use simple formulae in words, and express missing number problems algebraically.	Calculate and interpret the mean as an average for simple sets of discrete data in different contexts.	Generate and describe linear number sequences	Find possible values in missing number problems and equations involving 1 or 2 unknowns.	
Recognise, describe and build simple 3-D shapes, including using nets and other 2-D representations.	Calculate with measures (e.g. the length of a bus journey, convert 0.05 km into m and then in to cm).	Use, read, write and convert between standard metric units of measure.	Solve problems involving converting units of time, including problems involving the duration of events.	
Use reasoning to solve problems related to co-ordinates, reflections and translations.	Illustrate and describe parts of circles including radius, diameter and circumference.	Draw, translate and describe simple shapes on the co-ordinate plane in the first quadrant.	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.	
Construct and interpret line graphs, interpret pie charts and use both to solve problems.	Use mathematical reasoning to find missing angles.	Read, write and convert time between analogue clocks (including clock faces using Roman numerals) and digital 12- and 24-hour clocks, using am and pm where necessary.	Calculate and compare the area of squares and other rectangles including parallelograms and triangles.	
Start of Autumn	Data Capture 1	Data Capture 2	Data Capture 3	End of Summer