Year 5 – Discrete Mathematical Knowledge

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Read, write and represent whole numbers to one million I know roman numerals to 1000 I know how to read and write numbers to one million. I know how to count forwards and backwards in ones in negative numbers. I know part, part and whole so I can write inverse of addition and subtraction. I know the place value of numbers (ones, tens, hundreds, thousands, 10 thousands, 100 thousands, millions) so that I can compare greater than/less than.	I know a multiple is the product of a quantity or integer. I know a factor is an integer that divides into a whole number with no remainder. I know a square number is a number multiplied by itself. I know cube number is a number multiplied by itself twice. I know common multiples are multiples shared by 2 or more numbers. I know a common factor is a factor shared by 2 or more numbers. I know a factor pair is a set of 2 factors when multiplied together give a product. I know a prime number is a number that can only be divided by itself and 1. I know a composite number is a whole number that has 2 or more factors.	I know how to use short division. I know how to use long multiplication for multiplying an integer by a 2 digit number. I know how to use short multiplication for multiplying 2 digits by 1 digit. I know the zero represents the tens column in long multiplication. I know a remainder is an amount left over after dividing a number. I know a product is the result of multiplying 2 numbers together so I can identify in a calculation. I know a numerator represents the part of the whole. I know the denominator represents how many equal parts in the whole. I know a fraction is part of a whole. I know equivalent fractions are the same. I know an improper fraction has a numerator larger than the denominator.	I know a decimal is a way of writing a number that is not a whole. I know a fraction is part of a whole. I know place value for decimal places is tenths, hundredths and thousandths. I know tenths are written as 0._ I know hundredths are written as 0.__ I know thousandths are written as 0.___ I know a fraction can be written as a decimal. I know percent means out of 100. I know the horizontal axis is the X axis. I know the vertical axis is the Y axis. I know how to read a timetable. I know perimeter is the length all the way around a 2D shape. I know area is the amount of space taken up by a 2D shape.	I know a integer is a whole number. I know acute angles are smaller than 90 degrees. I know obtuse angles are between 90 and 180 degrees. I know a reflex angle is any angle larger than 180 degrees. I know a full turn is 360 degrees. I know half turn is 180 degrees. I know a quarter turn is a right angle and 90 degrees. I know an angle is a measure of turn measured in degrees. I know parallel lines run alongside each other in pairs. I know perpendicular lines are lines that cross each other at 90 degree angle. I know a polygon is is a flat two-dimensional shape with straight sides that is fully closed. I know a regular polygon is has all sides and angles the same length.	I know reflection is a mirror image of an object drawn over a line/axis. I know translation is the movement of an object. I know that a 'kilo' means a thousand. I know there are 1000 grams in a kilogram. I know milli means one thousand I know there are 1000mm in 1m. 1 know there are 1000ml in 1l. I know centi means 100. I know there are 100cm in 1m. I know there are 24 hours in a day. I know there are 60 minutes in 1 hour. I know there are 60 seconds in 1 minute. I know there are 365 days in 1 year. I know there are 52 weeks in 1 year.

		I know a mixed number is a whole number and proper fraction together. I know a proper fraction has a numerator smaller than the denominator. I know 4 quarters make a whole. I know 2 halves make a whole. I know 8 eighths make a whole. I know 5 fifths make a whole. I know 10 tenths make a whole.	I know how to find the area of rectangles and composite shapes	I know an irregular polygon has sides and angles of different length/measure. I know 3D shapes so I can describe their faces, curved surfaces, vertices and edges. I know 2D shapes so I can describe their properties.	I know there are 7 days in 1 week. I know volume is the amount of space a 3D shape/liquid takes up. I know capacity is the amount something can hold. I know how to count forwards and backwards in ones in negative numbers.