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**Year 6 – Discrete Mathematical Knowledge**

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| **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| Recognise greater than / less than inequality symbols / order numbers in ascending and descending order Know the part – relationship and use this to write number sentences Suggest other parts that make the whole e.g. 100 tens is the same as 1 thousand Recap number bonds to 10, 100 and 1000Be fluent in multiplication facts to 12 x 12 and know the corresponding division facts Be able to accurately write multiples of any double digit numbers Use knowledge of multiples to see which multiples lie either side of a number To know and be able to find common factors and multiples Recognise prime numbers up to 100Know squared and cubed numbersKnow the rule of BIDMASKnow and recognise Roman Numerals Know what parallel, perpendicular and intersecting lines are  | Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. Know what a fraction is, what the denominator is and what the numerator isIdentify and change improper and mixed number fractions Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. Identify x and y axis and know which part is positive and which part is negative Describe translations using directional language e.g. direction, translation, rotation, vertex How many seconds in a minute? How many minutes in a hour? How many hours in a day? How many days in a week? How many weeks in a year? How many days in a year? How many days in each month? | Recall and use equivalences between simple fractions, decimals and percentages including in different contexts. Know the number bonds to 1 using tenths and hundredths.Identify the value of each digit in numbers given to 3 decimal placesKnow the relationship when exchanging between columns e.g. 3 tenths is the same as 30 hundredths.They discover that digits move to the left when they are multiplying and use zero as a place valueholder . The decimal point does not move.Be able to write fractions as decimals.Know that ‘percent’ means ‘out of 100’.Convert from 12 hour clock time to 24 hour clock and vise versa | Know the input and output, in order to find functions Substitute into formulae Know the difference between capacity (the amount an object cancontain) and volume (the amount actually in an object).Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3dp e.g. cm kg km g tonnes ml mm litresKnow what the area and perimeter are.Calculate the area of 2d shapes e.g. rectangles, parallelograms, triangles Recognise and use the perpendicular height to calculate area Know how to calculate the volume of cubes and cuboids Name and identify the properties of 2d shapes including the 3 different types of triangleName and identify the properties of 3d shapes including triangular based pyramid, square based pyramid, pentagonal based pyramid, triangular prism, hexagonal prism, cone, sphere, hemisphere and octahedronKnow what a polygon, regular polygon and irregular polygon are. | Name and describe the 4 different types of angles?(right angle, obtuse, acute and reflex)Know that there are two right angles on a straight line and four right angles around a point.Know how many degrees are in a whole, quarter, half and three quarter turns Know the interior angles in triangles, quadrilaterals - parallelogram, rhombus, trapezium etc. and regular polygons. Know that vertically opposite angles share a vertex and are equalName parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. Know how to calculate the mean, median and mode. | Consolidation  |