Year 8 Maths Learning Map

TERM 1

Fractions and Percentages

This half term is key to underpinning student's use of fractions and percentages into KS4. We learn to Interpret fractions and percentages as operators as well as numbers and be able to find any fraction of any amount and express one quantity as a fraction of another.
We spend time developing the links between fractions and percentages by converting between fractions, decimals and percentages and using this appropriately; including in writing one number as a percentage of another.
Find any percentage of any amount using a variety of methods appropriately and increase and decrease by a percentage
Calculating reverse percentages.

Linear equations and inequalities

Identifying equations, inequalities and expressions. Forming, solving and check ing linear equations with unknowns on one sides and two sides.
Using simple formulae
Represent and interpret simple inequalities involving one unknown

LINKS TO PRIOR LEARNING

Developing KS2 knowledge of unit fractions and building on Summer term Yr 7 work where we used the four operations with a range of unit and non-unit fractions. We build on algebra, equality and arithmetic laws introduced in yr 7 and make links to linear sequences.

TERM 2

Angles

Here we use the properties of shapes to derive rules and use pencil, ruler and compass constructions of 2D shapes
We develop and use standard conventions for labelling sides and angles. Using angle facts to solve problems or make conclusions, including missing angle problems, bearings problems and/or problems relating to parallel lines
Deriving, understanding and using properties of interior and exterior angles of polygons.

Ratio

We develop and use ratio notation, including reduction to simplest form. Divide a given quantity into two parts in a given part: part or part: whole ratio; express the division of a quantity into two parts as a ratio Understand that a multiplicative relationship between two quantities can be expressed as a ratio or a fraction. Apply this understanding to solve real-life problems such as exchange rates and recipe problems and using scale diagrams.

LINKS TO PRIOR LEARNING

Developing from KS2 knowledge of angle as a measure of turn and simple fractions of a full turn. Angles within regular shapes in KS2. We have used groups/parts and wholes throughout KS2 and yr 7. We make links to Yr7 fractions

TERM 3

3D Shapes

We develop the vocabulary and familiarity with 3D shapes in order to name different 3D shapes and parts/properties of these. We will calculate the volume and surface area of cubes, cuboids, triangular prisms, and other prisms, including compound shapes made up of a combination of these. We take time to develop our accuracy when drawing and interpreting plans and elevations of 3D shapes.

Statistics

We will be drawing and interpreting bar charts, line graphs, pie charts and pictograms; selecting the most appropriate diagram and critiquing misleading diagrams; understanding the difference between a frequency based chart and a proportion based chart.
Analysing bivariate data through drawing, interpreting and critiquing scatter graphs. We will describe different statistical averages and calculate and interpret the mean, mode, median and range from a list, table, or chart; understanding the limitations of each and knowing which is the most appropriate to select.

LINKS TO PRIOR LEARNING

Developing understanding of area and perimeter from Yr 7 we use key vocab developed in KS2 and yr7 to explore 3D shapes. We develop the skill of counting squares to counting cubes to understand depth. Data handling cycle isn't always covered in any depth at KS2 – single bars and lines are developed into multiple variants