Yr8: ASK Yourself!

Subject: Maths
Unit: Whole Year

	Launching	Developing	Progressing	Mastering
S kills				
	I need to be able to use the skills of TENSILE in maths.	I use TENSILE skills sometimes in maths.	I can use each of the TENSILE skills confidently.	I can expertly use TENSILE and see how each skill helps me learn.
K nowledge				
Adding and Subtracting Fractions	I can confidently find equivalent fractions and simplify fractions.	I can confidently add and subtract fractions with the same denominators.	I can confidently add and subtract fractions with different denominators.	I can confidently add and subtract mixed numbers and improper fractions.
Further Order of Operations	I can confidently multiply to numbers together up to 10 x 10.	I can confidently work out the answer to questions involving two operations such as 3 + 4 x 2 = 11.	I can confidently work out the answer to questions which have brackets and indices involved.	I can solve problems involving BIDMAS such as placing brackets in the correct place to make an answer correct.
Averages	I can confidently define and calculate the mode, median, mean and range of a set of data.	I can confidently justify the use of each average and calculate the inter quartile range and draw a resulting box plot.	I can confidently identify obvious outliers from a set of data and understand the effect an outlier would have on each average.	I can understand and describe the effect of adding additional data to each average.
Multiplying and Dividing Fractions	I can confidently find equivalent fractions and simplify fractions.	I can confidently multiply and divide fractions.	I can confidently multiply and divide mixed numbers and improper fractions.	I can confidently recognise multiply and divide fractions in context.
Functions	I can confidently use one and two stage function machines to give outputs from any given input.	I can confidently use one and two stage function machines to create inputs from any given output.	I can confidently find the operation from a function machine given outputs and inputs.	I can confidently state the range of answers for any given function.

Equations	I can confidently solve simple linear equations with one variable.	I can confidently solve two step linear equations.	I can confidently solve more complex linear equations with fractions, brackets or unknowns on both sides.	I can confidently formulate and solve linear equations and rearrange any given formula to change the subject.
Introducing Recurring Decimals	I can confidently identify a recurring decimal.	I can identify the differences between a terminating and recurring decimal.	I can confidently work out the value of any given decimals from a fraction through division.	I can investigate recurring decimals and the patterns that they form. E.g. 7ths and 9ths.
Percentages	I can confidently calculate percentages of amounts.	I can confidently compare two quantities using percentages and calculate percentage increases and decreases.	I can confidently use multipliers to calculate percentage increases and decreases.	I can confidently calculate reverse percentages and solve compound interest problems in context.
Introduction to graphs	I can confidently draw and recognise the equations of horizontal and vertical lines.	I can confidently draw a straight line graph from an equation.	I can confidently find a gradient and y intercept of a straight line and give the equation.	I can confidently find the equation of a straight line when given specific information.
Transformations	I can confidently identify lines of symmetry on shapes.	I can confidently reflect and rotate a shape.	I can confidently reflect, rotate and translate a shape.	I can confidently describe a single transformation obtained from a combined transformation.
Circles	I can confidently know and label the parts of a circle.	I can confidently find the circumference of a circle in context and give the answer in terms of π or decimals.	I can confidently find the area of a circle in context and give the answer in terms of π or decimals.	I can confidently find the area, circumference and perimeter of compound shapes including arcs and sectors.
Angle Properties	I confidently know how to calculate missing angles using the sum of angles in a straight line, triangle and around a point.	I can apply the angle properties at a point, at a point on a straight line and vertically opposite angles.	I confidently use angle properties of polygons to justify why a shape or set of shapes tessellate.	I can confidently derive and use properties of regular polygons i.e. interior and exterior angles.
Scattergraphs	I can describe a relationship between two variables from a given scatter diagram.	I can confidently plot a scatter graph using my own scales and I can draw a line of best fit.	I can draw a line of best fit through a mean point and I understand how a line of best fit can be used to make predictions and can	I know and understand why correlation does not imply causation. I can also find the equation of a line of best fit.

			describe its limitations.	
Inequalities	I can confidently represent inequalities on a number line.	I can confidently represent multiple inequalities on a number line and state the region that satisfies them all.	I can confidently solve inequalities and plot them on a graph.	I can confidently plot multiple inequalities on a graph and shade the region described.
Probability	I confidently know how to use a probability scale.	I confidently know how to calculate simple probabilities.	I confidently know how to calculate probabilities via the use of two way tables.	I confidently know how to calculate experimental and theoretical probability.
Questionnaires	I can confidently design a questionnaire to test a hypothesis.	I can confidently recognise when a question is redundant in terms of the hypothesis being investigated.	I can confidently recognise and justify when a question is biased and design a better question.	I can confidently recognise mistakes in questions and correct them.
Volume	I can confidently define the number of faces, edges and vertices of a 3D shape.	I can confidently describe the properties of a prism.	I can find the volume of simple prisms including cylinders using cross sectional area.	I can find the volume of complex prisms and solve problems in context.
Compound Measures	I can confidently describe and draw situations represented by real life graphs.	I can confidently find the compound measure of an object when given the elements that form it.	I can confidently manipulate compound measure formulae to find other unknowns. I also know and understand the units required for each measure.	I can confidently convert between units of density or speed.