Yr10: ASK Yourself!

Subject: Maths
Unit: Higher

	Launching 1-2	Developing 3-4	Progressing 5-6	Mastering 7-9
Skills				
	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.
Knowledge				
Quadratic Inequalities	I can confidently identify and use the inequality symbols.	I can confidently solve a single linear inequality and represent on a number line.	I can confidently solve quadratic inequalities and represent the solution on a number line.	I can confidently solve multiple inequalities where one is quadratic stating the region satisfied by all inequalities.
Plot and Interpret Graphs	I can confidently plot linear and quadratic graphs by finding coordinates.	I can confidently plot and interpret quadratic and cubic graphs.	I can confidently plot and interpret non-linear graphs including reciprocal, exponential and trigonometric.	I can confidently plot and interpret non-linear graphs and use these to find approximate solutions to equations.
Trigonometry	I can confidently use Pythagoras theorem to solve problems.	I can confidently recall some exact values of sin, cos and tan.	I can confidently use Pythagoras and trigonometry to solve problems involving right angled triangles.	I can confidently use Pythagoras and trigonometry to solve problems in 3 dimensions.
Analysing Data	I can confidently use different sampling techniques	I can confidently draw and interpret scatter graphs	I can confidently use a formula for the mean to find missing information	I can confidently draw and interpret cumulative frequency graphs and box plots
Direct and Inverse Proportion	I can confidently simplify a ratio and share using a ratio.	I can confidently use linear/conversion graphs to solve proportion problems using rate of change.	I can confidently solve direct proportion problems using an algebraic method.	I can confidently solve complex problems using direct and inverse proportion with an algebraic method.

3D Shapes	I can confidently calculate the volume of a prism.	I can confidently apply the formula for the volume and surface area of a pyramid, cone and sphere.	I can confidently solve problems involving 3D shapes in context including calculating density.	I can confidently solve problems involving 3D shapes by finding missing dimensions.
Similar Shapes	I can confidently use a scale factor to find a new length.	I can confidently find missing values in 2D similar shapes.	I can confidently find missing values in 3D similar shapes.	I can confidently solve problems in 2D or 3D similar shapes in context.
Histograms		I can confidently find the frequency density and plot a histogram.	I can confidently find frequencies and plot a histogram.	I can confidently solve problems by interpreting a histogram.
Kinematics	I can confidently plot a distance time graph.	I can confidently use a distance time graph to find average speeds.	I can confidently use a velocity time graph to find distance travelled.	I can confidently use a velocity time graph to find acceleration.
Functions	I can confidently use function notation and substitute into a formula.	I can confidently create and use composite functions.	I can confidently find the inverse of a function.	I can confidently use function notation to create and solve equations.
Ratio Problem Solving	I can confidently use a share of a ratio to find other shares or totals.	I can confidently combine ratios with fractions and percentages to solve problems.	I can confidently combine ratios using a shared link and solve problems.	I can confidently combine ratio and shape to solve problems.
Surds	I can recognise irrational numbers and simplify a number given in surd form.	I can multiply and divide numbers in surd form and simplify solutions.	I can confidently rationalise a denominator.	I can confidently solve problems in context by rationalising denominators and simplifying solutions.
Geometric Sequences	I can confidently recognise a geometric sequence and find new terms.	I can confidently find the nth term of a geometric sequence.	I can confidently use geometric sequences to create and solve equations.	I can confidently use a geometric sequence in a compound interest problem.
Circle Theorems	I can confidently find a missing angle using a circle theorem.	I can confidently use a combination of angle facts and circle theorems to find missing angles.	I can confidently solve problems involving Pythagoras or trigonometry within circle theorem problems.	I can confidently solve problems given involving circle theorems including where roofs are needed.
Coordinate Geometry	I can confidently find the equation of a line from a gradient and point.	I can confidently find the equation of a line from two points.	I can confidently find a line that is perpendicular or parallel to another line.	I can confidently find an equation of a line that is parallel or perpendicular to a line at a particular point.