YEAR 8	EMERGING	SECURING	DEEPENING	MASTERING
Powers and primes				
Fluency	☐ Be able to write numbers in index form ☐ Find factor pairs of integer less than 50 ☐ Find multiples of small integers ☐ Know the prime numbers under 10	☐ Find the HCF of two integers less than 100 ☐ Find LCM of two small integers ☐ Know that prime numbers have only 2 factors and identify prime numbers less than 50 ☐ Write a number as the product of its prime factors ☐ Know the multiplication and division index laws	☐ Find HCF of any integers ☐ Find LCM of any multiples ☐ Use prime factor decomposition to find populate a Venn diagram ☐ Use Venn diagram to find HCF and LCM ☐ Be able to use multiplication, division, power of a power ☐ Know the power zero equals 1	☐ Use prime factor decomposition without a Venn diagram ☐ Use prime factor decomposition to determine if a number is a square number or cube number ☐ Know factors of numbers based on prime factor decomposition ☐ Use all index laws together in combined questions
Revision	Reflect on how well you prepared for this assessment:			Fluency score: /20
Target	Identify an area that you would like to improve on in future:			This target is: ☐ Met ☐ Ongoing

Area and Perimeter				
Fluency	☐ Recognise and name 3 sided polygons and some quadrilaterals ☐ Calculate the perimeter of shapes when given all side lengths ☐ Calculate area of squares, rectangles and right-angled triangles by counting squares on a grid ☐ Calculate the perimeter of compound shapes given all sides	☐ Recognise and name triangles and quadrilaterals ☐ Calculate area of squares, rectangles and right-angled triangles ☐ Calculate perimeter of polygons ☐ Calculate the area of triangles given the perpendicular height ☐ Find missing lengths of compound shapes to use to find the perimeter ☐ Divide a compound shape up into appropriate shapes to find area	☐ Be able to find missing lengths on polygons given the perimeter ☐ Know the formula to find the area of triangles, rectangles, squares, parallelograms ☐ Use the formula to calculate the area of a trapezium ☐ Be able to find missing lengths on compound shapes that are required to find perimeter or area ☐ Be confident on finding perpendicular height on given polygons	☐ Use the formula to find area of triangles to find a missing length given the area ☐ Use the formula to find missing length on a trapezium given the area ☐ Be able to use perimeter and area calculations to solve problems ☐ Solve perimeter and area problems using algebra
Revision	Reflect on how well you prepared for this assessment:			Fluency score: /20
Target	Identify an area that you would like to improve on in future:			This target is: ☐ Met ☐ Ongoing

YEAR 8	EMERGING	SECURING	DEEPENING	MASTERING
Inequalities and formulae				
Fluency	☐ Be able to state numbers less than or more than a given number ☐ Draw more than inequalities on a number line ☐ Draw less than inequalities on a number line	☐ Find a set of integers that satisfy an inequality ☐ Understand less than or equal to, more than or equal to ☐ Be able to show double inequalities on a number line ☐ Solve one step simple inequalities ☐ Substitute values and solve simple formulae ☐ Rearranging simple formulae using fact families	☐ Use set notation to represent inequalities ☐ Show correct notation of inequalities on a number line, how to show included and not included numbers ☐ Solve two step inequalities ☐ Solve inequalities with brackets ☐ Substitute numbers into formulas involving power, root and brackets ☐ Rearranging formulae using fact families	☐ Know how to solve inequalities that have a negative coefficient ☐ Solve inequalities with unknowns on both sides ☐ Construct formulae and solve from complex worded problems ☐ Rearrange formulae with three or more terms
Revision	Reflect on how well you prepared for this assessment:			Fluency score: /20
Target	Identify an area that you would like to improve on in future:			This target is: ☐ Met ☐ Ongoing

Coordinate Geometry				
Fluency	☐ Plot points from their coordinates when all positive values ☐ Read values from graphs ☐ Plot graphs of simple functions	☐ Plot points in all four quadrants ☐ Recognise, name and plot straight line graphs parallel to the x- or y-axis ☐ Understand that they represent an infinity of coordinates ☐ Generate coordinates that satisfy a simple linear rule when the gradient is positive	☐ Understand and generate coordinates that satisfy a simple linear rule and plot the graph with positive and negative gradients ☐ Recognise, name and plot the graphs of y= x and y = -x ☐ Be able to solve problems with coordinates	☐ Recognise straight line graphs parallel to the axes ☐ Begin to explore gradients and intercepts of straight-line graphs ☐ Discuss y = mc + c
Revision	Reflect on how well you prepared for this assessment:			Fluency score: /20
Target	Identify an area that you would like to improve on in future:			This target is: ☐ Met ☐ Ongoing

YEAR 8	EMERGING	SECURING	DEEPENING	MASTERING
Sequences – Fluency	☐ Begin using mathematical language to describe sequences ☐ Generate simple sequences ☐ Describe how patterns grow and describe term to term rules	☐ Begin to identify and use position to terms rules ☐ Begin to write the nth term of a sequence using algebra for an ascending sequence	☐ Demonstrate how sequences are used to describe patterns ☐ Generate sequences using two step term to term rules ☐ Write the nth term of an arithmetic sequence using algebra	☐ Generate sequences and predict how they will continue ☐ Recognise geometric and Fibonacci sequences ☐ Prove mathematically if a number will be in a sequence ☐ Plot linear sequences and make connections to linear graphs
	☐	☐	☐	☐
Revision	Reflect on how well you prepared for this assessment:			Fluency score: /20
Target	Identify an area that you would like to improve on in future:			This target is: ☐ Met ☐ Ongoing

Ratio and Proportion – Fluency	☐ Reduce two-part ratio into its simplest form ☐ Draw a diagram to show parts and know the total number of parts	☐ Use direct proportion in simple context ☐ Use unitary method to solve simple word problems ☐ Reduce two-part ratio into its simplest form ☐ Divide quantities into two parts in a given ratio	☐ Appreciate that any two numbers can be connected via a multiplier ☐ Share a quantity of two parts in a given ratio ☐ Use multiplicative relationship to solve best buy problems ☐ Use multiplicative relationship to solve recipe problems ☐ Be able to write ratios in the form 1:n	☐ Share a quantity of two or more parts in in a given ratio ☐ Simplify a ratio in fractions or decimals ☐ Be able to solve ratio problems where the amount more or less is known
Revision	Reflect on how well you prepared for this assessment:			Fluency score: /20
Target	Identify an area that you would like to improve on in future:			This target is: ☐ Met ☐ Ongoing

YEAR 8	EMERGING	SECURING	DEEPENING	MASTERING
Data – Fluency	☐ Know how to find the mode of a set of discrete data ☐ Know how to find the median of an ordered set of data with an uneven number ☐ Find the range of a set of data ☐ **Find the mean for a small data set using a calculator?** ☐ Find information from tables, pictograms, bar and bar line charts ☐ Display data using bar and bar line charts ☐ Organise data using tally charts ☐ Understand how to read a number from a stem and leaf diagram ☐ Be able to recognise positive/negative/no correlation from a scatter graph	☐ Explain why some data sets are bimodal or have no mode ☐ Know how to find the median of any data set ☐ Calculate the mean of a set of values ☐ Find the mode and range from a chart or table ☐ Read and draw line graphs and dual bar charts ☐ Begin to compare sets of data using Range, mode and median. ☐ Read and interpret simple pie charts ☐ Draw an ordered stem and leaf diagram ☐ Plot a scatter graph	☐ Know when the mode is the most appropriate average to use. ☐ Know how to find the median of all data sets ☐ Understand that the mean is sharing the total evenly ☐ Compare two sets of data using an average and the range ☐ Read and construct bar charts and dual bar charts ☐ Read, construct and interpret pie charts ☐ Find averages and range from a stem and leaf diagram ☐ Plot a scatter graph and draw a line of best fit and use the line of best fit to interpolate data from a scatter graph	☐ Know when the mode is the most appropriate average to use. ☐ Be able to find the median of a data set using its numerical position in the list. Know when the median is the most appropriate average to use. ☐ Use the mean to find a missing number in a set of data ☐ Choose the most appropriate average for a set of data and compare sets of data using averages and the range. ☐ Read, draw and interpret a composite bar chart ☐ Read, construct and interpret pie charts ☐ Find averages from different representations ☐ To extrapolate data from a scatter graph
Revision	Reflect on how well you prepared for this assessment:			Fluency score: /20
Target	Identify an area that you would like to improve on in future:			This target is: ☐ Met ☐ Ongoing

YEAR 8	EMERGING	SECURING	DEEPENING	MASTERING
Units and measure				
Fluency	☐ Multiply integers and decimals by powers of 10 ☐ Divide integers and decimals by powers of 10 ☐ Know that 10mm = 1cm using a ruler for support ☐ Be able to calculate speed in mph when given distance and miles and times in hours	☐ Multiply integers and decimals by powers of 10 ☐ Divide integers and decimals by powers of 10 ☐ Convert metric measures in length ☐ Convert metric measures of capacity ☐ Converts units of mass ☐ Use conversion graphs to solve problems ☐ Convert simple units of times between decimals and fractions to hours and minutes ☐ Understand speed and be able to calculate it ☐ Be able to calculate density	☐ Use double number lines / ratio tables to convert between metric and imperial ☐ Be able to calculate speed, distance and time ☐ Be able to convert units of speed ☐ Be able to calculate density, mass and volume ☐ Be able to calculate pressure, force and area	☐ Convert more complicated time between fractions and decimals to hours and minutes ☐ Use the speed, distance time relationship to calculate more complex worded problems ☐ Use the density, mass volume relationship to calculate more complex worded problems ☐ Use the pressure, force area relationship to calculate more complex worded problems ☐ Convert units of speed, density and pressure
Revision	Reflect on how well you prepared for this assessment:			Fluency score: /20
Target	Identify an area that you would like to improve on in future:			This target is: ☐ Met ☐ Ongoing
Pythagoras				
Fluency	☐ Be able to calculate squaring and square rooting with a calculator ☐ Be able to identify the hypotenuse ☐ Be able to label the hypotenuse c	☐ Label the sides of a right-angled triangle ☐ Calculate the length of the hypotenuse	☐ Calculate the length of any side in a right-angled triangle ☐ Understand Pythagorean triples are integers ☐ Prove a triangle contains a right angle	☐ Use Pythagoras to find perimeter and area of all triangles by making right-angled triangles ☐ Solve a range of multi-step real-life problems using Pythagoras ☐ Use your knowledge of Pythagoras to find the length of line segments
Revision	Reflect on how well you prepared for this assessment:			Fluency score: /20
Target	Identify an area that you would like to improve on in future:			This target is: ☐ Met ☐ Ongoing

YEAR 8	EMERGING	SECURING	DEEPENING	MASTERING

Probability	Fluency	☐ Define either mutually exclusive events or dependent/independent events ☐ Complete sample space diagrams, two-way tables, frequency trees and Venn diagrams ☐	☐ Define all of the different types of probability events ☐ Create sample space diagrams, two-way tables, frequency trees and Venn diagrams ☐ Identify and know when to use each of the OR and AND rules	☐ Identify different types of probability events in context ☐ Create and use sample space diagrams, two-way tables, frequency trees and Venn diagrams to work out simple probabilities ☐ Use the OR and AND rules in complex questions	☐ Identify and use different types of probability events in context ☐ Use sample space diagrams, two-way tables, frequency trees and Venn diagrams to work out probabilities in complex calculations or that require working backwards to find missing information. ☐ Use the OR and AND rule involving set notation.
	Revision	Reflect on how well you prepared for this assessment:			Fluency score: /20
	Target	Identify an area that you would like to improve on in future:			This target is: ☐ Met ☐ Ongoing

YEAR 8		EMERGING	SECURING	DEEPENING	MASTERING
Reasoning	Describe and explain	I can… ☐ Describe some of the stages in a method	I can… ☐ Describe a complete mathematical method ☐ Explain some of the steps in a method (i.e. why do you perform a particular step?)	I can… ☐ Describe a complete method using correct mathematical vocabulary	I can… ☐ Use correct mathematical vocabulary to explain why a particular method works
	Understand mistakes	I can… ☐ Identify and correct mistakes in a worked solution	I can… ☐ Explain how I know an answer in a worked solution is incorrect	I can… ☐ Identify the misconception behind an incorrect answer (i.e. explain why the mistake was made)	I can.. ☐ Create a worked example that demonstrates a common misconception
Problem Solving	Vocabulary & notation	I can… ☐ Highlight some key words and mathematical facts	I can… ☐ Highlight all the necessary key words and mathematical facts	I can… ☐ Find connections between the highlighted information	I can… ☐ Interpret key mathematical terms correctly to find the right connection.
	Diagrams	I can… ☐ Label a given diagram or representation with at least one piece of relevant information	I can… ☐ Draw a useful diagram/representation to help me with the problem	I can… ☐ Make use of my diagram/representation to solve a problem	I can… ☐ Use diagrams or representations to simplify more complex problems
	Written communication	I show in my workings… ☐ A visible correct first step to solving the problem	I show in my workings… ☐ More than one correct logical step to solve the problem	I use… ☐ A logical order in my workings, which make it easy for the reader to follow my solution	I use… ☐ Correct mathematical notation throughout
	Devise a plan	I can… ☐ Identify the area of maths required to solve the problem	I can… ☐ Identify all the areas of maths required to solve a problem	I can… ☐ Devise a plan that shows progression through a problem	I can… ☐ Devise the most efficient plan or refine a plan as I go
	Check and reflect	I have… ☐ Checked I haven't made a silly mistake	I look… ☐ For errors and can correct them	I can… ☐ Check that the size of my answer makes mathematical sense	I can… ☐ Produce and evaluate multiple methods for solving a problem
	Independence	I need… ☐ Help to get started	I can… ☐ Get started by myself	I can… ☐ Get most of the way through a complex problem unaided	I can… ☐ Complete a complex problem unaided