Maths (Year 8)

Term 1

I Can Statements

Numerical and Proportional Reasoning	Algebra	Shape, Space and Measure	Statistics
I can round numbers effectively to help me estimate	I can write an algebraic expression in its simplest form	I can convert and use different measurements	
I can use the order of operations effectively	I can expand and factorise linear expresions	I can find the area and perimeter of different 2D shapes	
I can find the HCF and LCM of a set of numbers	I can create and use a formulae effectively		
I can complete calculations with decimals			
I can make calculations with fractions			
I can convert between fractions and decimals			
I can increase and decrease an amount by a percentage			

Mastery Statements

Mastery Statements	Emerging	Developing	Mastering
I can round numbers effectively to help me estimate	I can round to the nearest power of 10 and a given decimal place	I can round to a given decimal place or significant figure and use this to help me estimate values	I can state the upper and lower bound for a number that has been rounded to a given number of decimal places or significant figures
I can use the order of operations effectively	I can apply the order of operations to help me solve simple equations	I can apply the order of operations to help me solve more complex equations involving brackets and indices	I can insert brackets into an equation to correct the order of operations and get the right answer
I can find the HCF and LCM of a set of numbers	I can identify the multiples and factors of a number	I can write a number as a product of its prime factors	I can use the prime factorisation of a pair of numbers to find their HCF and LCM
I can complete calculations with decimals	I can effectively add and subtract numbers with decimals to help me solve problems	I can effectively multiply and divide numbers with decimals to help me solve problems	I can apply the order of operations to problems involving operations with decimals
I can make calculations with fractions	I can add and subtract fractions with different denominators	I can multiply and divide fractions	I can complete a calculation with improper fractions and mixed numbers
I can convert between fractions and decimals	I can convert between fractions and decimals	I can convert between fractions and decimals giving my answer as a recurring decimal	I can write a recurring decimal as a fraction
I can increase and decrease an amount by a percentage	I can work out a percentage of an amount	I can increase and decrease an amount by a percentage	I can work out repeated percentage changes
I can write an algebraic expression in its simplest form	I can simplify an expression by collecting the like terms	I can simplify an expression involving basic multiplication	I can simplify algebraic expressions by cancelling
I can expand and factorise linear expresions	I can expand a linear expression to remove the brackets	I can factorise a linear expression	I can expand double brackets to create quadratic expressions
I can create and use a formulae effectively	I can use a formula in context by substituting	I can derive a formula from a problem	I can change the subject of a formula
I can convert and use different measurements	I can convert between different metric measurements	I can convert between metric and imperial measurements and vice versa	I can recognise and use compound measurements
I can find the area and perimeter of different 2D shapes	I can find the area and perimeter of a rectangle and triangle	I can find the area and perimeter of a parallelogram and trapezium	I can find the area and circumference of a circle

Term 2

I Can Statements

Numerical and Proportional Reasoning	Algebra	Shape, Space and Measure	Statistics
I can use the laws of indicies to help me simplify expressions	I can draw and interpret a straight line graph	I can construct an accurate triangle	
I can read and write in standard form	I can draw and interpret quadratic and cubic graphs	I can construct bisectors using a compass	
	Interpreting real life graphs	I can use Pythagoras' theorem to find the missing sides on a right angle triangle	
	I can construct an equation		
	I can solve algebraic equations		
	I can understand and solve an inequality		

Mastery Statements

Mastery Statements	Emerging	Developing	Mastering
I can use the laws of indicies to help me simplify expressions	I can use the multiplication, division laws of indices	I can use the laws of indices to simplify complex fractional expressions	I can express a^n as a power of b where a is a power of b
I can read and write in standard form	I can read and write large numbers in standard form	I can read and write small numbers in standard form	I can complete operations between numbers written in standard form
I can draw and interpret a straight line graph	I can draw a straight line graph using a table of values	I can draw and interpret a straight line graph from a linear equation	I can find a parallel and perpendicular line of a linear equation
I can draw and interpret quadratic and cubic graphs	I can complete a table for a quadratic graph	I can plot and draw a quadratic graph	I can interpret a quadratic equation
I can construct an equation	I can write a linear equations to help me solve problems	I can construct quadratic equations involving angles and 2D shape	I can construct a simultaneous equation
I can solve algebraic equations	I can solve linear equations	I can solve equations with unknowns on both sides	I can solve simultaneous equations by elimination
I can understand and solve an inequality	I can draw a diagram to show an inequality	I can solve an inequality and state the solution on a number line	I can solve a pair of inequalities and represent their joint solution on a number line
I can construct an accurate triangle	I can construct a triangle using a protractor and ruler	I can construct a triangle using a compass and a ruler	I can identify what makes a triangle unique
I can construct bisectors using a compass	I can bisect a straight line and angle	I can describe loci	I can combine loci to solve problems
I can use Pythagoras' theorem to find the missing sides on a right angle triangle	I can use Pythagoras' theorem to find the hypotenuse of a right angles triangle	I can use Pythagoras' theorem to find the smaller sides of a right angled triangle	I can use Pythagoras' theorem to calculate the distance between two points on a graph

Term 3

I Can Statements

Numerical and Proportional Reasoning	Algebra	Shape, Space and Measure	Statistics
I can understand the meaning of a ratio as a fraction	I can use the equation of a sequence	I can visualise and identify shapes in 3D	
I can share an amount in a given ratio	I can work out the equation of a sequence	I can work out the surface area of shapes	
	I can work with iterative sequences	I can work out the volume of a shape	
		I can use trigonometry on right angled triangles	

Mastery Statements

Mastery Statements	Emerging	Developing	Mastering
I can understand the meaning of a ratio as a fraction	I can express a ratio a:b as a fraction of a or b as a whole	I can represent the ratio of two quantities in direct proportion as an equation	I can use ratio equations to solve problems in context
I can share an amount in a given ratio	I can interpret a ratio in a way that allows the correct proportion of an amount to be calculated	I can interpret a ratio in a way that allows an amount to be shared correctly between two or more quantities	I can share an amount when given the difference between a ratio of two or three
I can use the equation of a sequence	I can write the first few terms of a sequence when given the nth term rule	I can find a number in the sequence when given it's position	I can decide whether a number is in a sequence or not
I can work out the equation of a sequence	I can work out the term to term rule of a sequence	I can work out the position to term rule of a sequence	I can identify and name different types of sequences
I can work with iterative sequences	I can understand the notation in an iterative sequence	I can generate the next term in a sequence given a description	I can generate the next term in a sequence given a recurrence relation
I can visualise and identify shapes in 3D	I can identify a face, edge and vertex on a 3D shape	I can identify a shape from it's net	I can draw the plan and elevations of a 3D shape
I can work out the surface area of shapes	I can work out the surface area from a net	I can work out the surface area of prisms	I can work out the surface area of shapes with a curved surface
I can work out the volume of a shape	I can work out the volume of a cuboid	I can work out the volume of a prism	I can work out the volume of a shape with a curved surface
I can use trigonometry on right angled triangles	I can identify which trigonometric ratio to use when finding sides and angles in right angled triangles	I can use trigonometry to work out a missing side on a right angled triangle	I can use trigonometry to work out the missing angle of a side