Maths - Key Criteria Pupil Tracker

ARE - 1			Points - 1-4	
Skill	Taught	Support	Independant	Recall
1.1 I can answer + and – questions using pictures to help.				
1.2 I can + and – three 1 digit numbers.				
1.3 I can count in multiples of 2, 5 and 10.				
1.4 I can count, read and write digits to 100				
1.5 I can compare numbers and amounts using a number line and images to help.				
1.6 I know my number bonds up to 10				
1.7 I can + and - 1 and 2 digit numbers.				
1.8 I can half & quarter objects and shapes.				
1.9 I recognise all British coins and notes.				
1.10 I can tell the time to the hour and half past the hour.				
1.11 I know the difference between days, weeks, months and years.				
1.12 I can name and draw squares, rectangles, triangles and circles				
1.13 I can compare lengths weights & volumes.				

ARE - 2			Points - 5-8	
Skill	Taught	Support	Independant	Recall
2.1 I know that + and – are opposites and can use this to check my answers.				
2.2 I know 2, 5 and 10 times tables.				
2.3 I can solve problems using the four operations using pictures and diagrams to help.				
2.4 I can find different combinations of coins that equal the same amount of money.				
2.5 I know that + and x can be done in any order and – and ÷ needs to be the order it is given.				
2.6 I know number bonds up to 100 using 10s.				
2.7 I can order numbers from 0 up to 100.				
2.8 I can add and subtract up to three 2 digit numbers.				
2.9 I know 1/3, 1/4, 2/4 and 3/4 and recognise the equivalence of 2/4 and 1/2.				
2.10 I can use standard units to estimate and measure temperature in ºC using thermometers.				
2.11 I can tell the time in 5 min intervals.				
2.12 I can use standard units to measure length, capacity and weight.				

2.13 I can describe and compare 2D shapes, giving the number of sides and corners.				

ARE - 3			Points - 9-12	
Skill	Taught	Support	Independant	Recall
3.1 I can add and subtract three digit numbers, using column method.				
3.2 I know the 3, 4 and 8x tables.				
3.3 I can multiply & divide by 1 digit numbers and show my working.				
3.4 I can solve problems, including missing numbers using multiplication and division.				
3.5 I can read and write digits to 1,000.				
3.6 I can recognise the place value of each digit in a 3-digit number.				
3.7 I can record and compare time using seconds, minutes and hours.				
3.8 I can read scales in various divisions.				
3.9 I can multiply and divide by 10, 100 and 1000				
3.10 I can compare and order integers up to 5 digits.				
3.11 I can halve and double numbers including those with odd digits (such as 36/70/232).				
3.12 I can add and subtract lengths, mass and capacity using standard metric units.				

3.13 I can identify horizontal and vertical lines.				
3.14 I can make 3D shapes using modelling materials.				
3.15 I can identify right angles.				
3.16 I recognise that two right angles make a half-turn & three make a three quarter turn.				
3.17 I can name common 2D and 3D shapes including types of triangle.				
3.18 I can measure and draw lines in mm/cm.				
3.19 I can interpret and present data using tally charts, bar charts, pictograms and frequency tables.				

ARE – 4			Points - 13-16	
Skill	Taught	Support	Independant	Recall
4.1 I can add and subtract any numbers using column method including decimals.				
4.2 I can solve 2 step worded questions using addition and subtraction.				
4.3 I can recognise and use factor pairs.				
4.4 I can multiply & divide by 2-digit numbers using standard methods.				
4.5 I know and can use the 7, & 9 times table.				
4.6 I can find half way values of two numbers.				

4.7 I can round any number to the nearest 10, 100 or 1,000.				
4.8 I can read and write numbers up to 7 digits.				
4.9 I can recognise the place value of digits in 7 digit numbers.				
4.10 I can count backwards through zero to include negative numbers.				
4.11 I can compare and order negative numbers and decimals.				
4.12 I understand square notation and can recall square numbers up to 12^2.				
4.13 I can convert between different units of time.				
4.14 I can read timetables.				
4.15 I can recognise and write decimal equivalents to ¼, ½, ¾, 1/10 & 1/100.				
4.16 I can add and subtract fractions with the same denominator.				
4.17 I can find the area and perimeter of shapes by counting squares.				
4.18 I can identify pairs of perpendicular and parallel lines.				
4.19 I can classify angles; acute, right, obtuse, straight and reflex.				
4.20 I can describe movements between positions as translations of a given unit to the left/right and up/down.				

4.21 I can describe & plot positions on a 2D grid as coordinates in the first quadrant.				
4.22 I can identify and describe the properties of 3D shapes including the number of edges, vertices and faces.				
4.23 I can convert metric units.				
4.24 I can draw given angles and measure them in degrees.				
4.25 I understand how shapes tesselate.				
4.26 I can interpret and present discrete and continuous data using bar charts (including dual/comparative bar charts).				
4.27 I can describe probability using words.				

ARE – 5			Points - 17-20	
Skill	Taught	Support	Independant	Recall
5.1 I can solve number problems and practical problems with numbers up to 1,000,000 and up to 3 decimal places.				
5.2 I can interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.				
5.3 I can establish whether a number up to 100 is prime and recall prime numbers up to 19.				
5.4 I can list factors and multiples of a given number.				

5.5 I recognise and use square numbers and cube numbers, and the notation for squared and cubed.				
5.6 I can multiply numbers up to 4 digits by a 1-digit or 2-digit number using a formal written method.				
5.7 I can round decimals to the nearest integer.				
5.8 I can solve problems involving converting between units of time.				
5.9 I can use all four operations to solve problems involving money using decimal notation.				
5.10 I can calculate using the correct order of operations (BIDMAS).				
5.11 I can calculate with negative numbers using all four operations.				
5.12 I can use function machines to calculate outputs using integers.				
5.13 I can understand inverse operations and can apply to function machines to find inputs.				
5.14 I can find unitary fractions of amounts (e.g. ½, ⅓, ⅛)				
5.15 I can calculate the area of rectangles using standard units (mm/cm/m^2).				
5.16 I can measure and calculate the perimeter of irregular shapes in mm, cm and m.				
5.17 I can distinguish between regular and irregular polygons based on reasoning about equal sides and angles.				

5.18 I can identify lines of symmetry in 2D shapes presented in different orientations.				
5.19 I can identify probabilities on a scale.				
5.20 I can write probabilities as a fraction/decimal/percentage.				

ARE - 6			Points - 21-24	
Skill	Taught	Support	Independant	Recall
6.1 I can multiply multi-digit numbers up to 4 digits by a 2 digit whole number using the formal written method of long multiplication.				
6.2 I can use function machines involving negative numbers and decimals.				
6.3 I can round numbers to given decimals places.				
6.4 I can problem solve by interpreting timetables and distance charts.				
6.5 I can use common factors to simplify fractions and find equivalent fractions.				
6.6 I can shade a fraction of a shape/identify the shaded fraction of a shape.				
6.7 I can write percentages as a fraction with a denominator of one hundred, and as a decimal.				
6.8 I can find fractions of amounts where the numerator is greater than 1.				

6.9 I can convert between improper fractions and mixed numbers.				
6.10 I can use the formulae for the volume of cubes and cuboids.				
6.11 I can describe and plot positions on the full co-ordinate grid (all four quadrants).				
6.12 I can recall the side and angle properties of 2D shapes and use these to classify quadrilaterals and tringles.				
6.13 I can identify the order of rotational symmetry of 2D shapes.				
6.14 I can find the area of triangles.				
6.15 I can find the area of parallelograms.				
6.16 I can identify the radius, diameter and circumference of a circle.				
6.17 I can identify and draw straight lines on axes such as x = 4 and y = -5.				
6.18 I can use and calculate with scales on maps and scale drawings.				
6.19 I can interpret line graphs including conversion graphs and use these to solve problems.				
6.20 I can calculate the mean, mode, median and range.				
6.21 I can construct, complete and interpret two way tables.				

6.22 I can construct and interpret stem and leaf diagrams.				
6.23 I know that probabilities sum to 1.				
6.24 I understand the different types of data discrete, continuous, primary and secondary.				
6.25 I can evaluate and create data collection forms including questionnaires.				
6.26 I can substitute into simple formulae and expressions.				
6.27 I can find the next term(s) in linear number sequences.				
6.28 I can solve one step equations.				

ARE – 7			Points - 25-28	
Skill	Taught	Support	Independant	Recall
7.1 I can multiply and divide with decimals.				
7.2 I can find the HCF and LCM of a pair of numbers.				
7.3 I can round numbers to given significant figures.				
7.4 I can use approximation, through rounding to one significant figure, to estimate answers.				
7.5 I can use a scientific calculator confidently.				
7.6 I can convert between different currencies.				
7.7 I can compare and order				

fractions whose denominators are multiples of the same number.				
7.8 I can add and subtract fractions with denominators that are multiples of the same number.				
7.9 I can multiply a pair of fractions.				
7.10 I can divide a pair of fractions.				
7.11 I can express amounts as fractions.				
7.12 I can find key percentages (50%, 25%, 10%, 5% and 1%) of amounts without a calculator.				
7.13 I can use multiples of 10% to find percentages such as 60% of amounts without a calculator.				
7.14 I can use the calculator method to find percentages of amounts.				
7.15 I can express amounts as percentages.				
7.16 I can convert between fractions, decimals and percentages.				
7.17 I can compare and order fractions, decimals and percentages.				
7.18 I can use ratio notation including reduction to the simplest form.				
7.19 I can write ratios as fractions.				
7.20 I can scale recipes up or down.				
7.21 I can identify and draw				

diagonal lines on axes (y = x, y = -x).				
7.22 I can identify midpoints of lines on a full co-ordinate grid.				
7.23 I recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.				
7.24 I can recall angle sums in triangles and quadrilaterals and find missing angles.				
7.25 I can find the area and circumference of circles.				
7.26 I can find the volume of prisms.				
7.27 I can construct and interpret pie charts.				
7.28 I can identify congruent shapes.				
7.29 I can identify and draw rotations.				
7.30 I can identify and draw reflections.				
7.31 I can identify and draw translations.				
7.32 I can simplify algebraic expressions by collecting like terms.				
7.33 I can simplify algebraic expressions by multiplying and dividing.				
7.34 I can expand a single bracket by multiplying.				
7.35 I can understand and use				

standard mathematical formulae.				
7.36 I can use inverse operations to solve linear equations (2/3 step).				
7.37 I can form expressions/equations/ formulae from words.				
7.38 I can generate terms of a sequence with a simple linear position to term rule.				
7.39 I can find the rule of number and shape/pattern sequences.				
7.40 I understand inequality symbols. and can read and write inequalities.				
7.41 I can show and read/write inequalities on a number line.				

ARE – 8			Points - 29-32	
Skill	Taught	Support	Independant	Recall
8.1 I can compare and order fractions with different denominators and mixed numbers.				
8.2 I can add and subtract fractions with different denominators and mixed numbers.				
8.3 I can increase and decrease an amount by a given percentage.				
8.4 I can calculate simple interest.				
8.5 I can use a combination of key percentages to find percentages such as 37% of amounts without a calculator.				
8.6 I can divide amounts into a given ratio.				

8.7 I can find best value.				
8.8 I can calculate with direct proportion.				
8.9 I can find the area of trapezia.				
8.10 I can calculate the surface area of prisms.				
8.11 I can understand and use the relationship between parallel lines and alternate and corresponding angles.				
8.12 I can measure and draw bearings.				
8.13 I can construct triangles using a ruler, protractor and compass.				
8.14 I can draw plans and elevations.				
8.15 I can identify and draw enlargements.				
8.16 I can draw and interpret distance-time graphs.				
8.17 I can draw and interpret time series/line graphs.				
8.18 I can calculate distance, speed and time.				
8.19 I can criticise and recommend sampling methods.				
8.20 I can draw and interpret scatter graphs.				
8.21 I can use systematic listing strategies to identify all possible outcomes.				
8.22 I can create, complete and interpret grouped frequency tables.				

8.23 I can solve equations with unknowns on both sides.				
8.24 I can recognise, sketch and produce graphs of linear functions on axes.				
8.25 I can identify the gradient and y-intercept of straight line graphs from the graph and equation.				

ARE – 9			Points - 33-36	
Skill	Taught	Support	Independant	Recall
9.1 I can order positive and negative integers, decimals, fractions and numbers given in the standard form A x 10n $1 \leq A < 10$, where n is a positive or negative integer or zero.				
9.2 I can write numbers as products of their prime factors.				
9.3 I can calculate with powers (multiply and divide).				
9.4 I understand index notation.				
9.5 I can convert between standard form and ordinary numbers.				
9.6 I can relate percentages to decimals and fractions, moving efficiently between the different forms in any context.				
9.7 I can use reverse percentages to find original amounts.				
9.8 I can calculate percentage change.				
9.9 I can solve proportional division problems including being				

given one share/difference between shares.				
9.10 I can graph/ recognise a graph of direct proportion.				
9.11 I can graph/ recognise a graph of inverse proportion.				
9.12 I can calculate density, mass and volume.				
9.13 I can calculate pressure, force and area.				
9.14 I can identify similar shapes and scale factors and use this to find missing lengths.				
9.15 I can identify parts of a circle including arcs, sectors, segments, chords and tangents.				
9.16 I can use Pythagoras' Theorem to solve problems involving right-angled triangles.				
9.17 I can find interior angle sums of polygons of 5 sides or more and use this to find interior and exterior angles.				
9.18 I can convert units of area and volume (e.g. cm^2 to m^2).				
9.19 I can construct locus around a line and a point.				
9.20 I can construct perpendicular bisectors and angle bisectors.				
9.21 I can calculate relative frequency/experimental probability.				
9.22 I can classify results as fair or biased.				
9.23 I can construct, complete and				

interpret frequency trees.				
9.24 I can find averages from frequency tables.				
9.25 I can compare data using averages and diagrams.				
9.26 I can recognise arithmetic sequences and find an expression for the value of the nth term.				
9.27 I can decide if a term is in a sequence.				
9.28 I can expand two brackets.				
9.29 I can factorise single brackets.				
9.30 I can solve equations with brackets.				
9.31 I can solve linear inequalities.				
9.32 I can solve perimeter, area and angle problems using algebraic methods.				
9.33 I can recognise, sketch and produce graphs of quadratic functions.				
9.34 I can use linear and quadratic graphs to estimate values of y for given values of x and vice versa and to find approximate solutions of simultaneous linear equations.				

ARE – 10			Points - 37-40	
Skill	Taught	Support	Independant	Recall
10.1 I can order positive and negative integers, decimals, fractions and numbers given in the				

standard form A x 10n 1≤A<10, where n is a positive or negative integer or zero.				
10.2 I understand that a negative power creates a reciprocal.				
10.3 I can calculate with negative powers.				
10.4 I can find the LCM and HCF using a Venn diagram.				
10.5 I understand the difference between rounding and truncation and can truncate numbers.				
10.6 I can identify and work with upper and lower bounds				
10.7 I can write and interpret error intervals.				
10.8 I can calculate with standard form.				
10.9 I can calculate compound growth/interest and depreciation.				
10.10 I can interpret and use fractional scale factors for enlargements.				
10.11 I can calculate arc lengths, angles and areas of sectors of circles.				
10.12 I can apply trigonometric ratios to find angles and lengths in right-angled triangles.				
10.13 I can identify and draw vectors.				
10.14 I can apply addition and subtraction of vectors, multiplication of vectors by a scalar, and diagrammatic and column				

representations of vectors;				
10.15 I can identify congruent triangles according to the four rules.				
10.16 I can use formulae to find surface area and volumes of spheres/pyramids/cones/frustums.				
10.17 I understand and can apply the and/or rule in probability.				
10.18 I understand Venn notation.				
10.19 I can calculate the probability of independent and dependent combined events, including using tree diagrams and Venn diagrams.				
10.20 I can find averages from grouped frequency tables.				
10.21 I can rearrange formulae to change the subject.				
10.22 I can factorise double brackets.				
10.23 I know the difference of two squares formula and can use it to factorise algebraic expressions.				
10.24 I can know the difference between an equation and an identity; argue mathematically to show algebraic expressions are equivalent and use algebra to support and construct arguments.				
10.25 I can recognise, sketch and interpret graphs of simple cubic functions, the reciprocal function $y = 1/x$ with $x \neq 0$,				
10.26 I can solve simultaneous equations.				

10.27 I can translate simple situations or procedures into algebraic expressions or formulae; derive an equation (or two simultaneous equations), solve the equation(s) and interpret the solution.				
10.28 I can identify parallel lines from their gradients.				
10.29 I can find the equation of a line through two points.				

ARE - 11			Points - 41-44	
Skill	Taught	Support	Independant	Recall
11.1 I can work interchangeably with terminating decimals their corresponding fractions and percentages (such as 3.5, 7/2, and 350% or 0.375, 3/8, and 37.5%).				
11.2 I can use fractional indices.				
11.3 I can describe and draw enlargements with negative scale factors.				
11.4 I can apply and prove the standard circle theorems concerning angles, radii, tangents and chords, and use them to prove related results.				
11.5 I can calculate and interpret conditional probabilities through representation using expected frequencies with two-way tables, tree diagrams and Venn diagrams.				
11.6 I can construct and interpret diagrams for grouped discrete data and continuous data using histograms, boxplots and				

cumulative frequency graphs, and know their appropriate use.				
11.7 I can use the form y=mx+c to identify perpendicular lines;				
11.8 I can identify and interpret turning points of quadratic functions by completing the square.				
11.9 I can plot and interpret graphs (including exponential graphs) in real contexts, to find approximate solutions to problems.				
11.10 I can calculate or estimate gradients of graphs and areas under graphs (including quadratic and other non-linear graphs), and interpret results in cases such as distance-time graphs, velocity-time graphs and graphs in financial contexts.				
11.11 I can find approximate solutions to equations numerically using iteration.				
11.12 I can find the product of three binomials (brackets).				
11.13 I can interpret the gradient at a point on a curve as the instantaneous rate of change; apply the concepts of instantaneous and average rate of change (gradients of tangents and chords) in numerical, algebraic and graphical contexts.				