HOLLINS GRUNDY PRIMARY SCHOOL

Happiness, Health and Respect for Confident, Creative Learners

Assessment Criteria In Maths

	MONTH BANDS	Numbers	Shape, space and measure
RECEPTION	30-50	Uses some number names and number language spontaneously. Uses some number names accurately in play. Recites numbers in order to 10. Knows that numbers identify how many objects are in a set. Beginning to represent numbers using fingers, marks on paper or pictures. Sometimes matches numeral and quantity correctly. Shows curiosity about numbers by offering comments or asking questions. Compares two groups of objects, saying when they have the same number. Shows an interest in number problems. Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same. Shows an interest in numerals in the environment. Shows an interest in representing numbers. Realises not only objects, but anything can be counted, including steps, claps or jumps.	Shows an interest in shape and space by playing with shapes or making arrangements with objects. Shows awareness of similarities of shapes in the environment. Uses positional language. Shows interest in shape by sustained construction activity or by talking about shapes or arrangements. Shows interest in shapes in the environment. Uses shapes appropriately for tasks. Beginning to talk about the shapes of everyday objects, e.g. 'round' and 'tall'.
	40-60	Recognise some numerals of personal significance. Recognises numerals 1 to 5. Counts up to three or four objects by saying one number name for each item. Counts actions or objects which cannot be moved. Counts objects to 10, and beginning to count beyond 10. Counts out up to six objects from a larger group. Selects the correct numeral to represent 1 to 5, then 1 to 10objects. Counts an irregular arrangement of up to ten objects. Estimates how many objects they can see and checks by counting them. Uses the language of 'more' and 'fewer' to compare two sets of objects. Finds the total number of items in two groups by counting all of them. Says the number that is one more than a given number. Finds one more or one less from a group of up to five objects, then ten objects. In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting. Records, using marks that they can interpret and explain. Begins to identify own mathematical problems based on own interests and fascinations.	Beginning to use mathematical names for 'solid' 3D shapes and 'flat' 2D shapes, and mathematical terms to describe shapes. Selects a particular named shape. Can describe their relative position such as 'behind' or 'next to'. Orders two or three items by length or height. Orders two items by weight or capacity. Uses familiar objects and common shapes to create and recreate patterns and build models. Uses everyday language related to time. Beginning to use everyday language related to money. Orders and sequences familiar events. Measures short periods of time in simple ways.

		Numbers	Shape, space and measure
		Early Learning Goal • Children count reliably with numbers from one to 20, • place them in order and • say which number is one more • or one less than a given number. • Using quantities and objects, they add and subtract two single-digit numbers • and count on or back to find the answer. • They solve problems, including doubling, • halving and • sharing.	**Early Learning Goal** Children use everyday language to talk about size, • weight, • capacity, • position, • distance, • time and • money to compare quantities and objects and to solve problems. • They recognise, • create and • describe patterns. • They explore characteristics of everyday objects and • shapes and • use mathematical language to describe them.

Year 1 - Maths **Name: _____ .**

Number – number and place value	Number – addition and subtraction	Number – multiplication and division
• Count to and across 100, • Read and write numbers to 100 in numerals. • Read and write numbers from 1 to 10 in numerals and words.	• Identify odd and even numbers linked to counting in twos from 0 and 1.	
• Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. • Read and write numbers from 1 to 20 in numerals and words. • Identify and represent numbers using objects and pictorial representations including the number line (numbers to at least 30).	• Given a number, identify one more and one less. • Identify odd and even numbers	
		• Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

• Count in multiples of twos, fives and tens. • Use the language of: equal to, more than, less than (fewer), most, least. • Begin to recognise the place value of numbers beyond 20 (tens and ones). • Pupils can partition numbers in a range of ways up 20 e.g. 18 = 10 + 8 or 5 + 5 + 8.	• Recognise and create repeating patterns with numbers. • Solve problems and practical problems involving all of the above. • Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. • Represent and use number bonds and related subtraction facts within 20. • Add and subtract one-digit and two-digit numbers to 20, including zero *(using concrete objects and pictorial representations).* • Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ☐ - 9. • Pupil can use number bonds and related subtraction facts within 10 (e.g. 9+1 =10) • Pupils can answer simple missing number problems e.g. __ + 4 = 12	• Recall and use doubles of all numbers to 10 and corresponding halves. • The pupil can recall and use multiplication and division facts for the 2 x table.
Can answer mastery based questions for this unit.	**Can answer mastery based questions for this unit.**	**Can answer mastery based questions for this unit.**
Can answer mastery with greater depth questions for this unit.	**Can answer mastery with greater depth questions for this unit.**	**Can answer mastery with greater depth questions for this unit.**

Number – fractions	Geometry – properties of shapes	Geometry – position and direction
• Recognise, find and name a half • Recognise, find and name a quarter	• Recognise and name common 2-D shapes, including rectangles (including squares), circles and triangles.	
• Recognise, find and name a half as one of two equal parts of an object shape or quantity *(including measure).*	• Recognise and name common 3-D shapes, including cuboids (including cubes), pyramids and spheres. • Describe movement, including whole, half, quarter and three-quarter turns. • Describe position and direction.	
• Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity (including measure).		
• The pupil can identify ¼, ½ and knows that all parts must be equal parts of the whole.	• The pupil can recognise and name triangles, rectangles, squares, circles, cuboids, cubes, pyramids and spheres from a group of shapes or from pictures of the shapes.	• Recognise and create repeating patterns with objects and shapes.
Can answer mastery based questions for this unit.	Can answer mastery based questions for this unit.	Can answer mastery based questions for this unit.
Can answer mastery with greater depth questions for this unit.	Can answer mastery with greater depth questions for this unit.	Can answer mastery with greater depth questions for this unit.

Measurement	Statistics
• heights • capacity and volume using non-standard and then manageable standard units (litres/ml) • Compare, describe and solve practical problems for: • -heights • - capacity and volume (for example, full/empty, more than, less than, half, half full, quarter).	• Present and interpret data in block diagrams using practical equipment.
• Measure and begin to record: - lengths and using non-standard and then manageable standard units (m/cm) - mass/weight, using non-standard and then manageable standard units (kg/g) within children's range of counting competence. • Compare, describe and solve practical problems for: - lengths (for example, long / short, longer / shorter. tall / short, double / half). • - mass/weight (for example, heavy / light, heavier than, lighter than).	
• Measure and begin to record:time (hours/minutes/seconds) • Compare, describe and solve practical problems for:- time (for example, quicker, slower, earlier, later). • Recognise and use language relating to dates, including days of the week, weeks, months and years. • Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. • Tell the time to the hour and half past the hour • Draw the hands on a clock face to show half past and the hour. • Recognise and know the value of different denominations of coins and notes.	• Ask and answer simple questions by counting the number of objects in each category. • Ask and answer questions by comparing categorical data.
• Recognise different coins and make small amounts. • Read the time to half past and o'clock.	• Sort objects, numbers and shapes to a given criterion and their own.
Can answer mastery based questions for this unit.	**Can answer mastery based questions for this unit.**
Can answer mastery with greater depth questions for this unit.	**Can answer mastery with greater depth questions for this unit.**

Step	b	b+	w	w+	s	s+
Total no. of statements = 51	20%	40%	60%	80%	90%	95%
No. of statements required	6 - 10	11 - 20	21 - 30	31 - 40	41 - 47	48+
					Must include all blue statements S+ must include all purple statements	

Year 2 - Maths

Name: _____.

Number – number and place value	Number – addition and subtraction	Number – multiplication and division
• Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward. • Read and write numbers to at least 100 in numerals and in words. • Recognise the place value of each digit in a two-digit number (tens, ones).	• Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. • Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 *(bonds totalling 5, 10 and 20).* • Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: - a two-digit number and ones.	• Show that multiplication of two numbers can be done in any order (commutative) • Understand multiplication as repeated addition and arrays.
• Compare and order numbers from 0 up to 100; use <, > and = signs.	• Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: - a two-digit number and tens. - two two-digit numbers. - adding three one-digit numbers. • Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. • Solve problems with addition and subtraction *including with missing numbers:* - using concrete objects and pictorial representations, including those involving numbers, quantities and measures. • Solve problems with addition and subtraction *including with missing numbers:* - applying their increasing knowledge of mental and written methods.	• Recall and use and division facts for the 2, 5 and 10 multiplication tables,
• Identify, represent and estimate numbers using different representations, including the number line. • Use place value and number facts to solve problems.		• Calculate mathematical statements for multiplication *using repeated addition)* and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs.

Number – number and place value	Number – addition and subtraction	Number – multiplication and division
• *Partition numbers in different ways (e.g. 23 = 20 + 3 and 23 = 10 + 13).* • *Find 1 or 10 more or less than a given number.* • Round numbers to at least 100 to the nearest 10. • Understand the connection between the 10 multiplication table and place value. • Describe and extend simple sequences involving counting on or back in different steps. • The pupil can demonstrate an understanding of place value, though may still need to use apparatus to support them (e.g. by stating the difference in the tens and ones between 2 numbers i.e. 77 and 33 has a difference of 40 for the tens and a difference of 4 for the ones; by writing number statements such as 35 < 53 and 42 > 36). • The pupil can read and write numbers correctly in numerals up to 100 (e.g. can write the numbers 14 and 41 correctly).	• Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting). • Select a mental strategy appropriate for the numbers involved in the calculation. • Understand subtraction as take away and difference (how many more, how many less/fewer). • Recall and use number bonds for multiples of 5 totalling 60 (to support telling time to nearest 5 minutes). • The pupil can use number bonds and related subtraction facts within 20 • The pupil can add 2 two-digit numbers within 100 (e.g. 48 + 35) and can demonstrate their method using concrete apparatus or pictorial representations. • The pupil can subtract mentally a two-digit number from another two-digit number when there is no regrouping required (e.g. 74 − 33). • The pupil can recognise the inverse relationships between addition and subtraction and use this to check calculations and work out missing number problems (e.g. Δ − 14 = 28). • **The pupil can reason about addition (e.g. pupil can reason that the sum of 3 odd numbers will always be odd).** • **The pupil can work out mental calculations where regrouping is required (e.g. 52 − 27; 91 – 73).** • **The pupil can solve more complex missing number problems (e.g. 14 + __ 3 = 17; 14 + Δ = 15 + 27).** • **The pupil can recognise the relationships between addition and subtraction and can rewrite addition statements as simplified multiplication statements (e.g. 10 + 10 + 10 + 5 + 5 = 3 × 10 + 2 × 5 = 4 × 10).**	• Understand division as sharing and grouping and that a division calculation can have a remainder. • Derive and use doubles of simple two-digit numbers (numbers in which the ones total less than 10). • Derive and use halves of simple two-digit even numbers (numbers in which the tens are even). • Solve problems involving multiplication and division (including those with remainders), using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. • The pupil can count in twos, fives and tens from 0 and use to solve problems. • Pupils can recall doubles and halves to 20. • The pupil can recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables to solve simple problems, demonstrating an understanding of commutativity as necessary. • The pupil can use multiplication facts to make deductions outside known multiplication facts. • **The pupil can determine remainders given known facts** • **Pupils can solve word problems that involve more than one step for all 4 operations.**
Can answer mastery based questions for this unit.	**Can answer mastery based questions for this unit.**	**Can answer mastery based questions for this unit.**
Can answer mastery with greater depth questions for this unit.	**Can answer mastery with greater depth questions for this unit.**	**Can answer mastery with greater depth questions for this unit.**

Number – fractions	Geometry – properties of shapes	Geometry – position and direction

• Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity. • Write simple fractions for example, $\frac{1}{2}$ of 6 = 3	• The pupil can recognise and name triangles, rectangles, squares, circles, cuboids, cubes, pyramids and spheres from a group of shapes or from pictures of the shapes. • The pupil can describe properties of 2-D and 3-D shapes.	• Order/arrange combinations of mathematical objects in patterns/sequences. • Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).
	• Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.	
• Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.	• Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. • Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid].	
• Understand and use the terms numerator and denominator • Understand that a fraction can describe part of a set • Understand that the larger the denominator is, the more pieces it is split into and therefore the smaller each part will be. • Count on and back in steps of $\frac{1}{2}$ and $\frac{1}{4}$. • **The pupil can find and compare fractions of amounts (e.g. 14 of £20 = £5 and 12 of £8 = £4 so 14 of £20 is greater than 12 of £8).**		
Can answer mastery based questions for this unit.	**Can answer mastery based questions for this unit.**	**Can answer mastery based questions for this unit.**
Can answer mastery with greater depth questions for this unit.	**Can answer mastery with greater depth questions for this unit.**	**Can answer mastery with greater depth questions for this unit.**

Statistics	**Measurement**

• Compare and sort objects, numbers *and* common 2-D and 3-D shapes and everyday objects. • Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. • Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.	• Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); to the nearest appropriate unit, using rulers, scales, • Compare and order lengths, mass, volume/capacity and record the results using >, < and =. • Recognise and use symbols for pounds (£) and pence (p) • Compare intervals of time. • Tell and write the time, including quarter past/to the hour and draw the hands on a clock face to show these times. • Know the number of minutes in an hour and the number of hours in a day. • Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change and measures (including time). • Use different coins to make the same amount.
• Ask and answer questions about totalling and comparing categorical data.	• Choose and use appropriate standard units to estimate and measure temperature (°C);to the nearest appropriate unit, using thermometers
	• Sequence intervals of time • **Tell and write the time to five minutes** • Choose and use appropriate standard units to estimate and measure capacity and volume (litres/ml) to the nearest appropriate unit,
• **Read scales where not all numbers on the scale are given and estimate points in between.** • **The pupil can describe similarities and differences of shape properties (e.g. finds 2 different 2-D shapes that only have one line of symmetry; that a cube and a cuboid have the same number of edges, faces and vertices but can describe what is different about them).**	• Use measuring vessels (within children's place value competence). • The pupil can read scales in divisions of ones, twos, fives and tens.
Can answer mastery based questions for this unit.	**Can answer mastery based questions for this unit.**
Can answer mastery with greater depth questions for this unit.	**Can answer mastery with greater depth questions for this unit.**

Step	b	b+	w	w+	s	s+
Total no. of statements = 81	20%	40%	60%	80%	90%	95%
No. of statements required	**9 - 16**	**17 - 32**	**33 – 48**	**49 - 64**	**65 - 76**	**77+**

Green statement are working towards
Must include all blue statements
S+ must include all purple statements

End of Key Stage Judgement	N	WT	WA	GD

Year 3 - Maths **Name:** _____ .

Number – number and place value	Number – addition and subtraction	Number – multiplication and division
• Count from 0 in multiples of 50 and 100. • Read and write numbers up to 1000 in numerals • Recognise the place value of each digit in a three-digit number (hundreds, tens, ones).	• Recall/use addition/subtraction facts for 100 (multiples of 5 and 10). • Add and subtract numbers mentally, including: • - a three-digit number and ones.	• Understand that division is the inverse of multiplication and vice versa. • Understand how multiplication and division statements can be represented using arrays. • Recall and use multiplication facts for the 3, 4 and 8 multiplication tables. • Derive and use doubles of all numbers to 100 and corresponding halves. • Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know,
• Count from 0 in multiples of 4, 8 • Count up and down in tenths. • Read and write numbers up to 1000 in numerals and in words. • Identify, represent and estimate numbers using different representations *(including the number line).* • Compare and order numbers up to 1000. • Read Roman numerals from I to XII. • Solve number problems and practical problems involving these ideas. • Round any number to the nearest 100	• Add and subtract numbers mentally, including: - a three-digit number and tens. - a three-digit number and hundreds • Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.	• Recall and use division facts for the 3, 4 and 8 multiplication tables.
	• Estimate the answer to a calculation and use inverse operations to check answers.	• Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.
• Read and write numbers with one decimal place. • Identify the value of each digit to one decimal place. • Partition numbers in different ways (e.g. 146 = 100+ 40+6 and 146 = 130+16). • Compare and order numbers with one decimal place. • *Find 1, 10 or 100 more or less than a given number.* • *Round numbers to at least 1000 to the nearest 10 or 100.* • *Find the effect of multiplying a one- or two-digit number by 10 and 100, identify the value of the digits in the answer.* • Describe and extend number sequences involving counting on or back in different steps. • Pupil can demonstrate an understanding of place value, including large numbers and decimals for 3 digit numbers and 1 decimal place, e.g. what is the value of the '7' in 276.	• Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method). • Select a mental strategy appropriate for the numbers involved in the calculation. • Understand and use take away and difference for subtraction, deciding on the most efficient method for the numbers involved, irrespective of context. • Derive and use addition and subtraction facts for 100. • Derive and use addition and subtraction facts for multiples of 100 totalling 1000. • Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	• Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method). • Understand division as sharing and grouping and use each appropriately. • Derive and use doubles of all multiples of 50 to 500. • Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. • Solve problems, including missing number problems, involving multiplication and division (and interpreting remainders), including positive integer scaling problems and correspondence problems in which 'n' objects are connected to 'm' objects.
Can answer mastery based questions for this unit.	**Can answer mastery based questions for this unit.**	**Can answer mastery based questions for this unit.**
Can answer mastery with greater depth questions for this unit.	**Can answer mastery with greater depth questions for this unit.**	**Can answer mastery with greater depth questions for this unit.**

Number – fractions	Geometry – properties of shapes	Geometry – position and

• Show practically or pictorially that a fraction is one whole number divided by another (e.g. $\frac{3}{4}$ can be interpreted as 3 ÷ 4). • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. • Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. • Recognise and show, using diagrams, equivalent fractions with small denominators.	• Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.	
• Add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]. • Compare and order unit fractions, and fractions with the same denominators (including on a number line). • Count on and back in steps of $\frac{1}{2}$, $\frac{1}{4}$ and $\frac{1}{3}$.	• Recognise angles as a property of shape or a description of a turn. • Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn;	
• Recognise that tenths arise from dividing objects into 10 equal parts and in dividing one-digit numbers or quantities by 10.	• Identify whether angles are greater than or less than a right angle. • Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	
• Understand that finding a fraction of an amount relates to division. • Solve problems that involve all of the above. • Pupils can recognise the relationship between fractions and decimals and can express these as equivalent quantities eg ½ is the same as 0.5 and 1/10 is the same as 0.1.		• Describe positions on a square grid labelled with letters and numbers.
Can answer mastery based questions for this unit.	**Can answer mastery based questions for this unit.**	**Can answer mastery based questions for this unit.**
Can answer mastery with greater depth questions for this unit.	**Can answer mastery with greater depth questions for this unit.**	**Can answer mastery with greater depth questions for this unit.**

Measurement	Statistics
• Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). • *Understand perimeter is a measure of distance around the boundary of a shape.* • Measure the perimeter of simple 2-D shapes.	• Use sorting diagrams to compare and sort objects, numbers and common 2-D and 3-D shapes and everyday objects. • Interpret and present data using bar charts, pictograms and.
• Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. • Estimate/read time with increasing accuracy to the nearest minute. • use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon, midnight. • Know the number of seconds in a minute and the number of days in each month, year and leap year. • Solve simple problems involving passage of time.	• Interpret and present data using tables.
• Recognise that ten 10p coins equal £1 and that each coin is $\frac{1}{10}$ of £1. • Add and subtract amounts of money to give change, using both £ and p in practical contexts.	
• Continue to estimate and measure temperature to the nearest degree (°C) using thermometers. • Record/compare time in terms of seconds, minutes, hours; • Compare durations of events [for example to calculate the time taken by particular events or tasks]. • Continue to recognise and use the symbols for pounds (£) and pence (p) and understand that the decimal point separates pounds/pence. • Solve problems involving money and measures	• Understand and use simple scales (for example, 2, 5, 10 units per cm) in pictograms and bar chart with increasing accuracy. • Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.
Can answer mastery based questions for this unit.	**Can answer mastery based questions for this unit.**
Can answer mastery with greater depth questions for this unit.	**Can answer mastery with greater depth questions for this unit.**

Step	b	b+	w	w+	s	s+
Total no. of statements = 80	20%	40%	60%	80%	90%	95%
No. of statements required	**9 - 16**	**17 - 32**	**33 – 48**	**49 - 64**	**65 - 75**	**76+**
					Must include all blue statements S+ must include all purple statements	

Year 4 - Maths **Name: _____ .**

Number – number and place value	Number – addition and subtraction	Number – multiplication and division
• Count backwards through zero to include negative numbers. • Read and write numbers with up to two decimal places. • Recognise the place value of each digit in a four-digit number. • Identify, represent and estimate numbers using different representations *(including the number line).* • Order and compare numbers beyond 1000. • *Order* numbers with the same number of decimal places up to two decimal places. • Round any number to the nearest 10, 100 or 1000. • Round decimals (one decimal place) to the nearest whole number. • Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer.	• Add and subtract numbers with up to 4 digits *and decimals with one decimal place* using the formal written methods of columnar addition and subtraction where appropriate – ie when a mental method or jotting is not more efficient. • Estimate; use inverse operations to check answers to a calculation.	• Recall multiplication and division facts for multiplication tables up to 12 × 12. • Use place value, known and derived facts to multiply and divide mentally, including: ○ multiplying by 0 and 1. • <u>- Multiply two-digit numbers by a one-digit number using formal written layout.</u>
• Count up and down in hundredths. • Read Roman numerals to 100 and know that over time, the numeral system changed to include the concept of zero and place value. • compare numbers with the same number of decimal places up to two decimal places.	• Recall and use addition and subtraction facts for 100. • Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	• Use place value, known and derived facts to multiply and divide mentally, including: - dividing by 1. - multiplying together three numbers. - Multiply three-digit numbers by a one-digit number using formal written layout.
		• Divide numbers up to 3 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.

• Count in multiples of 6, 7, 9, 25 and 1000. • *Read and write numbers to at least 10 000.* • *Identify the value of each digit to two decimal places.* • *Partition numbers in different ways (e.g. 2.3 = 2+0.3 & 1+1.3).* • Find *0.1, 1, 10, 100 or* 1000 more or less than a given number. • Solve number and practical problems that involve all of the above and with increasingly large positive numbers. • Describe and extend number sequences involving counting on or back in different steps, including sequences with multiplication and division steps. • The pupil can demonstrate an understanding of place value, including large numbers and decimals for 4 digit numbers and two decimal places, e.g. what is the value of the '7' in 2,476.	• *Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).* • Select a mental strategy appropriate for the numbers involved in the calculation. • Recall and use +/- facts for multiples of 100 totalling 1000. • Derive and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place). • Add and subtract mentally combinations of two and three digit numbers and decimals to one decimal place. • Solve addition and subtraction problems involving missing numbers. • Pupils can use formal methods to solve multi-step problems with all operations.	• Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method). • Recognise and use factor pairs and commutativity in mental calculations. • Use partitioning to double or halve any number, including decimals to one decimal place. • Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. • Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, *division (including interpreting remainders),* integer scaling problems and harder correspondence problems such as n objects are connected to m objects.
Can answer mastery based questions for this unit.	**Can answer mastery based questions for this unit.**	**Can answer mastery based questions for this unit.**
Can answer mastery with greater depth questions for this unit.	**Can answer mastery with greater depth questions for this unit.**	**Can answer mastery with greater depth questions for this unit.**

Number – fractions, decimals and percentages	Geometry – properties of shapes	Geometry – position and direction
• Understand that a fraction is one whole number divided by another (e.g. $\frac{3}{4}$ can be interpreted as 3 ÷ 4). • Recognise and write decimal equivalents of any number of tenths or hundredths. • Recognise and write decimal equivalents to $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$. • Add and subtract fractions with the same denominator *(using diagrams).*	• Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. • Identify lines of symmetry in 2-D shapes presented in different orientations. • Complete a simple symmetric figure with respect to a specific line of symmetry. • Continue to identify horizontal and vertical lines and pairs of perpendicular and parallel lines. • Identify acute and obtuse angles and compare and order angles up to two right angles by size.	• Describe positions on a 2-D grid as coordinates in the first quadrant. • Plot specified points and draw sides to complete a given polygon. • Describe movements between positions as translations of a given unit to the left/right and up/down.
• Count up and down in hundredths; recognise that hundredths arise when dividing on object by 100 and dividing tenths by 10. • Recognise and show, using diagrams, families of common equivalent fractions. • Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.		
• Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. • Compare and order unit fractions and fractions with the same denominators (including on a number line).		
• Recognise, find and write fractions of a discrete set of objects including those with a range of numerators and denominators. • *Count on and back in steps of unit fractions.* • Solve simple measure and money problems involving fractions and decimals to two decimal places. • *Pupils can recognise the relationship between fractions and decimals and can express these as equivalent quantities eg ¼ is the same as 0.25 and ¾ is the same as 0.75.*		
Can answer mastery based questions for this unit.	**Can answer mastery based questions for this unit.**	**Can answer mastery based questions for this unit.**
Can answer mastery with greater depth questions for this unit.	**Can answer mastery with greater depth questions for this unit.**	**Can answer mastery with greater depth questions for this unit.**

Measurement	Statistics
• Estimate, compare and calculate different measures, including money in pounds and pence. • Order temperatures including those below 0°C. • Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. • Know area is a measure of surface within a given boundary • Find the area of rectilinear shapes by counting squares.	
• Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days and problems involving money and measures.	• Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts, time graphs. • Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.
• Read, write and convert time between analogue and digital 12- and 24-hour clocks.	• Use a variety of sorting diagrams to compare and classify numbers and geometric shapes based on their properties and sizes.
• Convert between different units of measure [e.g. kilometre to metre; hour to minute]. • Write amounts of money using decimal notation. • Recognise that one hundred 1p coins equal £1 and that each coin is $\frac{1}{100}$ of £1.	
Can answer mastery based questions for this unit.	**Can answer mastery based questions for this unit.**
Can answer mastery with greater depth questions for this unit.	**Can answer mastery with greater depth questions for this unit.**

Step	b	b+	w	w+	s	s+
Total no. of statements = 74	20%	40%	60%	80%	90%	95%
No. of statements required	**8 - 15**	**16 - 30**	**31 - 45**	**46 - 60**	**61 - 69**	**70+**
					Must include all blue statements S+ must include all purple statements	

Year 5 - Maths

Name: _____ .

Number – number and place value	Number – addition and subtraction	Number – multiplication and division
• Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. • Count forwards and backwards in decimal steps. • Interpret negative numbers in context, count on and back with positive and negative whole numbers, including through zero. • Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.	• Add and subtract numbers mentally with increasingly large numbers *and decimals to two decimal places.* • Add and subtract whole numbers with more than 4 digits *and decimals with two decimal places,* including using formal written methods (columnar addition and subtraction).	• Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. • Establish whether a number up to 100 is prime and recall prime numbers up to 19. • Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.
• Read, write, order and compare numbers with up to 3 decimal places. • Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000. • Round decimals with two decimal places to the nearest whole number and to one decimal place.	• Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	• Recognise and use square (^{2}) and cube (^{3}) numbers, and notation. • Use partitioning to double or halve any number, including decimals to two decimal places.

• Identify the value of each digit to three decimal places. • Read Roman numerals to 1000 (M); recognise years written as such. • Multiply/divide whole numbers and decimals by 10, 100 and 1000.		• Multiply and divide numbers mentally drawing upon known facts. • Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. • Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers. • Use estimation/inverse to check answers to calculations; determine, in the context of a problem, an appropriate degree of accuracy. • Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. • Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.
• Identify represent and estimate numbers using the number line. • Find 0.01, 0.1, 1, 10, 100, 100 and other powers of 10 more or less than a given number. • Describe and extend number sequences including those with multiplication/division steps and where the step size is a decimal. • Solve number and practical problems that involve all of the above • The pupil can demonstrate an understanding of place value, including large numbers and decimals for 6 digit numbers and three decimal places, e.g. what is the value of the '7' in 427,286.	• Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method). • Select a mental strategy appropriate for the numbers involved in the calculation. • Recall and use addition and subtraction facts for 1 and 10 (with decimal numbers to one decimal place). • Derive and use addition and subtraction facts for 1 (with decimal numbers to two decimal places). • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why (including decimals). • Solve addition and subtraction problems involving missing numbers. • Pupils can use formal methods to solve multi-step problems with all operations.	• Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method). • Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.
Can answer mastery based questions for this unit.	**Can answer mastery based questions for this unit.**	**Can answer mastery based questions for this unit.**
Can answer mastery with greater depth questions for this unit.	**Can answer mastery with greater depth questions for this unit.**	**Can answer mastery with greater depth questions for this unit.**

Number – fractions, decimals and percentages	Geometry – properties of shapes	Geometry – position and direction
• Recognise mixed numbers and improper fractions and convert from one form to the other. • Compare and order fractions whose denominators are all multiples of the same number (including on a number line). • Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. • Add and subtract fractions with denominators that are the same and that are multiples of the same number *(using diagrams).* • Write statements > 1 as a mixed number (e.g. $\frac{2}{5}+\frac{4}{5}=\frac{6}{5}=1\frac{1}{5}$). • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.	• Identify 3-D shapes from 2-D representations. • Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. • Draw given angles, and measure them in degrees (°).	
• Read and write decimal numbers as fractions (e.g. $0.71=\frac{71}{100}$). • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.	• Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. • Use the properties of rectangles to deduce related facts and find missing lengths and angles. • - other multiples of 90°.	• Plot specified points and complete shapes.
• Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal. • Solve problems involving fractions and decimals to three places. • Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}, \frac{2}{5}, \frac{4}{5}$ and fractions with a denominator of a multiple of 10 or 25.	• Identify: angles at a point on a straight line and half a turn (total 180°). • Identify; angles at a point and one whole turn (total 360°).	• Describe positions on the first quadrant of a coordinate grid. • Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.
• Count on and back in mixed number steps such as $1\frac{1}{2}$. • *The pupil can recognise the relationship between fractions, decimals and percentages and can express them as equivalent quantities e.g. one piece of cake that has been cut into 5 equal slices can be expressed as 1/5 or 0.2 or 20% of the whole cake).*	• Pupil can use mathematical reasoning to find missing angles (e.g. the missing angle in an isosceles triangle when one of the angles is given; the missing angle in a more complex diagram using knowledge about angles at a point and vertically opposite angles).	
Can answer mastery based questions for this unit.	**Can answer mastery based questions for this unit.**	**Can answer mastery based questions for this unit.**
Can answer mastery with greater depth questions for this unit.	**Can answer mastery with greater depth questions for this unit.**	**Can answer mastery with greater depth questions for this unit.**

Measurement	Statistics
• Convert between different units of metric measure. • Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. • Measure/calculate the perimeter of composite rectilinear shapes. • Calculate and compare the area of rectangle, use standard units square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes.	
• Use, read and write standard units of length and mass. • Estimate *(and calculate)* volume ((e.g., using 1 cm^3 blocks to build cuboids (including cubes)) and capacity (e.g. using water). • Understand the difference between liquid volume and solid volume. • Solve problems involving converting between units of time. • Use all four operations to solve problems involving measure using decimal notation, including scaling.	
	• Complete and interpret information in a variety of sorting diagrams (including those used to sort properties of numbers and shapes). • Complete, read and interpret information in tables and timetables. • Solve comparison, sum and difference problems using information presented in all types of graph including a line graph. • Calculate and interpret the mode, median and range.
• Continue to order temperatures including those below 0°C. • Continue to read, write and convert time between analogue and digital 12 and 24-hour clocks.	• The pupil can calculate with measures (e.g. calculate length of a bus journey given start and end times; convert 0.05km into m and then into cm).
Can answer mastery based questions for this unit.	**Can answer mastery based questions for this unit.**
Can answer mastery with greater depth questions for this unit.	**Can answer mastery with greater depth questions for this unit.**

Step	b	b+	w	w+	s	s+
Total no. of statements = 80	20%	40%	60%	80%	90%	95%
No. of statements required	**9 - 16**	**17 - 32**	**33 – 48**	**49 - 64**	**65 - 75**	**76+**
					Must include all blue statements S+ must include all purple statements	

Year 6 - Maths

Name: _____.

Number – number and place value	Number – addition and subtraction	Number – multiplication and division
• Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. • Identify the value of each digit to three decimal places. • Identify, represent and estimate numbers using the number line. • Order and compare numbers including integers, decimals and negative numbers. • Find 0.001, 0.01, 0.1, 1, 10 and powers of 10 more/less than a given number. • Round any whole number to a required degree of accuracy. • Round decimals with three decimal places to the nearest whole number or one or two decimal places. • Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places. • Use negative numbers in context, and calculate intervals across zero.	• Recall and use addition and subtraction facts for 1 (with decimals to two decimal places). • Add and subtract whole numbers and decimals using formal written methods (columnar addition and subtraction).	• Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method). • Identify common factors, common multiples and prime numbers. • Use partitioning to double or halve any number. • Perform mental calculations, including with mixed operations and large numbers. • Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. • Multiply one-digit numbers with up to two decimal places by whole numbers. • Divide numbers up to 4 digits by a two-digit whole number using the formal written methods of short or long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. • Use written division methods in cases where the answer has up to two decimal places. • Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

• Count forwards or backwards in steps of integers, decimals, powers of 10. • Describe and extend number sequences including those with multiplication and division steps, inconsistent steps, alternating steps and those where the step size is a decimal.	• Use knowledge of the order of operations to carry out calculations.	
• Solve number and practical problems that involve all of the above. • The pupil can demonstrate an understanding of place value, including large numbers and decimals (e.g. what is the value of the '7' in 276,541? • Find the difference between the largest and smallest whole numbers that can be made from using three digits; • 8.09 = 8 + 9/?; • 28.13 = 28 + ___ + 0.03).	• Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method). • Select a mental strategy appropriate for the numbers in the calculation. • Perform mental calculations including with mixed operations and large numbers *and decimals.* • Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. • Solve problems involving all four operations, including those with missing numbers. The pupil can calculate mentally, using efficient strategies such as manipulating expressions using commutative and distributive properties to simplify the calculation e.g. • 53 – 82 + 47 = 53 + 47 – 82 = 100 – 82 = 18; • 20 × 7 × 5 = 20 × 5 × 7 = 100 × 7 = 700; • 53 ÷ 7 + 3 ÷ 7 = (53 +3) ÷ 7 = 56 ÷ 7 = 8). • Pupils can use formal methods to solve multi-step problems with all operations. • e.g. Find change from £20 for 3 items that cost £1.24, £7.92, and £2.55 • A roll of material 6m long, how much is left when 5 pieces of 1.15m are cut from the roll? • A bottle of drink is 1.5l how many cups of 175ml can be filled from the bottle and how much drink is left?	
Can answer mastery based questions for this unit.	**Can answer mastery based questions for this unit.**	**Can answer mastery based questions for this unit.**
Can answer mastery with greater depth questions for this unit.	**Can answer mastery with greater depth questions for this unit.**	**Can answer mastery with greater depth questions for this unit.**

Number – fractions, decimals and percentages	Geometry – properties of shapes	Geometry – position and direction
• Compare and order fractions, including fractions > 1 (including on a number line). • Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. • Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375 and $\frac{3}{8}$). • Add fractions with different denominators and mixed numbers, using the concept of equivalent fractions. • Subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. • Multiply simple pairs of proper fractions, writing the answer in its simplest form e.g. ¼ x ½ = 1/8 • Divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$). • Find simple percentages of amounts. • Solve problems involving fractions. • Solve problems involving the calculation of percentages (e.g. of measures and such as 15% of 260) and the use of percentages for comparison.	• Compare/classify geometric shapes based on the properties and sizes. • Draw 2-D shapes using given dimensions and angles. • Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.	

	• Recognise and describe 3-D shapes, including making nets. • Build simple 3-D shapes, including making nets. • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. • Find unknown angles in any triangles, quadrilaterals, • Find unknown angles in regular polygons.	• Describe positions on the full coordinate grid (all four quadrants). • Draw and translate simple shapes on the coordinate plane. • Reflect simple shapes in the axes.

• Solve problems which require answers to be rounded to specified degrees of accuracy. • The pupil can recognise the relationship between fractions, decimals and percentages and can express them as equivalent quantities (e.g. one piece of cake that has been cut into 5 equal slices can be expressed as 1/5 or 0.2 or 20% of the whole cake). • The pupil can calculate using fractions, decimals or percentages • Knowing 7 divided by 21 is the same as 7/21 and that this is equal to 1/3 • Knowing 15% of 60 • Knowing 11/2 +3/4 • Knowing 7/9 of 108 • Knowing 0.8 X 70	• The pupil can use mathematical reasoning to find missing angles (e.g. the missing angle in an isosceles triangle when one of the angles is given; the missing angle in a more complex diagram using knowledge about angles at a point and vertically opposite angles). • Recognise where angles meet at a point • Calculate missing angles on a full term • Calculate missing angles in a straight line • Identify angles which are vertically opposite	
Can answer mastery based questions for this unit.	**Can answer mastery based questions for this unit.**	**Can answer mastery based questions for this unit.**
Can answer mastery with greater depth questions for this unit.	**Can answer mastery with greater depth questions for this unit.**	**Can answer mastery with greater depth questions for this unit.**

Ratio and proportion	Algebra	Statistics
• Solve problems involving the relative sizes of two quantities where missing values can be found using integer multiplication/division facts. • Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. • Solve problems involving similar shapes where the scale factor is known or can be found.	• Use simple formulae. • Generate and describe linear number sequences. • Express missing number problems algebraically. • Find pairs of numbers that satisfy an equation with two unknowns. • Enumerate possibilities of combinations of two variables.	• Continue to complete and interpret information in a variety of sorting diagrams (including sorting properties of numbers and shapes). • Interpret pie charts and use these to solve problems. • Interpret line graphs and use these to solve problems. • Construct pie charts • Construct line graphs • *Solve comparison, sum and difference problems using information presented in all types of graph.* • Calculate and interpret the mean, mode, median and range as an average.
Can answer mastery based questions for this unit.	**Can answer mastery based questions for this unit.**	**Can answer mastery based questions for this unit.**
Can answer mastery with greater depth questions for this unit.	**Can answer mastery with greater depth questions for this unit.**	**Can answer mastery with greater depth questions for this unit.**

Measurement	
• Calculate differences in temperature, including those that involved a positive and negative temperature.	
• Use, read and write standard units of length using decimal notation to three decimal places. • Use, read and write standard units of mass using decimal notation to three decimal places. • Use, read and write standard units of volume using decimal notation to three decimal places. • Use, read and write standard units of time using decimal notation to three decimal places. • Convert between standard units of length, mass, volume and time using decimal notation to three decimal places. • Convert between miles and kilometres.	• Recognise that shapes with the same areas can have different perimeters and vice versa. • Calculate the area of parallelograms and triangles when given a formula. • Recognise when it is possible to use formulae for area and volume of shapes. • Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units (e.g. mm^3 and km^3). • Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. • The pupil can substitute values into a simple formula to solve problems e.g. perimeter of a rectangle or area of a triangle • The pupil can calculate with measures e.g. the length of a bus journey given the start & end time and • Convert 0.05km into m & cm
Can answer mastery based questions for this unit.	**Can answer mastery with greater depth questions for this unit.**

Step	b	b+	w	w+	s	s+
Total no. of statements = 95	20%	40%	60%	80%	90%	95%
No. of statements required	**11 - 20**	**21 - 40**	**41 - 60**	**61 - 80**	**81 - 94**	**95+**
					Must include all blue statements S+ must include all purple statements	

End of Key Stage Judgement	N	WT	WA	GD