Hampton Primary School

Working Together, Achieving Together

Little Hedgehogs Nursery

Maths Curriculum

&

Assessment Grids

HAMPTON Collaborative Trust

Year 1 (page 1 of 2)			
Phase (New)	3, 3.5, 4, 5	6-7	8-9
Assessment Milestone	**Emerging**	**Expected**	**Exceeding**
Number and Place Value	▪ **Count up to and including 50, forward and backwards (and 100 forwards), beginning with 0 or 1.** ▪ **Order numbers up to 50 using the correct language (largest, smallest, more than, less than).** ▪ **Count one more or one less for numbers up to and including 50.** ▪ **Read and write numbers up to at least 10 in words.** ▪ Count in multiples of 2 using quantities or objects. ▪ Pupils can make numbers below ten using objects or pictures.	▪ **Count up to and including 100, forwards and backwards, beginning with 0, 1, or from any given number.** ▪ **Order numbers up to 100 using the correct language (equal to, more than, less than, most, least).** ▪ **Count one more or one less for numbers up to and including 100.** ▪ **Read and write numbers up to 20 in words.** ▪ Count in multiples of 2, 5 and 10's using quantities or objects. ▪ Pupils can place numbers in the correct order on an empty number line.	▪ **Count beyond 100, forwards and backwards, beginning with 0 or 1, or from any given number.** ▪ **Order numbers up to and beyond 100 using the correct language (equal to, more than, less than, most, least).** ▪ **Count one more or one less for numbers up to and beyond 100.** ▪ **Read and write numbers beyond 20 in words.** ▪ Count in multiples of 2, 5 and 10s, predicting whether a number would be in a sequence. ▪ Pupils can place numbers on an empty number line with missing integers.
Addition and Subtraction	▪ **Start to read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs within 10.** ▪ Memorise and recall number bonds to 10 with manipulatives. ▪ Mentally add and subtract 1 digit numbers including 0. ▪ Solve one-step problems that involve addition and subtraction using objects.	▪ **Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs within 20 [e.g. 7+6=13, 5-3=2, and 13 = 7+6, 2=5-3].** ▪ Memorise and recall number bonds to 10 (without prompting) and 20 (with some prompting). ▪ Mentally add and subtract 1&2 digit numbers to 20, including 0. ▪ Solve one-step problems that involve addition and subtraction, using objects and pictorial representations, and missing number problems (e.g. 7 =? – 9).	▪ **Solve numerical problems using addition (+), subtraction (–) and equals (=) signs within 50 (e.g. use the numbers 1, 3, 6, 11 adding and subtracting them in pairs to make as many different numbers).** ▪ Memorise and recall number bonds to 20 without prompting including the effect of +/- a 0. ▪ Mentally solve numerical problems, adding and subtracting 1&2 digit numbers to 20 (e.g. if 2 numbers have a sum of 19 what could they be?). ▪ Solve one-step word problems that involve addition and subtraction, without using objects and pictorial representations. To include missing number problems.
Multiplication and Division	▪ Share small quantities into even groups up to 12. ▪ Use arrays to represent repeated addition with adult support (e.g. two lines of 5 dots). ▪ Recognise patterns of numbers in 2x table. ▪ Solve one-step problems involving multiplication and division, by calculating the answer using objects, with the support of the teacher (e.g. how many pieces of paper needed if 4 children on a table need 2 each).	▪ Share small quantities into multiple sets up to 12 (e.g. 4 sets of 3 counters). ▪ Use arrays to represent repeated addition with prompting (e.g. two lines of 5 dots). ▪ Recognise patterns of numbers in 2 and 10x table. ▪ Solve one-step problems involving multiplication and division, by calculating the answer using objects, pictorial representations, with some support of the teacher.	▪ Share small quantities into multiple sets up to 20 including predicting the amount of sets needed (e.g. 4 sets of 3 counters) ▪ Use arrays to represent repeated addition independently (e.g. two lines of 5 dots). ▪ Recognise patterns of numbers in 2, 5 and 10x table. ▪ Solve one-step problems involving multiplication and division, without objects but some support from the teacher.
Fractions, Decimals & Percentages	• **Recognise, find and name a half as one of two equal parts of a shape.** • Pupils can group objects into four equal groups with support.	• **Recognise, find and name a half as one of two equal parts of an object, shape or quantity.** • Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	• **Recognise, find and name a quarter as one of four equal parts of an object, shape or a quantity.** • Pupils can sort objects, shapes or quantities that are in four parts and determine if they are equal or unequal parts.

Year 1 (page 2 of 2)			
Phase (New)	**3, 3.5, 4, 5**	**6-7**	**8-9**
Assessment Milestone	**Emerging**	**Expected**	**Exceeding**

Measurement	• **Tell the time to the hour and draw the hands on a clock face to show these times.**
	• Aware of the language of sequencing, being able to order these with adult support (e.g. before, after, today, tomorrow).
	• Recognise and use language relating to days of the week and months of the year. Also be able to sequence these in the correct order.
	• Recognise different denominations of coins and notes in any order.
	• Measure and begin to record the following using non-standard measures:
	  ○ Length
	  ○ Height
	  ○ Mass
	• **Solve simple problems using measurement (E.g. Which box of these two is heavier?).**
		• **Tell the time to the hour and half past the hour, including drawing the hands on a clock face to show these times.**
		• Order events using sequencing vocabulary (e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening).
		• Recognise and use language relating to dates, including days of the week, weeks, months and years. Also being able to sequence them correctly.
		• Recognise different denominations of coins and notes and order them in value.
		• Measure and begin to record the following using non-standard measures:
		  ○ Length
		  ○ Height
		  ○ Mass
		  ○ Capacity
		  ○ Volume
		• **Solve problems using measurement (E.g. Which box of these four is heaviest?).**
			• **Can tell which is the next hour or half past the hour to occur, including drawing the hands on a clock face to show these times.**
			• Describe events in chronological order (e.g. 'Monday comes before Tuesday' and 'Yesterday evening I did my homework').
			• Recognise and use language relating to dates, including days of the week, weeks, months and years. Also being able to sequence them correctly and identify significant dates (e.g. my birthday is three weeks before Easter).
			• Can select the correct coins and notes to pay/charge for an item up to £1 and recognise that change could be required.
			• Measure and begin to record the following using non-standard measures (explaining the advantages/disadvantage of the measure used):
			  ○ Length
			  ○ Height
			  ○ Mass
			  ○ Capacity
			  ○ Volume
			• **Solve multi-step problems using measurement (E.g. Compare these four boxes and put them in ascending order of weight).**

Properties of Shapes	• **Recognise and name common 2-D shapes of different sizes, with support, including: rectangles, squares, circles and triangles.** • **Recognise and name common 3-D shapes of different sizes, with support, including: cuboids, cubes, pyramids and spheres.**	• **Recognise and name common 2-D shapes of different sizes, independently, including: rectangles, squares, circles and triangles.** • **Recognise and name common 3-D shapes of different sizes, independently, including: cuboids, cubes, pyramids and spheres.**	• **Recognise and name common 2-D shapes of different sizes, independently, including: pentagons, hexagons and octagons. Explaining what is different about the shapes.** • **Recognise and name common 3-D shapes of different sizes, independently, including: cuboids, cubes, pyramids and spheres. Relating these to everyday objects.**
Position, Direction and Movement	• Describe the position of objects by referring to others objects using simple language (e.g. above/below). • Describe whole and half turns. • Use the language of position, direction and motion (e.g. top/middle/bottom, up/down and forwards/backwards).	• Describe the position of objects by referring to others objects (e.g. above/below, top/middle/bottom). • Describe whole, quarter, half and three-quarter turns. • Use the language of position, direction and motion (e.g. left/right, top/middle/bottom, on top of, in front of, above, between, around, near, close/far, up/down, forwards/backwards and inside/outside).	• Describe the position of objects by referring to others objects using more complex language (e.g. above/below, between, in front, near, inside) • Describe and following using the language whole, quarter, half and three-quarter turns. • Use and apply the language of position, direction and motion (e.g. left/right, top/middle/bottom, on top of, in front of, above, between, around, near, close/far, up/down, forwards/backwards and inside/outside).

Year 2 (page 1 of 2)			
Phase (New)	**8, 9, 10, 11**	**12-13**	**14-15**
Assessment Milestone	**Emerging**	**Expected**	**Exceeding**
Number and Place Value	• Count in 10's, forwards and backwards, starting with any 1-digit number. • Identify 10 more or less than any 2-digit number. • **Count forwards and backwards, in steps of 2, 3 and 5, starting with 0 and use counting strategies to solve problems.** • **Compare and order numbers from 0-50, including using the appropriate symbols of <>and =.** • **Recognise the place value of each digit in any 2-digit number using the terms tens and ones, with apparatus to support.** • Partition 2-digit numbers into tens and ones. • **Identify, read and write numbers up to 100 in numerals and words. (Can write the numbers 14 and 41 correctly)** • Identify, represent and estimate numbers up to 50. To include number lines. • Recognise odd and even numbers with support.	• Count in 10's, forwards and backwards, starting with any 1 or 2-digit number. • Identify 10 more or less than any 2 or 3-digit number. • Compare and order numbers from 0-100, including using the appropriate symbols of <>and =. • Recognise the place value of each digit in any 2-digit number, using the terms tens and ones. • **Partition 2-digit numbers into different combinations of tens and ones, with apparatus to support if required.** • Identify, represent and estimate numbers up to 100. To include number lines. • Recognise odd and even numbers	• Count in 10's, forwards and backwards, starting with any 1, 2 or 3-digit number. • Identify 10 more or less than any 2 or 3-digit number. Including the starting number if the other numbers are given. • Count forwards and backwards, in steps of 2, 3 and 5, starting with any given number. • Compare and order numbers from 0-100, including using the appropriate symbols of <>and = alongside other operation symbols (e.g. 1+35<53). • Recognise place value of 2-digit numbers within a problem-solving context (e.g. Find a 2-digit number where the tens digit is 7 more than the ones digit). • Partition 2 and 3-digit numbers into different combinations of tens and ones. • Identify, represent and estimate numbers up to 100. Identifying which is the best method within a context. To include number lines. • Recognise odd and even numbers within a context.

Addition and Subtraction	• **Use number bonds and recall addition and subtraction facts up to 20. (Eg: 18 = 9 +?; 15 = 6 + ?)**
	• **Add and subtract numbers where no regrouping is required (Eg: 23 + 5; 46 + 20) using objects, pictorial representations and mentally, to include:**
	  ○ **A two-digit number and ones**
	  ○ **A two-digit number and tens**
	  ○ **3 one-digit numbers**
	• Show that addition of 2 numbers can happen in any order, but that subtraction cannot. Using appropriate resources to support.
	• Use the inverse operation to find missing values and check calculations, with prompting (e.g. I think of a number…).
	• Record addition and subtraction in columns using partitioning, with appropriate resources.
	• Use estimation to check that their answers to a calculation are reasonable, with support.
		• Use and recall addition and subtraction facts up to 20, and derive related facts up to 100 (e.g. if 2+7=9 then 20+70=90).
		• **Add 2 two-digit numbers using objects, pictorial representations and mentally, within 100. (eg: 48+35)**
		• **Subtract mentally a two-digit number from another two-digit number where no regrouping is required. (eg: 74-33)**
		• Show that addition of 2 numbers can happen in any order, but that subtraction cannot.
		• **Use the inverse operation to find missing values and check calculations (e.g: ? - 14 = 28).**
		• Record addition and subtraction in columns using partitioning.
		• Use estimation to check that their answers to a calculation are reasonable.
			• Can solve problems involving addition and subtraction facts up to 100 (e.g: The sum is 87 and the difference is 17, what is the number).
			• **Add and subtract using 2 two-digit numbers mentally, where regrouping is required. (Eg: 52-27, 91-73)**
			• **Pupils can reason about addition e.g. the sum of three odd numbers will always be odd.**
			• Use the inverse operation to find missing values and check calculations, in problems such as 18+? = 28-9.
			• Record addition and subtraction, in a variety of ways, including columns for partitioning.
			• **Pupils can work out mental calculations where re-grouping is required (e.g. 52-27).**

Multiplication and Division	• Count in and begin to recall multiplications up to the 2, 5 and 10x table.
	• **Recall doubles and halves up to 20.**
	• Determine remainders using known facts using objects and manipulatives. With support when required.
	• Solve problems, within a context, using multiplication and division, with support, using:
	  ○ Appropriate resources
	  ○ Arrays
	  ○ Repeated addition
	  ○ Times tables facts
		• **Recall multiplication and division facts for the 2, 5 and 10x tables.**
		• Recall doubles and halves beyond 20, using partitioning when required.
		• Determine remainders using known facts using objects, pictorial representations and manipulatives.
		• **Solve problems, within a context, using multiplication and division using:**
		  ○ **Appropriate resources**
		  ○ **Arrays**
		  ○ **Repeated addition**
		  ○ **Times tables facts**
			• Recall multiplication and division facts for the 2, 5 and 10x tables, in order to aid them to solve problems.
			• Recall doubles and halves to 50, using partitioning when required.
			• **Rewrite addition statements as simplified multiplication statements.**
			• **Use multiplication facts to make deductions outside known multiplication facts.**
			• **Determine remainders using known facts.**
			• **Solve two-step problems, within a context, using multiplication and division, with support, using:**
			  ○ **Appropriate resources**
			  ○ **Arrays**
			  ○ **Repeated addition (represented as multiplication)**
			  ○ **Times tables facts**

Year 2 (page 2 of 2)			
Phase (New)	**8, 9, 10, 11**	**12-13**	**14-15**
Assessment Milestone	**Emerging**	**Expected**	**Exceeding**
Fractions	• Recognise, find and name, with support, fractions involving ½ , ⅓ and ¼, of a length, shape, object or quantity. • Recognise, find and name, with support, fractions involving 2/4 and 3/4, of a length, shape, object or quantity. • Recognise equivalent fractions for a ½, with prompting. • Find halves of amounts.	• **Recognise, find, name and write fractions involving ½ , ⅓ and ¼, of a length, shape, object or quantity.** • **Recognise, find, name and write fractions involving 2/4 and 3/4, of a length, shape, object or quantity.** • Recognise equivalent fractions for a ½. • Find halves and quarters of amounts.	• Recognise, name and apply fraction knowledge involving ½ , ⅓ and ¼, of a length, shape, object or quantity. • Recognise, name and apply fraction knowledge involving 2/4 and 3/4, of a length, shape, object or quantity. • Recognise equivalent fractions for a ½, including beginning to use improper and mixed numbers. • **Find and compare fractions of amounts (using above fractions).**

Measurement	• Recall the amount of minutes in an hour and a day, with prompting.
	• Compare and sequence intervals of time, with prompting.
	• Tell and record (on a clock) the time to the nearest fifteen minutes, with support.
	• Combine amounts of money to make a particular value, including recording with the correct symbols (£ and p).
	• Solve simple problems in a practical context, including addition, with the same unit of money.
	• Compare measurements, including being able to record using <> and = with prompting.
	• Measure and record the following using the appropriate standard measures and equipment:
	  ○ Length/height (cm)
	  ○ Mass (g)
	  ○ Capacity (litres)
		• Recall the amount of minutes in an hour and a day.
		• Compare and sequence intervals of time.
		• Tell and record (on a clock) the time to the nearest fifteen minutes.
		• **Use different coins to make the same amount.**
		• Combine amounts of money, in a variety of ways, to make a particular value, including recording with the correct symbols (£ and p).
		• Solve simple problems in a practical context, including addition and subtraction, including giving change within the same unit of money.
		• Compare and order a series of measurements, including being able to record using <> and =.
		• **Read scales in divisions of ones, twos, fives and tens including practical situations, where all numbers on the scale are given.**
		• Measure and record the following using the appropriate standard measures and equipment:
		  ○ Length/height (cm/m)
		  ○ Mass (kg/g)
		  ○ Temperature (°C)
		  ○ Capacity (l/ml)
			• Recall the amount of minutes in an hour and a day, applying this to interval based problems.
			• Compare and sequence intervals of time, using multiples of 5 minutes.
			• **Tell and record (on a clock) the time to five minutes.** Begin to read the time to the nearest minute.
			• Combine amounts of money, in a variety of ways, to make a particular value, including recording with the correct symbols (£ and p). Within a challenging context.
			• Solve and devise simple problems in a practical context, including addition and subtraction, including giving change within the same unit of money.
			• Compare, order and create a series of measurements, to fulfil a given criterion, including being able to record using <> and =.
			• **Read scales in divisions of ones, twos, fives and tens including practical situations, where not all numbers on the scale are given.**
			• Measure and record the following using the appropriate standard measures and equipment, beyond 100:
			  ○ Length/height (cm/m)
			  ○ Mass (kg/g)
			  ○ Temperature (°C)
			  ○ Capacity (l/ml)

Properties of Shapes	• **Identify and name some 2-D shapes. (Triangle, rectangle, square and circle).** • **Identify and name some 3-D shapes. (Cuboid, cube, pyramid and sphere)** • Compare and sort common 2-D and 3-D shapes.	• **Identify and describe the properties of 2-D shapes, including the number of sides, corners and vertical lines of symmetry.** • **Identify and describe the properties of 3-D shapes, including the faces, edges and vertices.** • Compare and sort common 2-D and 3-D shapes, including where they can be seen in everyday objects.	• Identify and describe the properties of a wide range of 2-D shapes, including the number of sides and vertical lines of symmetry. **Describing similarities and differences between 2D shapes.** • Identify and describe the properties of a wide range of 3-D shapes, including the faces, edges and vertices. **Describing similarities and differences between 3D shapes.** • Compare and sort common 2-D and 3-D shapes, including where they can be seen in a variety of everyday objects.
Position and Direction	• Order and arrange a selection of shapes into a pattern or sequence, with support. • Use mathematical vocabulary to describe position and movement (forwards/backwards, left/right).	• Order and arrange a selection of shapes into a pattern or sequence. • Use mathematical vocabulary to describe position and movement (forwards/backwards, left/right, quarter, half, three quarter turns, clockwise, anti-clockwise).	• Solve problems involving ordering and arrange a selection of shapes into a pattern or sequence. • Use mathematical vocabulary to solve problems involving position and movement (forwards/backwards, left/right, quarter, half, three quarter turns, clockwise, anti-clockwise).
Statistics	• Interpret and construct simple pictograms and tally charts. • Answer questions about totalling and comparing data.	• Interpret and construct simple block diagrams and tables. • Ask and answer questions about totalling and comparing data.	• Interpret, construct and deduce from simple pictograms, tally charts, block diagrams and tables. • Ask and answer more complex questions about totalling and comparing data.

Year 3 (page 1 of 2)			
Phase (New)	**14, 15, 16, 17**	**18-19**	**20-21**
Assessment Milestone	**Emerging**	**Expected**	**Exceeding**
Number and Place Value	• **Count in 100s, forwards and backwards, starting from 0** • **Identify 10 more or less than any 2 or 3 digit number. Including finding the starting number if the other numbers are given.** • **Count forwards in steps of 4, 8 and 50, starting with 0.** • Recognise the place value of each digit in any 2-digit and some 3-digit number, using the terms hundreds, tens and ones. • Identify, represent and estimate numbers up to 500 using objects. • Read and write numbers up to 500 in digits and words. • Round whole numbers up to 100 to the nearest 10, with support. • Compare and order numbers to 500.	• **Count in multiples of 100s, forwards and backwards, starting from 0.** • **Identify 10 or 100, more or less than any 2 or 3 digit number.** • **Count forwards and backwards, in steps of 4, 8 and 50, starting with 0.** • Recognise the place value of each digit in any 3-digit number, using the terms hundreds, tens and ones. • Identify, represent and estimate numbers up to 1000 using objects and pictures. • Read and write numbers up to 1000 in digits and words. • Round whole numbers up to 100 to the nearest 10. • Compare and order numbers up to 1000.	• **Count in multiples of 100s, forwards and backwards, identifying this with a pattern or sequence.** • **Identify multiples of 10 or 100, more or less than any 2 or 3 digit number. Including finding the starting number if the other numbers are given (e.g. 20 more than 186).** • **Count in multiples of 4, 8 and 50, forwards and backwards, identifying this with a pattern or sequence.** • Recognise place value of 3-digit numbers within a problem-solving context (e.g. Find a 3-digit number where the hundreds digit is 6 more than the ones digit). • Identify, represent and estimate numbers up to 1000, in a variety of different ways, using objects and pictures. • Read and write numbers beyond 1000 in digits and words. • Round whole numbers up to 100 to the nearest 10, including to check a calculation. • Compare and order numbers beyond 1000.
Addition and Subtraction	• Add and subtract, up to 3 digits by 1 digit, using partitioning or column methods. • **Mentally add and subtract numbers up to 3 digits by 1 digit.** • Check addition and subtraction calculations using approximation.	• Add and subtract, up to 3 digits by 3 digits, using partitioning or column methods. Including exchanging and carrying across place value boundaries. • **Mentally add and subtract numbers up to 3 digits by tens.** • Check addition and subtraction calculations using the inverse operation.	• Add and subtract, up to 3 digits by 3 digits, using partitioning or column methods. Including exchanging and carrying across place value boundaries and missing numbers. • **Mentally add and subtract numbers up to 3 digits by hundreds.** • Check addition and subtraction calculations using the inverse operation, using rounding to estimate when appropriate.
Multiplication and Division	• **Recognise multiplication and division facts for the 3 & 4 tables.** • **Mentally multiply and divide 1 digit by 1 digit numbers, for the multiplication facts they know.** • **Begin to use formal written methods when calculating multiplication and division for 2 digits by 1 digit.** • Can complete a multi-step multiplication in the correct order, with prompting (e.g. 2 x 5 x 8 = 10 x 8 = 80). • Solve number problems using the above statements, to include missing number and scaling up problems.	• **Recall multiplication and division facts for the 3, 4 and 8x tables.** • **Mentally multiply and divide 1 digit by 2 digit numbers, for the multiplication facts they know.** • **Can use formal written methods when calculating multiplication and division for 2 digits by 1 digit, including simple remainders e.g. r3** • Can complete a multi-step multiplication in the correct order (e.g. 6 x 5 x 3 = 30 x 3 = 90). • Solve number problems using the above statements; to include missing number, scaling up and word based problems.	• **Recall multiplication and division facts for the 3, 4 and 8x tables, in order to aid them solve problems. Using the appropriate symbols when recording.** • **Mentally multiply and divide 1 digit by 2 digit numbers, including within a word problem context.** • **Can use formal written methods when calculating multiplication and division for 2 digits by 2 digits, including simple remainders e.g. r3** • Can complete a multi-step multiplication and division in the correct order (e.g. 6 ÷ 3 x 5 = 2 x 5 = 10). • Solve number problems using the above statements; to include missing number, scaling up, quantities and word based problems.
Properties of Shapes	• Measure the perimeter of regular 2-D shapes, with support. • Draw and describe 2-D shapes (in cm) using appropriate vocabulary. • Recognise, describe and model 3-D shapes, such as spheres and cylinders, in a variety of contexts. • Identify horizontal and vertical lines, beginning to identify parallel lines.	• Measure the perimeter of simple 2-D shapes. • Draw and describe 2-D shapes (in cm) using appropriate vocabulary. Comparing the angles to a right angle (greater/smaller than). • Recognise, describe and model, in different orientations, a wide range of 3-D shapes within a variety of contexts. • Identify horizontal, vertical, parallel and perpendicular lines.	• Measure the length and width of simple and irregular 2-D shape and then calculate its perimeter. • Draw and describe 2-D shapes (in cm). Explaining the difference between similar shapes, using appropriate vocabulary (e.g. acute, obtuse, reflex) • Recognise, describe and model, in different orientations, a wide range of 3-D shapes within a variety of contexts. Explaining why things may be shaped in the way that they are. • Identify horizontal, vertical, parallel and perpendicular lines. Explain the relationship that exists between them.

Year 3 (page 2 of 2)			
Phase (New)	14, 15, 16, 17	18-19	20-21
Assessment Milestone	**Emerging**	**Expected**	**Exceeding**
Fractions	• **Recognise, find and write fractions that have a 1-digit denominator and a numerator of 1.** • **Find fractions of amounts which have a numerator of 1 and a denominator with known multiplication facts.** • Compare and order fractions with the same denominator (1 digit). • Add and subtract fractions with the same 1-digit denominator. • Count up, including within a sequence, in tenths. • Recognise and show, using objects, equivalent fractions with 1-digit denominators.	• **Recognise, find and write fractions that have a 1-digit denominator and a numerator.** • **Find fractions of amounts which have a numerator of 1 and a denominator with known multiplication facts.** • Compare and order fractions with the same denominator. • Add and subtract fractions with the same denominator. • Count up and down, including within a sequence, in tenths. • Recognise and show, using diagrams and objects, equivalent fractions with 1-digit denominators.	• **Recognise, find and write fractions that have a 1-digit denominator and numerator, for all possible fractions from that total.** • **Find fractions of amounts which have a numerator of 1 and a denominator with known multiplication facts.** • Compare and order fractions with the same denominator, explaining why they are in that order (e.g. 1/3 is bigger than 1/5 because it is split into less parts/smaller denominator). • Add and subtract fractions with the same denominator, including creating improper fractions. • Count up and down, including within a non-consecutive sequence, in tenths (e.g. 3/10, 5/10, 7/10 is going up in every other digit). • Recognise and show, using diagrams and objects, equivalent fractions with 1-digit denominators. Explaining why they are equivalent.

Measurement	• **Tell and write the time on analogue and 12 hour digital clocks, using appropriate vocabulary (a.m./p.m., morning/afternoon).**
	• Tell and write the time using Roman Numerals, with support.
	• Know the number of seconds in a minute and the number of days in each month.
	• Compare durations of events for at least two events (e.g. which film is shorter?).
	• **Add and subtract simple amounts of money, to include giving exact change, recording the outcome with appropriate signs (£ or p).**
	• **Measure, record, add and subtract the following, using appropriate resources:**
	  ○ **Length (m/cm)**
	  ○ **Mass (kg/g)**
	  ○ **Volume (l/ml)**
		• **Tell and write the time using analogue and 24 hour digital clocks, using appropriate vocabulary (a.m./p.m., morning/afternoon).**
		• Tell and write the time using Roman Numerals.
		• Know the number of seconds in a minute, the number of days in each month and days in a year (including leap years).
		• Compare durations of events for at least three events (e.g. which film is shortest?).
		• **Add and subtract amounts of money, to include giving exact change, recording the outcome with appropriate signs (£ or p).**
		• **Measure, record, compare, add and subtract the following, using appropriate resources:**
		  ○ **Length (m/cm/mm)**
		  ○ **Mass (kg/g)**
		  ○ **Volume (l/ml)**
			• **Tell, write and convert the time between analogue and 24 hour digital clocks, using appropriate vocabulary (a.m./p.m., morning/afternoon).**
			• Tell and write the time using Roman Numerals and on clocks without numbers.
			• Know the number of seconds in a minute, the number of days in each month and days in a year (including leap years), estimating the amount of time until a specific event.
			• Solve problems involving comparing durations of events for at least three events (e.g. I have four hours, which films could I watch?).
			• **Add and subtract larger amounts of money, to include giving exact change, recording the outcome with appropriate signs (£ or p).**
			• **Measure, record, compare, add and subtract the following, using appropriate resources, including within a problem solving context:**
			  ○ **Length (m/cm/mm)**
			  ○ **Mass (kg/g)**
			  ○ **Volume (l/ml)**

Position and Direction	• Identify a right angle. • Recognise the equivalents between major turns (e.g. two quarter turns = half turn). • Give multi-step directions using the above language, with prompts. • Identify a given square on a grid, referring to its row and column, with some support.	• Identify whether an angle is greater or smaller than a right angle, using appropriate vocabulary (e.g. acute, obtuse and reflex). • Recognise the equivalents between major turns. • Give multi-step directions using the above language. • Identify a given square on a grid, referring to its row and column.	• Identify and order angles based on the their size compared to a right angle. • Recognise the equivalents between major turns. • Give multi-step directions using the above language to create a specified shape. • Identify a given square on a grid, referring to its row and column. Labelling the grid with their own system, including the origin (point 0,0).
Statistics	• **Interpret and construct simple pictograms, tally charts and tables.** • Recognise simple scales on pictograms and bar charts (e.g. scales going up in 2's and 10's). • Solve one-step questions using the above statistical diagrams, including (e.g. how many children have dogs?).	• **Interpret and construct simple bar charts, pictograms, tally charts and tables.** • Recognise scales on pictograms and bar charts (e.g. scales going up in 2's, 5's and 10's). • Solve one and two-step questions using the above statistical diagrams, including sorting objects/numbers by quantity (e.g. how many more children have cats than dogs?).	• **Interpret and construct simple bar charts, pictograms, tally charts and tables. Making a series of questions based on their data.** • Recognise a variety of scales on pictograms and bar charts (e.g. scales going up in 2's, 3's, 4's, 5's and 10's). • Solve and create more complex problems using the above statistical diagrams, including sorting objects/numbers by quantity (e.g. what sort of pet do pupils favour and why? – looking for generalisations based on data).

Year 4 (page 1 of 2)			
Phase (New)	20, 21, 22, 23	24-25	26-27
Assessment Milestone	**Emerging**	**Expected**	**Exceeding**
Number and Place Value	• Recognise the place value of each digit in any 3-digit and some 4-digit number, using the terms thousand, hundred, tens and ones. • **Count in multiples of 10s, 100s and 1000s, forwards and backwards, starting from 0.** • **Order numbers beyond 1000** • **Find a 1000 more or less than any number between 1 and 3 digits.** • Read and write numbers up to 100 Roman numerals, with support. • **Count in multiples of 6 using knowledge of 3s. Can finish sequences of 7, 9 and 25.** • **Identify, represent and estimate numbers up to 1000, in a variety of different ways, using objects and pictures. Beginning to continue up to 10 000 with support.** • **Round any number to the nearest 10 or 100.**	• Recognise the place value of each digit in any 4-digit number, using the terms thousand, hundred, tens and ones. • **Count in multiples of 10s, 100s and 1000s, forwards and backwards, to include negative numbers.** • **Order and compare numbers beyond 1000.** • **Find a 1000 more or less than any number.** • Read and write numbers up to 100 in Roman numerals. Explaining why the number system changed to the modern system. • **Count in multiples of 6, 7, 9, 25 and 1000.** • **Identify, represent and estimate numbers to 10 000, in a variety of different ways (e.g. choosing if a crowd is 60, 600 or 6000).** • **Round any number to the nearest 10, 100 or 1000.**	• Recognise place value of 4-digit numbers within a problem-solving context (e.g. Find all possible numbers using the numbers 4, 1, 7 and 6). • **Count in multiples of 10s, 100s and 1000s, forwards and backwards, to include negative numbers. Being able to reduce numbers using the appropriate multiples.** • **Order and compare numbers beyond 1000, within a context of quantity or measurement.** • **Find a 1000 more or less than any number, including across 0.** • Read and write numbers up to 100 in Roman numerals. Explaining why the number system changed to the modern system, especially the significance of the zero in place value. • **Count in multiples of 6, 7, 9, 25 and 1000, including comparing sequences, to find a common factor.** • **Identify, represent and estimate numbers to 10 000, in a variety of different ways within a problem solving context (e.g. write in order the number of people at a PL football match, secondary school and living in HB).** • **Round any number to the nearest multiple of 10, 100 or 1000 (e.g. 50 or 500).**
Addition and Subtraction	• Add and subtract, with 4 digit numbers using formal methods. • Mentally add and subtract pairs of 2 digit numbers. • Understand how to find and use inverse operations to check calculations for the above statements. • **Solve two-step calculation problems, involving addition and subtraction, deciding which operation and method to use.**	• Add and subtract, up to 4 digits by 4 digits, using formal methods. • Mentally add and subtract pairs of 2 digit numbers, bridging the ones boundaries (e.g. 28+47). • Understand how to find and use inverse operations to check calculations for the above statements. • **Solve two-step calculation problems, involving addition and subtraction, deciding which operation and method to use and why.**	• Add and subtract, up to 4 digits by 4 digits, including missing numbers, using formal methods. • Mentally add and subtract pairs of 2 digit numbers, bridging the ones and tens boundaries (e.g. 98+47). • Understand how to find and use inverse operations to check calculations for the above statements. • **Solve complex two-step calculation problems, involving addition and subtraction, within a context such as money or measure, deciding which operation and method to use and why.**
Multiplication and Division	• **Recall multiplication and division facts for all tables up to 10x10.** • Multiply and divide 2 digit numbers by a 1-digit number (beginning to use 3 digit numbers), using formal written methods to record, including simple remainders e.g. r3 • Can complete a multi-step multiplication in the correct order, by partitioning the calculation (e.g. 3 x 4 x 6 becomes 3 x 4 = 12, then 12 x 6 = 72). • Mentally multiply and divide, including multiplying and dividing by 1 and 0. • Identify factor pairs (e.g. 24 can be made from the factors: 6 and 4, 12 and 2, 8 and 3, etc.). • Solve multiplication problems using the above statements; to include missing number, scaling up and word based problems.	• **Recall multiplication and division facts for all tables up to 12x12.** • Multiply and divide 2 and 3 digit numbers by a 1-digit number, using formal written methods, including simple remainders e.g. r3 • Can complete a multi-step multiplication in the correct order, rearranging or partitioning the numbers to make the multiplication as simple as possible (e.g. 7 x 5 x 12 becomes 7 x 5 x 2 x 6 = 35 x 2 x 6 = 70 x 6 = 420). • Mentally multiply and divide, including multiplying and dividing by 1 and 0. Multiplying together three numbers. • Identify and use factor pairs within mental calculations. • Solve multi-step multiplication problems using the above statements; to include missing number, scaling up and word based problems.	• **Recall and apply within a context, multiplication and division facts for all tables up to 12x12.** • Multiply and divide 2 and 3 digit numbers by a 1 and 2-digit number, using formal written methods, including simple remainders e.g. r3 • Can complete a multi-step multiplication and division in the correct order, rearranging or partitioning the numbers to make the calculation as simple as possible. • Mentally multiply and divide, including multiplying and dividing by 1 and 0. Multiplying together three or more numbers. • Identify, use and apply factor pairs within mental calculations. • Solve multi-step multiplication problems using the above statements; to include missing number, scaling up and word based problems. Explaining how and why they have completed it.
Properties of Shapes	• **Identify lines of symmetry in 2D shapes.** • Measure the perimeter of rectilinear shapes in cm and m, with support. • Find the area of rectilinear shapes by counting squares, with support. • Recognise, draw and describe a wide range of 2-D shapes within a variety of contexts. • Recognise, draw and describe, a wide range of 3-D shapes within a variety of contexts. • Identify and classify the different types of triangles. • Identify and order acute and obtuse angles. • Measure to the nearest 10°, beginning to use a protractor, the interior angles of simple 2-D shapes.	• **Identify lines of symmetry in 2D shapes presented in different orientations.** • Measure the perimeter of rectilinear shapes in cm and m. • Find the area of rectilinear shapes by counting squares. • Recognise, describe and model/draw, in different ways, a wide range of 2-D shapes within a variety of contexts. • Recognise, describe and model/draw, in different ways, a wide range of 3-D shapes within a variety of contexts. • Identify, describe and classify the different types of triangles. • Identify, compare and order acute and obtuse angles. • Measure to the nearest 10°, using a protractor, the interior angles of simple 2-D shapes.	• **Identify lines of symmetry in 2D shapes in different orientations, being able to complete a 2D shape to make it symmetrical.** • Measure the perimeter of a rectilinear shapes in cm and m, drawing a shape from a given perimeter. • Find the area of rectilinear shapes. • Recognise, describe and model/draw, in different ways, a wide range of 2-D shapes within a variety of contexts, explaining the difference between similar shapes. • Recognise, describe and model/draw, in different ways, a wide range of 3-D shapes within a variety of contexts, explaining the difference between similar shapes. • Identify, describe, classify and begin to draw the different types of triangles. • Identify, compare and order acute and obtuse angles. Applying this within the context of 2-D shapes (e.g. a scalene triangle has 3 acute angles). • Measure to the nearest 10°, with a protractor, the interior angles of a variety of 2-D shapes.

Statements in **bold are key performance indicators and should be used to assess for the lower of the two phases within each expectation.*

Year Group	Year 4 (page 2 of 2)		
Phase (New)	20, 21, 22, 23	24-25	26-27
Assessment Milestone	Emerging	Expected	Exceeding
Fractions, Decimals and Percentages	• **Count up, including within a sequence, in tenths and hundredths.** • **Recognise, sort and show families of common equivalent fractions, where the starting fraction has a numerator of one (e.g. 1/4 = 2/8 and 4/16).** • Compare, order, add and subtract fractions with same 2-digit denominator, with supporting resources and diagrams. • Recognise, find and write fractions of amounts which have a numerator of 1 and a denominator with known multiplication facts. • Divide 1 and 2 digit numbers by 10 and 100, identifying the correct place value (with prompting), using the vocabulary tenths and hundredths. • **Round decimals with one decimal place to the nearest whole number.** • **Compare and order numbers with up to 1 decimal place.** • Recognise and write equivalents between decimals and fractions, with support (e.g. 0.3 = 3/10).	• **Count up and down, including within a sequence, in tenths and hundredths.** • **Recognise, sort and show families of common equivalent fractions, where the starting fraction has a numerator of more than one (e.g. 3/4 = 6/8 and 12/16).** • Compare, order, add and subtract fractions with same 2-digit denominator. • Recognise find and write fraction of amounts with a numerator of more than 1 and a denominator with known multiplication facts. • Divide 1 and 2 digit numbers by 10 and 100, identifying the correct place value, using the vocabulary tenths and hundredths. • **Round decimals with one decimal place to the nearest whole number, explaining why they have rounded it to that number.** • **Compare and order numbers with up to 2 decimal places.** • Recognise and write equivalents between decimals and fractions, up to 1 decimal places, beginning to apply to 2 d.p. (e.g. 0.7 = 7/10).	• **Count up and down, including within a sequence, in tenths and hundredths. Applying this to a context such as money/measure.** • **Recognise, sort and show families of common equivalent fractions, where the starting fraction has a numerator of more than one. Explaining why some fractions would not fit into the family.** • Compare, order, add and subtract fractions (including improper) with the same 2-digit denominator explaining why they are in that order (e.g. 1/3 is bigger than 1/5 because it is split into less parts/smaller denominator). • Recognise find and write fraction of amounts with a numerator of more than 1 and a denominator with known multiplication facts. Including within a context such as money. • Divide 1 and 2 digit numbers by 10 and 100, identifying the correct place value, using the vocabulary tenths and hundredths. Explaining how this could be applied to thousandths. • **Round decimals with one decimal place to the nearest whole number, explaining why they have rounded it to that number and other numbers that could also round to that number.** • **Compare and order numbers with up to 2 decimal places, including zeros as one of the numbers (e.g. 3.02 and 3.12).** • Recognise and write equivalents between decimals and fractions, up to 2 decimal places. Understanding how it scales up (e.g. If 1/8 = 0.125 then 3/8 must be 3 times that).
Measurement	• Read, write and convert the time between analogue and 24 hour digital clocks, including when using Roman Numerals, using appropriate vocabulary (a.m./p.m., morning/afternoon), with some prompting. • Convert larger units of time into smaller units (e.g. 60 minutes instead of 1 hour), with prompting. • Solve simple time problems including those that involve the duration of events (e.g. Bus journey is 15 minutes long and leaves at 3, what time will it arrive?). • Add and subtract amounts of money within a simple problem-solving context, to include giving exact change (e.g. I have £3, how many 50p chocolates can I buy?). • Convert from larger to smaller units of measures (e.g. 3kg to 3000g).	• Read, write and convert the time between analogue and 24 hour digital clocks, including when using Roman Numerals, using appropriate vocabulary (a.m./p.m., morning/afternoon). • Convert larger units of time into smaller units (e.g. 60 minutes instead of 1 hour). • Solve time problems including those that involve the duration of events (e.g. Bus journey is 18 minutes long and leaves at 2.53, what time will it arrive?). • Add and subtract amounts of money within a problem-solving context, to include giving exact change (e.g. I have £5, how many pencils can I buy if they are 45p each?). • Convert from larger to smaller units of measures, to include decimals (e.g. 3.5kg to 3500g).	• Read, write and convert the time between analogue and 24 hour digital clocks, including when using Roman Numerals, using appropriate vocabulary (a.m./p.m., morning/afternoon). • Convert large units of time into smaller units (e.g. months into minutes). • Solve complex time problems including those that involve the duration of events and a timetable (e.g. The bus takes 19 minutes and I need to be at the cinema by 3, which bus should I take?). • Add and subtract amounts of money within a multi-step problem-solving context, to include giving exact change (e.g. I have £6, what is the most amount of teas and coffees I can buy?) • Convert from larger to smaller units of measures, to include decimals (e.g. 3.5kg to 3500g), being able to convert it back again.
Position and Direction	• Read any point within the first quadrant on a coordinate grid, with some prompting. • Plot specified points (within the first quadrant), including drawing the vertices of a shape, and joining them in the correct order (with prompting). • Can describe (with prompting) a translation that has been completed, up/down or left/right.	• Read any point within the first quadrant on a coordinate grid. • Plot specified points (within the first quadrant), including drawing the vertices of a shape, and joining them in the correct order. • Can describe a translation that has been completed, up/down or left/right.	• Read any point within the first quadrant on a coordinate grid, explaining the process that that have completed. • Can decide where points should be plotted when given a shape and starting point (within the first quadrant). Joining them in the correct order. • Can describe and record (using positive and negative signs) a translation that has been completed, up/down or left/right.
Statistics	• Interpret, construct and deduct from time graphs and bar charts. • Solve comparison, sum and difference problems using bar charts, pictograms, tables, and tally charts.	• Interpret, construct and deduct from time graphs and bar charts. Understanding the difference between the two representations. • Solve comparison, sum and difference problems using bar charts, pictograms, tables, time graphs and tally charts.	• Interpret, construct and deduct from time graphs and bar charts. Understanding the difference between the two representations whilst using the vocabulary continuous and discrete data. • Solve comparison, sum and difference problems using bar charts, pictograms, tables, time graphs and tally charts. Including creating their own graphs to solve the problems.

Statements in **bold are key performance indicators and should be used to assess for the lower of the two phases within each expectation.*

Year 5 (page 1 of 2)			
Phase (New)	26, 27, 28, 29	30-31	32-33
Assessment Milestone	**Emerging**	**Expected**	**Exceeding**
Number and Place Value	• **Recognise the place value of each digit in any 4 to 6 digit numbers, using the terms thousands, hundreds, tens and ones.** • **Count in multiples of 10s up to 1million, forwards and backwards, starting from 0.** • **Order and compare numbers to at least 1million.** • **Round any number to the nearest 10, 100, 1000 or 10,000.** • Read and write Roman numerals up to 1000. • Interpret negative numbers within a simple context (e.g. which is colder -5°C or -10°C?).	• **Recognise the place value of each digit in any 7-digit number, using the terms millions, thousands, hundreds, tens and ones.** • **Count in multiples of 10s up to 1million, forwards and backwards, to include negative numbers.** • **Order and compare numbers to at least 1million.** • **Round any number to the nearest multiple of 10 up to 100,000.** • Read and write Roman numerals to 1000, being able to apply this to read, write and convert years (in numerals) to numbers. • Interpret negative numbers within a context (e.g. which is colder -1°C or -11°C?).	• **Recognise place value of 7-digit numbers within a problem-solving context (e.g. the number of megabytes on a memory stick).** • **Count in multiples of 10s up to 1million, forwards and backwards, to include negative numbers. Being able to reduce numbers using the appropriate multiples.** • **Order and compare numbers beyond 1million.** • **Round any number to the nearest multiple of 10, up to 100,000, being able to identify the largest or smallest number that could be rounded to a given number.** • Read and write Roman numerals to 1000, being able to apply this to read, write and convert years (in numerals) to numbers. Explaining why large number calculation is difficult with Roman numerals. • Interpret negative numbers within a problem (e.g. which planet has the biggest change in temperature?).
Addition and Subtraction	• **Add and subtract, with numbers up to 4 digits, using formal methods.** • Mentally add and subtract pairs of 3 digit numbers, bridging the ones boundaries (e.g. 118+147). • Add and subtract decimals up to 2 d.p.	• **Add and subtract, with numbers beyond 4 digits, using formal methods.** • Mentally add and subtract pairs of 3 digit numbers, bridging either the ones or tens boundaries (e.g. 181+147). • Add and subtract decimals up to 2 d.p. Including those with a different amount of decimal places.	• **Add and subtract, with numbers beyond 4 digits, using formal methods. Including calculating missing numbers.** • Mentally add and subtract pairs of 3 digit numbers, bridging either the ones, tens or hundreds boundaries (e.g. 818+241). • Add and subtract decimals up to 2 d.p. Including those with a different amount of decimal places. Applying this within a context such as measure.
Multiplication and Division	• Multiply and divide numbers mentally, using the known times table facts up to 12x12. • **Multiply and divide numbers up to 4 digits by 1digits, including remainders, using formal methods.** • Identify multiples and factors of numbers up to 25. • Multiply and divide whole numbers by 10, 100 and 1000. • Recall the first 5 square and cube numbers, using the correct notation. • Use simple methods such as rounding to check calculations. • Establish whether a number up to 50 is a prime and recall primes up to 19. • **Solve simple multi-step problems using all of the above. To include: multiplication, division, fractions and factors.**	• Multiply and divide numbers mentally, using the known times table facts up to 12x12. • **Multiply and divide numbers up to 4 digits by 1-2 digits, including remainders, using formal methods.** • Identify multiples and factors of numbers up to 50, including common factors of 2 numbers. • Multiply and divide whole numbers by 10, 100 and 1000. Including decimals. • Recall the first 10 square and cube numbers, using the correct notation. • Use methods such as rounding and inverses to check calculations. • Establish whether a number up to 100 is a prime and recall primes up to 19. • **Solve multi-step problems using all of the above. To include: multiplication, division, factors, square numbers, scaling and rates.**	• Multiply and divide numbers mentally, using the known times table facts up to 12x12. Extending this to numbers beyond 144. • **Multiply and divide numbers up to 4 digits by 1-2digits using formal methods, including remainders and decimals/fractions with remainders (e.g. 13÷2 =6r1 and 6½ and 6.5).** • Identify multiples and factors of numbers up to 50, including common factors of 2 numbers. Applying this knowledge to begin looking at prime numbers. • Multiply and divide whole numbers by multiples of 10, 100 and 1000. Including decimals. • Recall and sort the first 10 square and cube numbers, using the correct notation (e.g. Venn diagram). • Use methods such as rounding and inverses to check calculations, explaining which method is the most appropriate for each calculation. • Establish whether a number beyond 100 is a prime and recall primes up to 19. • **Solve and create multi-step complex problems using all of the above. To include: multiplication, division, factors, square numbers, scaling and rates.**
Measurement	• Continue to read, write and convert times in both analogue and digital format, within a problem-solving situation. • Continue to work with time intervals within a context and problem-solving situations. • **Estimate the conversion between different units of measurement (e.g. 36cm = 0.3m)** • **Approximate equivalences between metric and common imperial units, with support.** • Solve simple problems involving measurement and money, to use all four operations. • Begin to apply negative number knowledge within a temperature context.	• Continue to read, write and convert times in both analogue and digital format, within a problem-solving situation. • Continue to work with time intervals within a context and problem-solving situations. • **Convert between different units of metric measurement.** • **Approximate equivalences between metric and common imperial units.** • Solve problems involving measurement and money, to use all four operations and decimals. • To apply negative number knowledge within a temperature context, realising that negatives (in Celsius) are below the freezing point of water.	• Continue to read, write and convert times in both analogue and digital format, within a problem-solving situation. • Continue to work with time intervals within a context and problem-solving situations. • **Convert between non-consecutive units of metric measurement (e.g. mm to m).** • **Approximate and understand how to convert equivalences between metric and common imperial units.** • Solve complex problems involving measurement and money, to use all four operations and decimals. • To apply negative number knowledge within a temperature context, realising that negatives (in Celsius) are below the freezing point of water. Applying this to further contexts such as comparing temperatures on weather maps.

Year 5 (page 2 of 2)			
Phase (New)	26, 27, 28, 29	30-31	32-33
Assessment Milestone	**Emerging**	**Expected**	**Exceeding**
Fractions, Decimals and Percentages	• **Compare and order fractions with denominators that are all multiples of the same number.** • Add and subtract fractions with the same denominator or denominators that are multiples of the same number. • Multiply fractions and mixed numbers by whole numbers, using supporting materials and diagrams. • **Read and write decimal numbers, up to 2 d.p. as fractions, applying tenth and hundredth place value knowledge. With appropriate support.** • **Read, write, order, compare and round decimal numbers up to 3 d.p.** • Recognise that a percentage is a number of parts out of 100, writing simple percentages as a fraction (e.g. 25% = 25/100). • Recall the percentage and decimal equivalents of ½, ¼, 1/5, 1/10 and 1/25.	• **Compare and order fractions with denominators that are all multiples of the same number, including improper and mixed numbers.** • Add and subtract fractions with the same denominator or denominators that are multiples of the same number, including mixed and improper fractions. • Multiply fractions and mixed numbers by whole numbers. • **Read and write decimal numbers, up to 3 d.p. as fractions, applying hundredth and thousandth place value knowledge.** • **Read, write, order, compare and round decimal numbers up to 3 d.p. Identifying the smallest and largest value from the numbers.** • Recognise that a percentage is a number of parts out of 100 and identify its possible equivalents within fractions and decimals (e.g. 10% = 10/100 and 0.1). • Recall the percentage and decimal equivalents of ½, ¼, 1/5, 2/5, 4/5, 1/10 and 1/25.	• **Compare and order fractions with denominators that are all multiples of the same number, including improper and mixed numbers. Adding in further possible fractions within a given sequence.** • Add and subtract fractions with the same denominator or denominators that are multiples of the same number, including mixed and improper fractions. Using pictorial representations and calculating the equivalents when using mixed and improper fractions (e.g. 5 x 2 3/8 = 10 + 15/8 = 11 7/8). • Multiply fractions, improper fractions and mixed numbers by whole numbers. • **Read and write decimal numbers, up to 3 d.p. as fractions, beginning to apply to 4 d.p.** • **Read, write, order, compare and round decimal numbers up to 3 d.p. Identifying the smallest and largest value from the numbers and finding numbers halfway between decimals (e.g. the number exactly between 2.604 and 2.86).** • Recognise that a percentage is a number of parts out of 100 and identify its possible equivalents within fractions and decimals. Applying this within a numerical problem. • Recall the percentage and decimal equivalents of ½, ¼, 1/5, 2/5, 4/5, and fractions with a denominator of a multiple of 10 or 25.
Shape	• Calculate the perimeter of composite recti-linear shapes. • Calculate, compare and measure the area of rectangles. • Can mark a right angle with the conventional marking. • **Draw given angles and measure them accurately (nearest 5°) in degrees. Applying this to draw shapes accurately (sides to the nearest cm).** • Identify, classify and make a range of 3-D shapes. • Estimate, with prompted reasoning based on area knowledge, the capacity and volume of 3-D shapes. • Approximately estimate and compare acute, obtuse and reflex angles. • Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	• Calculate and measure the perimeter of composite recti-linear shapes. • Calculate, compare and measure the area of rectangles. Estimating the area of irregular quadrilaterals. • Can mark right angles and parallel lines with the conventional markings. • **Draw given angles and measure them accurately (nearest 5°) in degrees. Applying this to draw shapes accurately (sides to the nearest mm).** • Identify, classify and make a range of 3-D shapes, including identifying all the 2-D shapes that form the surface of the shape. • Estimate, with reasoning based on area knowledge, the capacity and volume of 3-D shapes. • Estimate and compare acute, obtuse and reflex angles. • Distinguish and sort regular and irregular polygons based on reasoning about equal sides and angles.	• Calculate and measure the perimeter of complex composite recti-linear shapes. • Calculate, compare and measure the area of composite recti-linear shapes. Estimating the area of irregular quadrilaterals. • Can mark right angles and parallel lines with the conventional markings. Deducing further information from this knowledge. • Identify, classify and make all major 3-D shapes, including identifying all the 2-D shapes that form the surface of the shape. • Estimate and begin to calculate the capacity and volume of 3-D shapes. • Accurately estimate and compare acute, obtuse and reflex angles (within 3°). • Distinguish and sort regular and irregular polygons based on reasoning about equal sides and angles. Using an appropriate data handling technique to demonstrate findings (e.g. Venn and Carroll diagrams).
Position and Direction	• Can fluently use coordinates in the first two quadrants, being able to read and plot and range of points within the quadrant. • Identify the points required to complete a simple polygon based on some given points (within the first two quadrants). • Identify, describe and record the position of a shape after a translation or reflection. Recognising that the shape has not changes after is transformation.	• Can fluently use coordinates in the first two quadrants, being able to read and plot and range of points within the quadrant. Beginning to apply this within a problem-solving context (e.g. missing coordinates). • Identify the points required to complete a polygon based on some given points (within the first two quadrants). • Identify, describe and record the position of a shape after a translation or reflection. Using the appropriate mathematical language to describe.	• Can fluently use coordinates in the first two quadrants, being able to read and plot and range of points within the quadrant. Including within a problem-solving context. • Identify the points required to complete a complex polygon based on some given points (within the first two quadrants). Identifying all the different possible solutions. • Identify, describe and record the position of a shape after a translation or reflection. Using the appropriate mathematical language to describe. Marking the appropriate angles and parallel lines.
Statistics	• **Interpret, construct and deduct from time graphs, bar charts and line graphs.** • Interpret and complete a range of tables, including simple timetables.	• **Interpret, construct and deduct from time graphs, bar charts and line graphs. Deciding which is the best way to represent given data.** • Interpret and complete a range of tables, including timetables.	• **Interpret, construct and deduct from time graphs, bar charts and line graphs. Deciding which is the best way to represent given data and being able to provide reasoning for this choice.** • Interpret and complete a range of tables, including timetables. Making deductions from the timetables using their time interval knowledge.
Algebra	• Express simple missing measure questions algebraically (e.g. find the perimeter of a square within the formula 4s when s = 6). • Understand what the acronym BODMAS represents. • Recognise and explain (with prompting) the term-to-term rule that a sequence has (e.g. sequence 2, 5, 8 goes up in 3s).	• Express missing measure questions algebraically (e.g. find the width of the rectangle with perimeter 2w+14=20). • Understand the order that expressions should be completed (BODMAS) • Recognise and describe term-to-term rules in a sequence (e.g. the sequence 2, 5, 8 goes up by 3 every time).	• Express missing measure questions algebraically (e.g. find the width of the rectangle with perimeter 2w+14=20). Explaining the process they have gone through. • Understand and begin to apply the order that expressions should be completed (BODMAS) • Recognise and describe term-to-term rules in a complex sequence (e.g. the sequence 2, 5, 8 increases by multiplying by 3 then -1 each time).

Statements in **bold are key performance indicators and should be used to assess for the lower of the two phases within each expectation.*

Year 6 (page 1 of 2)			
Phase (New)	32, 33, 34, 35	36-37	38-39
Assessment Milestone	**Emerging**	**Expected**	**Exceeding**
Number and Place Value	• **Determining the value of each digit in any number up to 10million.** • Round any whole number up to 100,000s to a required degree of accuracy (e.g. nearest 20). • Read and write Roman numerals up to 1000. • Calculate with and use negative numbers within a context (e.g. Difference between -5°C and -10°C). • Identify common factors and multiples.	• **Read, write, order and compare numbers up to 10million in words and digits. Determining the value of each digit.** • Round any whole number up to 10millions to a required degree of accuracy (e.g. nearest 50). • Read and write Roman numerals up to 1000, including recognising years written in this way (e.g. MMXIV=2014) • Calculate with and across negative numbers within a context (e.g. Difference between -5°C and 8°C). • Identify common factors, common multiples and prime numbers.	• **Read, write, order and compare numbers up to 10million in words and digits. Determining the value of each digit and practically applying the knowledge.** • Round and compare any whole number up to 10millions to a required degree of accuracy (e.g. multiple numbers that round to the same number). • Read, write and recognise Roman numerals up to 1000 and year dates. Including understanding why the numeral system was replaced with place value. • Solve practical problems involving negative numbers (e.g. changes in temperatures). • Identify and recall prime numbers up to 19 and be able to identify prime numbers much higher than this. • Identify common factors, common multiples and prime numbers. Applying this to other mathematical areas (e.g. equivalent fractions).
Addition and Subtraction	• Add and subtract whole numbers up to 4 digits using formal methods (some prompting). • Calculate expressions (written and mental) in the correct sequence (e.g. 7+2x3=13). • Use estimation to check answers to calculations, with prompting. • **Calculate mentally using efficient strategies such as manipulating expressions to simplify the calculation, with support to identify the most efficient method.**	• Add and subtract whole numbers with more than 4 digits using formal methods. • Calculate expressions (written and mental) involving brackets in the correct sequence (e.g. 3+2[5+7]=27). • Use estimation and rounding to check answers to calculations, including within a problem-solving context. • **Calculate mentally using efficient strategies such as manipulating expressions to simplify the calculation.**	• Add and subtract multiple whole numbers with more than 4 digits using formal methods including a problem solving context. • Calculate expressions (written and mental) involving brackets and all 4 operations in the correct sequence, including missing operations (e.g. (3 ? 5)x6 = 5x 100 ?7). • Use estimation and rounding to check answers to calculations, including within a problem-solving context. Providing written justification as to why they made their choice. • **Calculate mentally using efficient strategies such as manipulating expressions to simplify the calculation. Justifying the reasons for their choice of method.**
Multiplication and Division	• Multiply numbers up to 3 digits by 2 digits using formal methods. • Divide numbers up to 3 digits by 2 digits using formal methods (including use of remainders within context – fractions/rounding). • Multiple square or cube numbers by integers (e.g. 3^2 x 4) • Multiply whole numbers by decimals up to 1 d.p. • Divide numbers where the answer has up to 1 d.p. • **Solve multi-step multiplication and division problems (using multiple operations), deciding which operation to apply. To include scaling problems (1 biscuit = 10g, how much for packet?).**	• Multiply numbers up to 4 digits by 2 digits using formal methods. • Divide numbers up to 4 digits by 2 digits using formal methods (including use of remainders within context – fractions/rounding). • Multiply numbers that include square and cube numbers (e.g. 3^2 x 2^3) • Multiply whole numbers by decimals up to 2 d.p. • Divide numbers where the answer has up to 2 d.p. • **Solve multi-step multiplication and division problems (using multiple operations), deciding which operation to apply and why. To include scaling problems (1 biscuit = 10g, how much for ¼ packet?).**	• Multiply multiple numbers up to 4 digits by 2 digits using formal methods. • Divide numbers up to 4 digits by 2 digits using formal methods, being able to express remainders in a variety of ways including decimals to 2 decimal places. • Multiply numbers that include square and cube numbers (e.g. 3^2 x 2^3) within an expression (e.g. 3^2 x (2^3 x 4). • Multiply decimals by decimals up to 2 d.p. • Divide numbers where the answer has several decimal places. • **Solve multi-step multiplication and division problems (using a combination of all 4 operations), deciding which operation to apply and why. To include scaling problems (1 biscuit = 10g, how much for 4/5 packet?).**
Fractions, Decimals and Percentages	• Recognise equivalent fractions, using common factors to simplify and common multiples to convert to the same denominator. • Compare and order fractions with different denominators. • Add fractions with different denominators. • Subtract fractions with different denominators. • Multiply pairs of fractions. • Divide proper fractions by whole numbers, with prompts. • Identify the place value of decimals to 2 d.p. Multiply, divide and round them by 10, 100 and 1000. • Multiply numbers with 1 digit and 1 d.p. by whole numbers. • Calculate a percentage of an amount, using multiples of 10 (e.g. 30% of …) • **Can recall and express the equivalents between simple F, D&P within a context (with some prompting).** • **Convert between simple decimals to fractions and percentages to fractions.**	• Recognise equivalent fractions (including improper), using common factors to simplify and common multiples to convert to the same denominator. • Compare and order fractions, including mixed numbers, with different denominators. • Add fractions, including mixed numbers, with different denominators. • Subtract fractions, including mixed numbers, with different denominators. • Multiply pairs of proper fractions, writing the answer in its simplest form. • Divide proper fractions by whole numbers. • Identify the place value of decimals to 3 d.p. Multiply, divide and round them by 10, 100 and 1000. • Calculate a percentage of an amount, using multiples of 5 and 10 (e.g. 45% of …) • **Can recall and express the equivalents between simple F, D&P within a context.** • **Convert between decimals to fractions and percentages to fractions.**	• Recognise equivalent fractions (including improper and mixed numbers), using common factors to simplify and common multiples to convert to the same denominator. • Compare and order fractions, including mixed numbers and improper fractions, with different denominators. • Add fractions, including mixed numbers and improper fractions, with different denominators. • Subtract fractions, including mixed numbers and improper fractions, with different denominators. • Multiply pairs of proper, improper and mixed fractions, writing the answer in its simplest form. • Divide proper fractions by fractions and whole numbers. • Identify the place value of decimals to 4 d.p. Multiply, divide and round them by 10, 100 and 1000. • Calculate any percentage of an amount (e.g. 71% of …) • **Can recall and express the equivalents between simple F, D&P within a context and identify the most appropriate form for a task.** • **Convert all F, D&P into their equivalents.**

Year 6 (page 2 of 2)			
Phase (New)	32, 33, 34, 35	36-37	38-39
Assessment Milestone	**Emerging**	**Expected**	**Exceeding**
Measurement	• **Apply time knowledge to a context with some support (e.g. finding the length of a bus journey or the start/time of a cinema viewing).** • Interpret and deduct from simple timetables within a context. • **Solve multi-step problems involving money, to include finding change from multiple purchases, with some prompting.** • Convert between miles and kilometres, with guidance.	• **Apply time knowledge to a context (e.g. finding the length of a bus journey or the start/time of a cinema viewing).** • Interpret and deduct from timetables within a context. • **Solve multi-step problems involving money, to include finding change from multiple purchases.** • Convert between miles and kilometres.	• **Apply time knowledge to a context (e.g. finding the length of a bus journey or the start/time of a cinema viewing). Including within multi-step problems.** • Interpret and make multiple, complex deductions from timetables within a context. • **Solve multi-step problems involving money, to include finding change from multiple purchases. Applying this alongside other measure knowledge.** • Convert between miles and kilometres, applying this knowledge to contexts containing both measures.
Properties of Shapes	• Draw 2-D shapes using given dimensions and/or angles. • Recognise, describe and build simple 3-D shapes including making simple nets. • **Compare and classify shapes using properties and sizes. Finding unknown angles in any triangles or quadrilaterals.** • Identify the radius, diameter and circumference of a circle. • **Calculate the perimeter and area for rectilinear shapes and with support calculate them for triangles.** • Calculate simple volume of cubes and cuboids. • Recognise, estimate and calculate simple angles on a straight line or within a shape. • Use mathematical reasoning to find missing angles in a simple shape.	• Draw 2-D shapes using given dimensions and angles. • Recognise, describe and build simple 3-D shapes including making nets. • **Compare and classify shapes using properties and sizes. Finding unknown angles in any triangles, quadrilaterals and regular polygons.** • Identify the radius, diameter and circumference of a circle. Including knowing that diameter is twice the radius. • **Calculate the perimeter and area for rectilinear shapes and use a formula to calculate them for triangles & parallelograms.** • Calculate the volume of cubes and cuboids. • Recognise, estimate and calculate angles on a straight line or within a shape. • Use mathematical reasoning to find missing angles in a shape.	• Draw complex 2-D shapes using given dimension and angles. • Recognise, describe and build a variety of 3-D shapes including making nets. • **Compare and classify shapes using properties and sizes, including lines of symmetry and pairs of parallel/perpendicular lines. Finding unknown angles in any triangles, quadrilaterals and regular polygons.** • Identify the radius, diameter and circumference of a circle. Including knowing that diameter is twice the radius. Begin to understand how to calculate the area of a circle. • **Calculate the perimeter and area for complex rectilinear shapes and use a formula to calculate them for triangles & parallelograms.** • Calculate the volume and surface area of cubes and cuboids. • Recognise, estimate and calculate angles on a straight line or within a variety of shapes. • Use mathematical reasoning to find missing angles in complex shapes.
Position and Direction	• Describe positions with the first two quadrants, beginning to apply this to the 3rd and 4th quadrants. • Identify the co-ordinates of the missing vertex from a rectangle on a co-ordinate grid. • Translate and reflect a simple shape on a co-ordinate grid with some prompting.	• Describe positions on the full coordinate grid (all four quadrants). • Identify the co-ordinates of the missing vertex from a rectangle, triangle or rhombus on a co-ordinate grid. • Translate and reflect a simple shape on a co-ordinate grid	• Describe positions on the full coordinate grid (all four quadrants). Understanding that the co-ordinates would change if the origin were to shift. • Identify the co-ordinates of the missing vertex from a rectangle, triangle or rhombus on a co-ordinate grid and explain how it could be found using geometric properties and language. • Translate and reflect a compound shape on a co-ordinate grid
Statistics	• Interpret and complete complex tables, with prompting. • Interpret data from pie charts to answer complex reasoning and numerical questions. • Present data in a pie chart and line graph with support and prompting. • Collect data, within a context, to be represented through a pie chart or line graph. • Calculate and compare mean as an average.	• Interpret and complete complex tables. • Interpret and apply data from pie charts to answer complex reasoning and numerical questions. Beginning to be able to make comparisons across multiple pie charts. • Present data through an independently constructed pie chart or line graph. • Collect data, within a context, to be represented through a pie chart or line graph. Answering questions about changes that may occur. • Calculate and compare mean as an average. Deducing information from the comparison (e.g. which country has the longest river).	• Interpret, complete and devise their own complex tables. • Interpret and apply data from pie charts to answer complex reasoning and numerical questions. Including making comparisons across multiple pie charts. • Present data through an independently constructed pie chart or line graph. Explaining which is the most appropriate form to present their data. • Collect data, within an investigative context, to be represented through a pie chart or line graph. Answering questions about changes that may occur. • Calculate and compare mean as an average. Deducing information and reasoning from the comparison (e.g. which country has the longest river).
Algebra	• Solve simple algebra problems (e.g. what is x if x+3=17). • Describe linear sequence. • Begin to understand how to express missing number problems algebraically. • Find pairs of numbers that satisfy an equation with two unknowns, with support. (e.g.? + ? = 5).	• Solve algebra problems involving coefficients (e.g. what is x if 3x-5=16). • Generate and describe linear number sequences. • Express missing number problems algebraically. • Find pairs of numbers that satisfy an equation with two unknowns (e.g.? + ? = 5).	• Solve binomial algebra problems including coefficients (e.g. what is x if 3x-5=14+2). • Generate and describe linear number sequences, including sequences that involve non-consecutive patterns. • Express more complex missing number problems algebraically. • Find multiple pairs of numbers that satisfy an equation with two unknowns (e.g.? + ? = 5).
Ratio and Proportion	• Solve simple problems involving the relative sizes of two quantities where missing values can be found by using multiplication and division facts. • Solve simple problems involving unequal sharing and grouping using knowledge of fractions and multiples.	• Solve problems involving the relative sizes of two quantities where missing values can be found by using multiplication and division facts. • Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.	• Solve complex problems involving the relative sizes of two quantities where missing values can be found by using multiplication and division facts. • Solve complex problems involving unequal sharing and grouping using knowledge of fractions and multiples.

Statements in **bold are key performance indicators and should be used to assess for the lower of the two phases within each expectation.*