Year & Theme	Term 1	Term 2	Term 3	Guidance
1	**Key End of Year Objectives**			
Number & Place Value	**3 weeks**	**2 weeks**	**2 weeks**	Pupils should practise counting (1, 2, 3), ordering (e.g. first, second, third), or to indicate a quantity (e.g. 3 apples, 2 centimetres), including solving simple concrete problems, until they are fluent. They should practise counting as reciting numbers and counting as enumerating objects, and counting in ones, twos, fives and tens from different multiples to develop their recognition of patterns in the number system (e.g. odd and even numbers). They connect these patterns with objects and with shapes, including through varied and frequent practice of increasingly complex questions. Pupils begin to recognise place value in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100, supported by concrete objects and pictorial representations. Resources:
	To count to & across 100, forwards & backwards beginning with 0 or 1, or from any given number. Given any number, identify one more and one less. Identify and represent numbers using concrete objects and pictorial representations including the number line, and use the language of equal to, more than, less than (fewer), most, least. To read and write numbers from 1 to 20 in digits and words.	To count to & across 100, forwards & backwards beginning with 0 or 1, or from any given number. Given any number, identify one more and one less. Identify and represent numbers using concrete objects and pictorial representations including the number line, and use the language of equal to, more than, less than (fewer), most, least. To read and write numbers from 1 to 20 in digits and words.	To count to & across 100, forwards & backwards beginning with 0 or 1, or from any given number. Given any number, identify one more and one less. Identify and represent numbers using concrete objects and pictorial representations including the number line, and use the language of equal to, more than, less than (fewer), most, least.	
	AfL Highlight objectives as taught & use this space to note areas that are not secure.	**AfL**	**Afl**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
1	**Key End of Year Objectives**			
Addition & Subtraction	**3 Weeks**	**2 Weeks**	**2 Weeks**	Pupils should memorise and reason with number bonds to 10 and 20 in several forms (e.g. 9 + 7 = 16; 16 – 7 = 9; 7 = 16 - 9). They should realise the effect of adding or subtracting zero. Pupils should combine and increase numbers, counting forwards and backwards.

They should discuss and solve problems in familiar practical contexts, including using quantities. Problems should include the terms put together, add, altogether, total, take away, difference between, more than and less than so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.

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Resources: |
| | To read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.

To represent and use number bonds and related subtraction facts to 20.

To add and subtract one-digit and two-digit numbers to 20 (9 + 9, 18 - 9), including zero.

To solve simple one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems. | To read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.

To represent and use number bonds and related subtraction facts to 20.

To add and subtract one-digit and two-digit numbers to 20 (9 + 9, 18 - 9), including zero.

To solve simple one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems. | To read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs.

To represent and use number bonds and related subtraction facts to 20.

To add and subtract one-digit and two-digit numbers to 20 (9 + 9, 18 - 9), including zero.

To solve simple one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems. | |
| | **AfL**
Highlight objectives as taught & use this space to note areas that are not secure. | **AfL** | **AfL** | |

Year & Theme	Term 1	Term 2	Term 3	Guidance
1		**Key End of Year Objectives**		
Multiplication & Division	**2 Weeks**	**2 Weeks**	**2 Weeks**	Through grouping and sharing small quantities, pupils should begin to understand multiplication and division; doubling numbers and quantities, and finding simple fractions of objects, numbers and quantities. They should make connections between arrays, number patterns, and counting in twos, fives and tens. Regular practice of doubling/halving.
	To solve simple one-step problems involving multiplication and division, calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. To double/halve any single digit number.	To solve simple one-step problems involving multiplication and division, calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. To double/halve any single digit number.	To solve simple one-step problems involving multiplication and division, calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. To double/halve any single digit number.	
	AfL Highlight objectives as taught & use this space to note areas that are not secure.	**AfL**	**AfL**	Resources:

Year & Theme	Term 1	Term 2	Term 3	Guidance
1	**Key End of Year Objectives**			
Fractions	**2 Weeks**	**2 Weeks**	**1 Week**	Pupils should be taught 1/2 and 1/4 as operators on discrete and continuous quantities by solving problems using shapes, objects & quantities. For example, they could recognise & find half a length, quantity, set of objects or shape.
	To recognise, find and name a half as one of two equal parts of an object, shape or recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	To recognise, find and name a half as one of two equal parts of an object, shape or recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	To recognise, find and name a half as one of two equal parts of an object, shape or recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	Pupils connect halves & quarters to the equal sharing & grouping of set of objects & to measures, as well as recognising & combining halves & quarters as parts of a whole.
	AfL Highlight objectives as taught & use this space to note areas that are not secure.	**AfL**	**AfL**	Resources:

Year & Theme	Term 1	Term 2	Term 3	Guidance
1	**Key End of Year Objectives**			
Measures	**2 Weeks**	**3 Weeks**	**2 Weeks**	The terms mass and weight, volume and capacity are used interchangeably at this stage.
	To compare, describe and solve practical problems for: . lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half) . mass or weight (e.g. heavy/light, heavier than, lighter than) . capacity/volume (full/empty, more than, less than, quarter) . time (quicker, slower, earlier, later). To measure and begin to record the following: . lengths and heights . mass/weight (see guidance on term *'mass' in Y1*) . capacity and volume . time (hours, minutes, seconds) To sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. To recognise and use language relating to dates, including days of the week, weeks, months and years.	To compare, describe and solve practical problems for: . lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half) . mass or weight (e.g. heavy/light, heavier than, lighter than) . capacity/volume (full/empty, more than, less than, quarter) . time (quicker, slower, earlier, later). To measure and begin to record the following: . lengths and heights . mass/weight (*do not use term 'mass' in Y1*) . capacity and volume . time (hours, minutes, seconds) To sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. To recognise and use language relating to dates, including days of the week, weeks, months and years.	To compare, describe and solve practical problems for: . lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half) . mass or weight (e.g. heavy/light, heavier than, lighter than) . capacity/volume (full/empty, more than, less than, quarter) . time (quicker, slower, earlier, later). To measure and begin to record the following: . lengths and heights . mass/weight (*do not use term 'mass' in Y1*) . capacity and volume . time (hours, minutes, seconds) To sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. To recognise and use language relating to dates, including days of the week, weeks, months and years.	Pupils should move from using & comparing different types of quantities & measures using non-standard units, including discrete (e.g. counting) & continuous (e.g. liquid) measures, to using manageable common standard units. They should understand the difference between non-standard & standard units. In order to become familiar with standard measures, pupils begin to use measuring tools such as a ruler, weighing scales and containers. Pupils should use the language of time, including telling the time throughout the day, first using o'clock and then half past.

	To tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	To tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	To tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. To recognise and know the value of different denominations of coins and notes.	
	AfL Highlight objectives as taught & use this space to note areas that are not secure.	**AfL**	**AfL**	Resources:

Year & Theme	Term 1	Term 2	Term 3	Guidance
1	**Key End of Year Objectives**			
Geometry: properties of shapes	**2 Weeks**	**1 Week**	**2 Weeks**	Pupils should handle common 2-D & 3-D shapes, naming these & related everyday objects fluently. When a pupil identifies a shape, they should be able to explain why it is that shape by the features. They should recognise these shapes in **different orientations & sizes**, & know that rectangles, triangles, cuboids & pyramids can be different shapes.
	To recognise and name common 2-D and 3-D shapes, including: . 2-D shapes (e.g. rectangles (including squares), circles and triangles) . 3-D shapes (e.g. cuboids (including cubes), pyramids and spheres).	To recognise and name common 2-D and 3-D shapes, including: . 2-D shapes (e.g. rectangles (including squares), circles and triangles) . 3-D shapes (e.g. cuboids (including cubes), pyramids and spheres).	To recognise and name common 2-D and 3-D shapes, including: . 2-D shapes (e.g. rectangles (including squares), circles and triangles) . 3-D shapes (e.g. cuboids (including cubes), pyramids and spheres).	
	AfL Highlight objectives as taught & use this space to note areas that are not secure.	**AfL**	**AfL**	Resources:

Year & Theme	Term 1	Term 2	Term 3	Guidance
1	**Key End of Year Objectives**			
Geometry: position, direction, motion	**1 Week**	**1 Week**	**Starters & Cross Curricular only**	Pupils should create, copy, describe & reorganise patterns.
	To order and arrange combinations of objects and shapes in patterns. To describe position, directions and movements, including half, quarter and three-quarter turns.	To order and arrange combinations of objects and shapes in patterns. To describe position, directions and movements, including half, quarter and three-quarter turns.	To order and arrange combinations of objects and shapes in patterns. To describe position, directions and movements, including half, quarter and three-quarter turns.	They should use the language of position, direction & motion, including: left /right, top/middle/bottom, on top of, in front of, above, between, around, near, close & far, up & down, forwards & backwards, inside & outside. Pupils should make turns to show they understand half, quarter & three-quarter turns & routinely make these turns in a clockwise direction. Resources:
	AfL Highlight objectives as taught & use this space to note areas that are not secure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
2		**Key End of Year Objectives**		
Number and place value	**3 Weeks**	**2 Weeks**	**2 Weeks**	Using materials & a range of representations, pupils should practise counting, reading, writing & comparing numbers to at least 100 & solving a variety of related problems to develop fluency. They should count in multiples of three to support later understanding of a third. As they become more confident with numbers up to 100. Pupils should be introduced to larger numbers to develop further their recognition of patterns within the number system & represent them in different ways, including spatial representations.
Pupils should partition numbers in different ways (eg: 23 = 20 + 3 and 23 = 10 + 13) to support subtraction. They become fluent & apply their knowledge of numbers to reason with, discuss & solve problems that emphasise the value of each digit in two-digit in two-digit numbers. They begin to understand zero as a place holder.
	To count in steps of 2, 3, and 5 from 0, and count in tens from any number, forward or backward .

To recognise the place value of each digit in a two-digit number (tens, ones).

To identify, represent and estimate numbers using different representations, including the number line.

To compare and order numbers from 0 up to 100; use <, > and = signs.

To read and write numbers to at least 100 in numerals and in words.

To use place value and number facts to solve problems. | To count in steps of 2, 3, and 5 from 0, and count in tens from any number, forward or backward .

To recognise the place value of each digit in a two-digit number (tens, ones).

To identify, represent and estimate numbers using different representations, including the number line.

To compare and order numbers from 0 up to 100; use <, > and = signs.

To read and write numbers to at least 100 in numerals and in words.

To use place value and number facts to solve problems. | To count in steps of 2, 3, and 5 from 0, and count in tens from any number, forward or backward .

To recognise the place value of each digit in a two-digit number (tens, ones).

To identify, represent and estimate numbers using different representations, including the number line.

To compare and order numbers from 0 up to 100; use <, > and = signs.

To read and write numbers to at least 100 in numerals and in words.

To use place value and number facts to solve problems. | |
| | **AfL**
Highlight objectives as taught & use this space to note areas that are not secure. | **AfL** | **AfL** | Resources: |

Year & Theme	Term 1	Term 2	Term 3	Guidance
2		**Key End of Year Objectives**		
Addition & Subtraction	**2 weeks** To solve one-step problems with addition & subtraction: . using models (concrete objects) & images (pictorial) representations, including those involving numbers, quantities & measures . applying increasing knowledge of different methods To recall & use addition & subtraction facts to 20 fluently (up to 100 by end of year). To add & subtract numbers using models & images including: . a two-digit number & ones . a two-digit number & tens . adding three one-digit numbers . show that addition of 2 numbers can be done in any order (commutative) & subtraction of one number from another cannot. To recognise & use the inverse relationship between addition & subtraction & use this to check calculations & missing number problems.	**2 weeks** To solve simple one-step problems with addition and subtraction: . using models & images, including those involving numbers, quantities & measures . applying increasing knowledge of different methods To recall **& use** addition and subtraction facts to 20 **fluently**, & begin to derive & use related facts up to 100. To add & subtract numbers using concrete objects, pictorial representations, and mentally, including: . a two-digit number and ones . a two-digit number and tens . two two-digit numbers . adding three one-digit numbers . show that addition of 2 numbers can be done in any order (commutative) and subtraction of one number from another cannot. To recognise and use the inverse relationship between addition and subtraction and use this to check	**2 weeks** To solve simple one-step problems with addition and subtraction: . using models & images, including those involving numbers, quantities & measures . applying increasing knowledge of different methods To recall **& use** addition and subtraction facts to 20 **fluently**, & derive & use related facts up to 100. To add & subtract numbers using concrete objects, pictorial representations, and mentally, including: . a two-digit number and ones . a two-digit number and tens . two two-digit numbers . adding three one-digit numbers . show that addition of 2 numbers can be done in any order (commutative) and subtraction of one number from another cannot. To recognise and use the inverse relationship between addition and subtraction and use this to check	Pupils should extend their understanding of the language of addition and subtraction to include sum and difference. Pupils should practise addition and subtraction to 20 to become increasingly fluent in deriving facts such as using $3 + 7 = 10$, $10 - 7 = 3$ and $7 = 10 - 3$ to calculate $30 + 70 = 100$, $100 - 70 = 30$ and $70 = 100 - 30$. They should check their calculations, including by adding to check subtraction and adding numbers in a different order to check addition (e.g. $5 + 2 + 1 = 1 + 5 + 2 = 1 + 2 + 5$). Recording addition and subtraction in columns supports place value and prepares for efficient written methods with larger numbers.

		calculations & missing number problems.	calculations & missing number problems.	
	AfL Highlight objectives as taught & use this space to note areas that are not secure.	**AfL**	**AfL**	Resources:

Year & Theme	Term 1	Term 2	Term 3	Guidance
2	**Key End of Year Objectives**			
Multiplication & Division	**2 weeks** To recall and use multiplication & division facts for the 2, 5 &10 multiplication tables, inc. recognising odd & even numbers. To double/halve any single digit number & begin to use partitioning to double/halve 2-digits. To calculate mathematical statements for multiplication & division within the multiplication tables & write them using the multiplication (×), division (÷) and equals (=) signs. To recognise and use the inverse relationship between multiplication & division in calculations. To show that multiplication of two numbers can be done in any order (commutative) & division of one number by another cannot. To solve one-step problems involving multiplication & division, using materials, arrays, repeated addition, mental methods, & multiplication & division facts, including problems **in contexts.**	**2 weeks** To recall and use multiplication & division facts for the 2, 5 &10 multiplication tables, inc. recognising odd & even numbers. To double/halve any single digit number & begin to use partitioning to double/halve 2-digits. To calculate mathematical statements for multiplication & division within the multiplication tables & write them using the multiplication (×), division (÷) and equals (=) signs. To recognise and use the inverse relationship between multiplication & division in calculations. To show that multiplication of two numbers can be done in any order (commutative) & division of one number by another cannot. To solve one-step problems involving multiplication & division, using materials, arrays, repeated addition, mental methods, & multiplication & division facts, including problems **in contexts.**	**2 weeks** To recall and use multiplication & division facts for the 2, 5 &10 multiplication tables, inc. recognising odd & even numbers. To double/halve any single digit number & begin to use partitioning to double/halve 2-digits. To create partial tables for single digit numbers. To calculate mathematical statements for multiplication & division within the multiplication tables & write them using the multiplication (×), division (÷) and equals (=) signs. To recognise and use the inverse relationship between multiplication & division in calculations. To show that multiplication of two numbers can be done in any order (commutative) & division of one number by another cannot. To solve one-step problems involving multiplication & division, using	Pupils should use a variety of language to describe multiplication/division. They are taught multiplication & division with larger numbers through equal grouping & sharing out quantities, relating multiplication tables to arrays & repeated addition & finding more complex fractions of objects, numbers & quantities. Pupils should be introduced to the multiplication tables. They should practise to become fluent in the 2, 5 & 10 multiplication tables & connect them to each other. They connect the 10 multiplication table to place value, & the 5 multiplication table to the divisions on the clock face. They begin to use other multiplication tables & recall multiplication facts, including using related division facts to perform and mental & informal written calculations. Pupils should work with a **range of materials & contexts** in which multiplication & division relate to **grouping and sharing** discrete & continuous quantities, relating these to fractions & measures (e.g. 40 ÷ 2 = 20, 20 is a half of 40). They use commutativity and inverse relations

			materials, arrays, repeated addition, mental (& informal written), methods & multiplication & division facts, including problems **<u>in contexts.</u>**	to develop multiplicative reasoning (e.g. 4 × 5 = 20 and 20 ÷ 5 = 4). _____ Resources:
	AfL Highlight objectives as taught & use this space to note areas that are not secure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
2	**Key End of Year Objectives**			
Fractions	**1 week**	**1 week**	**1 week**	12/4, (or 11/2), 13/4, 2). This reinforces the concept of fractions as numbers and that they can add up to more than one. Regular practice of doubling/halving. (*See Parkfield additional guidance pack on fractions.*) Resources:
	To recognise, find, name & write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity. To write simple fractions e.g. 1/2 of 6 = 3 and recognise the equivalence of two quarters and one half. To double/halve any single digit number.	To recognise, find, name & write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity. To write simple fractions e.g. 1/2 of 6 = 3 and recognise the equivalence of two quarters and one half. To double/halve any single digit number.	To recognise, find, name & write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity. To write simple fractions e.g. 1/2 of 6 = 3 and recognise the equivalence of two quarters and one half. To double/halve any single digit number.	
	AfL Highlight objectives as taught & use this space to note areas that are not secure.	**AfL**	**AfL**	

Year & Theme		Term 2	Term 3	Guidance
2	**Key End of Year Objectives**			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Measures	**2 weeks**	**3 weeks**	**2 weeks**	Begin with comparison & ordering measures, other key principles: . transivity . conservation . standard units . approximation (often what makes measure tricky for children) . context for developing number concepts . meaning of zero
	To choose & use appropriate standard units to estimate & measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.	To choose & use appropriate standard units to estimate & measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.	To choose & use appropriate standard units to estimate & measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.	
	To compare & order lengths, mass, volume/capacity & record the results using >, < and = (NB: concept of 'mass' not taught until upper KS2 so refer to 'weight').	To compare & order lengths, mass, volume/capacity & record the results using >, < and = (NB: concept of 'mass' not taught until upper KS2 so refer to 'weight').	To compare & order lengths, mass, volume/capacity & record the results using >, < and = (NB: concept of 'mass' not taught until upper KS2 so refer to 'weight').	Children must understand difference between approximation and estimation.
	To read relevant scales to the nearest numbered unit.	To read relevant scales to the nearest numbered unit.	To read relevant scales to the nearest numbered unit.	Refer to time throughout the day and draw attention to digital/analogue clock, discuss date each day. Encourage approximation, eg: Investigation: What could you do in 1 minute?
	To compare and sequence intervals of time.	To recognise and use symbols for pounds (£) & pence (p); combine amounts to make a particular value & match different combinations of coins to equal the same amounts of money; add & subtract money of the same unit, including giving change.	To recognise and use symbols for pounds (£) & pence (p); combine amounts to make a particular value & match different combinations of coins to equal the same amounts of money; add & subtract money of the same unit, including giving change.	
	To tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.	To solve simple problems in a practical context involving addition and subtraction of money.	To solve simple problems in a practical context involving addition and subtraction of money.	Pupils should use standard units of measurement with increasing accuracy, using their knowledge of the number system. They should use the appropriate language and record using standard abbreviations. They should become fluent in telling the time on analogue clocks and recording it.

		To compare and sequence intervals of time. To tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.	To compare and sequence intervals of time. To tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.	Pupils should also become fluent in counting and recognising coins. They should use the symbols £ and p accurately & say the amounts of money confidently. Resources: My Money Week resources.
	AfL Highlight objectives as taught & use this space to note areas that are not secure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
2	**Key End of Year Objectives**			
Geometry: properties of shapes	**2 weeks**	**2 weeks**	**1 week**	Pupils should handle & name a wider variety of common 2-D & 3-D shapes including: quadrilaterals & cuboids, prisms, cones & polygons, & identify the properties of each shape (e.g. number of sides, number of faces). Pupils identify, compare & sort shapes on the basis of their properties & use vocabulary precisely, such as sides, edges, vertices & faces. Include regular & irregular shapes of different sizes, in different orientations. Recognise/describe shapes around them in the real world.
	To identify & describe the properties of 2-D shapes, including the number of sides & symmetry in a vertical line. To identify & describe the properties of 3-D shapes, including the number of edges, vertices & faces. To identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder & a triangle on a pyramid. To compare & sort common 2-D and 3-D shapes and everyday objects.	To identify & describe the properties of 2-D shapes, including the number of sides & symmetry in a vertical line. To identify & describe the properties of 3-D shapes, including the number of edges, vertices & faces. To identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder & a triangle on a pyramid. To compare & sort common 2-D and 3-D shapes and everyday objects.	To identify & describe the properties of 2-D shapes, including the number of sides & symmetry in a vertical line. To identify & describe the properties of 3-D shapes, including the number of edges, vertices & faces. To identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder & a triangle on a pyramid. To compare & sort common 2-D and 3-D shapes and everyday objects.	
	AfL Highlight objectives as taught & use this space to note areas that are not secure.	**AfL**	**AfL**	Pupils should read & write names for shapes that are appropriate for their word reading & spelling. Pupils should draw lines & shapes using a straight edge. Resources:

Year & Theme	Term 1	Term 2	Term 3	Guidance
2	**Key End of Year Objectives**			
Geometry: position, direction & motion.	**1 week**	**Starters/Cross Curricular only**	**Starters & cross curricular only**	Pupils should work with patterns of shapes, including those in different orientations.
	To order & arrange combinations of mathematical objects in patterns.	To order & arrange combinations of mathematical objects in patterns.	To order & arrange combinations of mathematical objects in patterns.	
	To use mathematical vocabulary to describe position, direction & movement, including distinguishing between rotation as a turn & in terms of right angles for quarter, half & three-quarter turns (clockwise), & movement in a straight line.	To use mathematical vocabulary to describe position, direction & movement, including distinguishing between rotation as a turn & in terms of right angles for quarter, half and three-quarter turns (clockwise & anti-clockwise), & movement in a straight line.	To use mathematical vocabulary to describe position, direction & movement, including distinguishing between rotation as a turn & in terms of right angles for quarter, half and three-quarter turns (clockwise & anti-clockwise), & movement in a straight line.	Pupils should use the concept and language of angles to describe 'turn' by applying rotations, including in practical contexts (e.g. pupils themselves moving in turns, giving instructions to other pupils to do so, and programming robots using instructions given in right angles).
	AfL Highlight objectives as taught & use this space to note areas that are not secure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
2	**Key End of Year Objectives**			
Data	**1 week**	**1 weeks**	**1 week**	At this stage, pupils' recording and interpretation become more sophisticated as they collate, organise and compare information (e.g. using many-to-one correspondence in pictograms and using simple ratios 2, 5, 10).

(Remember to exploit science/topic links.) |
| | To interpret and construct simple pictograms, tally charts, block diagrams and simple tables.

To ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.

To ask and answer questions about totalling and compare categorical data. | To interpret and construct simple pictograms, tally charts, block diagrams and simple tables.

To ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.

To ask and answer questions about totalling and compare categorical data. | To interpret and construct simple pictograms, tally charts, block diagrams and simple tables.

To ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.

To ask and answer questions about totalling and compare categorical data. | |
| | **AfL**
Highlight objectives as taught & use this space to note areas that are not secure. | **AfL** | **AfL** | |

Year & Theme	Term 1	Term 2	Term 3	Guidance
3	**Key End of Year Objectives**			**Models & images continue to be essential learning tools throughout KS2. Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Number, Place Value & Counting	**3 weeks**	**2 weeks**	**2 weeks**	Pupils should work with larger numbers, applying partitioning related to place value using varied and increasingly complex problems, building on work in Year 2 (e.g. 46 = 40 and 6, 46 = 30 and 16 or 20 and 26 etc).
	To count from 0 in multiples of 4, 8, 50 and 100; finding 10 or 100 more/ less than a given number.	To count from 0 in multiples of 4, 8, 50 and 100; finding 10 or 100 more/ less than a given number.	To count from 0 in multiples of 4, 8, 50 and 100; finding 10 or 100 more/ less than a given number.	
	To recognise the place value of each digit in a three-digit number (hundreds, tens, ones) & show using models & images.	To recognise the place value of each digit in a three-digit number (hundreds, tens, ones) & show using models & images.	To recognise the place value of each digit in a three-digit number (hundreds, tens, ones) & show using models & images.	Using a variety of representations, including those related to measure, pupils should continue to count on/back in ones, tens and hundreds, so that they become fluent in the order and place value of numbers to 1000.
	To compare & order numbers up to 1000.	To compare & order numbers up to 1000. To identify, represent & estimate numbers using different representations.	To compare & order numbers up to 1000.	
	To identify, represent & estimate numbers using different representations.	To read & write numbers to at least 1000 in numerals and in words.	To identify, represent & estimate numbers using different representations.	Link Roman numerals to topic.
	To read & write numbers to at least 1000 in numerals and in words.	To solve number problems and practical problems involving these ideas.	To read & write numbers to at least 1000 in numerals and in words.	Resources:
	To solve number problems and practical problems involving these ideas.	To read/write Roman numerals up to at least 20 and understand their origins.	To solve number problems and practical problems involving these ideas.	
			To read/write Roman numerals up to at least 20 and understand their origins.	

	AfL Highlight objectives as taught & use this space to note areas that are not secure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
3	**Key End of Year Objectives**			
Addition & Subtraction	**2 weeks**	**2 weeks**	**2 weeks**	Pupils should practise solving varied addition & subtraction questions. For mental calculations with two-digit numbers, the answers could exceed 100. Pupils should use their understanding of place value & partitioning & when carefully assessed as ready may move on to learn columnar addition (with apparatus such as base ten initially). Pupils secure with columnar addition may proceed to learn columnar subtraction, but only when most efficient method. (Pupils not ready for written +/- should continue using informal methods .... see calculation policy.)
	To add & subtract numbers mentally, including: . a three-digit number and ones . a three-digit number and tens . a three-digit number and hundreds To add & subtract numbers with up to three digits, using efficient strategies. To estimate the answer to a calculation & use inverse operations to check answers. To solve problems, including missing number problems, using number facts, place value, & more complex addition and subtraction.	To add & subtract numbers mentally, including: . a three-digit number and ones . a three-digit number and tens . a three-digit number and hundreds To add & subtract numbers with up to three digits, using efficient strategies. To estimate the answer to a calculation & use inverse operations to check answers. To solve problems, including missing number problems, using number facts, place value, & more complex addition and subtraction.	To add & subtract numbers mentally, including: . a three-digit number and ones . a three-digit number and tens . a three-digit number and hundreds To add & subtract numbers with up to three digits, using efficient methods *(if ready, this may mean columnar addition and subtraction – see calculation policy for guidance)*. To estimate the answer to a calculation & use inverse operations to check answers. To solve problems, including missing number problems, using number facts, place value, & more complex addition and subtraction.	
	AfL Highlight objectives as taught & use this space to note areas that are not secure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
3	**Key End of Year Objectives**			
Multiplication and Division	**3 weeks** To recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. To double/halve any 2 digit number mentally using partitioning strategy. To complete partial tables to support division (all children should be fluent in creating single pt for single digit numbers & possibly extend to 2 digits). To write and calculate mathematical statements for multiplication & division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental & efficient written methods (see calculation policy). To solve problems, including missing number problems, involving multiplication & division, including integer scaling problems & correspondence problems in which n objects are connected to m objects.	**2 weeks** To recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. To double/halve any 2 digit number mentally using partitioning strategy. To complete partial tables to support division. To write and calculate mathematical statements for multiplication & division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental & efficient written methods (see calculation policy). To solve problems, including missing number problems, involving multiplication & division, including integer scaling problems & correspondence problems in which n objects are connected to m objects.	**2 weeks** To recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. To double/halve any 2 digit number mentally using partitioning strategy. To complete partial tables to support division. To write and calculate mathematical statements for multiplication & division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental & efficient written methods (see calculation policy). To solve problems, including missing number problems, involving multiplication & division, including integer scaling problems & correspondence problems in which n objects are connected to m objects.	See Bronze, Silver, Gold times tables challenge. Pupils should continue to practise their mental recall of multiplication tables when they are calculating mathematical statements in order to improve fluency. Through doubling, they connect the 2, 4 and 8 multiplication tables. Through regular practice all should be fluent at doubling/halving up to 3 digits. Pupils should develop efficient mental methods, for example, using commutativity (e.g. $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$) & multiplication & division facts (e.g. using $3 \times 2 = 6$, $6 \div 3 = 2$ and $2 = 6 \div 3$) to derive related facts ($30 \times 2 = 60$, $60 \div 3 = 20$ and $20 = 60 \div 3$). Pupils should develop reliable methods for multiplication & division, starting with calculations of two-digit numbers by one-digit numbers.

| | **AfL**
Highlight objectives as taught & use this space to note areas that are not secure. | **AfL** | **AfL** | Pupils should be able to rapidly create partial tables for any one digit number to support division.
Pupils should solve simple problems in contexts, deciding which of the four operations to use & why, including measuring & scaling contexts, & correspondence problems in which m objects are connected to n objects (e.g. 3 hats and 4 coats, how many different outfits; 12 sweets shared equally between 4 children; 4 cakes shared equally between 8 children).

Resources: |

Year & Theme	Term 1	Term 2	Term 3	Guidance
3	**Key End of Year Objectives**			
Fractions	**2 weeks**	**2 weeks**	**1 week**	Pupils should connect tenths to place value & decimal measures, not restricted to decimals between 0 & 1 inclusive & to division by 10.
	To count up & down in tenths; recognise that tenths arise from dividing an object into 10 equal parts & in dividing one-digit numbers or quantities by 10.	To count up & down in tenths; recognise that tenths arise from dividing an object into 10 equal parts & in dividing one-digit numbers or quantities by 10.	To count up & down in tenths; recognise that tenths arise from dividing an object into 10 equal parts & in dividing one-digit numbers or quantities by 10.	They should begin to understand unit & non-unit fractions as numbers on the number line, & deduce relations between them, such as size & equivalence. They should go beyond the [0, 1] interval, and 1/4 + 3/4 = 1 for example, relating this to measure.
	To recognise, find & write fractions of a discrete set of objects: unit fractions & non-unit fractions with small denominators.	To recognise, find & write fractions of a discrete set of objects: unit fractions & non-unit fractions with small denominators.	To recognise, find & write fractions of a discrete set of objects: unit fractions & non-unit fractions with small denominators.	
	To recognise & use fractions as numbers: unit fractions & non-unit fractions with small denominators.	To recognise & use fractions as numbers: unit fractions & non-unit fractions with small denominators.	To recognise & use fractions as numbers: unit fractions & non-unit fractions with small denominators.	Pupils should understand the relation between unit fractions as operators & division by integers.
	To recognise & show, using diagrams, equivalent fractions with small denominators.	To recognise & show, using diagrams, equivalent fractions with small denominators.	To recognise & show, using diagrams, equivalent fractions with small denominators.	They should continue to recognise fractions in the context of parts of a whole, numbers, measurements, a shape, or unit fractions as a division of a quantity.
	To add & subtract fractions with the same denominator within one whole (e.g. 5/7 + 1/7 = 6/7).	To add & subtract fractions with the same denominator within one whole (e.g. 5/7 + 1/7 = 6/7).	To add & subtract fractions with the same denominator within one whole (e.g. 5/7 + 1/7 = 6/7).	
	To compare & order unit fractions with the same denominator.	To compare & order unit fractions with the same denominator.	To compare & order unit fractions with the same denominator.	Pupils should practise adding & subtracting fractions with the same denominator through a variety of increasingly complex problems to improve fluency.
	To solve problems that involve all of the above.	To solve problems that involve all of the above.	To solve problems that involve all of the above.	

	AfL Highlight objectives as taught & use this space to note areas that are not secure.	**AfL**	**AfL**	Resources:

Year & Theme	Term 1	Term 2	Term 3	Guidance
3	**Key End of Year Objectives**			**Models & images continue to be essential learning tools throughout KS2. Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Measure	**3 weeks** To measure, compare, add & subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). To measure the perimeter of simple 2-D shapes. To tell & write the time from an analogue clock and 12-hour and 24-hour clocks. To estimate & read time with increasing accuracy to the nearest minute; record & compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight. To know the number of seconds in a minute and the number of days in each month, year and leap year. To compare durations of events, for example to calculate the time taken by particular events or tasks.	**3 weeks** To measure, compare, add & subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). To measure the perimeter of simple 2-D shapes. To add & subtract amounts of money to give change, using both £ and p in practical contexts. To tell & write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. To estimate & read time with increasing accuracy to the nearest minute; record & compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight. To know the number of seconds in a minute and the number of days in each month, year and leap year. To compare durations of events, for	**2 weeks** To measure, compare, add & subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). To measure the perimeter of simple 2-D shapes. To add & subtract amounts of money to give change, using both £ and p in practical contexts. To tell & write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. To estimate & read time with increasing accuracy to the nearest minute; record & compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight. To know the number of seconds in a minute and the number of days in each month, year and leap year.	Pupils should continue to measure using the appropriate tools & units, progressing to using a wider range of measures, including comparing &using mixed units (e.g. 1 kg and 200g) & simple equivalents of mixed units (e.g. 5m = 500cm). The comparison of measures should also include simple scaling (e.g. a given quantity or measure is twice as long or five times as high) & connect this to multiplication. Pupils should continue to become fluent in recognising the value of coins, by adding & subtracting amounts, including mixed units, & giving change using manageable amounts. They should record £ and p separately. The decimal recording of money is introduced formally in Year 4. Pupils should use both analogue & digital 12-hour clocks & record their times. In this way they become fluent in & prepared for using digital 24-hour

		example to calculate the time taken by particular events or tasks.	To compare durations of events, for example to calculate the time taken by particular events or tasks.	clocks in Year 4.
	AfL Highlight objectives as taught & use this space to note areas that are not secure.	**AfL**	**AfL**	Resources: My Money Week Resource Pack

Year & Theme	Term 1	Term 2	Term 3	Guidance
3	**Key End of Year Objectives**			**Models & images continue to be essential learning tools throughout KS2. Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Geometry: Properties of Shapes	**1 week** To draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations; and describe them with increasing accuracy. To recognise angles as a property of shape and associate angles with turning. To identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle. To identify horizontal, vertical, perpendicular and parallel lines in relation to other lines.	**1 week** To draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations; and describe them with increasing accuracy. To recognise angles as a property of shape and associate angles with turning. To identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle. To identify horizontal, vertical, perpendicular and parallel lines in relation to other lines.	**1 week** To draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations; and describe them with increasing accuracy. To recognise angles as a property of shape and associate angles with turning. To identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle. To identify horizontal, vertical, perpendicular and parallel lines in relation to other lines.	Pupils' knowledge of the properties of shapes is extended at this stage to symmetrical and non-symmetrical polygons and polyhedra. Pupils extend their use of the properties of shapes. They should be able to describe the properties of 2-D and 3-D shapes using accurate language, including lengths of lines and acute and obtuse for angles greater or lesser than a right angle. Pupils should draw and measure straight lines in centimetres.
	AfL Highlight objectives as taught & use this space to note areas that are not secure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
3	**Key End of Year Objectives**			**Models & images continue to be essential learning tools throughout KS2. Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Data	**1 week**	**1 week**	**1 week**	Pupils should understand and use simple scales (e.g. 2, 5, 10 units per cm) in pictograms and bar charts with increasing accuracy.
	To interpret and present data using bar charts, pictograms and tables.

To solve one-step & two-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables. | To interpret and present data using bar charts, pictograms and tables.

To solve one-step & two-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables. | To interpret and present data using bar charts, pictograms and tables.

To solve one-step & two-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables. | They should continue to interpret data presented in many contexts.

NB: They do not always have to follow whole line of enquiry by suggesting question, collecting data etc. Sometimes they could just be presented with data to interpret & this should include examples of charts/graphs without labels to interpret.

Exploit cross curricular links.

http://www.censusatschool.org.uk/ |
| | **AfL**
Highlight objectives as taught & use this space to note areas that are not secure. | **AfL** | **AfL** | |

Year & Theme	Term 1	Term 2	Term 3	Guidance
4	**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Number, Place Value & Rounding	**2 weeks** To count in multiples of 6, 7, 9, 25 and 1000. To find 1000 more or less than a given number. To count backwards through zero to include negative numbers. To recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones). To order and compare numbers beyond 1000. To identify, represent and estimate numbers using different representations. To round any number to the nearest 10, 100 or 1000. To solve number & practical problems that involve all of the above and with increasingly large positive numbers. To read Roman numerals to 100 (I to C) and understand how, over time, the numeral system changed to include the concept of zero and place value.	**1 week** To count in multiples of 6, 7, 9, 25 and 1000. To find 1000 more or less than a given number. To count backwards through zero to include negative numbers. To recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones). To order and compare numbers beyond 1000. To identify, represent and estimate numbers using different representations. To round any number to the nearest 10, 100 or 1000. To solve number & practical problems that involve all of the above and with increasingly large positive numbers. To read Roman numerals to 100 (I to C) and understand how, over time, the numeral system changed to include the concept of zero and place value.	**1 week** To count in multiples of 6, 7, 9, 25 and 1000. To find 1000 more or less than a given number. To count backwards through zero to include negative numbers. To recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones). To order and compare numbers beyond 1000. To identify, represent and estimate numbers using different representations. To round any number to the nearest 10, 100 or 1000. To solve number & practical problems that involve all of the above and with increasingly large positive numbers. To read Roman numerals to 100 (I to C) and understand how, over time, the numeral system changed to include the concept of zero and place value.	Using a variety of representations, including measures, pupils should become fluent in the order & place value of numbers beyond 1000, including counting in tens & hundreds, & maintaining fluency in other multiples through varied & frequent practice (inc: daily counting). They begin to extend their knowledge of the number system to include the decimal numbers & fractions (making the link between) that they have met so far. Roman numerals should be put in their historical context (link to work last year on Roman topic, when they first met Roman numerals) so pupils understand that there have been different ways to write whole numbers & that the important concepts of zero and place value were introduced over a period of time. Consider why we use a base 10 system & limitations of other bases such as base 2. Link to time when the base 24 system is used.

	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
4	**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Addition and Subtraction	**2 weeks** To add & subtract numbers with up to 4 digits using efficient methods (this should lead to columnar addition then subtraction **where appropriate(see guidance)**. To estimate & use inverse operations to check answers to a calculation. To solve addition & subtraction two-step problems in contexts, deciding which operations & methods to use & why.	**2 weeks** To add & subtract numbers with up to 4 digits using efficient methods (this should lead to columnar addition then subtraction **where appropriate(see guidance)**. To estimate & use inverse operations to check answers to a calculation. To solve addition & subtraction two-step problems in contexts, deciding which operations & methods to use & why.	**2 weeks** To add & subtract numbers with up to 4 digits using efficient methods (this should lead to columnar addition then subtraction **where appropriate(see guidance)**. To estimate & use inverse operations to check answers to a calculation. To solve addition & subtraction two-step problems in contexts, deciding which operations & methods to use & why.	Follow progression detailed in calculation policy and models & images described. Pupils should only be introduced to columnar addition once secure with quantitive & column aspects of place value – strong AfL evidence of this must be gathered prior to introduction to this strategy (see 'Am I ready for written methods' guidance). When introducing to column method, use base ten apparatus first and continue to use this as they progress through each stage (see policy for guidance). As column method is introduced strong emphasis must be placed on choosing when to use this method. When is this the most effective method? And mental/ad hoc methods should still be encouraged when numbers suggest they would be more efficient. Eg: 207 – 9 would be done mentally (using number line approach). Resources: Base ten apparatus Arrow cards
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
4	- **Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Multiplication and Division	**2 weeks** To double/halve two & three digit numbers mentally using partitioning strategy. To create partial tables for any single digit number (this should be fluent by now) leading to partial tables for two digit numbers. To tell a number story from a calculation, eg: 48 ÷ 3 = 16/3 children shared out 48 sweets equally and got 16 each. To recall multiplication & division facts for multiplication tables up to 12 × 12. To use place value, known & derived facts to multiply & divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers. To recognise & use factor pairs and commutativity in mental calculations. To multiply two-digit & three-digit numbers by a one-digit number using written layout (as described in calculation policy). To solve problems involving multiplying & adding, including using the distributive law & harder multiplication problems such as which n objects are connected to m objects.	**2 weeks** To double/halve two & three digit numbers mentally using portioning strategy. To create partial tables for any single digit number (this should be fluent by now) leading to partial tables for two digit numbers. To tell a number story from a calculation, eg: 48 ÷ 3 = 16/3 children shared out 48 sweets equally and got 16 each. To recall multiplication & division facts for multiplication tables up to 12 × 12. To use place value, known & derived facts to multiply & divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers. To recognise & use factor pairs and commutativity in mental calculations. To multiply two-digit & three-digit numbers by a one-digit number using written layout (as described in calculation policy). To solve problems involving multiplying & adding, including using the distributive law & harder multiplication problems such as which n objects are connected to m objects.	**2 weeks** To double/halve two & three digit numbers mentally using portioning strategy. To create partial tables for any single digit number (this should be fluent by now) leading to partial tables for two digit numbers. To tell a number story from a calculation, eg: 48 ÷ 3 = 16/3 children shared out 48 sweets equally and got 16 each. To recall multiplication & division facts for multiplication tables up to 12 × 12. To use place value, known & derived facts to multiply & divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers. To recognise & use factor pairs and commutativity in mental calculations. To multiply two-digit & three-digit numbers by a one-digit number using written layout (as described in calculation policy).	See Bronze, Silver, Gold times tables challenge. Extensive guidance in policy on division. Pupils should continue to practise recalling and using multiplication tables & related division facts to aid fluency. Pupils should practise mental methods & extend this to three-digit numbers to derive facts, for example 200 × 3 = 600 into 600 ÷ 3 = 200, to become fluent. Pupils should practise to become fluent in the efficient methods of multiplication for multiplying using multi-digit numbers. Understanding of division strongly linked to context. Children should naturally (don't tell them they are going to be finding remainders) encounter remainders in problem solving & be able to discuss what should be done with them (a fraction, an extra item, rounded up/down, remainder etc). Pupils should write statements about the equality of expressions

			To solve problems involving multiplying & adding, including using the distributive law & harder multiplication problems such as which n objects are connected to m objects.	Given a number sentence, children should be able to tell a number story. (e.g. use the distributive law 39 × 7 = 30 × 7 + 9 × 7 and associative law (2 × 3) × 4 = 2 × (3 × 4)). Pupils should solve two-step problems in contexts, choosing the appropriate operation, working with increasingly harder numbers. This should include correspondence questions such as three cakes shared equally between 10 children. Strong links with fractions as children should encounter divisions resulting in fraction answers, eg: 2 ÷ 3 = Resources:
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
4		**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**		**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Fractions	**1 week**	**2 weeks**	**1 week**	Pupils should connect hundredths to tenths & place value & decimal measure. They should extend the use of the number line to connect fractions, numbers & measures. Pupils should understand the relation between non-unit fractions & multiplication & division of quantities, with particular emphasis on tenths & hundredths. Pupils should associate fractions of a length, of a shape and as a representation of one whole or set of quantities. Pupils should use factors and multiples to recognise equivalent fractions and simplify where appropriate (e.g. 6/9 = 2/3 or 1/4 = 2/8).
	To count on/back in hundredths; recognise that hundredths arise when dividing an object by a hundred & dividing tenths by ten. To solve problems involving increasingly harder fractions to calculate quantities, & fractions to divide quantities, including non-unit fractions where the answer is a whole number. To identify, name & write equivalent fractions of a given fraction, including tenths and hundredths. To add & subtract fractions with the same denominator.	To count on/back in hundredths; recognise that hundredths arise when dividing an object by a hundred & dividing tenths by ten. To solve problems involving increasingly harder fractions to calculate quantities, & fractions to divide quantities, including non-unit fractions where the answer is a whole number. To identify, name & write equivalent fractions of a given fraction, including tenths and hundredths. To add & subtract fractions with the same denominator.	To count on/back in hundredths; recognise that hundredths arise when dividing an object by a hundred & dividing tenths by ten. To solve problems involving increasingly harder fractions to calculate quantities, & fractions to divide quantities, including non-unit fractions where the answer is a whole number. To identify, name & write equivalent fractions of a given fraction, including tenths and hundredths. To add & subtract fractions with the same denominator.	
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	Should encounter fractions when solving division problems and understand them in context. Pupils should continue practice in adding & subtracting fractions with the same denominator, to become fluent through a variety of increasingly complex problems beyond one whole.

			They should practise counting using simple fractions & decimal fractions, both on & backwards. NB: See additional Parkfield guidance on fractions.

Year & Theme	Term 1	Term 2	Term 3	Guidance
4	Key End of Year Objectives			

Year & Theme	Term 1	Term 2	Term 3	Guidance
4	**Key End of Year Objectives** Models & images continue to be essential learning tools throughout KS2.			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Decimals and Fractions	**2 weeks**	**1 week**	**1 week**	Pupils should be taught throughout that decimals and fractions are different ways of expressing numbers. Pupils' understanding of the number system and decimal place value is extended at this stage to tenths and then hundredths. This includes relating the decimal notation to division of whole numbers by 10 and later 100. Pupils should learn decimal notation and the language associated with it, including in the context of measurements. They make comparisons and order decimal amounts and quantities that are expressed to the same number of decimal places. They should be able to represent numbers with one or two decimal places in multiple ways, such as on number lines.
	To recognise and write decimal equivalents of any number of tenths or hundredths.

To recognise & write decimal equivalents to 1/4; 1/2; 3/4

To find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths.

To round decimals with one decimal place to the nearest whole number.

To compare numbers with the same number of decimal places up to two decimal places.

To solve simple measure and money problems involving fractions and decimals to two decimal places. | To recognise and write decimal equivalents of any number of tenths or hundredths.

To recognise & write decimal equivalents to 1/4; 1/2; 3/4

To find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths.

To round decimals with one decimal place to the nearest whole number.

To compare numbers with the same number of decimal places up to two decimal places. | To recognise and write decimal equivalents of any number of tenths or hundredths.

To recognise & write decimal equivalents to 1/4; 1/2; 3/4

To find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths.

To round decimals with one decimal place to the nearest whole number.

To compare numbers with the same number of decimal places up to two decimal places. | |
| | **AfL** Highlight objectives as taught & use this space to record areas that are insecure. | **AfL** | **AfL** | |

Year & Theme	Term 1	Term 2	Term 3	Guidance
4		**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2. Practical experience especially important in area of measures.**		
Measure	**2 weeks** To convert between different units of measure (e.g. kilometre to metre; hour to minute). To measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres To find the area of rectilinear shapes by counting To estimate, compare and calculate different measures, including money in pounds and pence To read, write and convert time between analogue and digital 12 and 24-hour clocks To solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	**2 weeks** To convert between different units of measure (e.g. kilometre to metre; hour to minute) To measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres To find the area of rectilinear shapes by counting To estimate, compare and calculate different measures, including money in pounds and pence To read, write and convert time between analogue and digital 12 and 24-hour clocks To solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	**1 week** To convert between different units of measure (e.g. kilometre to metre; hour to minute) To measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres To find the area of rectilinear shapes by counting To estimate, compare and calculate different measures, including money in pounds and pence To read, write and convert time between analogue and digital 12 and 24-hour clocks To solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	Begin with comparison & ordering measures, other key principles: . transivity . conservation . standard units . approximation (often what makes measure tricky for children) . context for developing number concepts . meaning of zero Children must understand difference between approximation and estimation. Refer to time throughout the day and draw attention to digital/analogue clock, discuss date, 'If today's the 13th, how many days until the end of the month?' type questions. Refer to thermometers around school. Measure children's height and shoe size beginning each term & record. Pupils should use multiplication & their knowledge of place value to convert from larger to smaller units (remember base ten as key model). They should relate area to arrays &
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

				multiplication. Pupils should build on their understanding of decimal notation to record measures. NB: Distinction between mass & weight and volume & capacity explained by end Y4. Two aspects of time: time interval & recorded time. Use number line for calculating time differences. Count in time/measures on/back along horizontal counting stick; up/down a vertical counting stick (as thermometer) & around a hoop … children see relationship between number lines and measuring scales. Resources: Function machine Base ten

Year & Theme	Term 1	Term 2	Term 3	Guidance
4	— **Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Geometry: Properties of Shape	**1 week** To compare & classify geometric shapes, including quadrilaterals & triangles, based on their properties & sizes. To identify acute & obtuse angles and compare & order angles up to two right angles by size. To identify lines of symmetry in 2-D shapes presented in **different orientations**. To complete simple symmetric figure with respect to specific line of symmetry.	**1 week** To compare & classify geometric shapes, including quadrilaterals & triangles, based on their properties and sizes. To identify acute and obtuse angles and compare and order angles up to two right angles by size. To identify lines of symmetry in 2-D shapes presented in **different orientations**. To complete simple symmetric figure with respect to specific line of symmetry.	**1 week** To compare & classify geometric shapes, including quadrilaterals & triangles, based on their properties and sizes. To identify acute and obtuse angles and compare and order angles up to two right angles by size. To identify lines of symmetry in 2-D shapes presented in **different orientations**. To complete simple symmetric figure with respect to specific line of symmetry.	Include different sized, coloured, orientated shapes, both regular & irregular & ensure links made to real life through identifying shapes of everyday objects around them. Pupils should continue to classify shapes using geometrical properties, extending to classifying different triangles (e.g. isosceles, equilateral, scalene) & quadrilaterals (e.g. parallelogram, rhombus, trapezium). Pupils should compare and order angles in preparation for using a protractor and compare lengths and angles to decide if a polygon is regular or irregular.
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
4	**Key End of Year Objectives** Models & images continue to be essential learning tools throughout KS2.			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Shape: Position & Direction	**1 week** To describe positions on a 2-D grid as coordinates in the first quadrant. To describe movements between positions as translations of a given unit to the left/right and up/down. To plot specified points and draw sides to complete a given polygon.	**1 week** To describe positions on a 2-D grid as coordinates in the first quadrant. To describe movements between positions as translations of a given unit to the left/right and up/down. To plot specified points and draw sides to complete a given polygon.	**1 week** To describe positions on a 2-D grid as coordinates in the first quadrant. To describe movements between positions as translations of a given unit to the left/right and up/down. To plot specified points and draw sides to complete a given polygon.	Pupils should draw a pair of axes in one quadrant, with equal scales and integer labels. They should read, write and use pairs of coordinates (2, 5), including using coordinate-plotting ICT tools.
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	Resources:

Year & Theme	Term 1	Term 2	Term 3	Guidance
4	**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Data	**1 week** To interpret & present discrete data using bar charts & continuous data using line graphs. To solve comparison, sum & difference problems using information presented in bar charts, pictograms, tables & simple line graphs.	**1 week** To interpret & present discrete data using bar charts & continuous data using line graphs. To solve comparison, sum & difference problems using information presented in bar charts, pictograms, tables & simple line graphs.	**1 week** To interpret & present discrete data using bar charts & continuous data using line graphs. To solve comparison, sum & difference problems using information presented in bar charts, pictograms, tables & simple line graphs.	Pupils should understand & use a greater range of scales in their representations. Pupils should begin to relate the graphical representation of data to recording change over time. Teachers may choose to use ICT to support teaching of Data. Resources: Concept Cartoons to stimulate thinking/discussion. http://www.censusatschool.org.uk/
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
5	**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Number, Place Value, Approximation & Estimation	**1 week** To read, write, order & compare numbers to at least 1 000 000 & determine the value of each digit. To count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. To interpret negative numbers in context, count forwards & backwards with positive & negative whole numbers through zero. To round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 & 100 000. To solve number problems & practical problems that involves all of the above.	**1 week** To read, write, order & compare numbers to at least 1 000 000 & determine the value of each digit. To count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. To interpret negative numbers in context, count forwards & backwards with positive & negative whole numbers through zero. To round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 & 100 000. To solve number problems & practical problems that involve all of the above. To extend reading of Roman numerals to 1000 (M) & recognise years written in Roman numerals (mainly through early am/maths day/homework etc).	**1 week** To read, write, order & compare numbers to at least 1 000 000 & determine the value of each digit. To count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. To interpret negative numbers in context, count forwards & backwards with positive & negative whole numbers through zero. To round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 & 100 000. To solve number problems & practical problems that involve all of the above.	Pupils should identify the place value in large whole numbers. They should continue to use number in context, including measurement. Pupils extend and apply their understanding of the number system to the decimal numbers and fractions that they have met so far. Remember to spend twice as long counting back as forward. They should recognise and describe linear number sequences, including those involving fractions and decimals, and find the term-to-term rule. Resources:
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
5	**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Addition and Subtraction	**2 weeks**	**2 weeks**	**2 weeks**	Pupils should practise using the efficient written methods of columnar addition & subtraction with increasingly large numbers to aid fluency. An emphasis must be placed on choosing **most efficient method** for the numbers involved and continuing to practise mental methods when appropriate. Eg: 467 + 31 would be mental method, 608 – 597 would be mental. Children must realise mental/written methods have equal value & they need to be fluent in both. Children should be able to add 3 or more numbers and choose the most efficient order to add if mental. They should practise mental calculations with increasingly large numbers to aid fluency (e.g. 12 462 – 2 300 = 10 162). Resources:
	To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction) when appropriate. To add & subtract numbers mentally with increasingly large numbers & understand when to use this method. To use rounding to check answers to calculations & determine, in the context of a problem, levels of accuracy. To solve addition & subtraction multi-step problems in contexts, deciding which operations & methods to use and why.	To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction) when appropriate. To add & subtract numbers mentally with increasingly large numbers & understand when to use this method. To use rounding to check answers to calculations & determine, in the context of a problem, levels of accuracy. To solve addition & subtraction multi-step problems in contexts, deciding which operations & methods to use and why.	To add and subtract whole numbers with more than 4 digits, including using efficient written methods (columnar addition and subtraction) when appropriate. To add & subtract numbers mentally with increasingly large numbers & understand when to use this method. To use rounding to check answers to calculations & determine, in the context of a problem, levels of accuracy. To solve addition & subtraction multi-step problems in contexts, deciding which operations & methods to use and why.	
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
5	**Key End of Year Objectives** Models & images continue to be essential learning tools throughout KS2.			Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.
Multiplication and Division	**2 weeks** To double/halve 3 digit numbers. To identify multiples & factors, including finding all factor pairs. To solve problems involving multiplication/division where larger numbers are used by decomposing them into their factors. To create partial table for any 2 digit number. To know & use the vocabulary of prime numbers, prime factors & composite (non-prime) numbers. To establish whether a number up to 100 is prime & recall prime numbers up to 19. To multiply numbers up to 4 digits by a one- or two-digit number using an efficient method (see policy) for two-digit numbers. To multiply/divide numbers mentally drawing upon known facts.	**2 weeks** To double/halve 3 digit numbers. To identify multiples & factors, including finding all factor pairs. To solve problems involving multiplication/division where larger numbers are used by decomposing them into their factors. To create partial table for any 2 digit number. To know & use the vocabulary of prime numbers, prime factors & composite (non-prime) numbers. To establish whether a number up to 100 is prime & recall prime numbers up to 19. To multiply numbers up to 4 digits by a one- or two-digit number using an efficient method (see policy) for two-digit numbers. To multiply/divide numbers mentally drawing upon known facts. To divide numbers up to 4 digits by a one-digit number using an efficient method (see policy) & interpret remainders	**2 weeks** To double/halve 3 digit numbers. To identify multiples & factors, including finding all factor pairs. To solve problems involving multiplication/division where larger numbers are used by decomposing them into their factors. To create partial table for any 2 digit number. To know & use the vocabulary of prime numbers, prime factors & composite (non-prime) numbers. To establish whether a number up to 100 is prime & recall prime numbers up to 19. To multiply numbers up to 4 digits by a one- or two-digit number using an efficient method (see policy) for two-digit numbers. To multiply/divide numbers mentally drawing upon known facts.	Pupils should practise & extend their use of the efficient methods of division & understanding division in context. By end of Y5 pupils may be ready for short division (see policy). They apply all the multiplication tables & related division facts frequently, commit them to memory & use them confidently to make larger calculations. They should use & understand the terms factor, multiple & prime, square & cube numbers. Pupils should interpret non-integer answers to division by expressing results in different ways according to the context, including with remainders, as fractions, as decimals or by rounding (e.g. $98 \div 4 = 24$ r $2 = 24\frac{1}{2} = 24.5 \approx 25$). Pupils use multiplication/division as inverses to support the introduction of ratio in Year 6, for example, by multiplying/dividing by powers of 10 in scale drawings or by multiplying & dividing by powers of a 1000 in converting between units such as

	To divide numbers up to 4 digits by a one-digit number using an efficient method (see policy) & interpret remainders appropriately for the context.

To multiply/divide whole numbers & those involving decimals by 10, 100 & 1000.

To recognise & use square numbers & cube numbers, & the notation for squared (2) and cubed (3).

To solve problems involving addition, subtraction, multiplication & division & a combination of these, including understanding the meaning of the equals sign.

To solve problems involving multiplication & division, including scaling by simple fractions & problems involving simple rates. | appropriately for the context.

To multiply/divide whole numbers & those involving decimals by 10, 100 & 1000.

To recognise & use square numbers & cube numbers, & the notation for squared (2) and cubed (3).

To solve problems involving addition, subtraction, multiplication & division & a combination of these, including understanding the meaning of the equals sign.

To solve problems involving multiplication & division, including scaling by simple fractions & problems involving simple rates. | To divide numbers up to 4 digits by a one-digit number using an efficient method (see policy) & interpret remainders appropriately for the context.

To multiply/divide whole numbers & those involving decimals by 10, 100 & 1000.

To recognise & use square numbers & cube numbers, & the notation for squared (2) and cubed (3).

To solve problems involving addition, subtraction, multiplication & division & a combination of these, including understanding the meaning of the equals sign.

To solve problems involving multiplication & division, including scaling by simple fractions & problems involving simple rates. | kilometres & metres.

Resources: |
| | **AfL**
Highlight objectives as taught & use this space to record areas that are insecure. | **AfL** | **AfL** | |

Year & Theme	Term 1	Term 2	Term 3	Guidance
5		**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**		**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Fractions	**1 week**	**2 weeks**	**1 week**	Pupils should connect equivalent fractions >1 that simplify to integers with division & fractions >1 to division with remainders, using the number line & other models, & hence move from these to improper & mixed fractions. Pupils should connect multiplication by a fraction to using fractions as operators, & to division, building on work from previous years. This relates to scaling by simple fractions. They should extend their knowledge of fractions to thousandths & connect to decimals & measures. Pupils continue to develop their understanding of fractions as numbers, measures & operators by finding fractions of numbers & quantities, writing remainders as a fraction. Pupils should practise adding & subtracting fractions to become fluent through a variety of increasingly complex problems. They should extend their understanding of adding & subtracting fractions to calculations
	To compare & order fractions whose denominators are all multiples of the same number. To recognise mixed numbers & improper fractions & convert from one form to the other. To add & subtract fractions with the same denominator & related fractions; write mathematical statements >1 as a mixed number (e.g. 2/5 + 4/5 = 6/5 = 11/5). .	To compare & order fractions whose denominators are all multiples of the same number. To recognise mixed numbers & improper fractions & convert from one form to the other. To add & subtract fractions with the same denominator & related fractions; write mathematical statements >1 as a mixed number (e.g. 2/5 + 4/5 = 6/5 = 11/5). To multiply proper fractions & mixed numbers by whole numbers, supported by materials & diagrams.	To compare & order fractions whose denominators are all multiples of the same number. To recognise mixed numbers & improper fractions & convert from one form to the other. To add & subtract fractions with the same denominator & related fractions; write mathematical statements >1 as a mixed number (e.g. 2/5 + 4/5 = 6/5 = 11/5). To multiply proper fractions & mixed numbers by whole numbers, supported by materials & diagrams.	
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

			that exceed 1 as a mixed number. Pupils should read & write proper fractions & mixed numbers accurately & continue to practise counting forwards & backwards with mixed fractions. (See additional Parkfield guidance on fractions.) Resources:

Year & Theme	Term 1	Term 2	Term 3	Guidance
5		**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**		
Fractions and Decimals	**2 weeks**	**1 week**	**1 week**	Pupils extend counting from Year 4, using decimals & fractions including bridging zero, for example on a number line. They should add & subtract decimals including a mix of whole numbers & decimals, decimals with different numbers of decimal places, & complements of 1 (e.g. 0.83 + 0.17 = 1). They should mentally add & subtract tenths, & one-digit whole numbers & tenths. Pupils should say, read & write decimal fractions & related tenths, hundredths & thousandths accurately & be confident in checking the reasonableness of their answers to problems. Pupils should go beyond the measurement & money models of decimals, for example by solving puzzles involving decimals. Resources:
	To read & write decimal numbers as fractions (e.g. 0.71 = 71/100). To recognise & use thousandths & relate them to tenths, hundredths & decimal equivalents. To round decimals with two decimal places to the nearest whole number & to one decimal place. To read, write, order & compare numbers with up to three decimal places. To solve problems involving numbers up to three decimal places.	To read & write decimal numbers as fractions (e.g. 0.71 = 71/100). To recognise & use thousandths & relate them to tenths, hundredths & decimal equivalents. To round decimals with two decimal places to the nearest whole number & to one decimal place. To read, write, order & compare numbers with up to three decimal places. To solve problems involving numbers up to three decimal places.	To read & write decimal numbers as fractions (e.g. 0.71 = 71/100). To recognise & use thousandths & relate them to tenths, hundredths & decimal equivalents. To round decimals with two decimal places to the nearest whole number & to one decimal place. To read, write, order & compare numbers with up to three decimal places. To solve problems involving numbers up to three decimal places.	
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
5	**Key End of Year Objectives** Models & images continue to be essential learning tools throughout KS2.			Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.
Percentages, Decimals and Fractions	**1 week**	**2 weeks**	**1 week**	Pupils should be taught throughout that percentages, decimals & fractions are different ways of expressing numbers. Pupils should make connections between percentages, fractions & decimals (e.g. 100% represents a whole quantity and 1% is 1/100, 50% is 50/100, 25% is 25/100) & relate this to finding 'fractions of'. They recognise that percentages are proportions of quantities as well as operators on quantities. Resources:
	To recognise the per cent symbol (%) & understand that per cent relates to "number of parts per hundred", & write percentages as a fraction with denominator hundred, & as a decimal fraction. To solve problems which require knowing percentage & decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those with a denominator of a multiple of 10 or 25.	To recognise the per cent symbol (%) & understand that per cent relates to "number of parts per hundred", & write percentages as a fraction with denominator hundred, & as a decimal fraction. To solve problems which require knowing percentage & decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those with a denominator of a multiple of 10 or 25.	To recognise the per cent symbol (%) & understand that per cent relates to "number of parts per hundred", & write percentages as a fraction with denominator hundred, & as a decimal fraction. To solve problems which require knowing percentage & decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those with a denominator of a multiple of 10 or 25.	
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
5		**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**		
Measures	**2 weeks** To convert between different units of measure (e.g. kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre). To understand & use basic equivalences between metric & common imperial units & express them in approximate terms. To measure & calculate the perimeter of composite rectilinear shapes in centimetres & metres. To calculate & compare the area of squares & rectangles including using standard units, square centimetres (cm2) & square metres (m2) & estimate the area of irregular shapes. To recognise & estimate volume (e.g. using 1 cm3 blocks to build cubes & cuboids) & capacity (e.g. using water). To solve problems involving converting between units of time. To solve problems involving addition & subtraction of units of measure (e.g.	**2 weeks** To convert between different units of measure (e.g. kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre). To understand & use basic equivalences between metric & common imperial units & express them in approximate terms. To measure & calculate the perimeter of composite rectilinear shapes in centimetres & metres. To calculate & compare the area of squares & rectangles including using standard units, square centimetres (cm2) & square metres (m2) & estimate the area of irregular shapes. To recognise & estimate volume (e.g. using 1 cm3 blocks to build cubes & cuboids) & capacity (e.g. using water). To solve problems involving converting between units of time. To solve problems involving addition & subtraction of units of measure (e.g. length, mass, volume, money) using decimal notation.	**1 week** To convert between different units of measure (e.g. kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre). To understand & use basic equivalences between metric & common imperial units & express them in approximate terms. To measure & calculate the perimeter of composite rectilinear shapes in centimetres & metres. To calculate & compare the area of squares & rectangles including using standard units, square centimetres (cm2) & square metres (m2) & estimate the area of irregular shapes. To recognise & estimate volume (e.g. using 1 cm3 blocks to build cubes & cuboids) & capacity (e.g. using water). To solve problems involving converting between units of time. To solve problems involving addition & subtraction of units of measure (e.g.	Pupils should use their knowledge of place value & multiplication & division to convert between standard units. Pupils should calculate the perimeter of rectangles & related composite shapes, including using the relations of perimeter or area to find unknown lengths. Missing number questions such as these are the beginning of algebraic understanding. They should also calculate the area of scale drawings using given measurements. Pupils should use all four operations in problems involving time & money, including conversions (e.g. days to weeks, leaving the answer as weeks and days). Resources: My Money Week

	length, mass, volume, money) using decimal notation.		length, mass, volume, money) using decimal notation.	
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
5	**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Geometry: Property of Shape	**1 week** To identify 3-D shapes, including cubes & cuboids, from 2-D representations. To know angles are measured in degrees; estimate & measure them & draw a given angle, writing its size in degrees (o). To identify: . multiples of 90° . angles at a point on a straight line and ½ a turn (total 180°) . angles at a point & one whole turn (total 360°) . reflex angles, & compare different angles To draw shapes using given dimensions and angles. To state and use the properties of a rectangle (including squares) to deduce related facts. To distinguish between regular & irregular polygons based on reasoning about equal sides & angles.	**1 week** To identify 3-D shapes, including cubes & cuboids, from 2-D representations. To know angles are measured in degrees; estimate & measure them & draw a given angle, writing its size in degrees (o). To identify: . multiples of 90° . angles at a point on a straight line and ½ a turn (total 180°) . angles at a point & one whole turn (total 360°) . reflex angles, & compare different angles To draw shapes using given dimensions and angles. To state and use the properties of a rectangle (including squares) to deduce related facts. To distinguish between regular & irregular polygons based on reasoning about equal sides & angles	**1 week** To identify 3-D shapes, including cubes & cuboids, from 2-D representations. To know angles are measured in degrees; estimate & measure them & draw a given angle, writing its size in degrees (o). To identify: . multiples of 90° . angles at a point on a straight line and ½ a turn (total 180°) . angles at a point & one whole turn (total 360°) . reflex angles, & compare different angles To draw shapes using given dimensions and angles. To state and use the properties of a rectangle (including squares) to deduce related facts. To distinguish between regular & irregular polygons based on reasoning about equal sides & angles	Pupils should become accurate in drawing lines with a ruler to the nearest millimetre, & measuring with a protractor. They use conventional markings for parallel lines & right angles. Pupils should use the term diagonal & make conjectures about the angles formed by diagonals and sides, & other properties of quadrilaterals, for example using dynamic geometry ICT tools. Pupils should use angle sum facts & other properties to make deductions about missing angles & relate these to missing number problems. Resources:
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
5	**Key End of Year Objectives** Models & images continue to be essential learning tools throughout KS2.			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Geometry: position; direction & motion	**1 week** To identify, describe & represent the position of a shape following a reflection or translation, using the appropriate language, & know that the shape has not changed.	**1 week** To identify, describe & represent the position of a shape following a reflection or translation, using the appropriate language, & know that the shape has not changed.	**1 week** To identify, describe & represent the position of a shape following a reflection or translation, using the appropriate language, & know that the shape has not changed.	Pupils should recognise & use reflection & translation in a variety of diagrams, including continuing to use a 2-D grid & coordinates in the first quadrant. Reflection should be in lines that are parallel to the axes. Resources:
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
5	**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Data	**1 week**	**1 week**	**1 week**	Pupils should connect their work on coordinates & scales to their interpretation of time graphs using ICT tools, except where data are easily calculable. They should begin to decide which representations of data are most appropriate and why. Resources: http://www.censusatschool.org.uk/
	To solve comparison, sum & difference problems using information presented in line graphs. To complete, read & interpret information in tables, including timetables.	To solve comparison, sum & difference problems using information presented in line graphs. To complete, read & interpret information in tables, including timetables.	To solve comparison, sum & difference problems using information presented in line graphs. To complete, read & interpret information in tables, including timetables.	
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
6	**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Number, Place Value and Rounding	**2 weeks** To read, write, order & compare numbers up to 10 000 000 & determine the value of each digit. To round any whole number to a required degree of accuracy. To use negative numbers in context, & calculate intervals across zero. To solve number problems & practical problems that involve all of the above.	**1 week** To read, write, order & compare numbers up to 10 000 000 & determine the value of each digit. To round any whole number to a required degree of accuracy. To use negative numbers in context, & calculate intervals across zero. To solve number problems & practical problems that involve all of the above.	**1 week** To read, write, order & compare numbers up to 10 000 000 & determine the value of each digit. To round any whole number to a required degree of accuracy. To use negative numbers in context, & calculate intervals across zero. To solve number problems & practical problems that involve all of the above.	Pupils should use the whole number system, including saying, reading and writing numbers accurately. Include these objectives in starters throughout. Resources:
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
6	— **Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Addition, Subtraction, Multiplication and Division	**2 weeks** To multiply multi-digit numbers up to 4 digits by a two-digit whole number using an efficient written method. To divide numbers up to 4 digits by a two-digit whole number using an efficient method & interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. To perform mental calculations, including with mixed operations & large numbers. To identify common factors, common multiples and prime numbers. To use their knowledge of the order of operations to carry out calculations involving the four operations. To solve addition & subtraction multi-step problems in contexts, deciding which operations & methods to use & why. To solve problems involving addition, subtraction, multiplication & division.	**3 weeks** To multiply multi-digit numbers up to 4 digits by a two-digit whole number using an efficient written method. To divide numbers up to 4 digits by a two-digit whole number using an efficient method & interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. To perform mental calculations, including with mixed operations & large numbers. To identify common factors, common multiples and prime numbers. To use their knowledge of the order of operations to carry out calculations involving the four operations. To solve addition & subtraction multi-step problems in contexts, deciding which operations & methods to use & why. To solve problems involving addition, subtraction, multiplication & division. To use estimation to check answers to calculations & determine, in the context of a problem, levels of accuracy.	**1 week** To multiply multi-digit numbers up to 4 digits by a two-digit whole number using an efficient written method. To divide numbers up to 4 digits by a two-digit whole number using an efficient method & interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. To perform mental calculations, including with mixed operations & large numbers. To identify common factors, common multiples and prime numbers. To use their knowledge of the order of operations to carry out calculations involving the four operations. To solve addition & subtraction multi-step problems in contexts, deciding which operations & methods to use & why. To solve problems involving addition, subtraction, multiplication & division.	Pupils should practise addition, subtraction, multiplication & division for larger numbers, using the efficient written methods (where appropriate). See policy for details. *NB: Pupils unable to understand methods above will still get accurate results using other strategies as outlined in policy.* They should undertake mental calculations with increasingly large numbers & more complex calculations. Pupils should continue to use all the multiplication tables to calculate mathematical statements in order to maintain their fluency. *Calculators could be used for complex calculations, investigations, and checking answers.* Resources:

		To use estimation to check answers to calculations & determine, in the context of a problem, levels of accuracy.		To use estimation to check answers to calculations & determine, in the context of a problem, levels of accuracy.	
		AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
6	**Key End of Year Objectives** / **Models & images continue to be essential learning tools throughout KS2.**			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Fractions	**1 week**	**1 week**	**1 week**	Pupils should use their understanding of the relationship between unit fractions & division to work backwards by multiplying a quantity that represents a unit fraction to find the whole quantity (e.g. if ¼ of a length is 36cm, then the whole length is 36 × 4 = 144cm).

They should practise with simple fractions & decimal fraction equivalents to aid fluency, including listing equivalent fractions to identify fractions with common denominators.

Denominators of given fractions should not exceed 12, with the exception of 100 & 1000.

Pupils can explore & make conjectures about converting a simple fraction to a decimal fraction (e.g. 3 ÷ 8 = 0.375).

For simple fractions with recurring decimal equivalents, pupils should learn about rounding the decimal to three decimal places. |
| | To use common factors to simplify fractions; use common multiples to express fractions in the same denomination.

To compare & order fractions, including fractions >1

To associate a fraction with division to calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8)

To add/subtract fractions with different denominators & mixed numbers, using the concept of equivalent fractions.

To multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. 1/4 × 1/2 = 1/8)

To divide proper fractions by whole numbers (e.g. 1/3 ÷ 2 = 1/6). | To use common factors to simplify fractions; use common multiples to express fractions in the same denomination.

To compare & order fractions, including fractions >1

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To divide proper fractions by whole numbers (e.g. 1/3 ÷ 2 = 1/6). | |
| | **AfL**
Highlight objectives as taught & use this space to record areas that are insecure. | **AfL** | **AfL** | |

				Pupils should practise, use & understand the addition & subtraction of fractions with different denominators by identifying equivalent fractions with the same denominator. They should start with fractions where the denominator of one fraction is a multiple of the other (e.g. 1/2 + 1/8 = 5/8) and progress to varied and increasingly complex problems.
				Pupils should use a variety of images to support their understanding of multiplication with fractions. This follows earlier work about fractions as operators, as numbers, and as equal parts of objects, for example as parts of a rectangle.
				Resources:

Year & Theme	Term 1	Term 2	Term 3	Guidance
6	**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Decimals and Fractions	**1 week** To identify the value of each digit to three decimal places & multiply & divide numbers by 10, 100 and 1000 where the answers are up to three decimal places. To multiply one-digit numbers with up to two decimal places by whole numbers. To use written division methods in cases where the answer has up to two decimal places . To solve problems which require answers to be rounded to specified degrees of accuracy.	**1 week** To identify the value of each digit to three decimal places & multiply & divide numbers by 10, 100 and 1000 where the answers are up to three decimal places. To multiply one-digit numbers with up to two decimal places by whole numbers. To use written division methods in cases where the answer has up to two decimal places . To solve problems which require answers to be rounded to specified degrees of accuracy.	**1 week** To identify the value of each digit to three decimal places & multiply & divide numbers by 10, 100 and 1000 where the answers are up to three decimal places. To multiply one-digit numbers with up to two decimal places by whole numbers. To use written division methods in cases where the answer has up to two decimal places . To solve problems which require answers to be rounded to specified degrees of accuracy.	Pupils should begin to multiply & divide numbers with up to two decimal places by one-digit and two-digit whole numbers. Pupils multiply decimals by whole numbers, starting with the simplest cases, such as $0.4 \times 2 = 0.8$, & in practical contexts, such as measures and money. Pupils should also be introduced to the division of decimal numbers by one-digit whole numbers &, initially, in practical contexts involving measures & money. They should recognise division calculations as the inverse of multiplication. Pupils should also develop their skills of rounding and estimating as a means of predicting and checking the order of magnitude of their answers to decimal calculations. This includes rounding answers to a specified degree of accuracy and checking the reasonableness of their answers. Resources:
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
6	**Key End of Year Objectives** Models & images continue to be essential learning tools throughout KS2.			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Percentages, Decimals & Fractions	**1 week**	**1 week**	**1 week**	Pupils should understand that calculating a percentage of a quantity is the same as calculating a fraction of a quantity.

Resources: |
| | To solve problems involving the calculation of percentages of whole numbers or measures such as 15% of 360 and the use of percentages for comparison.

To recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. | To solve problems involving the calculation of percentages of whole numbers or measures such as 15% of 360 and the use of percentages for comparison.

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| | **AfL** Highlight objectives as taught & use this space to record areas that are insecure. | **AfL** | **AfL** | |

Year & Theme	Term 1	Term 2	Term 3	Guidance
6	Key End of Year Objectives **Models & images continue to be essential learning tools throughout KS2.**			
Ratio and Proportion	**1 week**	**1 week**	**1 week**	Pupils should consolidate their understanding of ratio when comparing quantities, sizes and scale drawings by solving a variety of problems. They may use the notation a:b to record their work. Pupils should recognise proportionality in contexts when the relations between quantities are in the same ratio (e.g. similar shapes, recipes). Resources:
	To solve problems involving the relative sizes of two quantities, including similarity. To solve problems involving unequal sharing and grouping.	To solve problems involving the relative sizes of two quantities, including similarity. To solve problems involving unequal sharing and grouping.	To solve problems involving the relative sizes of two quantities, including similarity. To solve problems involving unequal sharing and grouping.	
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
6	**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Algebra	**2 weeks** To express missing number problems algebraically. To use simple formulae expressed in words. To generate and describe linear number sequences. To find pairs of numbers that satisfy number sentences involving two unknowns.	**1 week** To express missing number problems algebraically. To use simple formulae expressed in words. To generate and describe linear number sequences. To find pairs of numbers that satisfy number sentences involving two unknowns.	**1 week** To express missing number problems algebraically. To use simple formulae expressed in words. To generate and describe linear number sequences. To find pairs of numbers that satisfy number sentences involving two unknowns.	Pupils should be introduced to the use of symbols and letters to represent variables and unknowns in mathematical situations that they already understand, such as: . missing numbers, lengths, coordinates and angles . formulae in mathematics and science . arithmetical rules (e.g. a + b = b + a) . generalisations of number patterns . number puzzles (e.g. what two numbers can add up to). Resources:
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
6	**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**			
Measures	**2 weeks**	**1 week**	**1 week**	Using the number line, pupils should use, add and subtract positive and negative integers for measures such as temperature. They should know approximate conversions and be able to tell if an answer is sensible. They should relate the area of rectangles to parallelograms and triangles, and be able to calculate their areas, understanding and using the formula to do this. Pupils could be introduced to other compound units for speed, such as miles per hour, and apply their knowledge in science or other subjects as appropriate. Resources:
	To solve problems involving the calculation & conversion of units of measure, using decimal notation to three decimal places where appropriate. To use, read, write & convert between standard units, converting measurements of length, mass, volume & time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places. To convert between miles & kilometres. To recognise that shapes with the same areas can have different perimeters & vice versa. To calculate the area of parallelograms & triangles. To recognise when it is necessary to use the formulae for area & volume of shapes. To calculate, estimate & compare volume of cubes and cuboids using standard units, including centimetre	To solve problems involving the calculation & conversion of units of measure, using decimal notation to three decimal places where appropriate. To use, read, write & convert between standard units, converting measurements of length, mass, volume & time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places. To convert between miles & kilometres. To recognise that shapes with the same areas can have different perimeters & vice versa. To calculate the area of parallelograms & triangles. To recognise when it is necessary to use the formulae for area & volume of shapes. To calculate, estimate & compare volume of cubes and cuboids using standard units, including centimetre cubed (cm3) and cubic metres (m3) and extending to other units, such as mm3 and km3.	To solve problems involving the calculation & conversion of units of measure, using decimal notation to three decimal places where appropriate. To use, read, write & convert between standard units, converting measurements of length, mass, volume & time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places. To convert between miles & kilometres. To recognise that shapes with the same areas can have different perimeters & vice versa. To calculate the area of parallelograms & triangles. To recognise when it is necessary to use the formulae for area & volume of shapes. To calculate, estimate & compare	

cubed (cm3) and cubic metres (m3) and extending to other units, such as mm3 and km3.		volume of cubes and cuboids using standard units, including centimetre cubed (cm3) and cubic metres (m3) and extending to other units, such as mm3 and km3.	
AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
6	**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**			
Geometry: Properties of Shape	**1 week**	**1 week**	**1 week**	Pupils should draw shapes and nets accurately, using measuring tools and conventional markings and labels for lines and angles. Pupils should describe the properties of shapes and explain how unknown angles and lengths can be derived from known measurements. Resources:
	To recognise, describe and build simple 3-D shapes, including making nets. To compare & classify geometric shapes based on their properties & sizes & find unknown angles in any triangles, quadrilaterals, and regular polygons. To illustrate & name parts of circles, including radius, diameter & circumference. To find unknown angles where they meet at a point, are on a straight line, & are vertically opposite.	To recognise, describe and build simple 3-D shapes, including making nets. To compare & classify geometric shapes based on their properties & sizes & find unknown angles in any triangles, quadrilaterals, and regular polygons. To illustrate & name parts of circles, including radius, diameter & circumference. To find unknown angles where they meet at a point, are on a straight line, & are vertically opposite.	To recognise, describe and build simple 3-D shapes, including making nets. To compare & classify geometric shapes based on their properties & sizes & find unknown angles in any triangles, quadrilaterals, and regular polygons. To illustrate & name parts of circles, including radius, diameter & circumference. To find unknown angles where they meet at a point, are on a straight line, & are vertically opposite.	
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
6	**Key End of Year Objectives** Models & images continue to be essential learning tools throughout KS2.			
Geometry: Position and Movement	**1 week**	**1 week**	**1 week**	Pupils should draw and label a pair of axes in all four quadrants with equal scaling. This extends their knowledge of one quadrant to all four quadrants, including the use of negative numbers. Pupils should draw and label rectangles (including squares), parallelograms and rhombuses, specified by coordinates in the four quadrants, predicting missing coordinates using the properties of shapes. Resources:
	To describe positions on the full coordinate grid (all four quadrants). To draw and translate simple shapes on the coordinate plane, and reflect them in the axes.	To describe positions on the full coordinate grid (all four quadrants). To draw and translate simple shapes on the coordinate plane, and reflect them in the axes	To describe positions on the full coordinate grid (all four quadrants). To draw and translate simple shapes on the coordinate plane, and reflect them in the axes	
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	

Year & Theme	Term 1	Term 2	Term 3	Guidance
6	**Key End of Year Objectives** **Models & images continue to be essential learning tools throughout KS2.**			**Remember to refer to Parkfield Calculation Polices and Learning Ladders for full guidance.**
Data	**1 week** To interpret & construct pie charts & line graphs & use these to solve problems. To calculate & interpret the mean as an average.	**1 week** To interpret & construct pie charts & line graphs & use these to solve problems. To calculate & interpret the mean as an average.	**1 week** To interpret & construct pie charts & line graphs & use these to solve problems. To calculate & interpret the mean as an average.	Pupils should connect their work on angles, fractions and percentages to the interpretation of pie charts. Pupils should both encounter and draw graphs relating two variables, arising from their own enquiry and in other subjects. They should connect conversion from kilometres to miles in measure to its graphical representation. Pupils should know when it is appropriate to find the mean of a data set. Resources: http://www.censusatschool.org.uk/
	AfL Highlight objectives as taught & use this space to record areas that are insecure.	**AfL**	**AfL**	