Busy Ant Maths Year 4 Medium-Term Plans

Unit 1

Number -		*Geometry* -
Number & place value	Addition & subtraction	Properties of shape

Unit 5

Number -		*Geometry* -
Number & place value	Addition & subtraction	Properties of shape

Unit 9

Number -		*Geometry* -
Number & place value	Addition & subtraction including *Measurement* (money)	Properties of shape

Unit 2

Number -		*Geometry* -
Multiplication & division including Number & place value	Fractions	Position & direction

Unit 6

Number -		*Measurement* (length)
Multiplication & division including Number & place value	Fractions	

Unit 10

Number -		*Measurement* (volume & capacity)
Multiplication & division	Fractions	

Unit 3

Number -		*Measurement* (mass)
Addition & subtraction	Decimals	

Unit 7

Number -		*Statistics*
Addition & subtraction	Addition & subtraction	

Unit 11

Number -		*Geometry* -
Addition & subtraction including *Measurement* (money)	Decimals	Position & direction

Unit 4

Number -		*Measurement* (time)
Multiplication & division including Number & place value	Multiplication & division	

Unit 8

Number -		*Measurement* (perimeter & area)
Multiplication & divison	Decimals	

Unit 12

Number -		*Statistics*
Multiplication & divison	Multiplication & divison	

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Unit 1	Number – Number and place value Number – Addition and subtraction Geometry – Properties of shapes		
National Curriculum attainment targets Pupils should be taught to:		**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Number and place value		**Week 1**	
• find 1000 more or less than a given number • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • order and compare numbers beyond 1000 • identify, represent and estimate numbers using different representations		• Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • Identify, represent and estimate numbers using different representations	1
		• Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • Identify, represent and estimate numbers using different representations	2
		• Order and compare numbers beyond 1000	3
		• Find 1000 more or less than a given number	4
Number – Addition and subtraction		**Week 2**	
• practise mental methods with increasingly large numbers to aid fluency * • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why		• Use mental methods for addition	1
		• Use mental methods for subtraction	2
		• Solve one-step problems in contexts	3
		• Solve two-step problems in contexts	4
Geometry – Properties of shapes		**Week 3**	
• identify lines of symmetry in 2-D shapes presented in different orientations • complete a simple symmetric figure with respect to a specific line of symmetry		• Identify lines of symmetry in 2-D shapes	1
		• Reflect 2-D shapes along a line of symmetry	2
		• Complete simple symmetric figures with respect to a specific line of symmetry	3
		• Make patterns by repeatedly reflecting shapes in vertical lines of symmetry	4

Unit 2	Number – Multiplication and division, including Number and place value Number – Fractions Geometry – Position and direction		
National Curriculum attainment targets Pupils should be taught to:		**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Multiplication and division		**Week 1**	
• recall multiplication and division facts for multiplication tables up to 12 × 12 • recognise and use factor pairs and commutativity in mental calculations		• Count in multiples of 9 • Recall multiplication and division facts for the 9 multiplication table • Understand that multiplication can be done in any order	1
Number – Number and place value		• Recall multiplication and division facts for the 9 multiplication table • Understand that multiplication can be done in any order	2
• count in multiples of 6 and 9		• Count in multiples of 6 • Recall multiplication and division facts for the 6 multiplication table • Understand that multiplication can be done in any order	3
		• Recall multiplication and division facts for the 6 multiplication table • Understand that multiplication can be done in any order	4
Number – Fractions		**Week 2**	
• recognise and show, using diagrams, families of common equivalent fractions • understand the relation between non-unit fractions and multiplication and division of quantities *		• Recognise and show, using diagrams, families of common equivalent fractions	1
		• Recognise and show, using diagrams, families of common equivalent fractions	2
		• Understand the relation between non-unit fractions and multiplication and division of quantities	3
		• Understand the relation between non-unit fractions and multiplication and division of quantities	4
Geometry – Position and direction		**Week 3**	
• describe positions on a 2-D grid as coordinates in the first quadrant • describe movements between positions as translations of a given unit to the left/right and up/down • plot specified points and draw sides to complete a given polygon		• Recognise where a shape will be after translations of a given unit to the left/right and up/down on square and triangular grids	1
		• Use coordinates to describe the position of a point on a grid in the first quadrant	2
		• Plot specified points on a coordinate grid in the first quadrant	3
		• Recognise where a shape will be after translations of a given unit to the left/right and up/down on a coordinate grid in the first quadrant	4

* Notes and guidance (non-statutory)

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Unit 3 **Number – Addition and subtraction**
Number – Decimals
Measurement (mass)

National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Addition and subtraction	**Week 1**	
• practise mental methods with increasingly large numbers to aid fluency * • add numbers with up to 4 digits using the formal written method of columnar addition where appropriate • estimate answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	• Use mental methods for addition	1
	• Add numbers with up to 4 digits using the formal written method of columnar addition • Estimate the answer to a calculation	2
	• Add numbers with up to 4 digits using the formal written method of columnar addition • Estimate the answer to a calculation	3
	• Solve two-step problems in contexts, deciding which operations and methods to use and why	4
Number – Decimals	**Week 2**	
• extend understanding of the number system and decimal place value to tenths * • recognise and write decimal equivalents of any number of tenths • round decimals with one decimal place to the nearest whole number • compare numbers with the same number of decimal places up to two decimal places • solve simple measure problems involving decimals to two decimal places	• Understand the place value of tenths • Recognise and write decimal equivalents of any number of tenths	1
	• Compare numbers with one decimal place	2
	• Round decimals with one decimal place to the nearest whole number	3
	• Solve simple problems involving decimals with one decimal place	4
Measurement (mass)	**Week 3**	
• convert between different units of measure • estimate, compare and calculate different measures	• Read and write the relationships between metric units for mass; use decimal notation to tenths to record mass	1
	• Use multiplication to convert from larger to smaller units of mass	2
	• Estimate and compare mass; round numbers on scales to the nearest whole number	3
	• Calculate different measures of mass using decimals to one place	4

Unit 4 **Number – Multiplication and division, including Number and place value**
Measurement (time)

National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Multiplication and division	**Week 1**	
• recall multiplication and division facts for multiplication tables up to 12 × 12 • use place value, known and derived facts to multiply mentally, including: multiplying by 0 and 1; multiplying together three numbers • recognise and use factor pairs and commutativity in mental calculations • multiply two-digit numbers by a one-digit number using formal written layout • solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one-digit	• Recall square numbers to 12 x 12 and the related division facts	1
	• Count in multiples of 7 • Recall multiplication and division facts for the 0, 1 and 7 multiplication tables • Understand that multiplication can be done in any order	2
	• Recall multiplication and division facts for the 11 and 12 multiplication tables • Recognise and find factors of numbers to multiples up to 12 x 12	3
	• Solve problems involving multiplication and division facts of all multiplication tables to 12 x 12 and reason mathematically	4
	Week 2	
Number – Number and place value	• Use partitioning to calculate TO x O • Estimate and check the answer to a calculation	1
• count in multiples of 7	• Use partitioning and the grid method to calculate TO x O • Estimate and check the answer to a calculation	2
	• Use the expanded written method to calculate TO x O • Estimate and check the answer to a calculation	3
	• Use place value, including x0, x1, x10 to derive multiplication facts; multiply together three numbers	4
Measurement (time)	**Week 3**	
• convert between different units of measure • read, write and convert time between analogue and digital 12- and 24-hour clocks • solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	• Convert between different units of time	1
	• Read, write and convert time between analogue and digital 12-hour clocks	2
	• Read, write and convert time between analogue and digital 24-hour clocks	3
	• Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	4

* Notes and guidance (non-statutory)

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Unit 5 **Number – Number and place value**
Number – Addition and subtraction
Geometry – Properties of shapes

National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Number and place value	**Week 1**	
• count backwards through zero to include negative numbers • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • order and compare numbers beyond 1000 • round any number to the nearest 10 or 100 • solve number and practical problems that involve all of the above and with increasingly large positive numbers	• Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • Order and compare numbers beyond 1000	1
	• Solve number and practical problems that involve place value	2
	• Round any number to the nearest 10 or 100	3
	• Count backwards through zero to include negative numbers	4
Number – Addition and subtraction	**Week 2**	
• practise mental methods with increasingly large numbers to aid fluency * • subtract numbers with up to 4 digits using the formal written method of columnar subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	• Use mental methods for subtraction	1
	• Subtract numbers with up to 4 digits using the formal written method of columnar subtraction (decomposition) • Estimate and use inverse operations to check answers to a calculation	2
	• Subtract numbers with up to 4 digits using the formal written method of columnar subtraction (decomposition) • Estimate and use inverse operations to check answers to a calculation	3
	• Solve two-step problems in contexts, deciding which operations and methods to use and why	4
Geometry – Properties of shapes	**Week 3**	
• identify acute and obtuse angles and compare and order angles up to two right angles by size	• Identify acute and obtuse angles	1
	• Identify acute and obtuse angles in 2-D shapes	2
	• Compare and order angles up to two right angles by size	3
	• Decide if a polygon is regular or irregular by comparing lengths and angles	4

Unit 6 **Number – Multiplication and division, including Number and place value**
Number – Fractions
Measurement (length)

National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Multiplication and division	**Week 1**	
• multiply two-digit numbers by a one-digit number using formal written layout • solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one-digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects	• Count in multiples of 25, 100 and 1000	1
	• Use the formal written method to calculate TO x O • Estimate and check the answer to a calculation	2
	• Use the most efficient method to calculate TO x O • Estimate and check the answer to a calculation	3
	• Solve problems and reason mathematically	4
Number – Number and place value		
• count in multiples 25 and 1000		
Number – Fractions	**Week 2**	
• extend the use of the number line to connect fractions, numbers and measures * • understand the relation between non-unit fractions and multiplication and division of quantities, with particular emphasis on tenths and hundredths * • count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten • solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number	• Use the number line to connect fractions and numbers	1
	• Count up and down in hundredths • Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten	2
	• Count up and down in hundredths • Use multiplication and division to find non-unit tenths and hundredths	3
	• Solve fraction problems to calculate quantities including non-unit fractions	4
Measurement (length)	**Week 3**	
• convert between different units of measure [for example, kilometre to metre] • estimate, compare and calculate different measures	• Read and write the relationships between metric units for length (kilometres and metres); use decimal notation to tenths to record length • Use multiplication to convert from larger to smaller units of length	1
	• Read and write the relationships between metric units for length (metres, centimetres and millimetres); use decimal notation to tenths to record length • Use multiplication to convert from larger to smaller units of length	2
	• Estimate and compare length; round numbers on measuring tapes to the nearest whole number	3
	• Calculate different measures of length using decimals to one place	4

* Notes and guidance (non-statutory)

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Unit 7 **Number – Addition and subtraction**
Statistics

National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Addition and subtraction	**Week 1**	
• practise mental methods with increasingly large numbers to aid fluency * • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	• Use mental methods for addition	1
	• Use mental methods for subtraction	2
	• Solve two-step problems in contexts, deciding which operations and methods to use and why	3
	• Add numbers with up to 4 digits using the formal written method of columnar addition • Estimate and use inverse operations to check answers to a calculation	4
	Week 2	
	• Add numbers with up to 4 digits using the formal written method of columnar addition • Estimate and use inverse operations to check answers to a calculation	1
	• Subtract numbers with up to 4 digits using the formal written method of columnar subtraction (decomposition) • Estimate and use inverse operations to check answers to a calculation	2
	• Subtract numbers with up to 4 digits using the formal written method of columnar subtraction (decomposition) • Estimate and use inverse operations to check answers to a calculation	3
	• Solve two-step problems in contexts, deciding which operations and methods to use and why	4
Statistics	**Week 3**	
• interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	• Interpret and present discrete data using appropriate graphical methods, including scaled bar charts	1
	• Interpret and present continuous data using appropriate graphical methods, using simple time graphs	2
	• Use information presented in scaled pictograms, bar charts and tables to solve problems	3
	• Use information presented in simple time graphs to solve problems	4

Unit 8 **Number – Multiplication and division**
Number – Decimals
Measurement (perimeter and area)

National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Multiplication and division	**Week 1**	
• multiply three-digit numbers by a one-digit number using formal written layout • solve problems involving multiplying and adding, including using the distributive law to multiply two- digit numbers by one-digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects	• Use partitioning to calculate HTO x O • Estimate and check the answer to a calculation	1
	• Use partitioning and the grid method to calculate HTO x O • Estimate and check the answer to a calculation	2
	• Use the expanded written method to calculate HTO x O • Estimate and check the answer to a calculation	3
	• Solve problems and reason mathematically	4
Number – Decimals	**Week 2**	
• extend understanding of the number system and decimal place value to hundredths * • recognise and write decimal equivalents of any number of hundredths • 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 ones, tenths and hundredths • compare numbers with the same number of decimal places up to two decimal places	• Understand the place value of hundredths • Recognise and write decimal equivalents of any number of hundredths	1
	• Compare numbers with two decimal places	2
	• Divide one-digit and two-digit numbers by 10	3
	• Divide one-digit and two-digit numbers by 100	4
Measurement (perimeter and area)	**Week 3**	
• measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • find the area of rectilinear shapes by counting squares • relate area to arrays and multiplication *	• Measure and calculate the perimeter of rectilinear figures in cm and m, and use the rule P = 2 (a + b) to calculate the perimeter (P) where a and b are the dimensions of the sides in the same unit	1
	• Find the area of rectilinear shapes by counting squares	2
	• Find the area of rectilinear and other simple 2-D shapes by counting squares	3
	• Relate area to arrays and multiplication	4

* Notes and guidance (non-statutory)

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Unit 9	Number – Number and place value Number – Addition and subtraction, including Measurement (money) Geometry – Properties of shapes	
National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Number and place value	**Week 1**	
• count backwards through zero to include negative numbers • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • order and compare numbers beyond 1000 • round any number to the nearest 10, 100 or 1000 • solve number and practical problems that involve all of the above and with increasingly large positive numbers • read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value	• Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • Order and compare numbers beyond 1000 • Solve number and practical problems that involve place value	1
	• Round any number to the nearest 10, 100 or 1000	2
	• Count backwards through zero to include negative numbers	3
	• Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value	4
Number – Addition and subtraction	**Week 2**	
• add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	• Add numbers with up to 4 digits using the formal written method of columnar addition • Estimate and use inverse operations to check answers to a calculation	1
	• Subtract numbers with up to 4 digits using the formal written method of columnar subtraction (decomposition) • Estimate and use inverse operations to check answers to a calculation	2
	• Solve two-step problems in contexts, deciding which operations and methods to use and why	3
Measurement (money)	• Estimate, compare and calculate with money in pounds and pence	4
• estimate, compare and calculate different measures, including money in pounds and pence		
Geometry – Properties of shapes	**Week 3**	
• compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	• Compare and classify triangles based on their properties and sizes	1
	• Compare and classify parallelograms and rhombuses based on their properties and sizes	2
	• Compare and classify trapeziums and kites based on their properties and sizes	3
	• Compare and classify quadrilaterals based on their properties and sizes	4

Unit 10	Number – Multiplication and division Number – Fractions Measurement (volume and capacity)	
National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Multiplication and division	**Week 1**	
• multiply three-digit numbers by a one-digit number using formal written layout • solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one-digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects	• Use the formal written method to calculate HTO x O • Estimate and check the answer to a calculation	1
	• Use the formal written method to calculate HTO x O • Estimate and check the answer to a calculation	2
	• Use the most efficient method to calculate HTO x O • Estimate and check the answer to a calculation	3
	• Solve problems and reason mathematically	4
Number – Fractions	**Week 2**	
• use factors and multiples to recognise equivalent fractions and simplify where appropriate [for example, $\frac{6}{9} = \frac{2}{3}$ or $\frac{1}{4} = \frac{2}{8}$] * • recognise and show, using diagrams, families of common equivalent fractions • add and subtract fractions with the same denominator • solve simple measure and money problems involving fractions	• Use factors and multiples to recognise equivalent fractions and simplify where appropriate	1
	• Add fractions with the same denominator	2
	• Subtract fractions with the same denominator	3
	• Solve simple measure and money problems involving fractions	4
Measurement (volume & capacity)	**Week 3**	
• convert between different units of measure • estimate, compare and calculate different measures	• Read and write the relationship between metric units for capacity; use decimal notation to hundredths to record capacity	1
	• Use multiplication to convert from larger to smaller units of capacity	2
	• Estimate and compare capacity; round numbers to the nearest whole number	3
	• Calculate different measures of capacity using decimals to two places	4

* Notes and guidance (non-statutory)

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Unit 11 — **Number – Addition and subtraction, including Measurement (money)**; **Number – Decimals**; **Geometry – Position and direction**

National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Addition and subtraction	**Week 1**	
• add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	• Add numbers with up to 4 digits using the formal written method of columnar addition • Estimate and use inverse operations to check answers to a calculation	1
	• Subtract numbers with up to 4 digits using the formal written method of columnar subtraction (decomposition) • Estimate and use inverse operations to check answers to a calculation	2
	• Estimate, compare and calculate with money in pounds and pence	3
Measurement (money)	• Solve problems in contexts, deciding which operations and methods to use and why	4
• estimate, compare and calculate different measures, including money in pounds and pence		
Number – Decimals	**Week 2**	
• extend understanding of the number system and decimal place value to tenths and then hundredths* • recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ • 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 ones, tenths and hundredths • round decimals with one decimal place to the nearest whole number • compare numbers with the same number of decimal places up to two decimal places • solve simple measure and money problems involving decimals to two decimal places	• Recognise and write decimal equivalents of any number of tenths and hundredths • Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$	1
	• Compare decimals with up to two places • Round decimals with one decimal place to the nearest whole number	2
	• Divide one-digit and two-digit numbers by 10 and 100	3
	• Solve simple measure and money problems involving decimals to two places	4
Geometry – Position and direction	**Week 3**	
• describe positions on a 2-D grid as coordinates in the first quadrant • plot specified points and draw sides to complete a given polygon	• Describe the position of a point on a grid as coordinates in the first quadrant	1
	• Plot specified points and draw sides to complete a given polygon	2
	• Describe the position of a point on a grid as coordinates in the first quadrant	3
	• Plot specified points and draw sides to complete a given polygon; make use of ICT tools	4

Unit 12 — **Number – Multiplication and division**; **Statistics**

National Curriculum attainment targets Pupils should be taught to:	**Lesson objectives** Pupils will be taught to:	**Lesson**
Number – Multiplication and division	**Week 1**	
• use place value, known and derived facts to divide mentally, including dividing by 1 • practise to become fluent in the formal written method of short division with exact answers * • solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one-digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects	• Use place value, known and derived facts to divide mentally, including dividing by 1 • Use mental methods to partition and calculate TO ÷ O • Estimate and check the answer to a calculation	1
	• Use the formal written method of short division to calculate TO ÷ O • Estimate and check the answer to a calculation	2
	• Use mental methods to partition and calculate HTO ÷ O	3
	• Use the expanded written method to calculate HTO ÷ O • Estimate and check the answer to a calculation	4
	Week 2	
	• Use the formal written method of short division to calculate HTO ÷ O • Estimate and check the answer to a calculation	1
	• Use the formal written method of short division to calculate HTO ÷ O • Estimate and check the answer to a calculation	2
	• Use the most efficient method to calculate HTO ÷ O • Estimate and check the answer to a calculation	3
	• Solve problems and reason mathematically	4
Statistics	**Week 3**	
• interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	• Interpret and present discrete data using appropriate graphical methods, including scaled bar charts	1
	• Interpret and present continuous data using appropriate graphical methods, using simple time graphs	2
	• Use information presented in scaled pictograms, bar charts and tables to solve problems	3
	• Use information presented in simple time graphs to solve problems	4

* Notes and guidance (non-statutory)