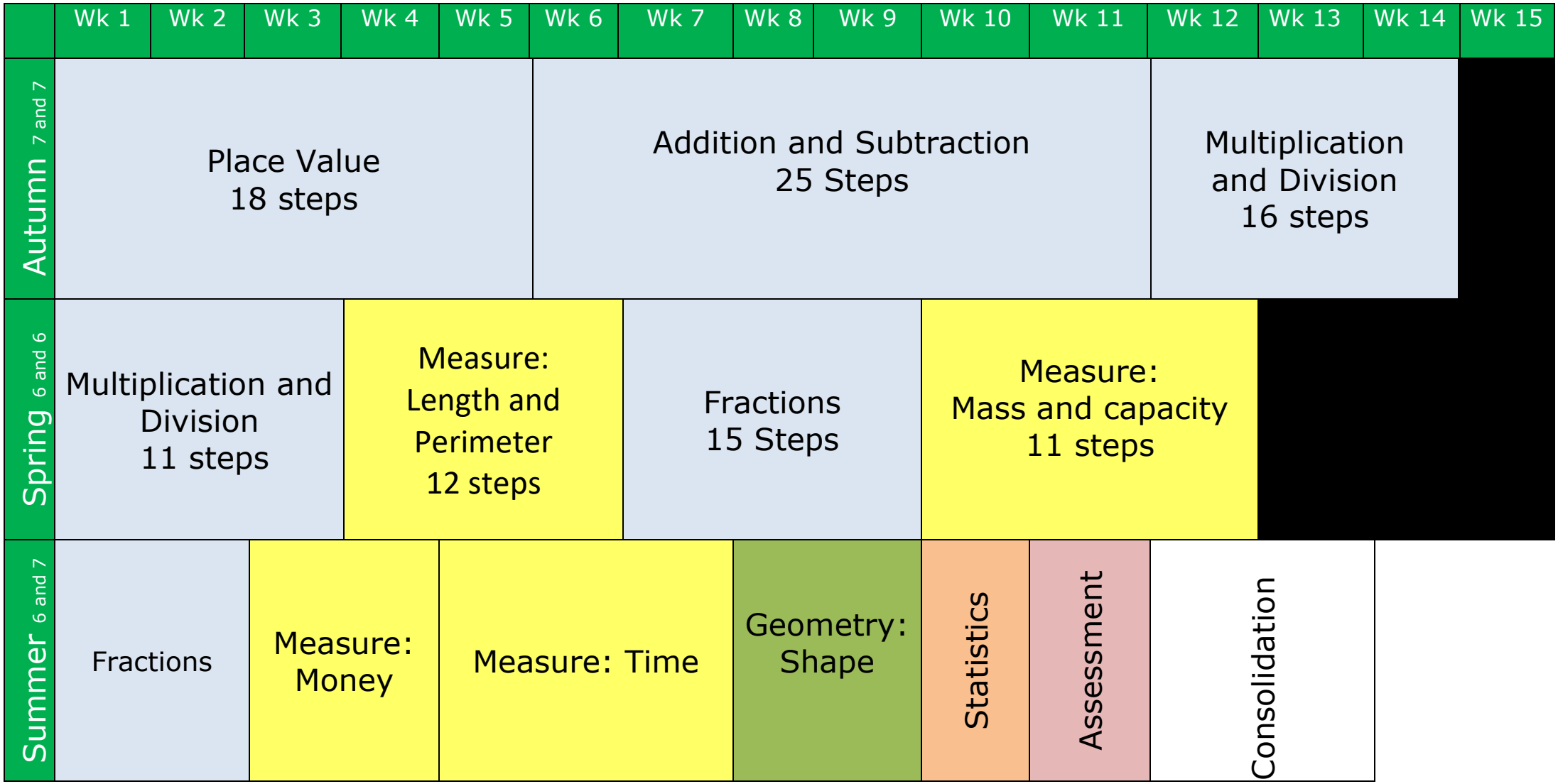
Year 3 Overview



Year 3 Overview

Assessment Questions for Y3 from the DFE Guidance: https://www.ncetm.org.uk/media/055havlj/cp-rtp-assessment-year-3.zip

Place Value	
National Curriculum Objectives	Lesson Progression
Identify, represent and estimate numbers using different representations. Find 10 or 100 more or less than a given number; Recognise the place value of each digit in a three digit number (hundreds, tens, ones). Compare and order numbers up to 1000. Read and write numbers up to 1000 in numerals and in words Solve number problems and practical problems involving these ideas. Count from 0 in multiples of 4, 8, 50 and 100	1) Spine 1, Topic 1.17 1:1-1:4 2) Spine 1, Topic 1.17 1:5-1.7 3) Step 1 – represent numbers to 100 4) Step 2 – partition numbers to 100 5) Step 3 - Number to 100 6) Step 5 – Represent to 1000 (Note Spine 1, Topic 1.18 -1:1-1:3) 7) Step 6 - Partition numbers to 1,000 (Note Spine 1, Topic 1.18 -1:4-1:3) 8) Step 7 – Flexible teaching of 1,000 (Note Spine 1, Topic 1.18 -1:5-1:7) 9) Spine 1, Topic 1.18 – 1:8-1:12 10) Step 9 – Find 1, 10 or 100 more or less 11) Step 10 – Number line to 1,000 12) Spine 1, Topic 1.18 – 2:1 -2:3 13) Step 11 – Estimate on a number line to 1,000 14) Spine 1, Topic 1.18 – 2:4-2:8 15) Step 12 – Compare numbers to 1,000 16) Spine 1, Topic 1.18 – 3:1 – 3:3 17) Step 13 - Order Numbers to 1000 (Note Spine 1, Topic 1.18 3:4) 18) Step 14 – Count in 50s
	DFE Guidance (ready to progress criteria)

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		2NPV – 1 Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning. 2NPV–2 Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10. 2NPV - Count in multiples of 2, 5 and 10.	3NPV–2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning. 3NPV–3 Reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10. 3NPV–4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.

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Addition and Subtraction

National Curriculum Objectives	Lesson Progression
Add and subtract numbers mentally, including: a three- digit number and ones; a three-digit number and tens; a three digit number and hundreds. Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. Estimate the answer to a calculation and use inverse operations to check answers. Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.	1) Step 1 Apply number bonds within 10 2) Step 2 Add and subtract 1's 3) Step 3 Add and subtract 10's 4) Step 4 Add and subtract 100'S (Note: Spine 1, Topic 1.18 – 5:1-5:2) 5) Step 5 Spot the pattern (Note: Spine 1, Topic 1.18 – 5:3) 6) Spine 1, Topic 1.18 5:4 7) Step 6 Add 1's across 10 (Note: Spine 1, Topic 1.18 5:5-5:10) 8) Step 7 Add 10's across 100 9) Step 8 Subtract 1's across 10 (Note: Spine 1, Topic 1.18 5:11-5:12) 10) Step 9 Subtract 10's across 100 11) Step 10 Making connections (Note: Spine 1, Topic 1.17 3:9) 12) Spine 1, Topic 1.19 TP1 13) Spine 1, Topic 1.20 1:1-2:1 14) Spine 1, Topic 1.20 2:2 -3:2 15) Spine 1 1.20 4:1-4:6 (Note step 11, 13 and 14) 16) Spine 1 1.20 TP 5 17) Spine 1 1.21 TP1 18) Spine 1 1.21 2:1-2:3 19) Spine 1 1.21 2:4-2:10 (Note step 12, 15 and 16) 20) Step 17 Add two digit and three-digit numbers 21) Step 18 Subtract a two-digit number from a three-digit number 22) Step 19 Complements to 100 23) Step 20 Estimate answers 24) Step 21 Inverse operations 25) Step 22 Make decisions
	DFE Guidance (ready to progress criteria)

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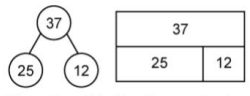
		2NF - Add and subtract across 10 2NF - Automatically recall addition and subtraction facts within 10, and across 10. Unitise in tens: understand that 10 can be thought of as a single unit of 1 ten. 2AS - Automatically recall number bonds to 9 and to 10. Know that 10 ones are equivalent to 1 ten, and 10 tens are equivalent to 1 hundred. 2AS - Automatically recall addition and subtraction facts within 10 and across 10. Recognise the place value of each digit in two- and three-digit numbers. Know that 10 ones are equivalent to 1 ten, and 10 tens are equivalent to 1 hundred. 2AS - Have experience with the commutative property of addition, for example, have recognised that 3 +2 and 2+ 3 have the same sum. Be able to write an equation in different ways, for example, 2 + 3 = 5 and 5 = 2 + 3 Write equations to represent addition and subtraction contexts.	3NF–1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice. 3NF – 3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10), for example: 80 + 60 = 140 140 − 60 = 80 3AS–1 Calculate complements to 100, for example: 46 +? = 100 3AS–2 Add and subtract up to three-digit numbers using columnar methods. 3AS–3 Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.  Figure 24: partitioning diagrams showing the additive relationship between 25, 12 and 37

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Multiplication and Division

National Curriculum Objectives	Lesson Progression
Count from 0 in multiples of 4, 8, 50 and 100 Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. Write and calculate mathematical statements for multiplication and division using the multiplication tables they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	1) Step 1 - Multiplication – equal groups (Note: Spine 2 2.6 TP1) 2) Step 2 - Use arrays 3) Spine 2 2.3 – (Note: Step 3 Multiples of 2) 4) Spine 2 2.4 – (Note: Step 4 Multiples of 5 and 10) 5) Spine 2 2.6 TP2 6) Spine 2 2.6 TP3 (Note: Step 5 Sharing and grouping) 7) Spine 2 2.8 TP1 (Note: Step 6 Multiply by 3) 8) Step 7 Divide by 3 9) Step 8 The 3 times-table 10) Spine 2 2.7 TP 1 and 2 (Note: Step 9 Multiply by 4) 11) Step 10 Divide by 4 12) Step 11 The 4 times-table 13) Spine 2 2.7 TP 3 and 4 (Note: Step 12 Multiply by 8) 14) Step 13 Divide by 8 15) Step 14 The 8 times-table 16) Step 15 The 2,4 and 8 times table Part B 1) Step 1 – Multiples of 10 (Note: Spine 2 2.6 TP 4) 2) Step 2 – Related calculations 3) Step 3 – Reasoning about multiplication (Note: Spine 2 2.10 TP 1:1) 4) Step 4 – Multiply a 2-digit number by a 1-digit number – no exchange (Note: Spine 2 2.14 TP 1) 5) Step 5 – Multiply a 2-digit number by a 1-digit number – with exchange 6) Step 6 – Link multiplication and division (Note: Spine 2 2.10 TP 1:2-1:8) 7) Step 7 – Divide a 2-digit number by a 1-digit number – no exchange (Note: Spine 2 2.15 TP1) 8) Step 8 – Divide a 2-digit number by 1-digit number – flexible partitioning 9) Step 9 – Divide a 2-digit number by a 1 digit number – with remainders 10) Step 10 – Scaling 11) Step 11 – How many ways?

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		DFE Guidance (ready to progress criteria)	
		2NPV - Know that 10 ones are equivalent to 1 ten, and that 40 (for example) can be composed from 40 ones or 4 tens. Know how many tens there are in multiples of 10 up to 100. 2NF - Calculate products within the 2, 5 and 10 multiplication tables. 2NF - Automatically recall addition and subtraction facts within 10, and across 10. Unitise in tens: understand that 10 can be thought of as a single unit of 1 ten. 2 - Recognise repeated addition contexts and represent them with multiplication equations. Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).	3NPV–1 Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10. 3NF–2 Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number. 3NF – 3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10), for example: $30 \times 4 = 120$ $120 \div 4 = 30$ 3MD–1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.

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	Length and Perimeter	
	Measure, compare, add and subtract: lengths (m/cm/mm), mass (kg/g); volume/capacity (l/ml) Measure the perimeter of simple 2D shapes.	Lesson Progression 1) Step 1 - Measure in metres and centimetres 2) Step 2 – Measure in millimetres 3) Step 3 – Measure in centimetres and millimetres 4) Step 4 – Metres, centimetres and millimetres 5) Step 5 – Equivalent lengths (metres and centimetres) 6) Step 6 – Equivalent lengths (centimetres and millimetres) 7) Step 7 – Compare lengths 8) Step 8 – Add lengths 9) Step 9 – Subtract lengths 10) Step 10 - What is perimeter? 11) Step 11 - Measure perimeter (Note: Spine 2 Topic 2.16 TP 1) 12) Step 12 – Calculate perimeter

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Fractions		
	National Curriculum Objectives	Lesson Progression
	Count up and down in tenths. Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. Solve problems that involve all of the above.	Fractions A 1) (Note: Teaching Fractions in KS1) 2) Spine 3 Topic 3.1 TP1 3) Spine 3 Topic 3.1 TP 2 4) Spine 3 Topic 3.1 TP 3 and 4 5) Spine 3 Topic 3.2 TP 1 6) Spine 3 Topic 3.2 TP 2 (Note: Step 1 Understand the denominators of unit fractions) 7) Spine 3 Topic 3.2 TP 3 8) Spine 3 Topic 3.2 TP 4 9) Step 2 – Compare and order unit fractions (Note: Spine 3 Topic 3.2 TP 5) 10) Step 3 – Understand the numerators of non-unit fractions 11) Step 4 – Understand the whole 12) Step 5 – Compare and order non-unit fractions 13) Step 6 – Fractions and scales 14) Step 7 – Fractions on a number line 15) Step 8 – Count in fractions on a number line Fractions B 1) Spine 3 Topic 3.4 TP1 (Note: Step 1 add fractions) 2) Spine 3 Topic 3.4 TP2 (Note: Step 2 subtract fractions) 3) Spine 3 Topic 3.4 TP 4 (Note: Step 3 partition the whole) 4) Step 4 – Unit fractions of a set of objects 5) Step 5 – Non-unit fractions of a set of objects 6) Step 6 – Reasoning with fractions of an amount
		DFE Guidance (ready to progress criteria)

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		Reason about the location of whole numbers in the linear number system. Automatically recall addition and subtraction facts within 10. Unitise in tens: understand that 10 can be thought of as a single unit of 1 ten, and that these units can be added and subtracted.	3F–1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts. 3F–2 Find unit fractions of quantities using known division facts (multiplication tables fluency). 3F–3 Reason about the location of any fraction within 1 in the linear number system. 3F–4 Add and subtract fractions with the same denominator, within 1.
Mass and Capacity			
	National Curriculum Objectives	Lesson Progression	
	Draw 2-D shapes and make 3-D shapes using modelling materials. Recognise 3-D shapes in different orientations and describe them. Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. Recognise angles as a property of shape or a description of a turn. Identify right angles, recognise that two right angles make a half-term, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle.	1) Step 1 – Use scales 2) Step 2 – Measure mass in grams 3) Step 3 – Measure mass in kilograms and grams 4) Step 4 – Equivalent masses (kilograms and grams) 5) Step 5 – Compare mass 6) Step 6 – Add and subtract mass 7) Step 7 – Measure capacity and volume in millimetres 8) Step 8 – Measure capacity and volume in litres and millilitres 9) Step 9 – Equivalent capacities and volume (litres and millimetres) 10) Step 10 – Compare capacity and volume 11) Step 11 – Add and subtract capacity and volume	

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Money		
	National Curriculum Objectives	Lesson Progression
	Add and subtract amounts of money to give change, using both £ and p in practical contexts.	1) Step 1 - Pounds and pence 2) Step 2 - Convert pounds and pence 3) Step 3 - Add money 4) Step 4 - Subtract money 5) Step 5 - Find change

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Time		
	National Curriculum Objectives	Lesson Progression
	Tell and write the time from an analogue clock, including using Roman numerals and 12-hour and 24-hour clocks. Estimate and read time with increasing accuracy to the nearest minute. Know the number of seconds in a minute and the number of days in each month, year and leap year. Compare durations of events (for example to calculate the time taken by particular events or tasks).	1) Step 1 – Roman numerals to 12 2) Step 2 – Tell the time to 5 minutes 3) Step 3 – Tell the time to the minute 4) Step 4 – Read time on a digital clock 5) Step 5 – Use a.m. and p.m. 6) Step 6 – Years, months and days 7) Step 7 – Days and hours 8) Step 8 – Hours and minutes – use starts and end times 9) Step 9 – Hours and minutes – use durations 10) Step 10 – Minutes and seconds 11) Step 11 – Units of time 12) Step 12 – Solve problems with time

Geometry		
	National Curriculum Objectives	Lesson Progression
	Draw 2-D shapes and make 3-D shapes using modelling materials. Recognise 3-D shapes in different orientations and describe them. Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. Recognise angles as a property of shape or a description of a turn.	1) Step 1 - Turns and angles 2) Step 2 - Right angles 3) Step 3 - Compare angles 4) Step 4 – Measure and draw accurately 5) Step 5 - Horizontal and vertical 6) Step 6 - Parallel and perpendicular 7) Step 7 - Recognise and describe 2D shapes 8) Step 8 – Draw polygons 9) Step 9 - Recognise and describe 3D shapes 10) Step 10 - Make 3D shapes

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	Identify right angles, recognise that two right angles make a half-term, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle.	DFE Guidance (ready to progress criteria)	
		Recognise standard and non-standard examples of 2D shapes presented in different orientations. Identify similar shapes. Compose 2D shapes from smaller shapes to match an exemplar, rotating and turning over shapes to place them in specific orientations.	3G–1 Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations. 3G–2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.
Statistics			
	National Curriculum Objectives	Lesson Progression	
	Interpret and present data using bar charts, pictograms and tables. Solve one- step and two-step questions (for example, 'How many more?' and 'How many fewer?') using information presented in scaled bar charts and pictograms and tables.	1) Step 1 – Interpret pictograms 2) Step 2 – Draw pictograms 3) Step 3 – Interpret bar charts 4) Step 4 – Draw bar charts 5) Step 5 – Collect and represent data 6) Step 6 – Two-way tables	