

## Abacus Year 5 Draft Teaching Overview



Autumn 1				
Week	Strands	Weekly summary		
1	Number and place-value ( <b>NPV</b> ); Written addition and subtraction ( <b>WAS</b> )	Read, write, compare and order 5-digit numbers, understanding the place-value and using < and > signs; add and subtract multiples of 10, 100 and 1000 to and from 5-digit numbers; use written addition to add two 4-digit numbers; work systematically to spot patterns	Lesson 1 Read and write 5-digit numbers, understanding the place-value (S: Multiple of 10 bonds up to 1000)	<ul style="list-style-type: none"> <li>read, write and recognise value of digits in numbers up to 5 digits.</li> </ul>
			Lesson 2 Read and write 5-digit numbers, understanding the place-value; Add and subtract multiples of 10, 100 and 1000 to/from 5-digit numbers (S: Multiple of 5 bonds to 1000)	<ul style="list-style-type: none"> <li>read and write 5-digit numbers knowing what each digit represents</li> <li>add and subtract multiples of 10, 100 and 1000 using place-value.</li> </ul>
			Lesson 3 Compare and order 5-digit numbers; Use < and > signs to compare 5-digit numbers (S: Bonds to 100)	<ul style="list-style-type: none"> <li>read, write and know value of digits in 5-digit numbers</li> <li>compare and order 5-digit numbers.</li> </ul>
			Lesson 4 Use written addition to add two 4-digit numbers (answers can be in 5-digits) (S: Adding pairs of numbers that total teen numbers)	<ul style="list-style-type: none"> <li>add 4-digit numbers using written addition where answers are up to 5-digits.</li> </ul>
			Lesson 5 Use written addition to add two 4-digit numbers; Work systematically to spot patterns (S: Count on and back from 4-digit numbers)	<ul style="list-style-type: none"> <li>add 4-digit numbers using written addition</li> <li>look for patterns and try to explain by asking questions and testing ideas.</li> </ul>
2	Mental addition and subtraction ( <b>MAS</b> ); Number and place-value ( <b>NPV</b> )	Add and subtract 2-digit numbers mentally; choose a strategy for solving mental additions or subtractions; solve word problems	Lesson 6 Add and subtract 2-digit numbers (S: Adding pairs of multiples of 10)	<ul style="list-style-type: none"> <li>add 2-digit numbers mentally</li> <li>subtract 2-digit numbers mentally</li> <li>begin to add a 3-digit number and a 2-digit number.</li> </ul>
			Lesson 7 Add and subtract mentally using place-value and number bonds (S: Add 1-digit numbers to 2-digit numbers (in sets))	<ul style="list-style-type: none"> <li>solve place-value additions and subtractions</li> <li>solve additions and subtractions using appropriate mental strategies</li> <li>recognise they have a choice how to solve an addition or subtraction.</li> </ul>
			Lesson 8 Solve subtraction by counting up (Frog method) (S: Next 10, next 100)	<ul style="list-style-type: none"> <li>solve subtractions either by counting up to the next 10 first or by counting up to the nearest 100</li> <li>know and use bonds to 100.</li> </ul>
			Lesson 9 Count up to solve subtraction (Frog); Begin to identify 'best' method for solving a problem (S: Tell time to nearest minute on analogue and digital clocks)	<ul style="list-style-type: none"> <li>subtract using counting up</li> <li>begin to recognise when it is more appropriate to use counting up rather than written subtraction.</li> </ul>
			Lesson 10 Choose a strategy for solving mental addition or subtractions; Solve word problems (S: Count in 3s and 4s)	<ul style="list-style-type: none"> <li>read and gather information from word problems</li> </ul>

				<ul style="list-style-type: none"> <li>answer word problems using correct calculation.</li> </ul>
3	Decimals, percentages and their equivalence to fractions <b>(DPE)</b> ; Number and place-value <b>(NPV)</b> ; Mental multiplication and division <b>(MMD)</b>	Understand place-value in decimal numbers; multiply and divide numbers with up to two decimal places by 10 and 100; multiply and divide by 0 and 100; add and subtract 0.1 and 0.01; multiply and divide by 4 by doubling or halving twice; use mental multiplication strategies to multiply by 20, 25 and 9	Lesson 11 Place-value in decimal numbers (S: Compare 5-digit numbers)	<ul style="list-style-type: none"> <li>know the value of each digit in a number with two decimal places</li> <li>write and solve mathematical puzzles using clues.</li> </ul>
			Lesson 12 Multiply and divide numbers with up to 2 decimal places by 10 and 100 (S: Place-value with two decimal places)	<ul style="list-style-type: none"> <li>multiply and divide by 10 and 100, giving answers with no, 1 or 2 decimal places, explaining the effect.</li> </ul>
			Lesson 13 Multiply and divide by 10 and 100; Add and subtract 0.1 and 0.01 (S: Count in 0.1s forward and back)	<ul style="list-style-type: none"> <li>add and subtract 0.1 to/from number with one decimal place</li> <li>begin to add and subtract 0.01 to/from number with one or two decimal places.</li> </ul>
			Lesson 14 Multiply and divide by 4 by doubling or halving twice (S: More doubles and halves)	<ul style="list-style-type: none"> <li>multiply 2- and 3-digit numbers by 4 by doubling twice</li> <li>divide even 2- and 3-digit numbers by 4 by halving twice.</li> </ul>
			Lesson 15 Using mental multiplication strategies to multiply by 20, 25 and 9 (S: Times-tables)	<ul style="list-style-type: none"> <li>use mental multiplication strategies to multiply by 20, 25 and 9</li> <li>use the fact that multiplication can be done in any order.</li> </ul>
4	Measurement <b>(MEA)</b>	Revise converting 12-hour clock times to 24-hour clock times; find a time a given number of minutes or hours and minutes later; calculate time intervals using 24-hour clock format; measure lengths in mm and convert to cm; find perimeters in cm and convert cm to m	Lesson 16 Revise converting 12-hour clock times to 24-hour clock times (S: 4 and 8 times-tables)	<ul style="list-style-type: none"> <li>convert between 12-hour clock times and 24-hour times</li> <li>write digital times correctly.</li> </ul>
			Lesson 17 Find the time a given number of minutes, or hours and minutes, later, e.g. 1 hour 25 minutes after 13:45 (S: 2D shape)	<ul style="list-style-type: none"> <li>find a time a given number of minutes or hours and minute later, e.g. 1 hour 25 minutes after 13:45.</li> </ul>
			Lesson 18 Calculate time intervals using 24-hour clock format (S: Draw a line to a given length)	<ul style="list-style-type: none"> <li>read a timetable using 24-hour times</li> <li>calculate time intervals of more than an hour.</li> </ul>
			Lesson 19 Measure lengths in mm and convert to cm (S: Add and subtract pairs of 2-digit numbers)	<ul style="list-style-type: none"> <li>measure lengths to the nearest mm</li> <li>convert between mm and cm.</li> </ul>
			Lesson 20 Find perimeters in cm; Convert cm to m (S: Convert pm times to 24-hour clock time)	<ul style="list-style-type: none"> <li>find perimeters in cm</li> <li>convert cm to m.</li> </ul>
5	Written addition and subtraction <b>(WAS)</b> ; Mental addition and subtraction <b>(MAS)</b>	Solve subtraction using a written method for 3-digit – 3-digit numbers and for 4-digit numbers; use counting up (Frog)	Lesson 21 Solve 3-digit – 3-digit subtraction using written method (S: Subtracting single-digit numbers from teen numbers)	<ul style="list-style-type: none"> <li>subtract using a written method.</li> </ul>
			Lesson 22 Solve 3-digit – 3-digit subtraction using written method (S: 3-digit – 2-digit multiples of ten)	<ul style="list-style-type: none"> <li>solve written subtractions of 3-digit numbers where they have to move a ten and a hundred.</li> </ul>

		as a strategy to perform mental subtraction; find change from a multiple of ten pounds using counting up	Lesson 23 Solve written subtractions of 4-digit numbers (S: Adding to the next ten and next hundred)	<ul style="list-style-type: none"> <li>• solve written subtractions of 4-digit numbers</li> <li>• check subtraction with addition.</li> </ul>
			Lesson 24 Using counting up (Frog) as a strategy to perform mental subtraction (S: Bonds to 100)	<ul style="list-style-type: none"> <li>• subtract 3- and 4-digit numbers using counting up</li> <li>• begin to recognise that we should use different methods to subtract depending on the numbers.</li> </ul>
			Lesson 25 Find change from a multiple of ten pounds using counting up (S: Adding to the next pound)	<ul style="list-style-type: none"> <li>• find change from a multiple of ten pounds using counting up.</li> </ul>
<b>Autumn 2</b>				
<b>Week</b>	<b>Strands</b>	<b>Weekly summary</b>		
6	Mental multiplication and division ( <b>MMD</b> ); Fractions, ratio and proportion ( <b>FRP</b> )	Recognise which numbers are divisible by 2, 3, 4, 5, 6, 9 and 25 and identify multiples; find factors; compare and place fractions on a line; find equivalent fractions and reduce them to their simplest form	Lesson 26 Recognise which numbers are divisible by 2, 3, 4, 5, 6, 9 and 25; Multiples and factors (S: 3 and 6 times-tables) Lesson 27 Find factors of numbers to at least 40 (S: 7 times-table) Lesson 28 Compare pairs of fractions, e.g. $\frac{1}{6} > \frac{1}{9}$ and $2\frac{1}{3} > 2\frac{1}{4}$ ; Place fractions on a line (S: Count in steps of $\frac{1}{4}$ saying the halves) Lesson 29 Find equivalent fractions; Reduce fractions to their simplest form (S: Find fractions with a total of 1) Lesson 30 Reduce fractions to their simplest form (S: Convert between 12-hour and 24-clock)	<ul style="list-style-type: none"> <li>• recognise multiples of 2, 3, 4, 5, 6, 9 and 25.</li> <li>• find factors of numbers to at least 30.</li> <li>• compare pairs of fractions with the same numerator</li> <li>• begin to compare pairs of fractions with different denominators</li> <li>• place fractions on a line.</li> <li>• recognise equivalent fractions</li> <li>• begin to reduce fractions to their simplest form.</li> <li>• reduce fractions to their simplest form.</li> </ul>
7	Number and place-value ( <b>NPV</b> ); Written multiplication and division ( <b>WMD</b> )	Use mental strategies to multiply and divide multiples of 10 and 100; use a written method to multiply 3-digit and 4-digit numbers by 1-digit numbers and estimate answers, divide 3-digit numbers by 1-digit numbers using a written method and express remainders as a fraction	Lesson 31 Use mental strategies to multiply and divide multiples of 10 and 100 (S: Double 2- and 3-digit numbers) Lesson 32 Use a written method to multiply 3-digit and 4-digit numbers by 1-digit numbers (S: Multiply multiples of 100 and 1000 by 1-digit numbers) Lesson 33 Use a written method to multiply 3-digit and 4-digit numbers by 1-digit numbers; Estimate the answers (S: Halve 2- and 3-digit numbers) Lesson 34 Divide 3-digit numbers by 1-digit numbers using a written method (S: Multiply multiples of 10 by multiples of 10)	<ul style="list-style-type: none"> <li>• use multiplication facts and place-value to multiply and divide multiples of 10 and 100.</li> <li>• multiply 3-digit and 4-digit numbers by 1-digit numbers using a written method.</li> <li>• use a written method to multiply 3-digit and 4-digit numbers by 1-digit numbers</li> <li>• use rounding to estimate the answers.</li> <li>• use mental strategies and jottings to divide 3-digit numbers by 1-digit numbers, including those leaving a remainder</li> <li>• spot and explain patterns and relationships.</li> </ul>

			Lesson 35 Divide 3-digit numbers by 1-digit numbers using a written method; Express remainders as a fraction (S: Reduce fractions to their simplest forms)	<ul style="list-style-type: none"> <li>use mental strategies and jottings to divide 3-digit numbers by 1-digit numbers, expressing the remainder as a fraction of the divisor.</li> </ul>
8	Geometry: properties of shapes <b>(GPS)</b>	Use a protractor to measure and draw angles in degrees; recognise, use terms and classify angles as obtuse, acute and reflex; recognise that angles on a line total $180^\circ$ and angles round a point total $360^\circ$ ; identify and name parts of a circle including diameter, radius and circumference; draw circles to a given radius using a pair of compasses; relate angles to turns, and recognise that a $360^\circ$ angle is a complete turn; use angle facts to solve problems related to turn	Lesson 36 Use a protractor to measure angles in degrees; Know a protractor is used to measure angles and we measure these in degrees; Recognise and use terms obtuse, acute and reflex angles (S: Placing 4-digit numbers on a 0–10,000 line)	<ul style="list-style-type: none"> <li>measure angles in degrees using a protractor</li> <li>classify angles as acute, obtuse or reflex.</li> </ul>
			Lesson 37 Measure angles in degrees using a protractor; Draw angles to nearest degree using a protractor; Classify angles as acute, obtuse or reflex (S: Convert measurements in metres to centimetres and vice-versa)	<ul style="list-style-type: none"> <li>use a protractor to draw angles of a given size (in degrees)</li> <li>measure angles using a protractor (in degrees)</li> <li>classify angles as acute, obtuse and reflex.</li> </ul>
			Lesson 38 Recognise that angles on a line total $180^\circ$ and angles round a point total $360^\circ$ Use a protractor to measure and draw angles in degrees (S: Calculating time intervals using 24-hour clock)	<ul style="list-style-type: none"> <li>know that angles on a line total <math>180^\circ</math></li> <li>know that angles around a point total <math>360^\circ</math>.</li> </ul>
			Lesson 39 Identify and name parts of a circle including diameter, radius and circumference; Draw arcs and circles to a given radius using a pair of compasses (S: Angles on a line add to $180^\circ$ )	<ul style="list-style-type: none"> <li>name circumference, diameter and radius and measure using rulers (and string)</li> <li>use a pair of compasses to draw a circle to a given radius.</li> </ul>
			Lesson 40 Relate angles to turns, and recognise that a $360^\circ$ angle is a complete turn; Use the fact that angles round a point add to $360^\circ$ and angles on a straight line add to $180^\circ$ to solve problems related to turn (S: Angles round a point add to $360^\circ$ )	<ul style="list-style-type: none"> <li>recognise that we measure angles of turn</li> <li>use a protractor to measure and draw angles in degrees</li> <li>use counting up and knowledge that angles on a line total <math>180^\circ</math> and angles round a point total <math>360^\circ</math> to work out missing angles.</li> </ul>
9	Number and place-value <b>(NPV)</b> ; Fractions, ratio and proportion <b>(FRP)</b> ; Decimals, percentages and their equivalence to fractions <b>(DPE)</b>	Place numbers to 100 000 and decimals up to two places on a line, round numbers to the nearest 10, 100 and 1000 and decimals up to two places to the nearest whole number; compare and order numbers with up to two decimal places; reduce fractions to their simplest form;	Lesson 41 Place numbers to 100,000 on a line; Round numbers to the nearest 10, 100 and 1000 (S: Place 4-digit numbers on a line)	<ul style="list-style-type: none"> <li>place 5-digit numbers on a number line</li> <li>round 5-digit numbers to the nearest 10, 100 and 1000.</li> </ul>
			Lesson 42 Place decimals up to two places on a line; Round decimals up to two places to the nearest whole (S: Count on and back in steps of 0.1)	<ul style="list-style-type: none"> <li>place numbers with one and two decimal places on a line</li> <li>round 1-place and 2-place decimals to the nearest whole.</li> </ul>
			Lesson 43 Compare and order numbers with up to two decimal places (S: Round 5-digit numbers to the nearest 100 or 1000)	<ul style="list-style-type: none"> <li>compare and order numbers with one and two decimal places</li> <li>write a number with one decimal place between two neighbouring whole numbers and write a number with two</li> </ul>

		know and recognise equivalent fractions and decimals to half, tenths and fifths		decimal places between neighbouring numbers of tenths.
			Lesson 44 Reduce fractions to their simplest form and recognise equivalent fractions (S: Count in steps of $\frac{1}{4}$ )	<ul style="list-style-type: none"> <li>reduce fractions to their simplest form</li> <li>recognise equivalent fractions.</li> </ul>
			Lesson 45 Know equivalent fractions and decimals to a half, tenths and fifths (S: 6 and 9 times-tables)	<ul style="list-style-type: none"> <li>recognise common equivalent fractions and decimals: tenths, hundredths, halves and beginning to know fifths.</li> </ul>
10	Number and place-value ( <b>NPV</b> ); Mental addition and subtraction ( <b>MAS</b> ); Written addition and subtraction ( <b>WAS</b> ); Mental multiplication and division ( <b>MMD</b> ); Written multiplication and division ( <b>WMD</b> )	Revise mental and written addition and subtraction strategies; choose to use a mental strategy or written method to solve addition and subtraction; choose to solve multiplication and division questions including 2- and 3-digit by 1-digit and 2-digit by 2-digit using a mental or a written method; identify the operation being used on numbers; understand that addition and subtraction are inverse operations multiplication and division; use function machines	Lesson 46 Choose to use a mental strategy or written method to solve addition; Revise mental addition strategies (including: using number facts, counting up, and place-value); Revise written method (S: Adding multiples of 10, 100 and 1000 to 4-digit numbers)	<ul style="list-style-type: none"> <li>choose an appropriate mental or written method to add numbers (up to four digits)</li> <li>solve additions using mental strategies and written method.</li> </ul>
			Lesson 47 Choose to use a mental strategy or written method to solve subtraction; Revise mental addition strategies (including: using number facts, counting up, and place-value); Revise written method for subtraction (S: Bonds to 100 (as subtractions))	<ul style="list-style-type: none"> <li>choose an appropriate mental or written method to subtract numbers (up to four digits)</li> <li>solve subtractions using mental strategies and written method.</li> </ul>
			Lesson 48 Solve multiplication questions including 2- and 3-digit $\times$ 1-digit and 2-digit $\times$ 2-digit; Choose to solve a multiplication using a mental or a written method (S: Times-tables)	<ul style="list-style-type: none"> <li>use mental and written methods to solve multiplications</li> <li>decide to use a written or a mental method to solve a multiplication.</li> </ul>
			Lesson 49 Solve division questions including 2- and 3-digit $\div$ 1-digit and 2-digit $\div$ 2-digit; Choose to solve division using a mental or a written method (S: Division facts (times-tables))	<ul style="list-style-type: none"> <li>solve divisions using both written and mental strategies.</li> <li>choose an appropriate method for solving divisions (written or mental strategies).</li> </ul>
			Lesson 50 Identify the operation being used on numbers (addition, subtraction, multiplication or division); Understand that addition and subtraction are inverse operations as are multiplication and division; Use function machines (S: Identifying multiples of 3 and 4)	<ul style="list-style-type: none"> <li>work out a function (single operation)</li> <li>use the inverse operation to find answers.</li> </ul>
<b>Spring 1</b>				
<b>Week</b>	<b>Strands</b>	<b>Weekly summary</b>		
11	Number and place-value ( <b>NPV</b> ); Decimals, percentages and their equivalence to fractions ( <b>DPE</b> )	Read, write and order numbers with up to 6 digits and understand the place-value of each digit; place 6-digit numbers on a number line and find numbers between; solve place-	Lesson 51 Read and write numbers with up to 6 digits and understand the value of each digit (S: Placing 4-digit numbers on a 0–10 000 line)	<ul style="list-style-type: none"> <li>read and write 6-digit numbers</li> <li>say what each digit represents and understand place-value in 6-digit numbers.</li> </ul>
			Lesson 52 Understand place-value in 6-digit numbers and use knowledge to solve place-value additions and subtractions (S: Compare 5-digit numbers)	<ul style="list-style-type: none"> <li>read, write and understand place-value in 6-digit numbers</li> <li>solve place-value additions and subtractions with 6-digit numbers.</li> </ul>

		value additions and subtractions with 6-digit numbers; understand place-value in decimal numbers as tenths and hundredths; multiply and divide by 10 /100/1000 using a place-value grid; understand place-value in decimal numbers to 2-decimal places; place decimal numbers on a line; round 2-place decimal numbers to nearest tenth and whole number; say the number a tenth or a hundredth more	Lesson 53 Understand place-value in 6-digit numbers, place 6-digit numbers on a number line and order 6-digit numbers, finding numbers in between (S: Number balances)	<ul style="list-style-type: none"> <li>compare and order numbers with 6 digits and write numbers that lie between</li> <li>estimate accurately where a 6-digit number should go on a number line.</li> </ul>
			Lesson 54 Understand place-value in decimal numbers as tenths and hundredths; Multiply and divide by 10/100/1000 and understand place-value in 6-digit numbers (S: Number lines with 6-digit numbers)	<ul style="list-style-type: none"> <li>multiply and divide numbers by 10 and 100 including 2-place decimal answers</li> <li>read, write and say numbers up to six digits and up to two decimal places.</li> </ul>
			Lesson 55 Understand place-value in decimal numbers to two decimal places; Place decimal numbers on a line; Round 2-place decimal numbers to nearest tenth and whole number and say the number a tenth or a hundredth more (S: Compare lengths)	<ul style="list-style-type: none"> <li>understand place-value in 2-place decimals</li> <li>say a number one-tenth or one-hundredth more than a given decimal</li> <li>locate 2-place decimals on a number line and begin to round these to the nearest whole number and tenth.</li> </ul>
12	Mental addition and subtraction <b>(MAS)</b> ; Written addition and subtraction <b>(WAS)</b>	Rehearse mental addition strategies for decimals and whole numbers; use counting on as a strategy to perform mental addition of 2-place decimals to the next whole number; solve missing number sentences; use mental strategies to solve word problems; use counting up as a strategy to perform written subtraction (Frog)	Lesson 56 Rehearse mental addition strategies for decimal and whole numbers (S: Adding two 2-digit numbers (mentally))	<ul style="list-style-type: none"> <li>add 1-place decimals using appropriate mental strategies</li> <li>add whole numbers choosing appropriate mental strategies.</li> </ul>
			Lesson 57 Use counting on as a strategy to perform mental addition of 2-place decimals to the next whole number and solve missing number sentences (S: Subtracting 2-digit numbers)	<ul style="list-style-type: none"> <li>use counting on and bonds to 100 to add any 2-place decimal to the next whole number</li> <li>use mental addition strategies and knowledge of bonds to solve missing number sentences.</li> </ul>
			Lesson 58 Use mental strategies to solve word problems (S: Adding several multiples of ten)	<ul style="list-style-type: none"> <li>solve word problems using mental addition</li> <li>solve word problems using RNCA.</li> </ul>
			Lesson 59 Use counting up (Frog) as a strategy to perform written subtraction (S: Adding to the next hundred)	<ul style="list-style-type: none"> <li>count up to solve 4-digit – 4-digit subtractions from near multiples of a thousand, where column subtraction is awkward.</li> </ul>
			Lesson 60 Use counting up (Frog) as a strategy to perform a written subtraction (S: Adding to the next pound)	<ul style="list-style-type: none"> <li>read and decipher word problems generating a calculation and solving it to answer the question</li> <li>solve subtraction word problems using counting up.</li> </ul>

13	Number and place-value ( <b>NPV</b> ); Mental multiplication and division ( <b>MMD</b> ); Measurement ( <b>MEA</b> )	Use rules of divisibility to find if numbers are divisible by 2, 3, 4, 5, 9 and 10; identity prime numbers; revise finding factors of numbers; find squares and square roots of square numbers; make and test rules; use mental multiplication and division strategies; relate mental division strategies to multiples of ten of the divisor	Lesson 61 Use rules of divisibility to find if numbers are divisible by 2, 3, 4, 5, 9 and 10 (S: Division facts for the 12 times-table)	<ul style="list-style-type: none"> <li>use rules of divisibility to find if numbers are divisible by 2, 3, 4, 5, 9 and 10.</li> </ul>
			Lesson 62 Identity prime numbers and revise finding factors of numbers (S: All times-tables to $12 \times 12$ )	<ul style="list-style-type: none"> <li>find prime numbers</li> <li>find factor pairs for numbers up to 50.</li> </ul>
			Lesson 63 Find square numbers and square roots, making and testing rules (S: Factors)	<ul style="list-style-type: none"> <li>find square numbers</li> <li>begin to find square roots</li> <li>find a pattern, come up with a rule and test it out.</li> </ul>
			Lesson 64 Use mental multiplication strategies (S: Multiples)	<ul style="list-style-type: none"> <li>use multiplication facts and place-value to work out multiplication mentally.</li> </ul>
			Lesson 65 Use mental strategies to divide numbers (S: 2D shapes)	<ul style="list-style-type: none"> <li>use mental strategies such as chunking to divide mentally</li> <li>spot multiples of the divisor in the number being divided.</li> </ul>
14	Geometry: properties of shapes ( <b>GPS</b> ); Measurement ( <b>MEA</b> )	Know properties of equilateral, isosceles, scalene and right-angled triangles; find that angles in a triangle have a total of $180^\circ$ ; sort triangles according to their properties; use scales to weigh amounts to the nearest half interval; convert from grams to kilograms and vice versa, from millilitres to litres and vice versa, and from metres to kilometres and vice versa; read scales to the nearest half division; understand that we measure distance in kilometres and miles; use ready reckoning to give approximate values of miles in kilometres and vice versa; draw line conversion graphs	Lesson 66 Properties of triangles, and find that angles in a triangle have a total of $180^\circ$ (S: Write equivalent multiplications)	<ul style="list-style-type: none"> <li>identify different types of triangle</li> <li>know that the angles in a triangle add up to <math>180^\circ</math></li> <li>use a protractor to measure angles less than <math>180^\circ</math>.</li> </ul>
			Lesson 67 Properties of scalene and right-angled triangles, and sort triangles according to their properties (S: Rounding and placing whole numbers on a number line)	<ul style="list-style-type: none"> <li>sort triangles using a Venn diagram</li> <li>describe the properties of triangles.</li> </ul>
			Lesson 68 Use scales to weigh amounts to the nearest half interval, convert from grams to kilograms and vice versa (S: Draw a rectangle to a given perimeter)	<ul style="list-style-type: none"> <li>convert between kilograms and grams.</li> <li>use scales to weigh items to the nearest half division.</li> </ul>
			Lesson 69 Read scales to the nearest half division, convert from millilitres to litres and vice versa (S: Negative numbers)	<ul style="list-style-type: none"> <li>read scales to the nearest half division</li> <li>convert from millilitres to litres and vice versa.</li> </ul>
			Lesson 70 Understand that we measure distance in kilometres and miles, convert from metres to kilometres and vice versa; Use ready reckoning to give approximate values of miles in kilometres and vice versa, and draw line conversion graphs (S: Temperature bar graphs)	<ul style="list-style-type: none"> <li>draw and interpret a line graph</li> <li>use a line graph to enable conversion between miles and kilometres.</li> </ul>

15	Written addition and subtraction <b>(WAS)</b>	Use a written column method to add amounts of money in pounds and pence; add 2-place decimals using written column addition; subtract decimal numbers using counting up (Frog)	Lesson 71 Use written column method to add amounts of money in pounds and pence (S: Mentally add amounts of pence)	<ul style="list-style-type: none"><li>add amounts of money using written addition</li><li>understand place-value in money.</li></ul>
			Lesson 72 Use written column method to add amounts of money in pounds and pence (S: Adding decimal tenths using bonds to 1)	<ul style="list-style-type: none"><li>add amounts of money in pounds and pence using written column addition</li><li>add 2-place decimals using written column addition.</li></ul>
			Lesson 73 Add 2-place decimals using written column addition (S: Adding decimal hundredths using bonds to tenths)	<ul style="list-style-type: none"><li>add 2-digit numbers with 2-place decimals using column addition</li><li>investigate patterns in addition using knowledge of bonds and a systematic approach.</li></ul>
			Lesson 74 Subtract decimal numbers using counting up (S: Bonds to the next multiple of a hundred)	<ul style="list-style-type: none"><li>subtract decimal numbers using counting up</li><li>use decimal bonds to the next whole number.</li></ul>
			Lesson 75 Subtract decimal numbers using counting up (S: Adding to the next whole number from 2-place decimals)	<ul style="list-style-type: none"><li>subtract numbers with 2-place decimals by counting up</li><li>use decimal bonds to the next whole number.</li></ul>
Spring 2				
Week	Strands	Weekly summary		
16	Written multiplication and division <b>(WMD)</b>	Use a written method (grid) to multiply pairs of 2-digit numbers; use short division to divide 3-digit numbers by 1-digit numbers, including those which leave a remainder	Lesson 76 Use a written method (grid) to multiply pairs of 2-digit numbers (S: Multiply pairs of multiples of 10, e.g. 50 × 60)	<ul style="list-style-type: none"><li>use a written method to multiply pairs of 2-digit numbers.</li></ul>
			Lesson 77 Use a written method (grid) to multiply pairs of 2-digit numbers (S: Multiply multiples of 100 by multiples of 10, e.g. 500 × 30)	<ul style="list-style-type: none"><li>use a written method to multiply pairs of 2-digit numbers</li><li>use rounding to estimate the product</li></ul>
			Lesson 78 Begin to use short division to divide 3-digit numbers by 1-digit numbers (S: Multiply by 10 and 100 on a grid)	<ul style="list-style-type: none"><li>begin to use short division to divide 3-digit numbers by 1-digit numbers</li><li>use rounding to estimate the answer.</li></ul>
			Lesson 79 Use short division to divide 3-digit numbers by 1-digit numbers (S: Divide by 10 and 100 on a grid)	<ul style="list-style-type: none"><li>use short division to divide 3-digit numbers by 1-digit numbers</li><li>use rounding to estimate the answer.</li></ul>
			Lesson 80 Use short division to divide 3-digit numbers by 1-digit numbers, including those which leave a remainder (S: Divide 3-digit multiples of 10 by single-digit numbers)	<ul style="list-style-type: none"><li>divide 3-digit numbers by single-digit numbers using a written method, answers greater than 100, expressing remainders as whole numbers.</li></ul>
17	Written multiplication and	Find unit fractions and non-unit fractions of 3-	Lesson 81 Find unit fractions and non-unit fraction of 3-digit numbers (S: Find fractions of small amounts)	<ul style="list-style-type: none"><li>find unit then non-unit fractions of 3-digit amounts.</li></ul>

	division <b>(WMD)</b> ; Fractions, ratio and proportion <b>(FRP)</b>	digit numbers; use short multiplication to multiply 3-digit numbers by 1-digit numbers; begin to use short multiplication to multiply 4-digit numbers by 1-digit numbers	Lesson 82 Find unit and non-unit fractions of 3-digit numbers (S: Find perimeter and sides of shapes with given perimeters)	<ul style="list-style-type: none"> <li>find unit and non-unit fractions of 3-digit amounts.</li> </ul>
			Lesson 83 Use short multiplication to multiply 3-digit numbers by single-digit numbers (S: Multiply multiples of 10 by single-digit numbers)	<ul style="list-style-type: none"> <li>begin to use short multiplication to multiply 3-digit numbers by single-digit numbers.</li> </ul>
			Lesson 84 Use short multiplication to multiply 3-digit numbers by single-digit numbers (S: Reduce fractions to their simplest forms)	<ul style="list-style-type: none"> <li>use short multiplication to multiply 3-digit numbers by 1-digit numbers</li> <li>use rounding to estimate the answer</li> <li>look at final digits for clue to match calculations in answers.</li> </ul>
			Lesson 85 Begin to use short multiplication to multiply 4-digit numbers by single-digit numbers (S: Negative numbers)	<ul style="list-style-type: none"> <li>begin to use short multiplication to multiply 4-digit numbers by single-digit numbers.</li> </ul>
18	Geometry: properties of shapes <b>(GPS)</b> ; Measurement <b>(MEA)</b>	Understand what a polygon is; draw polygons using dotted square and isometric paper; revise terms obtuse, acute and reflex angles, perpendicular and parallel sides; recognise quadrilaterals as polygons and identify their properties; classify quadrilaterals; draw regular polygons and explore their properties; revise SI units of weight, capacity and length; understand that we can measure in Imperial units and relate these to their instances in daily life	Lesson 86 Understand what a polygon is, draw polygons using dotted, square and isometric paper, and revise and use terms such as perpendicular and parallel sides (S: Rounding decimals to the nearest whole number)	<ul style="list-style-type: none"> <li>identify and define a polygon</li> <li>recognise different polygons and name these</li> <li>identify parallel and perpendicular lines.</li> </ul>
			Lesson 87 Recognise quadrilaterals as polygons and identify their properties, and classify quadrilaterals (S: Recognise decimal and fraction equivalents)	<ul style="list-style-type: none"> <li>recognise and identify different types of quadrilateral</li> <li>identify quadrilaterals by recognising and describing their properties.</li> </ul>
			Lesson 88 Draw regular polygons and explore their properties (S: Draw a circle using a compass)	<ul style="list-style-type: none"> <li>identify and describe polygons according to properties</li> <li>begin to say what the angles at the centre of regular polygons might be.</li> </ul>
			Lesson 89 Revise metric units of weight, capacity and length, and understand that we can measure in imperial units and relate these to their instances in daily life (S: Triangles)	<ul style="list-style-type: none"> <li>name some commonly used Imperial units and say to which measure these correspond.</li> </ul>
			Lesson 90 Understand that we can measure in imperial units and relate these to their instances in daily life (S: Calculate intervals of time using the 24 hour clock)	<ul style="list-style-type: none"> <li>use Standard International Units to measure lengths, weights and capacities</li> <li>recognise that Imperial units can be used for this purpose</li> <li>identify the contexts where people are likely to use Imperial units</li> <li>develop a feel-factor for some commonly used Imperial units.</li> </ul>
19	Fractions, ratio and proportion <b>(FRP)</b>	Place mixed numbers on lines; count up in fractions using	Lesson 91 Place mixed numbers, e.g. $3\frac{5}{6}$ , on lines; Count up in fractions using equivalence (S: Say how much needs to be added to a fraction to make a whole)	<ul style="list-style-type: none"> <li>place mixed numbers, e.g. <math>3\frac{5}{6}</math>, on lines</li> <li>count up in fractions using equivalence</li> </ul>

		equivalence; convert improper fractions to mixed numbers and vice versa; write improper fractions as mixed numbers and vice versa; multiply proper fractions by whole numbers	<p>Lesson 92 Write improper fractions as mixed numbers and vice versa (S: Count in steps of <math>\frac{1}{8}</math> using equivalence)</p> <p>Lesson 93 Write improper fractions as mixed numbers and vice versa (S: Telling the time)</p> <p>Lesson 94 Multiply proper fractions by whole numbers, e.g. <math>\frac{2}{5} \times 8</math> (S: The <math>\frac{1}{2}</math> times-table)</p> <p>Lesson 95 Multiply proper fractions by whole numbers, e.g. <math>\frac{1}{4} \times 9</math> as <math>6 \times \frac{2}{5}</math> and <math>5 \times \frac{3}{7}</math> (S: Count back in 2s through zero)</p>	<ul style="list-style-type: none"> <li>• write improper fractions as mixed numbers and vice versa.</li> <li>• write improper fractions as mixed numbers and vice versa</li> <li>• look for patterns and begin to write rules.</li> <li>• fractions by whole numbers, e.g. <math>\frac{2}{5} \times 8</math>.</li> <li>• multiply improper fractions by whole numbers, e.g. <math>\frac{1}{4} \times 7</math> etc.</li> </ul>
20	Written addition and subtraction <b>(WAS)</b>	Solve subtraction of 4-digit numbers using written column subtraction (decomposition); add several numbers using written column addition; use column addition to solve problems and answer questions	<p>Lesson 96 Solve subtraction of 4-digit numbers using written column subtraction (decomposition) (S: Understand place-value in 5-digit numbers)</p> <p>Lesson 97 Solve subtraction of 4-digit numbers using written column subtraction (decomposition) (S: Play Mystery number with the children)</p> <p>Lesson 98 Solve subtraction of 4-digit numbers using written column subtraction (decomposition) (S: Estimating)</p> <p>Lesson 99 Adding several numbers using written column addition (S: Add several single-digit numbers)</p> <p>Lesson 100 Adding several numbers using written column addition; Use column addition to solve problems and answer questions (S: Adding several multiples of ten)</p>	<ul style="list-style-type: none"> <li>• solve 4-digit – 4-digit subtraction using written column method.</li> <li>• solve 4-digit subtractions using the written column method</li> <li>• solve written column subtractions of 4-digit numbers where you have to move 3 digits.</li> <li>• solve 4-digit subtractions using column subtraction</li> <li>• check 4-digit subtraction using estimating and addition</li> <li>• identify patterns and make predictions.</li> <li>• add several numbers 2-, 3- &amp; 4-digit using column addition.</li> <li>• use column addition to add lots of 3-digit numbers to solve a problem</li> <li>• use a tape measure to measure to the nearest centimetre.</li> </ul>
<b>Summer 1</b>				
<b>Week</b>	<b>Strands</b>	<b>Weekly summary</b>		
21	Mental addition and subtraction <b>(MAS)</b> ; Decimals, percentages and their equivalence to fractions <b>(DPE)</b>	Mentally add 2-place decimal numbers in the context of money using rounding; add several small amounts of money using mental methods; mentally subtract amounts of money including giving change; calculate the difference	<p>Lesson 101 Mentally add 2-place decimal numbers in the context of money using rounding (S: Mentally add 'nearly numbers' using rounding)</p> <p>Lesson 102 Add several small amounts of money using mental methods (S: Add two 1-place decimals)</p> <p>Lesson 103 Mentally subtract amounts of money including giving change (S: Add to the next multiple of 100)</p>	<ul style="list-style-type: none"> <li>• add money with 2-place decimals using rounding (round up or down to nearest pound and adjust.</li> <li>• solve additions of small amounts of money mentally</li> <li>• use number facts and place-value to solve addition mentally.</li> <li>• solve subtractions of an amount of money using mental strategies</li> <li>• children use mental strategies rounding,</li> </ul>

		between two amounts using counting up (Frog); solve word problems, including 2-step problems, choosing an appropriate method	<p>Lesson 104 Find change and calculate the difference between two amounts using counting up (Frog) (S: Adding to the next pound)</p> <p>Lesson 105 Solve word problems, including 2-step problems, choosing an appropriate method (S: Convert measures from imperial to metric)</p>	<p>number facts, place-value, etc.</p> <ul style="list-style-type: none"> <li>find change using counting up (Frog)</li> <li>subtract amounts of money using counting up (Frog).</li> <li>solve word problems using addition, subtraction of amounts of money</li> <li>use mental strategies to solve calculations.</li> </ul>
22	Fractions, ratio and proportion <b>(FRP)</b> ; Written multiplication and division <b>(WMD)</b>	Multiply fractions less than 1 by whole numbers, convert improper fractions to whole numbers; use short multiplication to multiply 3-digit and 4-digit numbers by 1-digit numbers; use long multiplication to multiply 2-digit and 3-digit numbers by teens numbers	<p>Lesson 106 Multiply fractions less than 1 by whole numbers, converting improper fractions to whole numbers (S: Times-tables)</p> <p>Lesson 107 Use short multiplication to multiply 3-digit and 4-digit numbers by single-digit numbers (S: Multiply multiples of 10 by single-digit numbers, e.g. <math>6 \times 70</math>)</p> <p>Lesson 108 Use short multiplication to multiply 4-digit numbers by single-digit numbers (S: Multiply fractions by single-digit numbers)</p> <p>Lesson 109 Begin to use long multiplication to multiply 2-digit and 3-digit numbers by teens numbers (S: Multiply multiples of 100 by multiples of 10)</p> <p>Lesson 110 Use long multiplication to multiply 3-digit numbers by teens numbers (S: Convert grams to kilograms)</p>	<ul style="list-style-type: none"> <li>multiply fractions less than 1 by whole numbers</li> <li>write improper fractions as mixed numbers</li> <li>spot patterns and make generalisations.</li> <li>use short multiplication to multiply 3-digit and 4-digit numbers by 1-digit numbers</li> <li>use rounding to estimate the answer.</li> <li>use short multiplication to multiply 4-digit numbers by single-digit numbers</li> <li>use rounding to estimate answers.</li> <li>understand the three-stage process in long multiplication</li> <li>begin to use long multiplication to multiply 2-digit numbers and 3-digit numbers by teens numbers.</li> <li>use long multiplication to multiply 3-digit numbers by teens numbers.</li> </ul>
23	Decimals, percentages and their equivalence to fractions <b>(DPE)</b> ; Number and place-value <b>(NPV)</b>	Read, write and compare decimals to three decimal places; begin to understand the third decimal place represents 1000ths; multiply and divide numbers by 10, 100 and 1000 using 3-place decimal numbers in the calculations; place 2-place decimals on a number line and round them to the nearest tenth	<p>Lesson 111 Read, write and compare decimals to three decimal places; Begin to understand the third decimal place represents 1000ths (S: Count in 001s (on and back))</p> <p>Lesson 112 Multiply and divide numbers by 10, 100 and 1000 using 3-place decimal numbers in the calculations (S: Write a number between two numbers with 2-place decimals)</p> <p>Lesson 113 Place 2-place decimals on a number line and round them to the nearest tenth and whole number (S: Add to the next whole number from 2-place decimals)</p>	<ul style="list-style-type: none"> <li>read, write and compare 3-place decimals</li> <li>know 0.001 is <math>1/1000</math>.</li> <li>multiply and divide numbers by 10, 100 &amp; 1000 including numbers with 3-place decimals</li> <li>understand place-value in 4-digit numbers and 3-place decimals.</li> <li>children can round 2-place decimals to the nearest tenth</li> <li>children can round decimals to the nearest whole number</li> <li>children can locate 2-place decimal numbers on a number line.</li> </ul>

		and whole number; read, write, order and compare 3-place decimal numbers using a number line; understand and use negative numbers in the context of temperature	Lesson 114 Read, write, order and compare 3-place decimal numbers, use a number line (S: Decimal and fraction equivalences ( $\frac{1}{4}$ , $\frac{1}{2}$ , $\frac{3}{4}$ & tenths))	<ul style="list-style-type: none"> <li>understand place-value of decimal numbers to 3 decimal places</li> <li>use systematic logic to order their search</li> <li>use mathematical reasoning in solving a problem.</li> </ul>
			Lesson 115 Understand and use negative numbers in the context of temperature (S: Convert units of time (years, months, days, hours, minutes))	<ul style="list-style-type: none"> <li>compare and order negative numbers</li> <li>understand negative numbers are less than zero.</li> </ul>
24	Geometry: position and direction <b>(GPD)</b> ; Geometry: properties of shapes <b>(GPS)</b>	Read and mark co-ordinates in the first two quadrants; draw simple polygons using co-ordinates; translate simple polygons through simple consistent changes to the co-ordinates; reflect simple shapes in the y-axis or in a line, noting what happens to the co-ordinates; translate simple shapes and note what happens to the co-ordinates; draw 2D shapes, regular and irregular, using given dimensions and angles; use the properties of 2D shapes, including rectangles, to deduce related facts; identify 3D shapes from 2D representations; create 3D shapes using 2D nets; draw 3D shapes	Lesson 116 Read and mark co-ordinates in the first quadrant; Draw simple polygons using co-ordinates; Translate simple polygons through simple consistent changes to the co-ordinates e.g. add 3 to x co-ordinate, etc (S: Round decimals to the nearest whole number)	<ul style="list-style-type: none"> <li>mark co-ordinates in the first quadrant and draw a simple polygon</li> <li>add to x and y co-ordinates to translate simple polygons in the first quadrant.</li> </ul>
			Lesson 117 Read and mark co-ordinates in the first two quadrants; Draw simple polygons using co-ordinates; Reflect simple shapes in the y-axis or in a line, noting what happens to the co-ordinates (S: Place 6-digit numbers on a line and round to the nearest 100,000)	<ul style="list-style-type: none"> <li>draw shapes reflected in the x-axis</li> <li>begin to draw shapes reflected in a line parallel with the x-axis.</li> </ul>
			Lesson 118 Read and mark co-ordinates in the first two quadrants; Draw simple polygons using co-ordinates; Translate simple shapes and note what happens to the co-ordinates; Reflect simple shapes in the y-axis or in a line, noting what happens to the co-ordinates (S: Revise 24 hour clock)	<ul style="list-style-type: none"> <li>plot co-ordinates on a graph and join these to create a polygon</li> <li>reflect the polygon in the y axis or in another vertical line on the graph</li> <li>understand what has happened to the co-ordinates after they have reflected the shape in the y axis</li> <li>begin to explain what happens to the x co-ordinates when they reflect a shape in a vertical line on the graph.</li> </ul>
			Lesson 119 Draw 2D shapes, regular and irregular, using given dimensions and angles; Use the properties of 2D shapes, including rectangles, to deduce related facts (S: Subtract 3-digit numbers using Frog (counting up))	<ul style="list-style-type: none"> <li>identify regular and irregular polygons</li> <li>draw regular and irregular 2D shapes using given dimensions and with given angles</li> <li>recognise and use the properties of rectangles to derive related facts.</li> </ul>
			Lesson 120 Identify 3D shapes from 2D representations; Create 3D shapes using 2D nets; Draw 3D shapes (S: 2D shape)	<ul style="list-style-type: none"> <li>chn can identify and name 3D shapes</li> <li>chn can identify 3D shapes from 2D representations</li> <li>chn can create 3-d shapes using 2D nets</li> <li>chn can draw 3D shapes to create a 2D representation</li> </ul>

25	Written addition and subtraction <b>(WAS)</b>	Add 5-digit numbers using written column addition; subtract 5-digit numbers using written method (decomposition); check answers to subtractions using addition (written column method); solve subtractions of 4- and 5-digit numbers using written column subtraction (decomposition) or Frog (counting up)	Lesson 121 Add 5-digit numbers using written column addition (S: Add 2-digit numbers mentally) Lesson 122 Add 5-digit numbers using written column addition (S: Adding and subtracting mentally – understand addition undoes subtraction and vice-versa) Lesson 123 Subtract 5-digit numbers using written method (decomposition) (S: Sequences) Lesson 124 Subtract 5-digit numbers using written method (decomposition); Check answers to subtractions using addition (written column method) (S: Subtract 3-digit numbers using Frog (counting up)) Lesson 125 Solve subtractions of 4- & 5-digit numbers choosing to use written column subtraction (decomposition) or Frog (counting up) (S: Subtract 4-digit numbers using Frog (counting up))	<ul style="list-style-type: none"><li>add two 5-digit numbers using written column addition.</li><li>add two 5-digit numbers using written column addition.</li><li>children can subtract 5-digit numbers using decomposition</li><li>children can subtract 5-digit numbers using Frog (counting up).</li><li>children can subtract 5-digit numbers using decomposition</li><li>children can subtract 5-digit numbers using Frog (counting up).</li><li>choose the appropriate method to solve subtraction of 5-digit numbers</li><li>children can subtract 5-digit numbers using Frog (counting up) or the written column method (decomposition).</li></ul>
<b>Summer 2</b>				
<b>Week</b>	<b>Strands</b>	<b>Weekly summary</b>		
26	Mental multiplication and division <b>(MMD)</b> ; Fractions, ratio and proportion <b>(FRP)</b>	Identify factors and multiples, find factor pairs; revise equivalent fractions; compare and order fractions with related denominators; add fractions with same denominator, then related denominators then convert answer into a mixed number; subtract fractions with same denominator, then related denominators; revise multiplying fractions by whole numbers	Lesson 126 Identify factors and multiples, find factor pairs (S: All times-tables to 12 × 12) Lesson 127 Revise equivalent fractions; Compare and order fractions with related denominators (S: Count up in fractions using equivalence) Lesson 128 Add fractions with same denominator, then related denominators, e.g. 5/6 + 2/3, then convert answer into a mixed number (S: Count in steps of fractions) Lesson 129 Subtract fractions with same denominator, then related denominators, e.g. 5/6 – 2/3 (S: Sequences) Lesson 130 Revise multiplying fractions by whole numbers (S: Find time intervals using the 24-hour clock)	<ul style="list-style-type: none"><li>identify factors of 2-digit numbers</li><li>pursue a line of enquiry.</li><li>recognise equivalent fractions</li><li>use equivalence to compare pairs of related fractions.</li><li>add fractions with related denominators</li><li>change improper fractions to mixed numbers.</li><li>subtract pairs of fractions with related denominators.</li><li>multiply non-unit fractions by whole numbers</li><li>change improper fractions to mixed numbers, simplifying where possible.</li></ul>
27	Written multiplication and division <b>(WMD)</b>	Use short division to divide 3-digit numbers by 1-digit numbers and 4-	Lesson 131 Use short division to divide 3-digit numbers by 1-digit numbers, including those which leave a remainder; Express a remainder as fraction (S: Mental division just above tables, e.g. 39	<ul style="list-style-type: none"><li>use short division to divide 3-digit numbers by 1-digit numbers</li><li>write remainders as fraction of the divisor.</li></ul>

		digit numbers by 1-digit numbers, including those which leave a remainder; express a remainder as a fraction; use long multiplication to multiply 3-digit and 4-digit numbers by teens numbers	$\div 3$ , $52 \div 4$ )	
			Lesson 132 Use short division to divide 4-digit numbers by 1-digit numbers, including those which leave a remainder; Express a remainder as fraction (S: Conversion from imperial to metric units)	<ul style="list-style-type: none"> <li>• use short division to divide 4-digit numbers by single-digit numbers, including those which leave a remainder.</li> </ul>
			Lesson 133 Use short division to divide 4-digit numbers by 1-digit numbers, including those which leave a remainder; Express a remainder as fraction (S: Write equivalent expressions)	<ul style="list-style-type: none"> <li>• use short division to divide 4-digit numbers by 1-digit numbers, including those which leave a remainder</li> <li>• express a remainder as fraction</li> <li>• use multiplication to check.</li> </ul>
			Lesson 134 Use long multiplication to multiply 3-digit and 4-digit numbers by teens numbers (S: Multiply and divide by 10, 100, 1000 and 10,000)	<ul style="list-style-type: none"> <li>• use a written method to multiply 3-digit and 4-digit numbers by teens numbers</li> <li>• make an approximation.</li> </ul>
			Lesson 135 Use long multiplication to multiply 4-digit numbers by teens numbers (S: Multiply by multiples of 100)	<ul style="list-style-type: none"> <li>• use a written method to multiply 4-digit numbers by 2-digit numbers</li> <li>• explain their reasoning.</li> </ul>
28	Measurement (MEA)	Find the area and perimeter of squares and rectangles by calculation; estimate and find the area of irregular shapes; calculate the perimeter and area of composite shapes; use the relations of area and perimeter to find unknown lengths; begin to understand the concept of volume; find the volume of a cube or cuboid by counting cubes; understand volume as measurement in three dimensions; relate volume to capacity; recognise and estimate volumes	Lesson 136 Find the area and perimeter of squares and rectangles by calculation (S: Plot five given points on a co-ordinate grid (first quadrant only))	<ul style="list-style-type: none"> <li>• calculate the perimeter of a square or rectangle</li> <li>• calculate the area of a square or rectangle</li> <li>• understand that perimeter is measured in centimetres and area is measured in square centimetres.</li> </ul>
			Lesson 137 Estimate and find the area of irregular shapes; Calculate the perimeter and area of composite shapes (S: Convert grams to KG and vice versa)	<ul style="list-style-type: none"> <li>• find the area of an irregular shape</li> <li>• find the area and the perimeter of a composite shape by dividing it into squares and rectangles.</li> </ul>
			Lesson 138 Use the relations of area and perimeter to find unknown lengths (S: Divide and multiply 2-digit numbers by 10)	<ul style="list-style-type: none"> <li>• find the area and the perimeter of a rectangle</li> <li>• use the area and one side to find a missing side length</li> <li>• use the perimeter and one side to find a missing side length.</li> </ul>
			Lesson 139 Begin to understand the concept of volume; Find the volume of a cube or cuboid by counting cubes (S: Give some measures in imperial and ask for an equivalent in metric)	<ul style="list-style-type: none"> <li>• understand that volume is measurement in three dimensions</li> <li>• see that to find the volume of a cube or cuboid, we can count the cubes used to build it</li> <li>• understand that to calculate the volume we can multiply the three sides.</li> </ul>

			Lesson 140 Understand volume as measurement in three dimensions, relate volume to capacity, recognise and estimate volumes (S: Find fractions of amounts)	<ul style="list-style-type: none"> <li>understand that volume is a measurement of the amount of space a shape takes up.</li> <li>understand that capacity is a measurement of the amount of water or lentils something will hold.</li> </ul>
29	Decimals, percentages and their equivalence to fractions ( <b>DPE</b> ); Number and place-value ( <b>NPV</b> )	Understand what percentages are, relate them to hundredths; know key equivalences between percentages and fractions, use these to find percentages of amounts of money; find equivalent fractions, decimals and percentages; solve problems involving fraction and percentage equivalents; write dates using Roman numerals	Lesson 141 Understand what percentages are, relate them to hundredths (S: Equivalences of fractions and decimals)	<ul style="list-style-type: none"> <li>identify percentage coloured</li> <li>convert percentages to hundredths, simplifying where possible.</li> </ul>
			Lesson 142 Know key equivalences between percentages and fractions, use these to find percentages of amounts of money (S: Find fractions of amounts, eg $\frac{3}{4}$ of 100 and $\frac{5}{8}$ of 64)	<ul style="list-style-type: none"> <li>find 1%, 10%, 50% and 5% of an amount of money, and use these key percentages and knowledge of equivalent fractions to find other percentages of the same amount.</li> </ul>
			Lesson 143 Find equivalent fractions, decimals and percentages (S: Name and describe 2D shapes)	<ul style="list-style-type: none"> <li>identify equivalent fractions, decimals and percentages</li> </ul>
			Lesson 144 Solve problems involving fraction and percentage equivalents (S: 4- and 5-digit numbers)	<ul style="list-style-type: none"> <li>use equivalent fractions and percentages to solve problems.</li> </ul>
			Lesson 145 Write dates using Roman numerals (S: Tell the time with Roman numerals on an analogue clock face)	<ul style="list-style-type: none"> <li>write the dates of years using Roman numerals.</li> </ul>
30	Statistics ( <b>STA</b> ); Mental multiplication and division ( <b>MMD</b> ); Written multiplication and division ( <b>WMD</b> )	Find cubes; draw and interpret line graphs showing change in temperature over time; begin to understand rate; use timetables with times written using the 24-hour clock: use Frog to find time intervals of several hours and minutes; solve problems involving scaling by simple fractions; use factors to multiply; solve problems involving rate	Lesson 146 Find cubes; Draw line graphs (S: Round numbers with one or two decimal places to the nearest whole)	<ul style="list-style-type: none"> <li>find cubes to at least <math>6^3</math></li> <li>draw a line graph and interpret intermediate points.</li> </ul>
			Lesson 147 Draw and interpret line graphs showing change in temperature over time; Begin to understand rate (S: Revise number of days in the months)	<ul style="list-style-type: none"> <li>draw and interpret line graphs</li> <li>estimate intermediate values</li> <li>begin to understand the concept of a constant rate.</li> </ul>
			Lesson 148 Use timetables with times written using the 24-hour clock; Use Frog to find time intervals of several hours and minutes (S: Convert minutes to hours and vice versa)	<ul style="list-style-type: none"> <li>read a timetable using 24-hour times</li> <li>convert 24-hour times to 12-hour times</li> <li>calculate time intervals of more than several hours.</li> </ul>
			Lesson 149 Solve problems involving scaling by simple fractions (S: All times-tables to $12 \times 12$ )	<ul style="list-style-type: none"> <li>use a scale factor to find new dimensions and make a scale model</li> <li>appreciate the real life applications of scale drawings and models.</li> </ul>
			Lesson 150 Use factors to multiply; Solve problems involving rate (S: Division facts)	<ul style="list-style-type: none"> <li>use factors to multiply numbers mentally</li> <li>choose and explain mental strategies used to multiply larger numbers</li> <li>begin to understand the concept of 'rate'</li> </ul>

				<ul style="list-style-type: none"> <li>• solve simple word problems involving rates.</li> </ul>
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