Medium-term plan: autumn term 1st half — Year 1

Sequence and Theme	Weeks	Pages	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
1.1 **NUMBER SENSE**	1–3	*Planning Framework* p16	**Number, place value and rounding** ● count to and across 100, forwards and backwards, beginning with 0 or 1 ● count, read and write numbers to 100 in numerals ● given a number, identify one more and one less ● identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least **Measurement** ● compare, describe and solve practical problems for: - lengths and heights [for example, long / short, longer / shorter, tall / short, double / half] - mass or weight [for example, heavy / light, heavier than, lighter than] - capacity / volume [for example, full / empty, more than, less than, half, half full, quarter] ● recognise and use language relating to dates, including days of the week, weeks, months and years.	*Problem Solving and Reasoning 1*, pp 44–5, 1 'Missing numbers' *Picture Maths 1*, pp 4–5, 1 'Beach games' *Problem Solving and Reasoning 1*, pp 60–1, 9 'If this equals 2 …' *Fluency With Fractions 1*, pp 23–5, 6 'Recognising halves in measurement'
MENTAL MATHS TESTS				*Mental Maths Tests 1*, pp 6–9, Autumn Tests 1 and 2
ASSESSMENT TASK 1.1		*Assessment Tasks Years 1 and 2* pp8–9	**Success criteria** Pupils can represent and explain what happens when counting forwards and backwards in ones and can compare two measures and describe the relationship.	TASK: Tall Towers USE WITH: Groups of 3
1.2 **ADDITIVE REASONING**	4–6	*Planning Framework* p16	**Number and place value** ● *given a number, identify one more and one less* **Addition and subtraction** ● represent and use number bonds and related subtraction facts within 20 ● solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as such as 7 = ☐ –9 **Measurement** ● sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] ● *recognise and use language relating to dates, including days of the week, weeks, months and years.*	*Problem Solving and Reasoning 1*, pp 70–1, 14 'Sorting numbers' *Problem Solving and Reasoning 1*, pp 50–1, 4 'Domino dilemma' *Picture Maths 1*, pp 10–11, 4 'At the sweet shop' *Picture Maths 1*, pp 20–1, 9 'The zoo' *Picture Maths 1*, pp 42–3, 20 'Dream time'
MENTAL MATHS TESTS				*Mental Maths Tests 1*, pp 10–15, Autumn Tests 3, 4 and 5
ASSESSMENT TASK 1.2		*Assessment Tasks Years 1 and 2* pp10–11	**Success criteria** Pupils can solve addition and subtraction problems using their knowledge of one more and one less and number bonds.	TASK: Frogs in the Pond USE WITH: Individuals

Medium-term plan: autumn term 2nd half — Year 1

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
1.3 **GEOMETRIC REASONING**	7–8	*Planning Framework* p17	**Geometry: properties of shapes** ● recognise and name common 2-D and 3-D shapes, including: - 2-D shapes [for example, rectangles (including squares), circles and triangles] - 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] **Geometry: position and direction** ● describe position, direction and movement.	*Problem Solving and Reasoning 1*, pp 48–9, 3 'Shape school' *Picture Maths 1*, pp 30–1, 14 'Space station' *Problem Solving and Reasoning 1*, pp 64–5, 11 'Minibus mix-up'
MENTAL MATHS TESTS				*Mental Maths Tests 1*, pp 16–19, Autumn Tests 6 and 7
ASSESSMENT TASK 1.3		*Assessment Tasks Years 1 and 2* pp12–13	**Success criteria** Pupils can recognize and identify shapes in their environment and justify their thinking.	TASK: Searching for Rectangles USE WITH: Groups of 3
1.4 **NUMBER SENSE**	9–10	*Planning Framework* p17	**Number and place value** ● *count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number* ● *count, read and write numbers to 100 in numerals* ● *given a number, identify one more and one less* ● *identify and represent numbers using objects and pictorialrepresentations including the number line, and use thelanguage of: equal to, more than, less than (fewer), most, least* **Measurement** ● *compare, describe and solve practical problems for:* *- lengths and heights [for example, long/short, longer/ shorter, tall/short, double/half]* *- mass or weight [for example, heavy/light, heavier than, lighter than]* *- capacity/volume [for example, full/empty, more than, less than, half, half full, quarter]* *- time [for example, quicker, slower, earlier, later]* ● *recognise and use language relating to dates, including days of the week, weeks, months and years.*	*Problem Solving and Reasoning 1*, pp 68–9, 13 'One more, one less … bingo!' *Fluency With Fractions 1*, pp 26–8, 7 'Recognising less than or more than a half'
MENTAL MATHS TESTS				*Mental Maths Tests 1*, pp 20–23, Autumn Tests 8 and 9
ASSESSMENT TASK 1.4		*Assessment Tasks Years 1 and 2* pp14–15	**Success criteria** Pupils can represent and explain how they know one more or one less than any given number and read and compare numbers under 100.	TASK: School Trip USE WITH: Groups of 3
1.5 **ADDITIVE REASONING**	11–12	*Planning Framework* p18	**Number and place value** ● *count to and across 100, forwards and backwards,* ● *beginning with 0 or 1, or from any given number* ● *given a number, identify one more and one less* **Addition and subtraction** ● *represent and use number bonds and related subtraction facts within 20* ● *solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ☐–9.*	*Problem Solving and Reasoning 1*, pp 78–9, 18 'Three card trick' *Picture Maths 1*, pp 16–17, 7 'Happy Birthday!'
MENTAL MATHS TESTS				*Mental Maths Tests 1*, pp 24–5, Autumn Test 10
ASSESSMENT TASK 1.5		*Assessment Tasks Years 1 and 2* pp16–17	**Success criteria** Pupils can solve addition and subtraction problems using their number bonds for ten to derive bonds for 20 and their knowledge of one more and one less.	TASK: Afternoon Tea USE WITH: Individuals

Medium-term plan: spring term 1st half — Year 1

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
1.6 **NUMBER SENSE**	13–15	*Planning Framework* p18	**Number and place value** ● *count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number* ● *count, read and write numbers to 100 in numerals;* count in multiples of twos and tens ● *given a number, identify one more and one less* ● *identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least* **Measurement** ● recognise and know the value of different denominations of coins and notes.	*Problem Solving and Reasoning 1*, pp 46–7, 2 'Count the sweets' *Skills Builders: Times Tables 1*, pp 6–7, 'Multiplication table for 1' *Problem Solving and Reasoning 1*, pp 54–5, 6 'Mr Penny's fruit shop'
MENTAL MATHS TESTS				*Mental Maths Tests 1*, pp 26–9, Spring Tests 1 and 2
ASSESSMENT TASK 1.6		*Assessment Tasks Years 1 and 2* pp18–19	**Success criteria** Pupils can represent and explain what happens when counting in two and tens and connect this with adding and subtracting two and ten. They can explain how they know which numbers are multiples of ten and which are multiples of two.	TASK: School Fair USE WITH: Groups of 3
1.7 **MULTIPLICATIVE REASONING**	16–18	*Planning Framework* p19	**Number and place value** ● *count, read and write numbers to 100 in numerals; count in multiples of twos and tens* **Multiplication and division** ● solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher **Measurement** ● *recognise and know the value of different denominations of coins and notes.*	*Problem Solving and Reasoning 1*, pp 58–9, 8 'Hooray for array' *Picture Maths 1*, pp 22–3, 10 'Fishy fun' *Picture Maths 1*, pp 38–9, 18 'At the toy shop'
MENTAL MATHS TESTS				*Mental Maths Tests 1*, pp 30–5, Spring Tests 3, 4 and 5
ASSESSMENT TASK 1.7		*Assessment Tasks Years 1 and 2* pp20–21	**Success criteria** Pupils can represent and explain how to solve problems involving multiplying and dividing by two and ten, with support.	TASK: Rows and Rows USE WITH: Groups of 3

Medium-term plan: spring term 2nd half — Year 1

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
1.8 **NUMBER SENSE**	19-21	*Planning Framework* p19	**Number and place value** ● *count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number* ● *count, read and write numbers to 100 in numerals; count in multiples of twos and tens* ● *given a number, identify one more and one less* ● *identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least* **Measurement** ● measure and begin to record the following: – lengths and heights – mass/weight – capacity and volume ● *recognise and know the value of different denominations of coins and notes.*	*Problem Solving and Reasoning 1*, pp 52–3, 5 'The story of 10' *Problem Solving and Reasoning 1*, pp 56–7, 7 'Measurement muddle' *Picture Maths 1*, pp 34–5, 16 'Measuring in the kitchen' *Picture Maths 1*, pp 36–7, 17 'Wiggly worms'
MENTAL MATHS TESTS				*Mental Maths Tests 1*, pp 36–9, Spring Tests 6 and 7
ASSESSMENT TASK 1.8		*Assessment Tasks Years 1 and 2* pp22–23	**Success criteria** Pupils can represent and explain how to use their counting to measure lengths, weights and capacities.	TASK: Measuring in Tens USE WITH: Individuals
1.9 **ADDITIVE REASONING**	22–23	*Planning Framework* p20	**Number and place value** ● *count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number* ● *given a number, identify one more and one less* **Addition and subtraction** ● read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs ● *represent and use number bonds and related subtraction facts within 20* ● add and subtract one-digit and two-digit numbers to 20, including zero ● *solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ☐ –9* **Measurement** ● *sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]* ● *recognise and use language relating to dates, including days of the week, weeks, months and years.*	*Problem Solving and Reasoning 1*, pp 54–5, 6 'Mr Penny's fruit shop' *Picture Maths 1*, pp 18–19, 8 'Balloon race'
MENTAL MATHS TESTS				*Mental Maths Tests 1*, pp 40–3, Spring Tests 8 and 9
ASSESSMENT TASK 1.9		*Assessment Tasks Years 1 and 2* pp24–25	**Success criteria** Pupils can solve, represent and record addition and subtraction problems, appropriately choosing and using their number facts and counting (using numbers up to 20).	TASK: Baby Days USE WITH: Individuals

Medium-term plan: spring term 2nd half (cont.) Year 1

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
1.10 **GEOMETRIC REASONING**	24–25	*Planning Framework* p20	**Geometry: properties of shapes** ● *recognise and name common 2-D and 3-D shapes, including:* – *2-D shapes [for example, rectangles (including squares), circles and triangles]* – *3-D shapes [for example, cuboids (including cubes), pyramids and spheres]* **Geometry: position and direction** ● *describe position, direction and movement.*	*Problem Solving and Reasoning 1*, pp 72–3, 15 'What comes next?'
MENTAL MATHS TESTS				*Mental Maths Test 10*, pp 44–5, Spring Test 10
ASSESSMENT TASK 1.10		*Assessment Tasks Years 1 and 2* pp26–27	**Success criteria** Pupils can recognise and identify shapes in their environment and justify their thinking and create simple repeating patterns.	TASK: Boxed In USE WITH: Individuals

Medium-term plan: summer term 1st half — Year 1

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
1.11 **NUMBER SENSE**	26–28	*Planning Framework* p21	**Number and place value** ● *count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number* ● *count, read and write numbers to 100 in numerals, count in multiples of twos, fives and tens* ● *given a number, identify one more and one less* ● *identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least* ● read and write numbers from 1 to 20 in numerals and words **Measurement** ● *measure and begin to record the following:* – *lengths and heights* – *mass/weight* – *capacity and volume* – time (hours, minutes, seconds) ● *recognise and know the value of different denominations of coins and notes*	*Picture Maths 1*, pp 6–7, 2 'On parade' *Picture Maths 1*, pp 12–13, 5 'Grand Prix' *Problem Solving and Reasoning 1*, pp 74–5, 16 'What's the problem?' *Picture Maths 1*, pp 14–15, 6 'Walking the dog' *Skills Builders: Times Tables 1*, pp 8–9, 'Division facts for 1'
MENTAL MATHS TESTS				*Mental Maths Tests 1*, pp 46–9, Summer Tests 1 and 2
ASSESSMENT TASK 1.11		*Assessment Tasks Years 1 and 2* pp28–29	**Success criteria** Pupils can represent and explain what happens when counting in different steps and connect this with adding and subtracting and measuring. They can explain how they know which numbers are multiples of two, five and ten.	TASK: Easy Money USE WITH: Individuals
1.12 **ADDITIVE REASONING**	29–31	*Planning Framework* p21	**Number and place value** ● *count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number* ● *given a number, identify one more and one less* **Addition and subtraction** ● *read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs* ● *represent and use number bonds and related subtraction facts within 20* ● *add and subtract one-digit and two-digit numbers to 20, including zero* ● *solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ☐ –9*	*Problem Solving and Reasoning 1*, pp 78–9, 18 'Three card trick'
MENTAL MATHS TESTS				*Mental Maths Tests 1*, pp 50–5, Summer Tests 3, 4 and 5
ASSESSMENT TASK 1.12		*Assessment Tasks Years 1 and 2* pp30–31	**Success criteria** Pupils can solve, represent and record addition and subtraction problems, appropriately choosing and using their number facts and counting (using numbers up to 20).	TASK: Set Sail USE WITH: Pairs

Medium-term plan: summer term 2nd half — Year 1

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
1.13 **MULTIPLICATIVE REASONING**	32–34	*Planning Framework* p22	**Number and place value** ● *count, read and write numbers to 100 in numerals, count in multiples of twos, fives and tens* **Multiplication and division** ● *solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher* **Fractions** ● recognise, find and name a half as one of two equal parts of an object, shape or quantity ● recognise, find and name a quarter as one of four equal parts of an object, shape or quantity **Measurement** ● *recognise and know the value of different denominations of coins and notes* ● tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	*Picture Maths 1*, pp 8–9, 3 'Play time' *Problem Solving and Reasoning 1*, pp 62–3, 10 'Halves and quarters' *Picture Maths 1*, pp 24–5, 11 'Making wholes' *Fluency With Fractions 1*, pp 8–10, 1 'Equal sharing all around us' *Fluency With Fractions 1*, pp 11–13, 2 'Equal sharing between two' *Fluency With Fractions 1*, pp 20–2, 5 'Finding half of a group of objects' *Picture Maths 1*, pp 26–7, 12 'Missing parts' *Fluency With Fractions 1*, pp 32–4, 9 'Equal sharing between four' *Fluency With Fractions 1*, pp 41–3, 12 'Finding quarter of a group of objects' *Problem Solving and Reasoning 1*, pp 66–7, 12 'What did you do next …?' *Picture Maths 1*, pp 40–1, 19 'Teacher's timetable' *Fluency With Fractions 1*, pp 17–19, 4 'Finding half linked to time'
MENTAL MATHS TESTS				*Mental Maths Tests 1*, pp 56–9, Summer Tests 6 and 7
ASSESSMENT TASK 1.13		*Assessment Tasks Years 1 and 2* pp32–33	**Success criteria** Pupils can represent and explain what happens when doubling and halving in the context of both discrete objects and continuous measures. They can show and tell the time, on an analogue clock, on the hour and half past.	TASK: Big Bear, Little Bear USE WITH: Individuals
1.14 **GEOMETRIC REASONING**	35–36	*Planning Framework* p22	**Fractions** ● *recognise, find and name a half as one of two equal parts of an object, shape or quantity* ● *recognise, find and name a quarter as one of four equal parts of an object, shape or quantity* **Geometry: properties of shapes** ● *recognise and name common 2-D and 3-D shapes, including:* – *2-D shapes [for example, rectangles (including squares), circles and triangles]* – *3-D shapes [for example, cuboids (including cubes), pyramids and spheres]* **Geometry: position and direction** • describe position, direction and movement, *including whole, half, quarter and three-quarter turns*	*Problem Solving and Reasoning 1*, pp 76–7, 17 'Tell me about …' *Fluency With Fractions 1*, pp 14–16, 3 'Finding half of a shape' *Fluency With Fractions 1*, pp 29–31, 8 'Problems about combining halves' *Picture Maths 1*, pp 28–9, 13 'Robot fractions' *Fluency With Fractions 1*, pp 35–7, 10 'Finding quarter of a shape' *Fluency With Fractions 1*, pp 38–40, 11 'Relating quarters to halves' *Fluency With Fractions 1*, pp 44–6, 13 'Recognising quarters in measurement' *Fluency With Fractions 1*, pp 47–9, 14 'Finding and combining quarters of objects' *Picture Maths 1*, pp 32–3, 15 'Around the city' *Fluency With Fractions 1*, pp 50–2, 15 'Problems about fractions'
MENTAL MATHS TESTS				*Mental Maths Tests 1* pp 60–65, Summer Tests 8, 9 and 10
ASSESSMENT TASK 1.14		*Assessment Tasks Years 1 and 2* pp34–35	**Success criteria** Pupils can use their understanding of halves and quarters to talk about shapes and movement (turns) and solve related problems.	TASK: Square Dance USE WITH: Individuals

Medium-term plan: autumn term 1st half — Year 2

Sequence and Theme	Weeks	Pages	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
2.1 **NUMBER SENSE**	1–3	*Planning Framework* p23	**Number, place value and rounding** ● count in steps of 2 and 5 from 0 and in tens from any number, forward and backward ● recognise the place value of each digit in a two-digit number (tens, ones) ● identify, represent and estimate numbers using different representations, including the number line ● compare and order numbers from 0 up to 100 ● read and write numbers to at least 100 in numerals ● use place value and number facts to solve problems **Measurement** ● compare and order lengths, mass, volume / capacity ● compare and sequence intervals of time **Statistics** ● ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity	*Fluency With Fractions 2,* pp 8–10, 1 'Counting and combining halves' *Problem Solving and Reasoning 2*, pp54–5, 6 'Put it in the right place!' *Picture Maths 2*, pp 28–9, 13 'Grow fast!' *Fluency With Fractions 2,* pp 29–31, 8 'Combining halves and quarters in measurement'
MENTAL MATHS TESTS				*Mental Maths Tests 2*, pp 6–9, Autumn Tests 1 and 2
ASSESSMENT TASK 2.1		*Assessment Tasks Years 1 and 2* pp36–37	**Success criteria** Pupils can represent and explain what happens when counting forwards and backwards in tens and can compare and order two-digit numbers in different contexts.	TASK: The Three Little Pigs USE WITH: Groups of 3
2.2 **ADDITIVE REASONING**	4–6	*Planning Framework* p23	**Number and place value** ● *count in tens from any number, forward and backward* ● *recognise the place value of each digit in a two-digit number (tens, ones)* ● *use place value and number facts to solve problems* **Addition and subtraction** ● solve problems with addition and subtraction: – using concrete objects and pictorial representations, including those involving numbers, quantities and measures – applying their increasing knowledge of mental methods ● recall and use addition and subtraction facts to 20 fluently ● add and subtract numbers using concrete objects, pictorial representations, and mentally, including: – a two-digit number and ones – a two-digit number and tens – adding three one-digit numbers **Measurement** ● solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change ● ask and answer questions about totalling and comparing categorical data	*Problem Solving and Reasoning 2*, pp 46–7, 2 'Many, many methods' 2.2 *Problem Solving and Reasoning 2*, pp 52–3, 5 'Calculation families' *Picture Maths 2*, pp 8–9, 3 'The sweet factory' *Fluency With Fractions 2,* pp 11–13, 2 'Finding out more about equal sharing between four'
MENTAL MATHS TESTS				*Mental Maths Tests 2*, pp 10–15, Autumn Tests 3, 4 and 5
ASSESSMENT TASK 2.2		*Assessment Tasks Years 1 and 2* pp38–39	**Success criteria** Pupils can represent and solve addition and subtraction problems in different contexts, appropriately choosing and using number facts, understanding of place value and counting.	TASK: In The Bank USE WITH: Groups of 3

Medium-term plan: autumn term 2nd half — Year 2

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
2.3 **GEOMETRIC REASONING**	7–8	*Planning Framework* p24	**Geometry: properties of shapes** ● identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line ● identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces ● identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] ● compare and sort common 2-D and 3-D shapes and everyday objects **Geometry: position and direction** ● order and arrange combinations of mathematical objects in patterns and sequences	*Problem Solving and Reasoning 2*, pp 44–5, 1 'Matchstick challenge!' *Picture Maths 2*, pp20–1, 9 'Posting shapes' *Problem Solving and Reasoning 2*, pp74–5, 16 'My robot friend'
MENTAL MATHS TESTS				*Mental Maths Tests 2*, pp 16–19, Autumn Tests 6 and 7
ASSESSMENT TASK 2.3		*Assessment Tasks Years 1 and 2* pp40–41	**Success criteria** Pupils can recognise and identify shapes in their environment and explain the properties of the shapes including lines of symmetry.	TASK: Curious Quadrilaterals USE WITH: Groups of 3
2.4 **NUMBER SENSE**	9–10	*Planning Framework* p24	**Number and place value** ● *count in steps of 2 and 5 from 0 and in tens from any number, forward and backward* ● *recognise the place value of each digit in a two-digit number (tens, ones)* ● *identify, represent and estimate numbers using different representations, including the number line* ● *compare and order numbers from 0 up to 100;* use <, > and = signs ● *read and write numbers to at least 100 in numerals* ● *use place value and number facts to solve problems* **Measurement** ● *compare and order lengths, mass, volume / capacity* and record the results using >, < and = ● *compare and sequence intervals of time* **Statistics** ● *ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity*	*Picture Maths 2*, pp 4–5, 1 'Butterflies' *Picture Maths 2*, pp 6–7, 2 'Rock pool creatures' *Problem Solving and Reasoning 2*, pp76–7, 17 'The fruit bowl challenge'
MENTAL MATHS TESTS				*Mental Maths Tests 2*, pp 20–3, Autumn Tests 8 and 9
ASSESSMENT TASK 2.4		*Assessment Tasks Years 1 and 2* pp42–43	**Success criteria** Pupils can represent and explain how they know ten more and ten less than any given number and read, compare and record comparison of numbers up to 100.	TASK: Rotten Potions USE WITH: Groups of 3

Medium-term plan: autumn term 2nd half (cont.) Year 2

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
2.5 **ADDITIVE REASONING**	11–12	*Planning Framework* p25	**Number and place value** ● *count in tens from any number, forward and backward* ● *recognise the place value of each digit in a two-digit number (tens, ones)* ● *use place value and number facts to solve problems* **Addition and subtraction** ● *solve problems with addition and subtraction:* – *using concrete objects and pictorial representations, including those involving numbers, quantities and measures* – *applying their increasing knowledge of mental methods* ● *recall and use addition and subtraction facts to 20 fluently,* and derive and use related facts up to 100 ● *add and subtract numbers using concrete objects, pictorial representations, and mentally, including:* – *a two-digit number and ones* – *a two-digit number and tens* – *adding three one-digit numbers* ● show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot ● recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems **Measurement** ● recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value ● find different combinations of coins to equal the same amounts of money ● *solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change* **Statistics** ● *ask and answer questions about totalling and comparing categorical data.*	*Problem Solving and Reasoning 2*, pp60–1, 9 'A difference of 5' *Problem Solving and Reasoning 2*, pp70–1, 14 'Total patterns' *Picture Maths 2*, pp 10–11, 4 'Playing ball' *Problem Solving and Reasoning 2*, pp56–7, 7 'Moneybox puzzle' *Picture Maths 2*, pp38–9, 18 'Robot sale'
MENTAL MATHS TESTS				*Mental Maths Tests 2*, pp 24–5, Autumn Test 10
ASSESSMENT TASK 2.5		*Assessment Tasks Years 1 and 2* pp44–45	**Success criteria** Pupils can represent, explain and record the relationship between addition and subtraction. They can represent and solve addition and subtraction problems in different contexts, appropriately choosing and using number facts, understanding of place value and counting.	TASK: Toy Sale USE WITH: Groups of 3

Medium-term plan: spring term 1st half — Year 2

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
2.6 **NUMBER SENSE**	13–15	*Planning Framework* p25	**Number and place value** ● *count in steps of 2, 3 and 5 from 0 and in tens from any number, forward and backward* **Multiplication and division** ● recognise odd and even numbers **Statistics** ● interpret and construct simple pictograms, tally charts, block diagrams and simple tables ● ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.	*Picture Maths 2*, pp 40–1, 19 'The fruit shop'
MENTAL MATHS TESTS				*Mental Maths Tests 2*, pp 26–9, Spring Tests 1 and 2
ASSESSMENT TASK 2.6		*Assessment Tasks Years 1 and 2* pp46–47	**Success criteria** Pupils can use their understanding of counting in twos, fives and tens to interpret data. They can represent and explain the difference between odd and even numbers and use this understanding to identify large multiples of two.	TASK: Plant Pairs and Pictograms USE WITH: Groups of 3
2.7 **MULTIPLICATIVE REASONING**	16–18	*Planning Framework* p26	**Number and place value** ● *count in steps of 2, 3 and 5 from 0 and in tens from any number, forward and backward* **Multiplication and division** ● recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, *including recognising odd and even numbers* ● calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs ● show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot ● solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts **Measurement** ● *recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value* ● *find different combinations of coins to equal the same amounts of money* ● tell and write the time to five minutes ● know the number of minutes in an hour and the number of hours in a day.	*Problem Solving and Reasoning 2*, pp 48–9, 'The story of 20' *Skills Builders: Times Tables 1*, pp 10–11, 'Multiplication table for 2' *Skills Builders: Times Tables 1*, pp 12–13, 'Division facts for 2' *Skills Builders: Times Tables 1*, pp 14–15, 'Multiplication table for 5' *Skills Builders: Times Tables 1*, pp 16–17, 'Division facts for 5' *Skills Builders: Times Tables 1*, pp 18–19, 'Multiplication table for 10' *Skills Builders: Times Tables 1*, pp 20–11, 'Division facts for 10' *Picture Maths 2*, pp 12–13, 5 'Pete's penguins' *Skills Builders: Times Tables 1*, pp 22–3, 'Mixed multiplication practice (1 and 2)' *Problem Solving and Reasoning 2*, pp 66–7, 12 'The lunchbox trolley' *Problem Solving and Reasoning 2*, pp58–9, 8 'Wheely puzzle'
MENTAL MATHS TESTS				*Mental Maths Tests 2*, pp 30–5, Spring Tests 3, 4 and 5
ASSESSMENT TASK 2.7		*Assessment Tasks Years 1 and 2* pp48–49	**Success criteria** Pupils can represent and explain how to use their multiplication facts to solve division problems. They can represent and solve multiplication and division problems in different contexts.	TASK: All The Fives USE WITH: Individuals

Medium-term plan: spring term 2nd half — Year 2

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
2.8 **NUMBER SENSE**	19-21	*Planning Framework* p26	**Number and place value** ● *count in steps of 2, 3 and 5 from 0 and in tens from any number, forward and backward* ● *recognise the place value of each digit in a two-digit number (tens, ones)* ● *identify, represent and estimate numbers using different representations, including the number line* ● *compare and order numbers from 0 up to 100; use <, > and = signs* ● *read and write numbers to at least 100 in numerals* ● *use place value and number facts to solve problems* **Measurement** ● <u>choose and use appropriate standard units to estimate and measure length / height in any direction (m / cm); mass (kg / g); temperature (°C); capacity (litres / ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels</u> ● *compare and order lengths, mass, volume / capacity and record the results using >, < and =* ● *compare and sequence intervals of time.*	*Skills Builders: Times Tables 1*, pp 24–5, 'Mixed multiplication practice (5 and 10)' *Problem Solving and Reasoning 2*, pp50–1, 4 'Double your robot' *Picture Maths 2*, pp 30–1, 14 'Pencil lengths'
MENTAL MATHS TESTS				*Mental Maths Tests 2*, pp 36–9, Spring Tests 6 and 7
ASSESSMENT TASK 2.8		*Assessment Tasks Years 1 and 2* pp50–51	**Success criteria** Pupils can measure in different contexts, choosing the appropriate unit and equipment and reading the scales to the nearest number.	TASK: Plant Growth USE WITH: Groups of 3

Medium-term plan: spring term 2nd half (cont.) Year 2

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
2.9 **ADDITIVE REASONING**	22–23	*Planning Framework* p27	**Number and place value** ● *count in tens from any number, forward and backward* ● *recognise the place value of each digit in a two-digit number (tens, ones)* ● *use place value and number facts to solve problems* **Addition and subtraction** ● *solve problems with addition and subtraction:* – *using concrete objects and pictorial representations, including those involving numbers, quantities and measures* – *applying their increasing knowledge of mental methods* ● *recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100* ● *add and subtract numbers using concrete objects, pictorial representations, and mentally, including:* – *a two-digit number and ones* – *a two-digit number and tens* – *two two-digit numbers* – *adding three one-digit numbers* ● *show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot* ● *recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems* **Measurement** ● *recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value* ● *find different combinations of coins to equal the same amounts of money* ● *solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change* **Statistics** ● *ask and answer questions about totalling and comparing categorical data.*	*Skills Builders: Times Tables 1*, pp 26–7, 'Mixed division practice (1 and 2)' *Problem Solving and Reasoning 2*, pp62–3, 10 'Coin totals'
MENTAL MATHS TESTS				*Mental Maths Tests 2*, pp 40–3, Spring Tests 8 and 9
ASSESSMENT TASK 2.9		*Assessment Tasks Years 1 and 2* pp52–53	**Success criteria** Pupils can represent and solve addition and subtraction problems involving two two-digit numbers in different contexts, appropriately choosing and using number facts, understanding of place value and counting.	TASK: Three Billy Goats Gruff USE WITH: Groups of 3

Medium-term plan: spring term 2nd half (cont.) Year 2

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
2.10 **GEOMETRIC REASONING**	24–26	*Planning Framework* p27	**Geometry: properties of shape** ● *identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line* ● *identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces* ● *identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]* ● *compare and sort common 2-D and 3-D shapes and everyday objects* **Geometry: position and direction** ● *order and arrange combinations of mathematical objects in patterns and sequences* ● *use mathematical vocabulary to describe position, direction and movement.*	*Problem Solving and Reasoning 2*, pp64–5, 11 'Polyhedron Primary' *Picture Maths 2*, pp 22–3, 10 'Polygon painting'
MENTAL MATHS TESTS				*Mental Maths Tests 2*, pp 44–5, Spring Test 10
ASSESSMENT TASK 2.10		*Assessment Tasks Years 1 and 2* pp54–55	**Success criteria** Pupils can identify different possible 3-D shapes from seeing one of the faces and describe the properties of the face (2-D shape) and the 3-D shapes.	TASK: What's My Shape? USE WITH: Individuals or groups of 3

Medium-term plan: summer term 1st half — Year 2

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
2.11 **NUMBER SENSE**	27–29	*Planning Framework* p28	**Number and place value** ● *count in steps of 2, 3 and 5 from 0 and in tens from any number, forward and backward* ● *recognise the place value of each digit in a two-digit number (tens, ones)* ● *identify, represent and estimate numbers using different representations, including the number line* ● *compare and order numbers from 0 up to 100; use <, > and = signs* ● *read and write numbers to at least 100 in numerals* and in words ● *use place value and number facts to solve problems* **Measurement** ● *choose and use appropriate standard units to estimate and measure length / height in any direction (m / cm); mass (kg / g); temperature (°C); capacity (litres / ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels* ● *compare and order lengths, mass, volume / capacity and record the results using >, < and =* ● *compare and sequence intervals of time* **Statistics** ● *interpret and construct simple pictograms, tally charts, block diagrams and simple tables* ● *ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.*	*Picture Maths 2*, pp 32–3, 15 'New mugs!' *Picture Maths 2*, pp 42–3, 20 'Our pets'
MENTAL MATHS TESTS				*Mental Maths Tests 2*, pp 46–9, Summer Tests 1 and 2
ASSESSMENT TASK 2.11		*Assessment Tasks Years 1 and 2* pp56–57	**Success criteria** Pupils can measure in different contexts, choosing the appropriate unit and equipment and reading the scales to the nearest number.	TASK: Rainy Days USE WITH: Individuals

Medium-term plan: summer term 1st half (cont.) Year 2

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
2.12 **ADDITIVE REASONING**	30–32	*Planning Framework* p28	**Number and place value** ● *count in tens from any number, forward and backward* ● *recognise the place value of each digit in a two-digit number (tens, ones)* ● *use place value and number facts to solve problems* **Addition and subtraction** ● *solve problems with addition and subtraction:* – *using concrete objects and pictorial representations, including those involving numbers, quantities and measures* – *applying their increasing knowledge of mental methods and written methods* ● *recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100* ● *add and subtract numbers using concrete objects, pictorial representations, and mentally, including:* – *a two-digit number and ones* – *a two-digit number and tens* – *two two-digit numbers* – *adding three one-digit numbers* ● *show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot* ● *recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems* **Statistics** ● *ask and answer questions about totalling and compare categorical data*	*Problem Solving and Reasoning 2*, pp78–9, 18 'Number square investigation' *Problem Solving and Reasoning 2*, pp68–9, 13 'Lunchtime fun'
MENTAL MATHS TESTS				*Mental Maths Tests 2*, pp 50–5, Summer Tests 3, 4 and 5
ASSESSMENT TASK 2.12		*Assessment Tasks Years 1 and 2* pp58–59	**Success criteria** Pupils can represent and solve addition and subtraction problems involving two, two-digit numbers in different contexts, appropriately choosing and using number facts, understanding place value and counting.	TASK: Play Trays USE WITH: Groups of 3

Medium-term plan: summer term 2nd half — Year 2

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
2.13 **MULTIPLICATIVE REASONING**	33–35	*Planning Framework* p29	**Number and place value** ● *count in steps of 2, 3 and 5 from 0 and in tens from any number, forward and backward* **Multiplication and division** ● *recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers* ● *calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs* ● *show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot* ● *solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts* **Fractions** ● recognise, find, name and write fractions ⅓, ¼, ²⁄₄ and ¾ of a length, shape, set of objects or quantity ● write simple fractions for example ½ of 6 = 3 and recognise the equivalence of ²⁄₄ and ½. **Measurement** ● *tell and write the time to five minutes*, including quarter past / to the hour and draw the hands on a clock face to show these times ● *know the number of minutes in an hour and the number of hours in a day.*	*Skills Builders: Times Tables 1*, pp 26–7, 'Mixed division practice (1 and 2)' *Skills Builders: Times Tables 1*, pp 28–9, 'Mixed multiplication practice (5 and 10)' *Skills Builders: Times Tables 1*, pp 30–1, 'Mixed multiplication practice (1, 2, 5 and 10)' *Skills Builders: Times Tables 1*, pp 32–3, 'Mixed division practice (1, 2, 5 and 10)' *Skills Builders: Times Tables 1*, pp 34–5, 'Problem solving (1 and 2 times tables)' *Skills Builders: Times Tables 1*, pp 36–7, 'Problem solving (1 and 2 division facts)' *Skills Builders: Times Tables 1*, pp 38–9, 'Problem solving (5 and 10 times tables)' *Skills Builders: Times Tables 1*, pp 40–1, 'Problem solving (5 and 10 division facts)' *Skills Builders: Times Tables 1*, pp 42–3, 'Problem solving (1, 2, 5 and 10 times tables)' *Skills Builders: Times Tables 1*, pp 44–5, 'Problem solving (1, 2, 5 and 10 division facts)' *Picture Maths 2*, pp 14–15, 6 'Money box safe' *Problem Solving and Reasoning 2*, pp 72–3, 15 'The fraction family' *Picture Maths 2*, pp 16–17, 7 'Chocolate pieces' *Fluency With Fractions 2,* pp 14–16, 3 'Finding different quarters of a shape' *Fluency With Fractions 2,* pp 23–5 'Finding different quarters of a group of objects' *Picture Maths 2*, pp 34–5, 16 'Cute chicks' *Picture Maths 2*, pp 36–7, 17 'Holiday time'
MENTAL MATHS TESTS				*Mental Maths Tests 2*, pp 56–9, Summer Tests 6 and 7
ASSESSMENT TASK 2.13		*Assessment Tasks Years 1 and 2* pp60–61	**Success criteria** Pupils can represent and explain how to find halves, thirds and quarter in the context of both discrete objects and continuous measures. They can show and tell the time, on an analogue clock, including quarter past and quarter to the hour.	TASK: Teddy's Party USE WITH: Groups of 3

Medium-term plan: summer term 2nd half (cont.) Year 2

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
2.14 **GEOMETRIC REASONING**	36–37	*Planning Framework* p29	**Geometry: properties of shape** ● *identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line* ● *identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces* ● *identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]* ● *compare and sort common 2-D and 3-D shapes and everyday objects* **Geometry: position and direction** ● *order and arrange combinations of mathematical objects in patterns and sequences* ● *use mathematical vocabulary to describe position, direction and movement,* <u>including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)</u> **Fractions** ● *recognise, find, name and write fractions ⅓, ¼, ²⁄₄ and ³⁄₄ of a length, shape, set of objects or quantity* ● *write simple fractions for example, ½ of 6 = 3 and recognise the equivalence of ²⁄₄ and ½.*	*Picture Maths 2*, pp24–5, 11 ‘Amazing maze!’ *Picture Maths 2*, pp26–7, 12 ‘Treasure island’ *Fluency With Fractions 2,* pp 17–19, 4 ‘Fractions of a turn and equivalence’ *Fluency With Fractions 2,* pp 20–2, 5 ‘Linking quarters to time’ *Picture Maths 2*, pp 18–19, 8 ‘Pizza problem’ *Fluency With Fractions 2,* pp 26–8, 7 ‘Using fractions to compare measurements’ *Fluency With Fractions 2,* pp 32–34, 9 ‘Counting in fraction steps of ½ and ¼ beyond 1’ *Fluency With Fractions 2,* pp 35–7, 10 ‘Equal sharing between 3’ *Fluency With Fractions 2,* pp 38–40, 11 ‘Finding a third of a shape’ *Fluency With Fractions 2,* pp 41–3, 12 ‘Finding a third of a quantity (length)’ *Fluency With Fractions 2,* pp 44–6, 13 ‘Problems about finding thirds (measurement)’ *Fluency With Fractions 2,* pp 47–9, 14 ‘Finding fractions of quantities (measurement)’ *Fluency With Fractions 2,* pp 50–2, 15 ‘Recognising fractions of different amounts’
MENTAL MATHS TESTS				*Mental Maths Tests 2*, pp 60–65, Summer Tests 8, 9 and 10
ASSESSMENT TASK 2.14		*Assessment Tasks Years 1 and 2* pp62–63	**Success criteria** Pupils can use their understanding of fractions to talk about shapes and movement (turns) and solve related problems.	TASK: Which Way Shall We Turn? USE WITH: Individuals

Medium-term plan: autumn term 1st half — Year 3

Sequence and Theme	Weeks	Pages	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
3.1 **NUMBER SENSE**	1–3	*Planning Framework* p30	**Number and place value** ● count from 0 in multiples of 100; 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 ● identify, represent and estimate numbers using different representations ● read and write numbers up to 1000 in numerals and in words ● solve number problems and practical problems involving these ideas	*Learn, Practise and Revise 3*, pp 8–9, 2 'Comparing and ordering' *Learn, Practise and Revise 3*, pp 10–11, 3 'Sequences' *Learn, Practise and Revise 3*, pp 6–7, 1 'Numbers up to 1000' *Problem Solving and Reasoning 3*, pp 52–3, 5 'Number guess who' *Picture Maths 3*, pp 4–5, 1 'The pirate's treasure'
MENTAL MATHS TESTS				*Mental Maths Tests 3*, pp 6–9, Autumn Tests 1 and 2
ASSESSMENT TASK 3.1		*Assessment Tasks Years 3 and 4* pp8–9	**Success criteria** Pupils can explain and show how and when their counting is useful for adding and subtracting. They can make appropriate decisions about when to use their understanding of place value for solving problems, including adding and subtracting.	TASK: Who Wins? USE WITH: Groups of 3
3.2 **ADDITIVE REASONING**	4–6	*Planning Framework* p30	**Addition and subtraction** ● 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 ● 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 **Measurement** ● measure, compare, add and subtract: lengths (m / cm / mm); mass (kg / g); volume / capacity (l / ml) ● add and subtract amounts of money to give change, using both £ and p in practical contexts **Statistics** ● 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.	*Learn, Practise and Revise 3*, pp 12–13, 4 'Mental addition' *Picture Maths 3*, pp 8–9, 3 'The special mission' *Learn, Practise and Revise 3*, pp 14–15, 5 'Mental subtraction' *Problem Solving and Reasoning 3*, pp 44–5, 1 'A brick in the wall …' *Picture Maths 3*, pp 14–15, 6 'Open the safe!' *Picture Maths 3*, pp 30–1, 14 'Worms, worms, worms' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 34–5, 'Using £ and p' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 36–7, 'Calculating change' *Picture Maths 3*, pp 12–13, 5 'Party time!' *Picture Maths 3*, pp 40–1, 19 'School dinners' *Learn, Practise and Revise 3*, pp 60–1, 28 'Solving data problems'
MENTAL MATHS TESTS				*Mental Maths Tests 3*, pp 10–15, Autumn Tests 3, 4 and 5
ASSESSMENT TASK 3.2		*Assessment Tasks Years 3 and 4* pp10–11	**Success criteria** Pupils can solve addition and subtraction problems in different contexts, appropriately choosing and using number facts, understanding of place value and counting. They explain their decision making and justify their solutions.	TASK: Charity Works USE WITH: Groups of 3

Medium-term plan: autumn term 2nd half — Year 3

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
3.3 **MULTIPLICATIVE REASONING**	7–9	*Planning Framework* p31	**Number and place value** ● *count from 0 in multiples of 4, 8, 50 and 100* **Multiplication and division** ● 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 that they know ● 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.	*Picture Maths 3*, pp 6–7, 2 'Miranda mermaid' *Picture Maths 3*, pp 16–17, 7 'Which dog food?' *Skills Builders: Times Tables 2*, pp 6–7, 'Multiplication table for 3' *Skills Builders: Times Tables 2*, pp 8–9, 'Division facts for 3' *Skills Builders: Times Tables 2*, pp 10–11, 'Multiplication table for 4' *Skills Builders: Times Tables 2*, pp 12–13, 'Division facts for 4' *Skills Builders: Times Tables 2*, pp 18–19, 'Multiplication table for 8' *Skills Builders: Times Tables 2*, pp 20–21, 'Division facts for 8' *Learn, Practise and Revise 3*, pp 22–3, 9 'Multiplication and division facts' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 20–1, 'Halves and quarters of numbers' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 18–19, 'Division by sharing' *Problem Solving and Reasoning 3*, pp 48–9, 3 'Threes and fives' *Fluency With Fractions 3*, pp 44–5, 19 'Fractions as operators and division (1)'
MENTAL MATHS TESTS				*Mental Maths Tests 3*, pp 16–19, Autumn Tests 6 and 7
ASSESSMENT TASK 3.3		*Assessment Tasks Years 3 and 4* pp12–13	**Success criteria** Pupils can explain and represent multiplication as both repeated addition and scaling and division as both sharing and grouping. They use this understanding to derive facts and solve problems.	TASK: CHOOSING FABRIC USE WITH: Groups of 3
3.4 **GEOMETRIC REASONING**	10–11	*Planning Framework* p31	**Geometry: properties of shapes** ● draw 2-D shapes, and make 3-D shapes using modeling materials; 3-D shapes in different orientations and describe them **Geometry: position and direction** ● recognise that angles are a property of shape or a description of a turn ● identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle	*Problem Solving and Reasoning 3*, pp 70–1, 14 'Mystery shapes' *Picture Maths 3*, pp 28–9, 13 'Birthday presents' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 8–9, 'Halves and quarters of shapes' *Learn, Practise and Revise 3*, pp 50–1, 23 'Right angles' *Learn, Practise and Revise 3*, pp 52–3, 24 'Angles and turning'
MENTAL MATHS TESTS				*Mental Maths Tests 3*, pp 20–3, Autumn Tests 8 and 9
ASSESSMENT TASK 3.4		*Assessment Tasks Years 3 and 4* pp14–15	**Success criteria** Pupils can explain and show angle as a measure of turn and can draw, make and identify shapes with right-angles.	TASK: Competition Shapes USE WITH: Groups of 3

Medium-term plan: autumn term 2nd half (cont.) Year 3

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
3.5 **NUMBER SENSE**	12–13	*Planning Framework* p32	**Number and place value** ● *count from 0 in multiples of 4, 8, 50 and 100; 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* ● *identify, represent and estimate numbers using different representations* ● *read and write numbers up to 1000 in numerals and in words* ● *solve number problems and practical problems involving these ideas* **Measurement** ● tell and write the time from an analogue clock, including using Roman numerals from I to XII and 12-hour and 24-hour clocks ● *measure, compare, add and subtract: lengths (m / cm / mm); mass (kg / g); volume / capacity (l / ml)* **Fractions** ● 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.	*Problem Solving and Reasoning 3*, pp 50–1, 4 'Alien farm' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 26–7, 'Fractions on a number line' *Picture Maths 3*, pp 36–7, 17 'Feeding time at the zoo' *Learn, Practise and Revise 3*, pp 42–3, 19 'Clocks' *Learn, Practise and Revise 3*, pp 36–7, 16 'Units of measure' *Fluency With Fractions 3*, pp 16–17, 5 'Counting in tenths, including beyond 1' *Fluency With Fractions 3*, pp 12–13, 3 'Dividing by 10 to find tenths of an object or quantity' *Fluency With Fractions 3*, pp 14–15, 4 'Finding tenths by dividing one-digit numbers by 10' *Fluency With Fractions 3*, pp 46–7, 19 'Fractions as operators and division (2)' *Learn, Practise and Revise 3*, pp 34–5, 15 'Tenths'
MENTAL MATHS TESTS				*Mental Maths Tests 3*, pp 24–5, Autumn Test 10
ASSESSMENT TASK 3.5		*Assessment Tasks Years 3 and 4* pp16–17	**Success criteria** Pupils can explain and show how and when their counting is useful for adding and subtracting and make appropriate decisions about when to use their understanding of place value for solving problems including adding and subtracting.	TASK: Juice, Juice! USE WITH: Groups of 3

Medium-term plan: spring term 1st half — Year 3

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
3.6 **ADDITIVE REASONING**	14–16	*Planning Framework* p32	**Addition and subtraction** ● *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* ● *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* **Measurement** ● *measure, compare, add and subtract: lengths (m / cm / mm); mass (kg / g); volume / capacity (l / ml)* ● *add and subtract amounts of money to give change, using both £ and p in practical contexts* **Statistics** ● *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.*	*Picture Maths 3*, pp 22–3, 10 'Sweeties!' *Problem Solving and Reasoning 3*, pp 54–5, 6 'Missing problems' *Picture Maths 3*, pp 32–3, 15 'Fruit salad' *Problem Solving and Reasoning 3*, pp 66–7, 12 'Moneyboxes' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 38–9, 'Word problems' *Learn, Practise and Revise 3*, pp 56–7, 26 'Pictograms'
MENTAL MATHS TESTS				*Mental Maths Tests 3*, pp 26–9, Spring Tests 1 and 2
ASSESSMENT TASK 3.6		*Assessment Tasks Years 3 and 4* pp18–19	**Success criteria** Pupils can solve addition and subtraction problems in different contexts (including extracting the necessary information from graphs, charts and tables), appropriately choosing and using number facts, understanding of place value and counting. They can explain their decision making and justify their solutions.	TASK: Sustainable Schools USE WITH: Groups of 3
3.7 **NUMBER SENSE**	17–19	*Planning Framework* p33	**Number and place value** ● *identify, represent and estimate numbers using different representations* **Fractions** ● *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 ● add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$] ● compare and order unit fractions and fractions with the same denominator ● solve problems that involve all of the above.	*Fluency With Fractions 3*, pp 18–19, 6 'Using knowledge of tenths' *Picture Maths 3*, pp 26–7, 12 'Yum yum chocolate cake' *Problem Solving and Reasoning 3*, pp 46–7, 2 'Number aliens' *Fluency With Fractions 3*, pp 20–1, 7 'Compare and order fractions (with the same denominator)' *Fluency With Fractions 3*, pp 30–1, 12 'Adding fractions (tenths) *Fluency With Fractions 3*, pp 34–5, 14 'Subtracting fractions (1)' *Problem Solving and Reasoning 3*, pp 62–3, 10 'Build a wall' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 14–15, 'Adding fractions with the same denominator' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 16–17, 'Subtracting fractions with the same denominator'
MENTAL MATHS TESTS				*Mental Maths Tests 3*, pp 30–5, Spring Tests 3, 4 and 5
ASSESSMENT TASK 3.7		*Assessment Tasks Years 3 and 4* pp20–21	**Success criteria** Pupils can represent fractions as numbers and explain and show how they know that for unit fractions, as the denominator increases, the size of the number decreases.	TASK: Pieces of Chocolate USE WITH: Individuals

Medium-term plan: spring term 2nd half — Year 3

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
3.8 **MULTIPLICATIVE REASONING**	20-22	*Planning Framework* p33	**Number and place value** ● *count from 0 in multiples of 4, 8, 50 and 100* **Multiplication and division** ● *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 that they know, including for two-digit numbers times one-digit numbers* ● *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* **Fractions** ● *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, 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.	*Picture Maths 3*, pp 18–19, 8 'Fred's football kit' *Problem Solving and Reasoning 3*, pp 58–9, 8 'Fabulous 28' *Learn, Practise and Revise 3*, pp 62–3, 29 'More problem solving' *Fluency With Fractions 3*, pp 8–9, 1 'Fractions as numbers (1)' *Fluency With Fractions 3*, pp 24–5, 9 'Finding fractions of a set of objects' *Fluency With Fractions 3*, pp 26–7, 10 'Find and recognise fractions of a set' *Fluency With Fractions 3*, pp 28–9, 11 'Solving problems about fractions of amounts' *Fluency With Fractions 3*, pp 40–1, 17 'Equivalent fractions' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 22–3, 'Fractions of a number' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 40–1, 'Decimals in length' *Learn, Practise and Revise 3*, pp 28–9, 12 'Finding fractions'
MENTAL MATHS TESTS				*Mental Maths Tests 3*, pp 36–9, Spring Tests 6 and 7
ASSESSMENT TASK 3.8		*Assessment Tasks Years 3 and 4* pp22–23	**Success criteria** Pupils can explain and represent multiplication as both repeated addition and scaling; and division as both sharing (including finding fractions), and grouping. They use this understanding to derive facts and solve problems.	TASK: Chocolate Choices USE WITH: Individuals
3.9 **GEOMETRIC REASONING**	23–24	*Planning Framework* p34	**Geometry: properties of shapes** ● *draw 2-D shapes, and make 3-D shapes using modeling materials; recognise 3-D shapes in different orientations and describe them* ● *recognise that angles are a property of shape or a description of a turn* ● *identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle* ● identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	*Problem Solving and Reasoning 3*, pp 72–3, 15 'Dotty squares' *Problem Solving and Reasoning 3*, pp 74–5, 16 'Cubed aliens' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 10–11, 'Unit fractions of shapes' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 12–13, 'Recognising fractions of shapes' *Learn, Practise and Revise 3*, pp 48–9, 22 'Lines'
MENTAL MATHS TESTS				*Mental Maths Tests 3*, pp 40–3, Spring Tests 8 and 9
ASSESSMENT TASK 3.9		*Assessment Tasks Years 3 and 4* pp24–25	**Success criteria** Pupils can recognise and identify horizontal and vertical lines and pairs of perpendicular and parallel lines and justify their thinking. They can identify acute, obtuse and right angles in the context of a 2-D shape and justify their thinking.	TASK: Flying Trapeze USE WITH: Groups of 3

Medium-term plan: spring term 2nd half (cont.) Year 3

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
3.10 **NUMBER SENSE**	25–26	*Planning Framework* p34	**Number and place value** ● *count from 0 in multiples of 4, 8, 50 and 100; 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* ● *identify, represent and estimate numbers using different representations* ● *read and write numbers up to 1000 in numerals and in words* ● *solve number problems and practical problems involving these ideas* **Measurement** ● *tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks* ● estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m. / p.m., morning, afternoon, noon and midnight ● 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] **Statistics** ● *interpret and present data using bar charts, pictograms and tables.*	*Learn, Practise and Revise 3*, pp 24–5, 10 'Multiplication and division' *Learn, Practise and Revise 3*, pp 26–7, 11 'More number problems' *Problem Solving and Reasoning 3*, pp 56–7, 7 'Digit dilemma' *Learn, Practise and Revise 3*, pp 44–5, 20 'Intervals of time' *Learn, Practise and Revise 3*, pp 40–1, 18 'Calendars' *Picture Maths 3*, pp 38–9, 18 'On the buses' *Fluency With Fractions 3*, pp 42–3, 18 'More equivalent fractions'
MENTAL MATHS TESTS				*Mental Maths Tests 3*, pp 44–5, Spring Test 10
ASSESSMENT TASK 3.10		*Assessment Tasks Years 3 and 4* pp26–27	**Success criteria** Pupils can explain and show how and when their counting is useful for adding and subtracting. They can explain and show how to tell the time and use knowledge of different units of time to solve problems.	TASK: Radio Times USE WITH: Groups of 3

Medium-term plan: summer term 1st half — Year 3

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
3.11 **ADDITIVE REASONING**	27–29	*Planning Framework* p35	**Addition and subtraction** ● *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* **Measurement** ● *measure, compare, add and subtract: lengths (m / cm / mm); mass (kg / g); volume / capacity (l / ml)* ● *add and subtract amounts of money to give change, using both £ and p in practical contexts* ● *record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m. / p.m., morning, afternoon, noon and midnight* ● *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]* **Statistics** ● *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.*	*Learn, Practise and Revise 3*, pp 16–17, 6 'Written addition' *Learn, Practise and Revise 3*, pp 18–19, 7 'Written subtraction' *Picture Maths 3*, pp 10–11, 4 'The toy shop' *Learn, Practise and Revise 3*, pp 20–1, 8 'Number problems' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 42–3, 'Word problems involving measure' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 32–3, 'Reading money totals' *Learn, Practise and Revise 3*, pp 46–7, 21 'Money' *Problem Solving and Reasoning 3*, pp 68–9, 13 'School trip' *Learn, Practise and Revise 3*, pp 58–9, 27 'Bar charts' *Problem Solving and Reasoning 3*, pp 78–9, 18 'Chocolate swap!' *Picture Maths 3*, pp 42–3, 20 'Vegetables'
MENTAL MATHS TESTS				*Mental Maths Tests 3*, pp 46–9, Summer Tests 1 and 2
ASSESSMENT TASK 3.11		*Assessment Tasks Years 3 and 4* pp28–29	**Success criteria** Pupils can solve addition and subtraction problems in different contexts, appropriately choosing and using number facts, understanding of place value and counting, and mental and written methods. They can explain their decision making and justify their solution.	TASK: Wilde World USE WITH: Groups of 3

Medium-term plan: summer term 1st half (cont.) Year 3

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
3.12 **NUMBER SENSE**	30–31	*Planning Framework* p35	**Number and place value** ● *identify, represent and estimate numbers using different representations* **Fractions** ● *count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and dividing one-digit numbers or quantities by 10* ● *recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators* ● recognise and show, using diagrams, equivalent fractions with small denominators ● *add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7]* ● *compare and order unit fractions and fractions with the same denominator.* ● *solve problems that involve all of the above.*	*Picture Maths 3*, pp 24–5, 11 'Lovely lights' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 24–5, 'Recognising fractions of numbers' *Fluency With Fractions 3*, pp 10–11, 2 'Fractions as numbers (2)' *Fluency With Fractions 3*, pp 32–3, 13 'Solving problems about adding fractions' *Fluency With Fractions 3*, pp 22–3, 8 'Compare and order unit fractions' *Fluency With Fractions 3*, pp 36–7, 15 'Finding the difference' *Fluency With Fractions 3*, pp 38–9, 16 'Subtracting fractions (2)' *Problem Solving and Reasoning 3*, pp 64–5, 11 'Fraction pictures' *Fluency With Fractions 3*, pp 48–9, 21 'Solving problems about fractions (1)' *Fluency With Fractions 3*, pp 50–1, 22 'Solving problems about fractions (2)'
MENTAL MATHS TESTS				*Mental Maths Tests 3*, pp 50–5, Summer Tests 3, 4 and 5
ASSESSMENT TASK 3.12		*Assessment Tasks Years 3 and 4* pp30–31	**Success criteria** Pupils can represent fractions as numbers and explain and show how they know one fraction is bigger than or equivalent to another.	TASK: Fraction Frenzy USE WITH: Individuals

Medium-term plan: summer term 2nd half — Year 3

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
3.13 **MULTIPLICATIVE REASONING**	32–34	*Planning Framework* p36	**Number and place value** ● *count from 0 in multiples of 4, 8, 50 and 100* **Multiplication and division** ● *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 that 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; solve positive integer scaling problems and correspondence problems in which* n *objects are connected to* m *objects.* **Fractions** ● *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, 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.* **Measurement** ● *know the number of seconds in a minute and the number of days in each month, year and leap year.*	*Picture Maths 3*, pp 20–1, 9 'A fishy problem' *Skills Builders: Times Tables 2*, pp 22–3, 'Mixed multiplication practice (3 and 4)' *Skills Builders: Times Tables 2*, pp 26–7, 'Mixed division practice (3 and 4)' *Problem Solving and Reasoning 3*, pp 60–1, 9 'Remainder, remainder' *Skills Builders: Times Tables 2*, pp 34–5, 'Problem solving (3 and 4 times tables)' *Skills Builders: Times Tables 2*, pp 36–7, 'Problem solving (3 and 4 division facts)' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 28–9, 'Estimating fractions' *Skills Builders: Fractions, Decimals and Percentages 3*, pp 30–1, 'Equivalent fractions' *Learn, Practise and Revise 3*, pp 30–1, 13 'Comparing and ordering fractions' *Learn, Practise and Revise 3*, pp 32–3, 14 'Calculations with fractions'
MENTAL MATHS TESTS				*Mental Maths Tests 3*, pp 56–9, Summer Tests 6 and 7
ASSESSMENT TASK 3.13		*Assessment Tasks Years 3 and 4* pp32–33	**Success criteria** Pupils can explain and represent multiplication as both repeated addition and scaling, and division as both sharing, (including finding fractions), and grouping. They use this understanding to derive facts and solve problems including two-digit by one-digit multiplications.	TASK: Money, Money, Money USE WITH: Individuals
3.14 **GEOMETRIC REASONING**	35–36	*Planning Framework* p36	**Geometry: properties of shape** ● *recognise that angles are a property of shape or a description of a turn* ● *identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle* ● *identify horizontal and vertical lines and pairs of perpendicular and parallel lines* ● measure the perimeter of simple 2-D shapes.	*Learn, Practise and Revise 3*, pp 54–5, 25 '2-D and 3-D shapes' *Picture Maths 3*, pp 34–5, 16 'The farmer's fence' *Learn, Practise and Revise 3*, pp 38–9, 17 'Perimeters'
MENTAL MATHS TESTS				*Mental Maths Tests 3*, pp 60–65, Summer Tests 8, 9 and 10
ASSESSMENT TASK 3.14		*Assessment Tasks Years 3 and 4* pp34–35	**Success criteria** Pupils can measure the perimeter of simple 2-D shapes and describe properties of the shapes related to the angles.	TASK: Stretch and Shape USE WITH: Groups of 3

Medium-term plan: autumn term 1st half — Year 4

Sequence and Theme	Weeks	Pages	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
4.1 **NUMBER SENSE**	1–3	*Planning Framework* p37	**Number and place value** ● count in multiples of 1000 ● 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 ● 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.	*Learn, practice and revise 4*, pp 8–9, 2 'Comparing and ordering' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 16–17, 'Ordering fractions' *Problem Solving and Reasoning 4*, pp 44–5, 1 'Make 100!' *Problem Solving and Reasoning 4*, pp 46–7, 2 'A bit of magic!' *Problem Solving and Reasoning 4*, pp 48–9, 3 'What's my number?' *Learn, practice and revise 4*, pp 6–7, 1 'Numbers beyond 1000'
MENTAL MATHS TESTS				*Mental Maths Tests 4*, pp 6–9, Autumn Tests 1 and 2
ASSESSMENT TASK 4.1		*Assessment Tasks Years 3 and 4* pp36–37	**Success criteria** Pupils can make appropriate decisions about when to use their understanding of counting, place value and rounding for solving problems including adding and subtracting.	TASK: Football Crowd USE WITH: Groups of 3
4.2 **ADDITIVE REASONING**	4–6	*Planning Framework* p37	**Addition and subtraction** ● 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 **Measurement** ● estimate, compare and calculate different measures, including money in pounds and pence **Statistics** ● 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	*Learn, practice and revise 4*, pp 20–1, 8 'Addition and subtraction' *Picture Maths 4*, pp 8–9, 3 'Ice dancing scores' *Picture Maths 4*, pp 10–11, 4 'The long walk' *Learn, practice and revise 4*, pp 22–3, 9 'Checking' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 40–1, 'Problems involving money' *Learn, practice and revise 4*, pp 48–9, 22 'Estimation' *Learn, practice and revise 4*, pp 62–3, 29 'Problem solving' *Picture Maths 4*, pp 42–3, 20 'Holiday hotspot'
MENTAL MATHS TESTS				*Mental Maths Tests 4*, pp 10–15, Autumn Tests 3, 4 and 5
ASSESSMENT TASK 4.2		*Assessment Tasks Years 3 and 4* pp38–39	**Success criteria** Pupils can solve addition and subtraction problems in different contexts, appropriately choosing and using number facts, understanding of place value and counting and mental and written methods. They can explain their decision making and justify their solutions.	TASK: School Visit USE WITH: Groups of 3

Medium-term plan: autumn term 2nd half — Year 4

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
4.3 **MULTIPLICATIVE REASONING**	7–9	*Planning Framework* p38	**Number and place value** ● *count in multiples of* 6, 7, 9, 25 *and 1000* **Multiplication and divisions** ● recall multiplication and division facts for multiplication tables up to 12 × 12 ● use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers ● recognise and use factor pairs and commutativity in mental calculations ● solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling and harder correspondence problems such as *n* objects are connected to *m* objects.	*Picture Maths 4*, pp 4–5, 1 'Samir's snakes' *Learn, practice and revise 4*, pp 10–11, 3 'Sequences' *Skills Builders: Times Tables 2*, pp 14–15, 'Multiplication table for 6' *Skills Builders: Times Tables 2*, pp 16–17, 'Division facts for 6' *Skills Builders: Times Tables 3*, pp 6–7, 'Multiplication table for 7' *Skills Builders: Times Tables 3*, pp 8–9, 'Division facts for 7' *Skills Builders: Times Tables 3*, pp 10–11, 'Multiplication table for 9' *Skills Builders: Times Tables 3*, pp 12–13, 'Division facts for 9' *Skills Builders: Times Tables 2*, pp 24–5, 'Mixed multiplication practice (6 and 8)' *Skills Builders: Times Tables 2*, pp 28–9, 'Mixed division practice (6 and 8)' *Picture Maths 4*, pp 12–13, 5 'Rainforest explorer' *Learn, practice and revise 4*, pp 24–5, 10 'Mental calculations' *Problem Solving and Reasoning 4*, pp 54–5, 6 'Would you rather?' *Learn, practice and revise 4*, pp 26–7, 11 'Factor pairs' *Picture Maths 4*, pp 14–15, 6 'Super soup' *Learn, practice and revise 4*, pp 30–1, 13 'Solving problems'
MENTAL MATHS TESTS				*Mental Maths Tests 4*, pp 16–19, Autumn Tests 6 and 7
ASSESSMENT TASK 4.3		*Assessment Tasks Years 3 and 4* pp40–41	**Success criteria** Pupils can explain the relationship between multiplication and division and the distributive and associative laws. They use this understanding to derive facts and solve problems.	TASK: How Far Is It? USE WITH: Groups of 3
4.4 **GEOMETRIC REASONING**	10–11	*Planning Framework* p38	**Geometry: properties of shape** ● compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes ● identify acute and obtuse angles and compare and order angles up to two right angles by size ● identify lines of symmetry in 2-D shapes presented in different orientations.	*Picture Maths 4*, pp 26–7, 12 'Hunt the shapes' *Picture Maths 4*, pp 28–9, 13 'All wrapped up' *Problem Solving and Reasoning 4*, pp 56–7, 7 'Tricky tangrams' *Learn, practice and revise 4*, pp 54–5, 25 'Angles' *Learn, practice and revise 4*, pp 56–7, 26 'Lines of symmetry'
MENTAL MATHS TESTS				*Mental Maths Tests 4*, pp 20–3, Autumn Tests 8 and 9
ASSESSMENT TASK 4.4		*Assessment Tasks Years 3 and 4* pp42–43	**Success criteria** Pupils can explain the properties of different triangles and quadrilaterals including angles and lines of symmetry.	TASK: Quadrilateral Quandary USE WITH: Groups of 3

Medium-term plan: autumn term 2nd half (contd.) Year 4

4.5 **NUMBER SENSE**	12–13	*Planning Framework* p39	**Number and place value** ● *count in multiples of 1000* ● *find 1000 more or less than a given number* ● 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* ● *identify, represent and estimate numbers using different representations* ● *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.	*Learn, practice and revise 4*, pp 12–13, 4 'Rounding' *Picture Maths 4*, pp 6–7, 2 'Brr … it's cold!' *Learn, practice and revise 4*, pp 14–15, 5 'Negative numbers' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 36–7, 'Ordering decimals' *Learn, practice and revise 4*, pp 16–17, 6 'Number representations' *Problem Solving and Reasoning 4*, pp 74–5, 16 'Double double' *Learn, practice and revise 4*, pp 18–19, 7 'Roman numerals'
MENTAL MATHS TESTS				*Mental Maths Tests 4*, pp 24–5, Autumn Test 10
ASSESSMENT TASK 4.5		*Assessment Tasks Years 3 and 4* pp44–45	**Success criteria** Pupils can make appropriate decisions about when to use their understanding of counting (including counting below zero), place value and rounding for solving problems including adding and subtracting. Pupils can explain the representation of two-digit positive numbers as Roman numerals.	TASK: Roman Holiday USE WITH: Groups of 3

Medium-term plan: spring term 1st half — Year 4

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
4.6 **ADDITIVE REASONING**	14–16	*Planning Framework* p39	**Addition and subtraction** ● *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* **Measurement** ● *estimate, compare and calculate different measures, including money in pounds and pence* **Statistics** ● *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.*	*Fluency With Fractions and Decimals 4*, pp 8–9, 1 'Fractions and the number line' *Problem Solving and Reasoning 4*, pp 60–1, 9 'Finding the difference' *Problem Solving and Reasoning 4*, pp 64–5, 11 'Disco drinks'
MENTAL MATHS TESTS				*Mental Maths Tests 4*, pp 26–9, Spring Tests 1 and 2
ASSESSMENT TASK 4.6		*Assessment Tasks Years 3 and 4* pp46–47	**Success criteria** Pupils can solve addition and subtraction problems in different contexts, appropriately choosing and using number facts, understanding of place value and counting and mental and written methods. They can explain their decision making and justify their solutions.	TASK: How Far Will You Go? USE WITH: Groups of 3
4.7 **NUMBER SENSE**	17–19	*Planning Framework* p40	**Fractions (including decimals)** ● count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten ● recognise and show, using diagrams, families of common equivalent fractions ● add and subtract fractions with the same denominator ● recognise and write decimal equivalents of any number of tenths or hundredths ● recognise and write decimal equivalents to ¼, ½, ¾ ● 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 **Measurement** ● convert between different units of measure [for example, kilometre to metre].	*Fluency With Fractions and Decimals 4*, pp 10–11, 2 'Understanding and counting in hundredths' *Fluency With Fractions and Decimals 4*, pp 12–13, 3 'Understanding hundredths related to tenths' *Fluency With Fractions and Decimals 4*, pp 18–19, 6 'Decimal representations of tenths and hundredths' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 8–9, 'Recognising fractions' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 10–11, 'Creating fractions' *Fluency With Fractions and Decimals 4*, pp 20–1, 7 'Equivalent fractions of unit fractions' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 12–13, 'Equivalent fractions' *Fluency With Fractions and Decimals 4*, pp 14–15, 4 'Dividing one-digit numbers by 10 and 100' *Fluency With Fractions and Decimals 4*, pp 16–17, 5 'Dividing two-digit numbers by 10 and 100' *Fluency With Fractions and Decimals 4*, pp 24–5, 9 'Other decimal equivalents' *Fluency With Fractions and Decimals 4*, pp 28–9, 11 'Rounding decimals' *Fluency With Fractions and Decimals 4*, pp 30–31, 12 'Comparing numbers with decimal places' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 30–1, 'Decimals in length'
MENTAL MATHS TESTS				*Mental Maths Tests 4*, pp 30–5, Spring Tests 3, 4 and 5
ASSESSMENT TASK 4.7		*Assessment Tasks Years 3 and 4* pp48–49	**Success criteria** Pupils can represent and explain the multiplicative nature of the number system including how it extends into decimal numbers, as whole numbers are divided by 10 or 100 and connect this understanding to units of measure. Pupils can represent and explain the relationship between decimals and fractions. They use this understanding to solve problems.	TASK: O.J. USE WITH: Groups of 3

Medium-term plan: spring term 2nd half — Year 4

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
4.8 **MULTIPLICATIVE REASONING**	20–22	*Planning Framework* p40	**Number and place value** ● *count in multiples of 6, 7, 9, 25 and 1000* **Multiplication and division** ● *recall multiplication and division facts for multiplication tables up to 12 × 12* ● *use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers* ● *recognise and use factor pairs and commutativity in mental calculations* ● *solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling and harder correspondence problems such as* n *objects are connected to* m *objects* **Fractions (including decimals)** ● 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 **Measurement** ● solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	*Skills Builders: Times Tables 2*, pp 30–1, 'Mixed multiplication practice (3, 4, 6 and 8)' *Skills Builders: Times Tables 2*, pp 32–3, 'Mixed division practice (3, 4, 6 and 8)' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 18–19, 'Fractions with a total of 1' *Skills Builders: Times Tables 3*, pp 22–3, 'Mixed multiplication practice (7 and 9)' *Skills Builders: Times Tables 2*, pp 26–7, 'Mixed division practice (7 and 9)' *Skills Builders: Times Tables 2*, pp 38–9, 'Problem solving (6 and 8 times tables)' *Skills Builders: Times Tables 2*, pp 40–1, 'Problem solving (6 and 8 division facts)' *Problem Solving and Reasoning 4*, pp 58–9, 8 'A dicey game' *Learn, practice and revise 4*, pp 28–9, 12 'Written calculations' *Problem Solving and Reasoning 4*, pp 76–7, 17 'Fraction strips' *Fluency With Fractions and Decimals 4*, pp 22–3, 8 'Equivalent non-unit fractions' *Fluency With Fractions and Decimals 4*, pp 26–7, 10 'Problems about fractions and decimals (1)' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 14–15, 'Fractions of numbers' *Picture Maths 4*, pp 32–3, 15 'The grand prix' *Problem Solving and Reasoning 4*, pp 50–1, 4 'How much time?'
MENTAL MATHS TESTS				*Mental Maths Tests 4*, pp 36–9, Spring Tests 6 and 7
ASSESSMENT TASK 4.8		*Assessment Tasks Years 3 and 4* pp50–51	**Success criteria** Pupils can explain the relationship between multiplication, division and fractions. They use this understanding to derive facts and solve problems.	TASK: Packed Lunch USE WITH: Individuals
4.9 **GEOMETRIC REASONING**	23–24	*Planning Framework* p41	**Geometry: properties of shapes** ● *compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes* **Geometry: position and direction** ● 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.	*Learn, practice and revise 4*, pp 52–3, 24 'Geometric shapes' *Picture Maths 4*, pp 30–1, 'Desert island treasure' *Learn, practice and revise 4*, pp 60–1, 28 'Coordinates'
MENTAL MATHS TESTS				*Mental Maths Tests 4*, pp 40–3, Spring Tests 8 and 9
ASSESSMENT TASK 4.9		*Assessment Tasks Years 3 and 4* pp52–53	**Success criteria** Pupils can explain how to locate points on a grid in the first quadrant and use this knowledge and understanding to solve problems.	TASK: Square Moves USE WITH: Groups of 3

Medium-term plan: spring term 2nd half (cont.) Year 4

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
4.10 **NUMBER SENSE**	25–26	*Planning Framework* p41	**Number and place value** ● *count in multiples of 1000* ● *find 1000 more or less than a given number* ● *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* ● *identify, represent and estimate numbers using different representations* ● *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* **Measurement** ● *convert between different units of measure [for example, hour to minute]* ● 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* **Statistics** ● *solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.*	*Problem Solving and Reasoning 4*, pp 62–3, 10 'Highest and lowest' *Learn, practice and revise 4*, pp 32–3, 14 'Decimals' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 42–3, 'Problems involving measures' *Picture Maths 4*, pp 38–9, 18 'Vikings vs Wildcats' *Picture Maths 4*, pp 40–1, 19 'The robbery' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 32–3, 'Converting metres to centimetres and vice versa' *Learn, practice and revise 4*, pp 44–5, 20 'Units of measure' *Learn, practice and revise 4*, pp 50–1, 23 'Time'
MENTAL MATHS TESTS				*Mental Maths Tests 4*, pp 44–5, Spring Test 10
ASSESSMENT TASK 4.10		*Assessment Tasks Years 3 and 4* pp54–55	**Success criteria** Pupils can make appropriate decisions about when to use their understanding of counting (including counting below zero), place value and rounding for solving problems including adding and subtracting. They can explain how to tell the time in both 12- and 24-hour clocks and can solve problems using their understanding of how to convert between different units of time.	TASK: Eurostar USE WITH: Groups of 3

Medium-term plan: summer term 1st half — Year 4

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
4.11 **ADDITIVE REASONING**	27–29	*Planning Framework* p42	**Addition and subtraction** ● *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* **Statistics** ● *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* **Fractions (including decimals)** ● solve simple measure and money problems involving fractions and decimals to two decimal places **Measurement** ● *estimate, compare and calculate different measures, including money in pounds and pence*	*Problem Solving and Reasoning 4*, pp 66–7, 12 'Mystery numbers' *Learn, practice and revise 4*, pp 40–1, 18 'Sums with fractions' *Problem Solving and Reasoning 4*, pp 78–9, 18 'Birthdays' *Fluency With Fractions and Decimals 4*, pp 32–3, 13 'Solving problems about measure with decimals to two decimal places' *Fluency With Fractions and Decimals 4*, pp 34–5, 14 'Solving problems about fractions and decimals' *Picture Maths 4*, pp 18–19, 8 'Picnic problem' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 26–7, 'Decimals in money'
MENTAL MATHS TESTS				*Mental Maths Tests 4,* pp 46–9, Summer Tests 1 and 2
ASSESSMENT TASK 4.11		*Assessment Tasks Years 3 and 4* pp56–57	**Success criteria** Pupils can solve addition and subtraction problems in different contexts, appropriately choosing and using number facts, understanding of place value and counting and mental and written methods. They explain their decision making and justify their solutions.	TASK: Population Growth USE WITH: Groups of 3

Medium-term plan: summer term 1st half (contd.) Year 4

4.12 **NUMBER SENSE**	30–31	*Planning Framework* p42	**Fractions (including decimals)** ● *count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten* ● *recognise and show, using diagrams, families of common equivalent fractions* ● *add and subtract fractions with the same denominator* ● *recognise and write decimal equivalents of any number of tenths or hundredths* ● *recognise and write decimal equivalents to ¼, ½, ¾.* ● *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* **Measurement** ● *convert between different units of measure [for example, kilometre to metre).*	*Learn, practice and revise 4*, pp 34–5, 15 'Tenths and hundredths' *Fluency With Fractions and Decimals 4*, pp 42–3, 18 'Adding fractions with the same denominator' *Fluency With Fractions and Decimals 4*, pp 44–5, 19 'Subtracting fractions with the same denominator' *Fluency With Fractions and Decimals 4*, pp 46–7, 20 'Solving problems about adding and subtracting fractions' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 20–1, 'Adding fractions with a common denominator' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 22–3, 'Subtracting fractions with a common denominator' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 24–5, 'Decimal notation' *Fluency With Fractions and Decimals 4*, pp 48–9, 21 'Solving problems about fractions' *Fluency With Fractions and Decimals 4*, pp 50–1, 22 'Problems about fractions and decimals (2)' *Picture Maths 4*, pp 16–17, 7 'Painting puzzle' *Picture Maths 4*, pp 20–1, 9 'The professor's potions' *Picture Maths 4*, pp 22–3, 10 'Mrs Bake's disaster' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 28–9, 'Converting pounds to pence and vice versa'
MENTAL MATHS TESTS				*Mental Maths Tests 4*, pp 50–5, Summer Tests 3, 4 and 5
ASSESSMENT TASK 4.12		*Assessment Tasks Years 3 and 4* pp58–59	**Success criteria** Pupils can represent and explain how the multiplicative nature of the number system extends into decimal numbers, as whole numbers are divided by 10 or 100, and connect this understanding to units of measure. Pupils can represent and explain the relationship between decimals and fractions. They use this understanding to solve problems.	TASK: Pat a Cake USE WITH: Groups of 3

Medium-term plan: summer term 2nd half — Year 4

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
4.13 **MULTIPLICATIVE REASONING**	32–34	*Planning Framework* p43	**Number and place value** ● *count in multiples of 6, 7, 9, 25 and 1000* **Multiplication and division** ● *recall multiplication and division facts for multiplication tables up to 12 × 12* ● *use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers* ● *recognise and use factor pairs and commutativity in mental calculations* ● multiply two-digit and 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 and harder correspondence problems such as* n *objects are connected to* m *objects.* **Fractions (including decimals)** ● *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* **Measurement** ● *solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days*	*Learn, practice and revise 4*, pp 36–7, 16 'Decimal equivalents' *Skills Builders: Times Tables 3*, pp 14–15, 'Multiplication table for 11' *Skills Builders: Times Tables 3*, pp 16–17, 'Division facts for 11' *Skills Builders: Times Tables 3*, pp 18–19, 'Multiplication table for 12' *Skills Builders: Times Tables 3*, pp 20–1, 'Division facts for 12' *Problem Solving and Reasoning 4*, pp 68–9, 13 'Crack the code!' *Learn, practice and revise 4*, pp 42–3, 19 'Problems with fractions and decimals' *Skills Builders: Times Tables 2*, pp 42–3, 'Problem solving (3, 4, 6 and 8 times tables)' *Skills Builders: Times Tables 2*, pp 44–5, 'Problem solving (3, 4, 6 and 8 division facts)' *Problem Solving and Reasoning 4*, pp 72–3, 15 'Terrific thirty-six' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 34–5, 'Equivalence between decimals and fractions' *Fluency With Fractions and Decimals 4*, pp 36–7, 15 'Finding unit fractions of quantities' *Fluency With Fractions and Decimals 4*, pp 38–9, 16 'Solving problems about unit fractions of quantities' *Fluency With Fractions and Decimals 4*, pp 40–1, 17 'Non-unit fractions of quantities' *Skills Builders: Fractions, Decimals and Percentages 4*, pp 38–9, 'Real life problems'
MENTAL MATHS TESTS				*Mental Maths Tests 4*, pp 56–9, Summer Tests 6 and 7
ASSESSMENT TASK 4.13		*Assessment Tasks Years 3 and 4* pp60–61	**Success criteria** Pupils can solve problems involving multiplication, division and fractions in different contexts, appropriately choosing and using number facts, understanding of place value and counting and mental and written methods, explain their decision making and justify their solutions.	TASK: Generous Gran USE WITH: Individuals
4.14 **GEOMETRIC REASONING**	35–36	*Planning Framework* p43	**Geometry: properties of shapes** ● *compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes* ● *identify acute and obtuse angles and compare and order angles up to two right angles by size* ● *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 **Measurement** ● measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres ● find the area of rectilinear shapes by counting squares.	*Problem Solving and Reasoning 4*, pp 70–1, 14 'Symmetry squared' *Learn, practice and revise 4*, pp 38–9, 17 'Equivalent fractions' *Picture Maths 4*, pp 24–5, 11 'Which wallpaper?' *Learn, practice and revise 4*, pp 58–9, 27 'Symmetrical figures' *Picture Maths 4*, pp 34–5, 16 'Farmer Brown's fence' *Picture Maths 4*, pp 36–7, 17 'On a dig' *Problem Solving and Reasoning 4*, pp 52–3, 5 'Moving and shaping' *Learn, practice and revise 4*, pp 46–7, 21 'Perimeters and areas'
MENTAL MATHS TESTS				*Mental Maths Tests 4*, pp 60–65, Summer Tests 8, 9 and 10
ASSESSMENT TASK 4.14		*Assessment Tasks Years 3 and 4* pp62–63	**Success criteria** Pupils can explain how to find the perimeter and area of a shape and how to complete a symmetrical shape with a given line of symmetry, using this knowledge and understanding to solve problems.	TASK: Garden Geometry USE WITH: Groups of 3

Medium-term plan: autumn term 1st half — Year 5

Sequence and Theme	Weeks	Pages	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
5.1 **NUMBER SENSE**	1–3	*Planning Framework* p44	**Number and place value** ● read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit ● count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 ● round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 ● solve number problems and practical problems that involve all of the above **Multiplication and division** ● multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 **Fractions (including decimals and percentages)** ● read and write decimal numbers as fractions [for example, 0.71 = $^{71}/_{100}$] ● recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents ● round decimals with two decimal places to the nearest whole number and to one decimal place ● read, write, order and compare numbers with up to three decimal places ● solve problems involving number up to three decimal places **Measurement** ● convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) ● solve problems involving converting between units of time.	*Fluency With Fractions, Decimals and Percentages 5*, pp 10–11, 2 'Counting in fraction steps' *Picture Maths 5*, pp 4–5, 1 'Lunar holidays' *Picture Maths 5*, pp 8–9, 3 'Jet pack jump' *Skills Builders: Fractions, Decimals and Percentages 5*, pp 26–7, 'Decimal notation' *Learn, Practise and Revise 5*, pp 36–9, 10 'Multiplying and dividing by 10, 100, 1000' *Learn, Practise and Revise 5*, pp 30–2, 8 'Fractions and decimals' *Skills Builders: Fractions, Decimals and Percentages 5*, pp 8–9, 'Fraction notation' *Fluency With Fractions, Decimals and Percentages 5*, pp 20–21, 7 'Recognising and using thousandths' *Fluency With Fractions, Decimals and Percentages 5*, pp 38–9, 16 'Rounding decimals' *Fluency With Fractions, Decimals and Percentages 5*, pp 40–1, 17 'Comparing and ordering numbers with up to three decimal places' *Picture Maths 5*, pp 26–7, 12 'Knit-a-thon' *Problem Solving and Reasoning 5*, pp 68–9, 13 'How many chairs?' *Picture Maths 5*, pp 34–5, 16 'Waiting room'
MENTAL MATHS TESTS				*Mental Maths Tests 5*, pp 6–9, Autumn Tests 1 and 2
ASSESSMENT TASK 5.1		*Assessment Tasks Years 5 and 6* pp8–9	**Success criteria** Pupils can represent and explain the multiplicative nature of the number system, understanding how to multiply and divide by 10, 100 and 1000. Pupils make appropriate decisions about when to use their understanding of counting, place value and rounding for solving problems including adding and subtracting.	TASK: Javelin Success USE WITH: Groups of 3

Medium-term plan: autumn term 1st half (cont.) Year 5

Sequence and Theme	Weeks	Pages	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
5.2 **ADDITIVE REASONING**	4–6	*Planning Framework* p45	**Addition and subtraction** ● add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) ● add and subtract numbers mentally with increasingly large numbers ● use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy ● solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why **Measurement** ● use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation including scaling **Statistics** ● solve comparison, sum and difference problems using information presented in a line graph ● complete, read and interpret information in tables including timetables.	*Skills Builders: Fractions, Decimals and Percentages 5*, pp 18–19, 'Add and subtract fractions with the same denominators' *Learn, Practise and Revise 5*, pp 6–9, 1 'Addition and subtraction with whole numbers and decimals' *Problem Solving and Reasoning 5*, pp 48–9, 3 'Chicken nuggets' *Picture Maths 5*, pp 12–13, 5 'Train talk' *Picture Maths 5*, pp 38–9, 18 'The mysterious mirror' *Learn, Practise and Revise 5*, pp 76–9, 22 'Graphs and tables'
MENTAL MATHS TESTS				*Mental Maths Tests 5*, pp 10–15, Autumn Tests 3, 4 and 5
ASSESSMENT TASK 5.2		*Assessment Tasks Years 5 and 6* pp10–11	**Success criteria** Pupils can solve addition and subtraction problems in different contexts, appropriately choosing and using number facts, understanding of place value and mental and written methods. They can explain their decision making and justify their solutions.	TASK: Around The World USE WITH: Groups of 3

Medium-term plan: autumn term 2nd half — Year 5

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
5.3 **MULTIPLICATIVE REASONING**	7–9	*Planning Framework* p46	**Multiplication and division** ● identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers ● multiply numbers up to 4 digits by a one-digit number using a formal written method ● multiply and divide numbers mentally drawing upon known facts ● divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context ● *multiply and divide whole numbers and those involving decimals by 10, 100 and 1000* ● solve problems involving multiplication and division including using their knowledge of factors and multiples ● solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign **Measurement** ● *use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation including scaling.*	*Skills Builders: Times Tables 3*, pp 24–5, 'Mixed multiplication practice (11 and 12)' *Skills Builders: Times Tables 3*, pp 28–9, 'Mixed division practice (11 and 12)' *Picture Maths 5*, pp 14–15, 6 'Multiple maze' *Skills Builders: Fractions, Decimals and Percentages 5*, pp 24–5, 'Solving ratio and proportion problems' *Learn, Practise and Revise 5*, pp 44–7, 12 'Factors and multiples' *Problem Solving and Reasoning 5*, pp 46–7, 2 'The maths factor' *Skills Builders: Times Tables 3*, pp 34–5, 'Problem solving (7 and 9 times tables)' *Skills Builders: Times Tables 3*, pp 36–7, 'Problem solving (7 and 9 division facts)' *Learn, Practise and Revise 5*, pp 40–3, 11 'Multiplication and division'
MENTAL MATHS TESTS				*Mental Maths Tests 5*, pp 16–19, Autumn Tests 6 and 7
ASSESSMENT TASK 5.3		*Assessment Tasks Years 5 and 6* pp12–13	**Success criteria** Pupils can solve problems involving multiplication and division in different contexts, appropriately choosing and using number facts, understanding of place value and mental and written methods. They can explain their decision making and justify their decisions.	TASK: Multiple Problems USE WITH: Groups of 3
5.4 **GEOMETRIC REASONING**	10–11	*Planning Framework* p46	**Geometry: properties of shapes** ● identify 3-D shapes, including cubes and other cuboids, from 2-D representations ● know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles ● draw given angles, and measure them in degrees (°) ● identify: – angles at a point and one whole turn (total 360°) – angles at a point on a straight line and ½ a turn (total 180°) – other multiples of 90° ● use the properties of rectangles to deduce related facts and find missing lengths and angles ● distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	*Problem Solving and Reasoning 5*, pp 66–7, 12 'Angles add up' *Problem Solving and Reasoning 5*, pp 76–7, 17 'Diagonally speaking' *Learn, Practise and Revise 5*, pp 52–5, 15 'Estimating and drawing angles' *Picture Maths 5*, pp 36–7, 17 'The locked box'
MENTAL MATHS TESTS				*Mental Maths Tests 5*, pp 20–3, Autumn Tests 8 and 9
ASSESSMENT TASK 5.4		*Assessment Tasks Years 5 and 6* pp14–15	**Success criteria** Pupils can explain angle as a measure of turn, draw and measure angles and use their understanding of angle to describe the properties of different shapes.	TASK: Triangle Trio USE WITH: Groups of 3

Medium-term plan: autumn term 2nd half (cont.) Year 5

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
5.5 **NUMBER SENSE**	12–13	*Planning Framework* p47	**Number and place value** ● *read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit* ● *count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000* ● interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero ● *round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000* ● *solve number problems and practical problems that involve all of the above* ● read Roman numerals to 1000 (M) and recognise years written in Roman numerals **Multiplication and division** ● *multiply and divide whole numbers and those involving decimals by 10, 100 and 1000* **Fractions (including decimals and percentages)** ● *read and write decimal numbers as fractions [for example, 0.71 = $^{71}/_{100}$]* ● *recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents* ● *round decimals with two decimal places to the nearest whole number and to one decimal place* ● *read, write, order and compare numbers with up to three decimal places* ● *solve problems involving number up to three decimal places* **Measurement** ● *convert between different units of measure (e.g. kilometre and metre; metre and centimetre; centimeter and millimetre; kilogram and gram; litre and millilitre)* ● *solve problems involving converting between units of time.*	*Learn, Practise and Revise 5*, pp 18–21, 5 'Place value, rounding and ordering numbers' *Picture Maths 5*, pp 6–7, 2 'Penguin point' *Learn, Practise and Revise 5*, pp 10–13, 2 'Negative numbers' *Problem Solving and Reasoning 5*, pp 44–5, 1 'Stringy numbers' *Picture Maths 5*, pp 10–11, 4 'Roman adventure' *Learn, Practise and Revise 5*, pp 14–15, 3 'Roman numerals' *Picture Maths 5*, pp 22–3, 10 'Lifting logs' *Skills Builders: Fractions, Decimals and Percentages 5*, pp 20–1, 'Add and subtract related fractions' *Skills Builders: Fractions, Decimals and Percentages 5*, pp 28–9, 'Rounding fractions to 2 decimal places' *Skills Builders: Fractions, Decimals and Percentages 5*, pp 30–1, 'Read and write decimal numbers as fractions' *Problem Solving and Reasoning 5*, pp 50–1, 4 'Tricky triangles' *Picture Maths 5*, pp 28–9, 13 'The ultimate prize' *Learn, Practise and Revise 5*, pp 70–3, 20 'Time and length, weight and capacity with metric units'
MENTAL MATHS TESTS				*Mental Maths Tests 5*, pp 24–5, Autumn Test 10
ASSESSMENT TASK 5.5		*Assessment Tasks Years 5 and 6* pp16–17	**Success criteria** Pupils can make appropriate decisions about when to use their understanding of counting (including counting below zero), place value and rounding for solving problems including adding and subtracting. Pupils can explain the representation of three-digit positive numbers as Roman numerals.	TASK: Mercury Rising USE WITH: Groups of 3

Medium-term plan: spring term 1st half — Year 5

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
5.6 **ADDITIVE REASONING**	14–16	*Planning Framework* p47	**Addition and subtraction** ● *add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)* ● *add and subtract numbers mentally with increasingly large numbers* ● *use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy* ● *solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why*	*Problem Solving and Reasoning 5*, pp 60–1, 9 'Dinosaurs' *Problem Solving and Reasoning 5*, pp 62–3, 10 'Ice-cream!'
			Fractions (including decimals and percentages) ● *solve problems involving number up to three decimal places*	*Fluency With Fractions, Decimals and Percentages 5*, pp 42–3, 18 'Solving problems about numbers with up to three decimal places' *Skills Builders: Fractions, Decimals and Percentages 5*, pp 34–5, 'Add and subtract numbers with up to 3 decimal places'
			Measurement ● *use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation including scaling* ● *measure and calculate the perimeter*	
			Statistics ● *solve comparison, sum and difference problems using information presented in a line graph* ● *complete, read and interpret information in tables, including timetables.*	*Picture Maths 5*, pp 40–1, 19 'The tournament'
MENTAL MATHS TESTS				*Mental Maths Tests 5*, pp 26–9, Spring Tests 1 and 2
ASSESSMENT TASK 5.6		*Assessment Tasks Years 5 and 6* pp18–19	**Success criteria** Pupils can solve addition and subtraction problems in different contexts, appropriately choosing and using number facts, understanding of place value and mental and written methods. They can explain their decision making and justify their solutions.	TASK: Weighing In USE WITH: Groups of 3

Medium-term plan: spring term 1st half (cont.) Year 5

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
5.7 **NUMBER SENSE**	17–18	*Planning Framework* p48	**Multiplication and division** ● *multiply and divide whole numbers and those involving decimals by 10, 100 and 1000* **Fractions (including decimals and percentages)** ● compare and order fractions whose denominators are all multiples of the same number ● recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$] ● *read and write decimal numbers as fractions [for example, 0.71 = $\frac{71}{100}$]* ● *recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents* ● recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with denominator 100, and as a decimal ● identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths.	*Skills Builders: Fractions, Decimals and Percentages 5*, pp 10–11, 'Recognise mixed numbers and improper fractions' *Fluency With Fractions, Decimals and Percentages 5*, pp 12–13, 3 'Comparing and ordering fractions' *Fluency With Fractions, Decimals and Percentages 5*, pp 14–15, 4 'Solving problems using equivalent fractions' *Fluency With Fractions, Decimals and Percentages 5*, pp 22–23, 8 'Mixed numbers and improper fractions' *Fluency With Fractions, Decimals and Percentages 5*, pp 16–17, 5 'Decimal numbers as fractions' *Fluency With Fractions, Decimals and Percentages 5*, pp 18–19, 6 'Understanding and writing percentages in different ways' *Fluency With Fractions, Decimals and Percentages 5*, pp 8–9, 1 'Equivalent fractions'
MENTAL MATHS TESTS				*Mental Maths Tests 5*, pp 30–5, Spring Tests 3, 4 and 5
ASSESSMENT TASK 5.7		*Assessment Tasks Years 5 and 6* pp20–21	**Success criteria** Pupils can represent and explain the relationship between decimals, fractions and percentages. They use this understanding to solve problems.	TASK: Hundredths and Thousandths USE WITH: Groups of 3

Medium-term plan: spring term 2nd half — Year 5

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
5.8 **MULTIPLICATIVE REASONING**	19-21	*Planning Framework* p49	**Multiplication and division** ● *identify multiples and factors, including finding all factor pairs* ● know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers ● *solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates* ● establish whether a number up to 100 is prime and recall prime numbers up to 19 ● *multiply numbers up to 4 digits by a one-digit number using a formal written method* ● *multiply and divide numbers mentally drawing upon known facts* ● *divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context* ● *multiply and divide whole numbers and those involving decimals by 10, 100 and 1000* ● recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}) ● *solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes* ● solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign **Fractions (including decimals and percentages)** ● solve problems which require knowing percentage and decimal equivalents of ½, ¼, ⅕, ⅖, ⅘ and those with a denominator of a multiple of 10 or 25 **Measurement** ● *use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation including scaling.*	*Skills Builders: Fractions, Decimals and Percentages 5*, pp 16–17, 'Fractions and division' *Skills Builders: Times Tables 3*, pp 30–1, 'Mixed multiplication practice (7, 9, 11 and 12)' *Skills Builders: Times Tables 3*, pp 32–3, 'Mixed division practice (7, 9, 11 and 12)' *Picture Maths 5*, pp 16–17, 7 'Playing the game' *Learn, Practise and Revise 5*, pp 50–1, 14 'Prime numbers' *Skills Builders: Times Tables 3*, pp 38–9, 'Problem solving (11 and 12 times tables)' *Skills Builders: Times Tables 3*, pp 40–1, 'Problem solving (11 and 12 division facts)' *Picture Maths 5*, pp 18–19, 8 'Eat me, drink me' *Skills Builders: Fractions, Decimals and Percentages 5*, pp 36–7, 'Decimal word problems' *Learn, Practise and Revise 5*, pp 48–9, 13 'Squares and cubes' *Problem Solving and Reasoning 5*, pp 70–1, 14 'Equivalence' *Learn, Practise and Revise 5*, pp 33–5, 9 'Understanding percentages' *Fluency With Fractions, Decimals and Percentages 5*, pp 46–7, 20 'Solving problems about percentage, fraction and decimal equivalents' *Picture Maths 5*, pp 24–5, 11 '100 aliens!' *Skills Builders: Fractions, Decimals and Percentages 5*, pp 38–9, 'Percentages'
MENTAL MATHS TESTS				*Mental Maths Tests 5*, pp 36–9, Spring Tests 6 and 7
ASSESSMENT TASK 5.8		*Assessment Tasks Years 5 and 6* pp22–23	**Success criteria** Pupils can explain and show properties of prime, composite, square and cube numbers and explain factor pairs related to these sets of numbers. They understand and can explain the relationship between multiplication, division, fractions and percentages. They use this understanding to derive facts and solve problems.	TASK: Penguin Power USE WITH: Groups of 3

Medium-term plan: spring term 2nd half (cont.) Year 5

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
5.9 **GEOMETRIC REASONING**	22–23	*Planning Framework* p49	**Geometry: properties of shapes** ● *identify 3-D shapes, including cubes and other cuboids, from 2-D representations* ● *know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles* ● *draw given angles, and measure them in degrees (°)* ● *Identify:* – *angles at a point and one whole turn (total 360°)* – *angles at a point on a straight line and ½ a turn (total 180°)* – *other multiples of 90°* ● *use the properties of rectangles to deduce related facts and find missing lengths and angles* ● *distinguish between regular and irregular polygons based on reasoning about equal sides and angles* **Geometry: position and direction** ● identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.	*Learn, Practise and Revise 5*, pp 56–9, 16 'Properties of shape' *Learn, Practise and Revise 5*, pp 60–3, 17 'Drawing shapes' *Learn, Practise and Revise 5*, pp 64–7, 18 'Reflecting shapes' *Problem Solving and Reasoning 5*, pp 52–3, 5 'It's all reflecting'
MENTAL MATHS TESTS				*Mental Maths Tests 5*, pp 40–3, Spring Tests 8 and 9
ASSESSMENT TASK 5.9		*Assessment Tasks Years 5 and 6* pp24–25	**Success criteria** Pupils can explain how to reflect and translate shapes on a grid in the first quadrant and use this knowledge and understanding to solve problems.	TASK: Transforming Triangles USE WITH: Groups of 3

Medium-term plan: spring term 2nd half (cont.) Year 5

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
5.10 **NUMBER SENSE**	24–25	*Planning Framework* p50	**Number and place value** ● *read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit* ● *count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000* ● *interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero* ● *round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000* ● *solve number problems and practical problems that involve all of the above* **Multiplication and division** ● *multiply and divide whole numbers and those involving decimals by 10, 100 and 1000* **Fractions (including decimals and percentages)** ● *compare and order fractions whose denominators are all multiples of the same number* ● *recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]* ● *read and write decimal numbers as fractions [for example, 0.71 = $\frac{71}{100}$]* ● *recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents* ● *round decimals with two decimal places to the nearest whole number and to one decimal place* ● *read, write, order and compare numbers with up to three decimal places* ● *solve problems involving number up to three decimal places* **Measurement** ● *convert between different units of measure (e.g. kilometre and metre; metre and centimetre; centimeter and millimetre; kilogram and gram; litre and millilitre)* ● *solve problems involving converting between units of time.*	*Problem Solving and Reasoning 5*, pp 56–7, 7 'Twenty-three' *Problem Solving and Reasoning 5*, pp 58–9, 8 'Tablet problems' *Problem Solving and Reasoning 5*, pp 64–5, 11 'Place value guess who' *Fluency With Fractions, Decimals and Percentages 5*, pp 44–5, 19 'Linear sequences involving fractions and decimals' *Skills Builders: Fractions, Decimals and Percentages 5*, pp 14–15, 'Ordering fractions' *Fluency With Fractions, Decimals and Percentages 5*, pp 48–9, 21 'Solving problems using percentages, decimals and fractions' *Skills Builders: Fractions, Decimals and Percentages 5*, pp 12–13, 'Recognise equivalent fractions' *Skills Builders: Fractions, Decimals and Percentages 5*, pp 32–3, 'Ordering numbers to 3 decimal places'
MENTAL MATHS TESTS				*Mental Maths Tests 5*, pp 44–5, Spring Test 10
ASSESSMENT TASK 5.10		*Assessment Tasks Years 5 and 6* pp26–27	**Success criteria** Pupils can use their understanding of the multiplicative nature of the number system to convert between different units of measures, using how to multiply and divide by 10, 100 and 1000. Pupils make appropriate decisions about when to use their understanding of counting (including in fractions), place value and rounding for solving problems including adding and subtracting.	TASK: Florida Fruit USE WITH: Groups of 3

Medium-term plan: summer term 1st half — Year 5

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
5.11 **ADDITIVE REASONING**	26–28	*Planning Framework* p51	**Addition and subtraction** ● *add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)* ● *add and subtract numbers mentally with increasingly large numbers* ● *use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy* ● *solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why* **Fractions (including decimals and percentages)** ● *recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example, ⅖ + ⅘ = ⅘ = 1⅕]* ● add and subtract fractions with the same denominator and denominators that are multiples of the same number ● *solve problems involving number up to three decimal places* **Measurement** ● *use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation including scaling* ● *solve problems involving converting between units of time* **Statistics** ● *solve comparison, sum and difference problems using information presented in a line graph* ● *complete, read and interpret information in tables, including timetables.*	*Fluency With Fractions, Decimals and Percentages 5*, pp 30–1, 12 ‘Adding and subtracting decimals’ *Problem Solving and Reasoning 5*, pp 72–3, 15 ‘Fraction pairs’ *Fluency With Fractions, Decimals and Percentages 5*, pp 24–5, 9 ‘Adding fractions’ *Fluency With Fractions, Decimals and Percentages 5*, pp 26–7, 10 ‘Subtracting fractions’ *Picture Maths 5*, pp 42–3, 20 ‘The laboratory’ *Problem Solving and Reasoning 5*, pp 78–9, 18 ‘Body proportions’
MENTAL MATHS TESTS				*Mental Maths Tests 5,* pp 46–9, Summer Tests 1 and 2
ASSESSMENT TASK 5.11		*Assessment Tasks Years 5 and 6* pp28–29	**Success criteria** Pupils can solve addition and subtraction problems including with fractions) in different contexts, appropriately choosing and using number facts, understanding of place value and mental and written methods. They can explain their decision making and justify their solutions.	TASK: London Trip USE WITH: Groups of 3

Medium-term plan: summer term 1st half (cont.) Year 5

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
5.12 **NUMBER SENSE**	29–30	*Planning Framework* p51	**Multiplication and division** ● *multiply and divide whole numbers and those involving decimals by 10, 100 and 1000* **Fractions (including decimals and percentages)** ● *compare and order fractions whose denominators are all multiples of the same number* ● *recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]* ● *read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$]* ● *recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents* ● *recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with denominator 100, and as a decimal.* **Measurement** ● *convert between different units of metric measure [for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre].*	*Fluency With Fractions, Decimals and Percentages 5*, pp 28–9, 11 'Counting in decimal steps' *Picture Maths 5*, pp 20–1, 9 'Big hotdogs' *Skills Builders: Fractions, Decimals and Percentages 5*, pp 40–1, 'Finding percentages' *Learn, Practise and Revise 5*, pp 22–5, 6 'Fractions' *Learn, Practise and Revise 5*, pp 26–9, 7 'Calculating with fractions'
MENTAL MATHS TESTS				*Mental Maths Tests 5*, pp 50–5, Summer Tests 3, 4 and 5
ASSESSMENT TASK 5.12		*Assessment Tasks Years 5 and 6* pp30–31	**Success criteria** Pupils can represent and explain the relationship between decimals, fractions and percentages and how decimals and fractions fit into the number system. They use this understanding to solve problems.	TASK: Soup Water USE WITH: Groups of 3

Medium-term plan: summer term 2nd half — Year 5

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
5.13 **MULTIPLICATIVE REASONING**	31–33	*Planning Framework* p52	**Multiplication and division** ● *identify multiples and factors, including finding all factor pairs, and common factors of two numbers* ● *know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers* ● *establish whether a number up to 100 is prime and recall prime numbers up to 19* ● *multiply numbers up to 4 digits by a one- or two-digit number using a formal written method including long multiplication for two-digit numbers* ● *multiply and divide numbers mentally drawing upon known facts* ● *divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context* ● *multiply and divide whole numbers and those involving decimals by 10, 100 and 1000* ● *recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})* ● *solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes* ● *solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign* ● *solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.*	*Skills Builders: Times Tables 3*, pp 42–3, 'Problem solving (7, 9, 11 and 12 times tables)' *Skills Builders: Times Tables 3*, pp 44–5, 'Problem solving (7, 9, 11 and 12 division facts)' *Skills Builders: Fractions, Decimals and Percentages 5*, pp 42–3, 'Mixed bag'
			Fractions (including decimals and percentages) ● *identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths* ● multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams ● *solve problems which require knowing percentage and decimal equivalents of ½, ¼, ⅕, ⅖, ⅘ and those with a denominator of a multiple of 10 or 25*	*Fluency With Fractions, Decimals and Percentages 5*, pp 32–3, 13 'Multiplying proper fractions and mixed fractions' *Fluency With Fractions, Decimals and Percentages 5*, pp 34–5, 14 'Problems about multiplying fractions' *Skills Builders: Fractions, Decimals and Percentages 5*, pp 22–3, 'Multiply proper fractions and mixed numbers by whole numbers' *Fluency With Fractions, Decimals and Percentages 5*, pp 36–7, 15 'Fractions of amounts and remainders' *Fluency With Fractions, Decimals and Percentages 5*, pp 50–1, 22 'Solving problems about fractions, decimals and percentages'
			Measurement ● *use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation including scaling* ● understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints ● *solve problems involving converting between units of time.*	
MENTAL MATHS TESTS				*Mental Maths Tests 5*, pp 56–9, Summer Tests 6 and 7
ASSESSMENT TASK 5.13		*Assessment Tasks Years 5 and 6* pp 32–33	**Success criteria** Pupils can solve problems involving multiplication and division in different contexts, appropriately choosing and using number facts, understanding of place value and mental and written methods. They can explain their decision making and justify their solutions. They can explain and represent the connection between fractions and division.	TASK: Wimbledon Champions USE WITH: Groups of 3

Medium-term plan: summer term 2nd half (cont.) Year 5

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
5.14 **GEOMETRIC REASONING**	34–36	*Planning Framework* p53	**Geometry: properties of shapes** ● *use the properties of rectangles to deduce related facts and find missing lengths and angles* ● *distinguish between regular and irregular polygons based on reasoning about equal sides and angles* **Geometry: position and direction** ● *identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed* **Measurement** ● measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres ● calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes ● estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water].	*Learn, Practise and Revise 5*, pp 68–9, 19 'Translating shapes' *Problem Solving and Reasoning 5*, pp 74–5, 16 'The flood' *Problem Solving and Reasoning 5*, pp 54–5, 6 'Meerkat madness' *Picture Maths 5*, pp 30–1, 14 'Playground winners' *Learn, Practise and Revise 5*, pp 74–5, 21 'Area and perimeter' *Picture Maths 5*, pp 32–3, 15 'Sandcastle style' *Learn, Practise and Revise 5*, pp 16–17, 4 'Volume'
MENTAL MATHS TESTS				*Mental Maths Tests 5*, pp 60–65, Summer Tests 8, 9 and 10
ASSESSMENT TASK 5.14		*Assessment Tasks Years 5 and 6* pp34–35	**Success criteria** Pupils can explain how to find the perimeter and area of different shapes, using this knowledge and understanding to solve problems.	TASK: Fenced In USE WITH: Groups of 3

Medium-term plan: autumn term 1st half — Year 6

Sequence and Theme	Weeks	Pages	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
6.1 **NUMBER SENSE**	1–3	*Planning Framework* p54	**Number and place value** ● read, write, order and compare numbers up to 10 000 000 and determine the value of each digit ● round any whole number to a required degree of accuracy ● solve number and practical problems that involve all of the above **Fractions (including decimals and percentages)** ● identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places **Measurement** ● use, read, write and convert between standard units, converting measurements of length, mass and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places ● convert between miles and kilometres.	*Picture Maths 6*, pp 4–5, 1 'Museum muddle' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 34–5, 14 'Using and understanding decimal place value' *Skills Builders: Fractions, Decimals and Percentages 6*, pp 8–9, 'Changing improper fractions to mixed numbers' *Picture Maths 6*, pp 26–7, 12 'The Trans-Europe rally' *Picture Maths 6*, pp 28–9, 13 'The biscuit factory'
MENTAL MATHS TESTS				*Mental Maths Tests 6*, pp 6–9, Autumn Tests 1 and 2
ASSESSMENT TASK 6.1		*Assessment Tasks Years 5 and 6* pp36–37	**Success criteria** Pupils can represent and explain the multiplicative nature of the number system, understanding how to multiply and divide by 10, 100 and 1000. Pupils make appropriate decisions about when to use their understanding of counting, place value and rounding for solving problems including adding and subtracting.	TASK: Parcels for Posting USE WITH: Groups of 3

Medium-term plan: autumn term 1st half (cont.) Year 6

Sequence and Theme	Weeks	Pages	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
6.2 **ADDITIVE REASONING**	4–6	*Planning Framework* p55	**Addition, subtraction, multiplication and division** ● perform mental calculations, including with mixed operations and large numbers ● use their knowledge of the order of operations to carry out calculations involving the four operations ● solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why ● solve problems involving addition, subtraction ● use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy **Fractions (including decimals and percentages)** ● solve problems which require answers to be rounded to specified degrees of accuracy **Algebra** ● use simple formulae ● generate and describe linear number sequences ● express missing number problems algebraically ● find pairs of numbers that satisfy an equation with two unknowns ● enumerate possibilities of combinations of two variables **Measurement** ● solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate ● *use, read, write and convert between standard units, converting measurements of length, mass and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places* **Statistics** ● interpret and construct pie charts and line graphs and use these to solve problems.	*Skills Builders: Fractions, Decimals and Percentages 6*, pp 10–11, 'Relationships between fractions' *Problem Solving and Reasoning 6*, pp 72–3, 15 'Monsters' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 40–1, 17 'Solving problems that require rounding of decimals' *Picture Maths 6*, pp 12–13, 5 'Cupcakes' *Learn, Practise and Revise 6*, pp 36–9, 9 'Algebra' *Problem Solving and Reasoning 6*, pp 44–5, 1 'Missing numbers' *Problem Solving and Reasoning 6*, pp 50–1, 4 'Baffling banquets' *Skills Builders: Fractions, Decimals and Percentages 6*, pp 22–3, 'Decimal notation' *Skills Builders: Fractions, Decimals and Percentages 6*, pp 24–5, 'Decimal and fraction equivalence' *Picture Maths 6*, pp 38–9, 18 'The laboratory'
MENTAL MATHS TESTS				*Mental Maths Tests 6*, pp 10–15, Autumn Tests 3, 4 and 5
ASSESSMENT TASK 6.2		*Assessment Tasks Years 5 and 6* pp38–39	**Success criteria** Pupils can solve addition and subtraction problems in different contexts, appropriately choosing and using number facts, understanding of place value and mental and written methods. They can explain their decision making and justify their solutions and levels of accuracy.	TASK: The Greenhouse Effect USE WITH: Groups of 3

Medium-term plan: autumn term 2nd half — Year 6

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
6.3 **MULTIPLICATIVE REASONING**	7–9	*Planning Framework* p56	**Addition, subtraction, multiplication and division** ● multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication ● divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context ● divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context ● *perform mental calculations, including with mixed operations and large numbers* ● identify common factors, common multiples and prime numbers ● *use their knowledge of the order of operations to carry out calculations involving the four operations* ● *solve problems involving addition, subtraction,* multiplication and division ● *use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy* **Fractions (including decimals and percentages)** ● multiply one-digit numbers with up to two decimal places by whole numbers ● use written division methods in cases where the answer has up to two decimal places **Ratio and proportion** ● solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison **Algebra** ● *use simple formulae* ● *generate and describe linear number sequences* ● *express missing number problems algebraically* ● *find pairs of numbers that satisfy an equation with two unknowns* ● *enumerate possibilities of combinations of two variables.* **Measurement** ● *solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate* ● *use, read, write and convert between standard units, converting measurements of length, mass and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places* **Statistics** ● *interpret and construct pie charts and line graphs and use these to solve problems* ● calculate and interpret the mean as an average.	*Learn, Practise and Revise 6*, pp 22–23, 5 'Multiplication' *Learn, Practise and Revise 6*, pp 24–7, 6 'Division' *Skills Builders: Fractions, Decimals and Percentages 6*, pp 26–7, 'Converting fractions to decimals using division' *Skills Builders: Fractions, Decimals and Percentages 6*, pp 28–9, 'Multiplying numbers with up to 2 decimal places' *Skills Builders: Fractions, Decimals and Percentages 6*, pp 30–1, 'Dividing numbers with up to 2 decimal places' *Learn, Practise and Revise 6*, pp 28–31, 7 'Harder calculations' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 36–7, 15 'Multiplying decimal numbers by whole numbers' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 30–1, 12 'Finding and recognising fractions of amounts' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 32–3, 13 'Solving problems using percentages' *Learn, Practise and Revise 6*, pp 14–17, 3 'Percentages, and finding fractions and percentages' *Problem Solving and Reasoning 6*, pp 60–1, 9 'Pascal's triangle' *Picture Maths 6*, pp 42–3, 20 'Healthy pies' *Learn, Practise and Revise 6*, pp 78–9, 20 'Averages – mean'
MENTAL MATHS TESTS				*Mental Maths Tests 6*, pp 16–19, Autumn Tests 6 and 7

ASSESSMENT TASK 6.3		*Assessment Tasks Years 5 and 6 pp40–41*	**Success criteria** Pupils can solve problems involving multiplication and division and fractions and percentages in different contexts, appropriately choosing and using number facts, understanding of place value and mental and written methods. They can explain their decision making and justify their solutions.	TASK: Swimming Success USE WITH: Groups of 3

Medium-term plan: autumn term 2nd half (cont.) Year 6

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
6.4 **GEOMETRIC REASONING**	10–11	*Planning Framework* p57	**Geometry: properties of shapes** ● draw 2-D shapes using given dimensions and angles ● recognise, describe and build simple 3-D shapes, including making nets ● compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons ● illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius ● recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles **Algebra** ● *use simple formulae* ● *express missing number problems algebraically* ● *find pairs of numbers that satisfy an equation with two unknowns* ● *enumerate possibilities of combinations of two variables* **Measurement** ● recognise that shapes with the same areas can have different perimeters and vice versa ● calculate the area of parallelograms and triangles ● recognise when it is possible to use the formulae for area and volume of shapes.	*Picture Maths 6*, pp 16–17, 7 'T-shirt logic' *Picture Maths 6*, pp 18–19, 8 'Gift wrap' *Picture Maths 6*, pp 20–1, 9 'The isoscelian jewels' *Learn, Practise and Revise 6*, pp 44–7, 11 '2–D shapes' *Learn, Practise and Revise 6*, pp 48–51, 12 'Circles' *Picture Maths 6*, pp 32–3, 15 'Chessboard challenge' *Picture Maths 6*, pp 34–5, 16 'Patrick's puzzle' *Problem Solving and Reasoning 6*, pp 64–5, 11 'Chickens' *Problem Solving and Reasoning 6*, pp 78–9, 18 'Chunky chocolate cubes'
MENTAL MATHS TESTS				*Mental Maths Tests 6*, pp 20–3, Autumn Tests 8 and 9
ASSESSMENT TASK 6.4		*Assessment Tasks Years 5 and 6* pp42–43	**Success criteria** Pupils can use their understanding of angle and properties of shapes to solve problems.	TASK: Imagine a Shape USE WITH: Groups of 3

Medium-term plan: autumn term 2nd half (cont.) Year 6

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
6.5 **NUMBER SENSE**	12–13	*Planning Framework* p57	**Number and place value** ● *read, write, order and compare numbers up to 10 000 000 and determine the value of each digit* ● *round any whole number to a required degree of accuracy* ● use negative numbers in context, and calculate intervals across zero ● *solve number problems and practical problems that involve all of the above* **Fractions (including decimals and percentages)** ● *identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 given answers up to three decimal places* **Measurement** ● *use, read, write and convert between standard units, converting measurements of length, mass and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places.*	*Problem Solving and Reasoning 6*, pp 46–7, 2 'Magic squares' *Picture Maths 6*, pp 6–7, 2 'Holiday snaps' *Learn, Practise and Revise 6*, pp 32–5, 8 'Negative numbers' *Problem Solving and Reasoning 6*, pp 62–3, 10 'Missing problems' *Picture Maths 6*, pp 30–1, 14 'The final?' *Learn, Practise and Revise 6*, pp 64–7, 16 'Measurement
MENTAL MATHS TESTS				*Mental Maths Tests 6*, pp 24–5, Autumn Test 10
ASSESSMENT TASK 6.5		*Assessment Tasks Years 5 and 6* pp44–45	**Success criteria** Pupils can make appropriate decisions about when to use their understanding of counting (including counting below zero), place value and rounding for solving problems including adding and subtracting.	TASK: Pumpkin Patch USE WITH: Groups of 3

Medium-term plan: spring term 1st half — Year 6

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
6.6 **ADDITIVE REASONING**	14–16	*Planning Framework* p58	**Number and place value** ● *use negative numbers in context, and calculate intervals across zero* **Addition, subtraction, multiplication and division** ● *perform mental calculations, including with mixed operations and large numbers* ● *use their knowledge of the order of operations to carry out calculations involving the four operations* ● *solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why* ● *solve problems involving addition, subtraction* ● *use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy* **Fractions (including decimals and percentages)** ● *solve problems which require answers to be rounded to specified degrees of accuracy* **Algebra** ● *use simple formulae* ● *generate and describe linear number sequences* ● *express missing number problems algebraically* ● *find pairs of numbers that satisfy an equation with two unknowns* ● *enumerate possibilities of combinations of two variables* **Measurement** ● *solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate* ● *use, read, write and convert between standard units, converting measurements of length, mass and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places* **Statistics** ● *interpret and construct pie charts and line graphs and use these to solve problems.*	*Skills Builders: Fractions, Decimals and Percentages 6*, pp 12–13, 'Reducing fractions – cancelling' *Skills Builders: Fractions, Decimals and Percentages 6*, pp 32–3, 'Finding simple percentages of whole numbers and measures' *Learn, Practise and Revise 6*, pp 74–7, 19 'Interpreting data'
MENTAL MATHS TESTS				*Mental Maths Tests 6*, pp 26–9, Spring Tests 1 and 2
ASSESSMENT TASK 6.6		*Assessment Tasks Years 5 and 6* pp46–47	**Success criteria** Pupils can solve addition and subtraction problems in different contexts, appropriately choosing and using number facts, understanding of place value and mental and written methods. They can explain their decision making and justify their solution and level of accuracy.	TASK: Canadian Capacity USE WITH: Groups of 3

Medium-term plan: spring term 1st half (cont.) Year 6

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
6.7 **NUMBER SENSE**	17–18	*Planning Framework* p59	**Fractions (including decimals and percentages)** ● use common factors to simplify fractions; use common multiples to express fractions in the same denomination ● compare and order fractions, including fractions >1 ● associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8] ● recall and use equivalences between simple fractions, decimals and percentages, including in different contexts ● *identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places* **Algebra** ● *use simple formulae* ● *generate and describe linear number sequences* ● *express missing number problems algebraically* ● *find pairs of numbers that satisfy an equation with two unknowns* **Measurement** ● *solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate* ● *use, read, write and convert between standard units, converting measurements of length, mass and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places* **Statistics** ● *interpret and construct pie charts and line graphs and use these to solve problems.*	*Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 8–9, 1 'Using common factors and multiples to work with fractions' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 10–11, 2 'Comparing and ordering fractions' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 12–13, 3 'Fractions, decimals and division' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 16–17, 5 'Fraction, decimal and percentage equivalents' *Picture Maths 6*, pp 10–11, 4 'Milly's milkshakes' *Picture Maths 6*, pp 14–15, 6 'The safe' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 38–9, 16 'Calculating with decimals'
MENTAL MATHS TESTS				*Mental Maths Tests 6*, pp 30–5, Spring Tests 3, 4 and 5
ASSESSMENT TASK 6.7		*Assessment Tasks Years 5 and 6* pp48–49	**Success criteria** Pupils can represent and explain the relationship between decimals, fractions and percentages and equivalences within fractions. They use this understanding to solve problems.	TASK: Fishy Fractions USE WITH: Groups of 3

Medium-term plan: spring term 2nd half — Year 6

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
6.8 **MULTIPLICATIVE REASONING**	19-21	*Planning Framework* p60	**Addition, subtraction, multiplication and division** ● *multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication* ● *divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context* ● *divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context perform mental calculations, including with mixed operations and large numbers* ● *perform mental calculations, including with mixed operations and large numbers* ● *identify common factors, common multiples and prime numbers* ● *use their knowledge of the order of operations to carry out calculations involving the four operations* ● *solve problems involving addition, subtraction, multiplication and division* ● *use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy* **Fractions (including decimals and percentages)** ● *multiply one-digit numbers with up to two decimal places by whole numbers* ● *use written division methods in cases where the answer has up to two decimal places* **Ratio and proportion** ● *solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison* ● solve problems involving the relative sizes of two quantities, where missing values can be found by using integer multiplication and division facts ● solve problems involving unequal sharing and grouping using knowledge of fractions and multiples **Algebra** ● *use simple formulae* ● *generate and describe linear number sequences* ● *express missing number problems algebraically* ● *find pairs of numbers that satisfy an equation with two unknowns* ● *enumerate possibilities of combinations of two variables* **Measurement** ● *solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate* ● *use, read, write and convert between standard units, converting measurements of length, mass and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places* ● *convert between miles and kilometres* **Statistics** ● *interpret and construct pie charts and line graphs and use these to solve problems* ● *calculate and interpret the mean as an average.*	*Skills Builders: Fractions, Decimals and Percentages 6*, pp 34–5, 'Recalling and using equivalences between fractions, decimals and percentages' *Problem Solving and Reasoning 6*, pp 58–9, 8 'Greatest product' *Learn, Practise and Revise 6*, pp 18–21, 4 'Proportion and ratio' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 42–3, 18 'Understanding ratio' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 48–9, 21 'Solving problems about ratio' *Skills Builders: Fractions, Decimals and Percentages 6*, pp 38–9, 'Recognising equivalent ratios and reducing ratios' *Problem Solving and Reasoning 6*, pp 48–9, 3 'Juice for school' *Picture Maths 6*, pp 40–1, 19 'Dog show'
MENTAL MATHS TESTS				*Mental Maths Tests 6*, pp 36–9, Spring Tests 6 and 7

ASSESSMENT TASK 6.8		*Assessment Tasks Years 5 and 6 pp50–51*	**Success criteria** Pupils can explain the relationship between multiplication, division, ratio and proportion. They use this understanding to derive facts and solve problems.	TASK: Food Factors USE WITH: Groups of 3

Medium-term plan: spring term 2nd half (cont.) Year 6

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
6.9 **GEOMETRIC REASONING**	22–23	*Planning Framework* p61	**Geometry: properties of shapes** ● *draw 2-D shapes using given dimensions and angles* ● *recognise, describe and build simple 3-D shapes, including making nets* ● *compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons* ● *illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius* **Geometry: position and direction** ● describe positions on the full coordinate grid (all four quadrants) ● draw and translate simple shapes on the coordinate plane, and reflect them in the axes **Algebra** ● *use simple formulae* ● *express missing number problems algebraically* ● *find pairs of numbers that satisfy an equation with two unknowns* ● *enumerate possibilities of combinations of two variables* **Measurement** ● *calculate the area of parallelograms and triangles* ● *recognise when it is possible to use the formulae for area and volume of shapes* ● calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimeters (cm^3) and cubic metres (m^3) and extending to other units, [for example, mm^3 and km^3] **Ratio and proportion** ● Solve problems involving similar shapes where the scale factor is known or can be found.	*Learn, Practise and Revise 6*, pp 40–3, 10 'Angles' *Learn, Practise and Revise 6*, pp 52–5, 13 '3-D solids' *Learn, Practise and Revise 6*, pp 56–9, 14 'Nets of solids' *Picture Maths 6*, pp 22–3, 10 'Treasure map' *Picture Maths 6*, pp 24–5, 11 'Toy designer' *Learn, Practise and Revise 6*, pp 60–3, 15 'Co-ordinates and shapes' *Picture Maths 6*, pp 36–7, 17 'Mission to Mars' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 46–7, 20 'Ratio, proportion and shape'
MENTAL MATHS TESTS				*Mental Maths Tests 6*, pp 40–3, Spring Tests 8 and 9
ASSESSMENT TASK 6.9		*Assessment Tasks Years 5 and 6* pp52–53	**Success criteria** Pupils can explain how to reflect and translate shapes on a grid with four quadrants and use this knowledge and understanding to solve problems. They can explain how to find the volume of cubes and cuboids and use this understanding to solve problems.	TASK: Shape Shifting USE WITH: Groups of 3

Medium-term plan: spring term 2nd half (cont.) Year 6

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
6.10 **NUMBER SENSE**	24–25	*Planning Framework* p62	**Number and place value** ● *read, write, order and compare numbers up to 10 000 000 and determine the value of each digit* ● *round any whole number to a required degree of accuracy* ● *use negative numbers in context, and calculate intervals across zero* ● *solve number problems and practical problems that involve all of the above* **Fractions (including decimals and percentages)** ● *use common factors to simplify fractions; use common multiples to express fractions in the same denomination* ● *compare and order fractions, including fractions >1* ● *identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places* **Measurement** ● *use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation up to three decimal places* ● *convert between miles and kilometres.*	*Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 14–15, 4 'Problems about comparing and ordering fractions and decimals' *Skills Builders: Fractions, Decimals and Percentages 6*, pp 36–7, 'Expressing fractions as percentages'
MENTAL MATHS TESTS				*Mental Maths Tests 6*, pp 44–5, Spring Test 10
ASSESSMENT TASK 6.10		*Assessment Tasks Years 5 and 6* pp54–55	**Success criteria** Pupils can use their understanding of the multiplicative nature of the number system to convert between different units of measures, knowing when it is appropriate to use their understanding of how to multiply and divide by 10, 100 and 1000. Pupils make appropriate decisions about when to use their understanding of counting, place value and rounding for solving problems including adding and subtracting.	TASK: London to Paris USE WITH: Groups of 3

Medium-term plan: summer term 1st half — Year 6

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
6.11 **ADDITIVE REASONING**	26–28	*Planning Framework* p63	**Addition, subtraction, multiplication and division** ● *perform mental calculations, including with mixed operations and large numbers* ● *use their knowledge of the order of operations to carry out calculations involving the four operations* ● *solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why* ● *solve problems involving addition, subtraction, multiplication and division* ● *use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy* **Fractions (including decimal and percentages)** ● add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions ● *solve problems which require answers to be rounded to specified degrees of accuracy* **Algebra** ● *use simple formulae* ● *generate and describe linear number sequences* ● *express missing number problems algebraically* ● *find pairs of numbers that satisfy an equation with two unknowns* ● *enumerate possibilities of combinations of two variables* **Measurement** ● *solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate* ● *use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places* **Statistics** ● *interpret and construct pie charts and line graphs and use these to solve problems* ● *calculate and interpret the mean as an average.*	*Skills Builders: Fractions, Decimals and Percentages 6*, pp 14–15, 'Common denominators' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 18–19, 6 'Adding and subtracting fractions' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 20–1, 7 'Problems about adding and subtracting fractions' *Skills Builders: Fractions, Decimals and Percentages 6*, pp 16–17, 'Adding and subtracting fractions with different denominators and mixed numbers'
MENTAL MATHS TESTS				*Mental Maths Tests 6,* pp 46–9, Summer Tests 1 and 2
ASSESSMENT TASK 6.11		*Assessment Tasks Years 5 and 6* pp56–57	**Success criteria** Pupils can solve calculation problems in different contexts, appropriately choosing and using operations, number facts, understanding of place value and mental and written methods. They can explain their decision making and justify their solutions and levels of accuracy.	TASK: Faster, Higher, Stronger USE WITH: Groups of 3

Medium-term plan: summer term 1st half (cont.) Year 6

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
6.12 **NUMBER SENSE**	29–30	*Planning Framework* p64	**Fractions (including decimals and percentages)** ● *use common factors to simplify fractions; use common multiples to express fractions in the same denomination* ● *compare and order fractions, including fractions >1* ● *associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8]* ● *recall and use equivalences between simple fractions, decimals and percentages, including in different contexts* ● *identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places* **Algebra** ● *use simple formulae* ● *generate and describe linear number sequences* ● *express missing number problems algebraically* ● *find pairs of numbers that satisfy an equation with two unknowns* **Measurement** ● *solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate* ● *use, read, write and convert between standard units, converting measurements of length, mass and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places* **Statistics** ● *interpret and construct pie charts and line graphs and use these to solve problems.*	*Picture Maths 6*, pp 8–9, 3 'Pete's percentage problems' *Learn, Practise and Revise 6*, pp 6–9, 1 'Place value and numbers' *Problem Solving and Reasoning 6*, pp 66–7, 12 'Perfect, abundant and deficient numbers' *Problem Solving and Reasoning 6*, pp 68–9, 13 'Number knowledge' *Skills Builders: Fractions, Decimals and Percentages 6*, pp 40–1, 'Using ratios to show the relative sizes of two quantities' *Problem Solving and Reasoning 6*, pp 76–7, 17 'Pies or lines?'
MENTAL MATHS TESTS				*Mental Maths Tests 6*, pp 50–5, Summer Tests 3, 4 and 5
ASSESSMENT TASK 6.12		*Assessment Tasks Years 5 and 6* pp58–59	**Success criteria** Pupils can represent and explain the relationship between decimals, fractions and percentages and how decimals and fractions fit into the number system. They use this understanding to solve problems.	TASK: Water Bottles USE WITH: Groups of 3

Medium-term plan: summer term 2nd half — Year 6

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
6.13 **MULTIPLICATIVE REASONING**	31–33	*Planning Framework* p65	**Addition, subtraction, multiplication and division** ● *multiply multi-digit numbers up to 4 digits by a two-digit whole number using the efficient written method of long multiplication* ● *divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context* ● *divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context* ● *perform mental calculations, including with mixed operations and large numbers* ● *identify common factors, common multiples and prime numbers* ● *use their knowledge of the order of operations to carry out calculations involving the four operations* ● *solve problems involving addition, subtraction, multiplication and division* ● *use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy* **Fractions (including decimals and percentages)** ● multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, ¼ × ½ = ⅛] ● divide proper fractions by whole numbers [for example, ⅓ ÷ 2 = ⅙] ● *multiply one-digit numbers with up to two decimal places by whole numbers* ● *use written division methods in cases where the answer has up to two decimal places* **Ratio and proportion** ● *solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison* ● *solve problems involving the relative sizes of two quantities, where missing values can be found by using multiplication and division facts* ● *solve problems involving unequal sharing and grouping using knowledge of fractions and multiples* **Algebra** ● *use simple formulae* ● *generate and describe linear number sequences* ● *express missing number problems algebraically* ● *find pairs of numbers that satisfy an equation with two unknowns* ● *enumerate possibilities of combinations of two variables* **Measurement** ● *solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate* ● *use, read, write and convert between standard units, converting measurements of length, mass and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to three decimal places* **Statistics** ● *interpret and construct pie charts and line graphs and use these to solve problems* ● *calculate and interpret the mean as an average.*	*Problem Solving and Reasoning 6*, pp 54–5, 6 'Divisibility' *Problem Solving and Reasoning 6*, pp 70–1, 14 'Trickier triangles' *Skills Builders: Fractions, Decimals and Percentages 6*, pp 18–19, 'Multiplying simple unit fractions by fractions' *Skills Builders: Fractions, Decimals and Percentages 6*, pp 20–1, 'Dividing proper fractions by whole numbers' *Learn, Practise and Revise 6*, pp 10–13, 2 'Fractions' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 22–3, 8 'Multiplying proper fractions' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 24–5, 9 'Solving problems about multiplying fractions' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 26–7, 10 'Dividing proper fractions by whole numbers' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 28–9, 11 'Problems about dividing fractions' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 44–5, 19 'Solving problems about the relative sizes of two quantities' *Fluency With Fractions, Decimals, Percentages, Ratio and Proportion 6*, pp 50–1, 22 'Describing comparisons using ratio and proportion' *Skills Builders: Fractions, Decimals and Percentages 6*, pp 42–3, 'Mixed bag – fractions, ratio and proportion' *Problem Solving and Reasoning 6*, pp 74–5, 16 'Raspberry cupcakes'
MENTAL MATHS TESTS				*Mental Maths Tests 6*, pp 56–9, Summer Tests 6 and 7

ASSESSMENT TASK 6.13		*Assessment Tasks Years 5 and 6 pp60–61*	**Success criteria** Pupils can solve calculation problems in different contexts, including those involving ratio and proportion, appropriately choosing and using operations, number facts, understanding of place value and mental and written methods. They can explain their decision making and justify their solutions and level of accuracy**.**	TASK: Wiggo USE WITH: Groups of 3

Medium-term plan: summer term 2nd half (cont.) Year 6

Sequence and Theme	Weeks	Page	Learning objectives Pupils should be taught to:	Notes/Resources/Teaching Activities
6.14 **GEOMETRIC REASONING**	34–36	*Planning Framework* p66	**Geometry: properties of shapes** ● *draw 2-D shapes using given dimensions and angles* ● *recognise, describe and build simple 3-D shapes, including making nets* ● *compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons* ● *illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius* ● *recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles* **Geometry: position, direction, motion** ● *describe positions on the full coordinate grid (all four quadrants)* ● *draw and translate simple shapes on the coordinate plane, and reflect them in the axes* **Algebra** ● *use simple formulae* ● *express missing number problems algebraically* ● *find pairs of numbers that satisfy an equation with two unknowns* ● *enumerate possibilities of combinations of two variables* **Measurement** ● *recognise that shapes with the same areas can have different perimeters and vice versa* ● *calculate the area of parallelograms and triangles* ● *recognise when it is necessary to use the formulae for area and volume of shapes* ● *calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimeters (cm^3) and cubic metres (m^3) and extending to other units, [for example, mm^3 and km^3]* **Ratio and proportion** ● *solve problems involving similar shapes where the scale factor is known or can be found.*	*Problem Solving and Reasoning 6*, pp 52–3, 5 'Cube nets' *Problem Solving and Reasoning 6*, pp 56–7, 7 'Formulae' *Learn, Practise and Revise 6*, pp 68–71, 17 'Area and perimeter' *Learn, Practise and Revise 6*, pp 72–3, 18 'Volume'
MENTAL MATHS TESTS				*Mental Maths Tests 6*, pp 60–65, Summer Tests 8, 9 and 10
ASSESSMENT TASK 6.14		*Assessment Tasks Years 5 and 6* pp62–63	**Success criteria** Pupils can use their understanding of properties of shapes, area and volume to solve problems and make generalisations.	TASK: Moving House USE WITH: Groups of 3