

Years 2 to 4 mixed-age objective planner

Key

- *Italic text signifies objectives which do not appear in the single-age version of this unit but have been added to create a coherent mixed-age unit*
 - Smaller font indicates objectives which do appear in the single-age version of this unit, but which are addressed elsewhere within the mixed-age units
 - **Bold font indicates 'End-of-year' objectives.**
-

Block B: Securing number facts, understanding shape
Unit 1 – 15 days

Year 2	Year 3	Year 4
Describe patterns and relationships involving numbers or shapes, make predictions and test these with examples	Identify patterns and relationships involving numbers or shapes, and use these to solve problems	Identify and use patterns, relationships and properties of numbers or shapes; investigate a statement involving numbers and test it with examples
Present solutions to puzzles and problems in an organised way; explain decisions, methods and results in pictorial, spoken or written form, using mathematical language and number sentences	<i>Describe and explain methods, choices and solutions to puzzles and problems, orally and in writing, using pictures and diagrams</i>	Report solutions to puzzles and problems, giving explanations and reasoning orally and in writing, using diagrams and symbols
Solve problems involving addition, subtraction, multiplication or division in contexts of numbers, measures or pounds and pence	<i>Solve one-step and two-step problems involving numbers, money or measures, including time, choosing and carrying out appropriate calculations</i>	Solve one-step and two-step problems involving numbers, money or measures, including time; choose and carry out appropriate calculations, using calculator methods where appropriate
	Represent the information in a puzzle or problem using numbers, images or diagrams; use these to find a solution and present it in context, where appropriate using £.p notation or units of measure	

Years 2 to 4 mixed-age objective planner

Use knowledge of number facts and operations to estimate and check answers to calculations

Derive and recall all addition and subtraction facts for each number to at least 10, all pairs with totals to 20 and all pairs of multiples of 10 with totals up to 100

Derive and recall multiplication facts for the 2, 5 and 10 times-tables and the related division facts; recognise multiples of 2, 5 and 10

Understand that halving is the inverse of doubling and derive and recall doubles of all numbers to 20, and the corresponding halves

Identify reflective symmetry in patterns and 2-D shapes and draw lines of symmetry in shapes

Visualise common 2-D shapes and 3-D solids; identify shapes from pictures of them in different positions and orientations; sort, make and describe shapes, referring to their properties

Use knowledge of number operations and corresponding inverses, including doubling and halving, to estimate and check calculations

Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100

Derive and recall multiplication facts for the 2, 3, 4, 5, 6 and 10 times-tables and the corresponding division facts; recognise multiples of 2, 5 or 10 up to 1000

Draw and complete shapes with reflective symmetry; draw the reflection of a shape in a mirror line along one side

Relate 2-D shapes and 3-D solids to drawings of them; describe, visualise, classify, draw and make the shapes

Use knowledge of rounding, number operations and inverses to estimate and check calculations

Use knowledge of addition and subtraction facts and place value to derive sums and differences of pairs of multiples of 10, 100 or 1000

Derive and recall multiplication facts up to 10×10 , the corresponding division facts and multiples of numbers to 10 up to the tenth multiple

Draw polygons and classify them by identifying their properties, including their line symmetry

Visualise 3-D objects from 2-D drawings; make nets of common solids

Block B: Securing number facts, understanding shape
Unit 2 – 15 days

Year 2

Describe patterns and relationships involving numbers or shapes, make predictions and test these with examples

Present solutions to puzzles and problems in an organised way; explain decisions, methods and results in pictorial, spoken or written form, using mathematical language and number sentences

Solve problems involving addition, subtraction, multiplication or division in contexts of numbers, measures or pounds and pence

Read and write two-digit and three-digit numbers in figures and words; describe and extend number sequences and recognise odd and even numbers

Use knowledge of number facts and operations to estimate and check answers to calculations

Year 3

Identify patterns and relationships involving numbers or shapes, and use these to solve problems

Describe and explain methods, choices and solutions to puzzles and problems, orally and in writing, using pictures and diagrams

Solve one-step and two-step problems involving numbers, money or measures, including time, choosing and carrying out appropriate calculations

Represent the information in a puzzle or problem using numbers, images or diagrams; use these to find a solution and present it in context, where appropriate using £.p notation or units of measure

Read and write proper fractions (e.g. $\frac{3}{7}$, $\frac{9}{10}$), interpreting the denominator as the parts of a whole and the numerator as the number of parts; identify and estimate fractions of shapes; use diagrams to compare fractions and establish equivalents

Use knowledge of number operations and corresponding inverses, including doubling and halving, to estimate and check calculations

Year 4

Identify and use patterns, relationships and properties of numbers or shapes; investigate a statement involving numbers and test it with examples

Report solutions to puzzles and problems, giving explanations and reasoning orally and in writing, using diagrams and symbols

Identify the doubles of two-digit numbers; use these to calculate doubles of multiples of 10 and 100 and derive the corresponding halves

Years 2 to 4 mixed-age objective planner

Derive and recall multiplication facts for the 2, 5 and 10 times-tables and the related division facts; recognise multiples of 2, 5 and 10

Derive and recall all addition and subtraction facts for each number to at least 10, all pairs with totals to 20 and all pairs of multiples of 10 with totals up to 100

Identify reflective symmetry in patterns and 2-D shapes and draw lines of symmetry in shapes

Visualise common 2-D shapes and 3-D solids; identify shapes from pictures of them in different positions and orientations; sort, make and describe shapes, referring to their properties

Derive and recall multiplication facts for the 2, 3, 4, 5, 6 and 10 times-tables and the corresponding division facts; recognise multiples of 2, 5 or 10 up to 1000

Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100

Draw and complete shapes with reflective symmetry; draw the reflection of a shape in a mirror line along one side

Relate 2-D shapes and 3-D solids to drawings of them; describe, visualise, classify, draw and make the shapes

Derive and recall multiplication facts up to 10×10 , the corresponding division facts and multiples of numbers to 10 up to the tenth multiple

Use knowledge of rounding, number operations and inverses to estimate and check calculations

Draw polygons and classify them by identifying their properties, including their line symmetry

Visualise 3-D objects from 2-D drawings; make nets of common solids

Block B: Securing number facts, understanding shape 100

Unit 3 – 15 days

Year 2

Describe patterns and relationships involving numbers or shapes, make predictions and test these with examples

Solve problems involving addition, subtraction, multiplication or division in contexts of numbers, measures or pounds and pence

Present solutions to puzzles and problems in an organised way; explain decisions, methods and results in pictorial, spoken or written form, using mathematical language and number sentences

Estimate a number of objects; round two-digit numbers to the nearest 10

Year 3

Identify patterns and relationships involving numbers or shapes, and use these to solve problems

Solve one-step and two-step problems involving numbers, money or measures, including time, choosing and carrying out appropriate calculations

Describe and explain methods, choices and solutions to puzzles and problems, orally and in writing, using pictures and diagrams

Represent the information in a puzzle or problem using numbers, images or diagrams; use these to find a solution and present it in context, where appropriate using £ .p notation or units of measure

Round two-digit or three-digit numbers to the nearest 10 or 100 and give estimates for their sums and differences

Year 4

Identify and use patterns, relationships and properties of numbers or shapes; investigate a statement involving numbers and test it with examples

Solve one-step and two-step problems involving numbers, money or measures, including time; choose and carry out appropriate calculations, using calculator methods where appropriate

Report solutions to puzzles and problems, giving explanations and reasoning orally and in writing, using diagrams and symbols

Years 2 to 4 mixed-age objective planner

	Read and write proper fractions (e.g. $\frac{3}{7}$, $\frac{9}{10}$), interpreting the denominator as the parts of a whole and the numerator as the number of parts; identify and estimate fractions of shapes; use diagrams to compare fractions and establish equivalents	
Use knowledge of number facts and operations to estimate and check answers to calculations	Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100	Use knowledge of rounding, number operations and inverses to estimate and check calculations
Derive and recall all addition and subtraction facts for each number to at least 10, all pairs with totals to 20 and all pairs of multiples of 10 with totals up to 100	Use knowledge of number operations and corresponding inverses, including doubling and halving, to estimate and check calculations	Use knowledge of addition and subtraction facts and place value to derive sums and differences of pairs of multiples of 10, 100 or 1000
Understand that halving is the inverse of doubling and derive and recall doubles of all numbers to 20, and the corresponding halves	Derive and recall multiplication facts for the 2, 3, 4, 5, 6 and 10 times-tables and the corresponding division facts; recognise multiples of 2, 5 or 10 up to 1000	Identify the doubles of two-digit numbers; use these to calculate doubles of multiples of 10 and 100 and derive the corresponding halves
Derive and recall multiplication facts for the 2, 5 and 10 times-tables and the related division facts; recognise multiples of 2, 5 and 10		Derive and recall multiplication facts up to 10×10, the corresponding division facts and multiples of numbers to 10 up to the tenth multiple
<i>Identify reflective symmetry in patterns and 2-D shapes and draw lines of symmetry in shapes</i>	Draw and complete shapes with reflective symmetry; draw the reflection of a shape in a mirror line along one side	Draw polygons and classify them by identifying their properties, including their line symmetry
Visualise common 2-D shapes and 3-D solids; identify shapes from pictures of	Relate 2-D shapes and 3-D solids to	Visualise 3-D objects from 2-D drawings; make nets of common solids

Years 2 to 4 mixed-age objective planner

them in different positions and orientations; sort, make and describe shapes, referring to their properties

Recognise and use whole, half and quarter turns, both clockwise and anticlockwise; know that a right angle represents a quarter turn

drawings of them; describe, visualise, classify, draw and make the shapes

Use a set-square to draw right angles and to identify right angles in 2-D shapes; compare angles with a right angle; recognise that a straight line is equivalent to two right angles

Know that angles are measured in degrees and that one whole turn is 360° ; compare and order angles less than 180°