

Years 3 to 6 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

**Block A: Counting, partitioning and calculating  
Unit 1 – 10 days**

Year 3	Year 4	Year 5	Year 6
Describe and explain methods, choices and solutions to puzzles and problems, orally and in writing, using pictures and diagrams	Report solutions to puzzles and problems, giving explanations and reasoning orally and in writing, using diagrams and symbols	Explain reasoning using diagrams, graphs and text; refine ways of recording using images and symbols	Explain reasoning and conclusions, using words, symbols or diagrams as appropriate
Read, write and order whole numbers to at least 1000 and position them on a number line; count on from and back to zero in single-digit steps or multiples of 10	<i>Use decimal notation for tenths and hundredths and partition decimals; relate the notation to money and measurement; position one-place and two-place decimals on a number line</i>	Explain what each digit represents in whole numbers and decimals with up to two places, and partition, round and order these numbers	Use decimal notation for tenths, hundredths and thousandths; partition, round and order decimals with up to three places, and position them on the number line
Partition three-digit numbers into multiples of 100, 10 and 1 in different ways	Partition, round and order four-digit whole numbers; use positive and negative numbers in context and position them on a number line; state inequalities using the symbols < and > (e.g. -3 > -5, -1 > 1)	Count from any given number in whole-number and decimal steps, extending beyond zero when counting backwards; relate the numbers to their	Find the difference between a positive and a negative integer, or two negative integers, in context

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	Recognise and continue number sequences formed by counting on or back in steps of constant size	position on a number line	
<i>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</i>	Derive and recall multiplication facts up to $10 \times 10$ , the corresponding division facts and multiples of numbers to 10 up to the tenth multiple	Recall quickly multiplication facts up to $10 \times 10$ and use them to multiply pairs of multiples of 10 and 100; derive quickly corresponding division facts	Use knowledge of place value and multiplication facts to $10 \times 10$ to derive related multiplication and division facts involving decimals (e.g. $0.8 \times 7$ , $4.8 \div 6$ )
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 addition and subtraction facts and place value to derive sums and differences of pairs of multiples of 10, 100 or 1000	Use knowledge of rounding, place value, number facts and inverse operations to estimate and check calculations	Use approximations, inverse operations and tests of divisibility to estimate and check results
	Use knowledge of rounding, number operations and inverses to estimate and check calculations	Use knowledge of place value and addition and subtraction of two-digit numbers to derive sums and differences and doubles and halves of decimals (e.g. $6.5 \pm 2.7$ , half of 5.6, double 0.34)	
	Identify the doubles of two-digit numbers; use these to calculate doubles of multiples of 10 and 100 and derive the corresponding halves	Identify pairs of factors of two-digit whole numbers and find common multiples (e.g. for 6 and 9)	
Add or subtract mentally combinations of one-digit and two-digit numbers	Add or subtract mentally pairs of two-digit whole numbers (e.g. $47 + 58$ , $91 - 35$ )	Use understanding of place value to multiply and divide whole numbers and decimals by	Calculate mentally with integers and decimals: $U.t \pm U.t$ , $TU \times U$ , $TU \div U$ , $U.t \times U$ ,

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<i>Multiply one-digit and two-digit numbers by 10 or 100, and describe the effect</i>	Multiply and divide numbers to 1000 by 10 and then 100 (whole-number answers), understanding the effect; relate to scaling up or down	10, 100 or 1000  Use efficient written methods to add and subtract whole numbers and decimals with up to two places	U.t ÷ U  Use a calculator to solve problems involving multi-step calculations
	<i>Use a calculator to carry out one-step and two-step calculations involving all four operations</i> ; recognise negative numbers in the display, correct mistaken entries and interpret the display correctly in the context of money	Extend mental methods for whole-number calculations, for example to multiply a two-digit by a one-digit number (e.g. 12 × 9), to multiply by 25 (e.g. 16 × 25), to subtract one near multiple of 1000 from another (e.g. 6070 - 4097)  <i>Use a calculator to solve problems</i>	

## Block A: Counting, partitioning and calculating

### Unit 2 – 10 days

Year 3	Year 4	Year 5	Year 6
<p><i>Solve one-step and two-step problems involving numbers, money or measures, including time, choosing and carrying out appropriate calculations</i></p> <p>Describe and explain methods, choices and solutions to puzzles and problems, orally and in writing, using pictures and diagrams</p>	<p><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</i></p> <p>Report solutions to puzzles and problems, giving explanations and reasoning orally and in writing, using diagrams and symbols</p>	<p>Solve one-step and two-step problems involving whole numbers and decimals and all four operations, choosing and using appropriate calculation strategies, including calculator use</p> <p>Explain reasoning using diagrams, graphs and text; refine ways of recording using images and symbols</p>	<p>Solve multi-step problems, and problems involving fractions, decimals and percentages; choose and use appropriate calculation strategies at each stage, including calculator use</p> <p>Explain reasoning and conclusions, using words, symbols or diagrams as appropriate</p>
<p><i>Read, write and order whole numbers to at least 1000 and position them on a number line; count on from and back to zero in single-digit steps or multiples of 10</i></p> <p>Partition three-digit numbers into multiples of 100, 10 and 1 in different ways</p>	<p>Recognise and continue number sequences formed by counting on or back in steps of constant size</p> <p>Use decimal notation for tenths and hundredths and partition decimals; relate the notation to money and measurement; position one-place and two-place decimals on a number line</p>	<p>Count from any given number in whole-number and decimal steps, extending beyond zero when counting backwards; relate the numbers to their position on a number line</p> <p>Explain what each digit represents in whole numbers and decimals with up to two places, and partition, round and</p>	<p>Use decimal notation for tenths, hundredths and thousandths; partition, round and order decimals with up to three places, and position them on the number line</p>

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

*Partition, round and order four-digit whole numbers; use positive and negative numbers in context and position them on a number line; state inequalities using the symbols < and >, e.g.  $-3 > -5$ ,  $-1 < +1$*

order these numbers

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 up to  $10 \times 10$ , the corresponding division facts and multiples of numbers to 10 up to the tenth multiple

Use knowledge of place value and addition and subtraction of two-digit numbers to derive sums and differences and doubles and halves of decimals (e.g.  $6.5 \pm 2.7$ , half of 5.6, double 0.34)

Use knowledge of place value and multiplication facts to  $10 \times 10$  to derive related multiplication and division facts involving decimals (e.g.  $0.8 \times 7$ ,  $4.8 \div 6$ )

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

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

Recall quickly multiplication facts up to  $10 \times 10$  and use them to multiply pairs of multiples of 10 and 100; derive quickly corresponding division facts

Use approximations, inverse operations and tests of divisibility to estimate and check results

Use knowledge of rounding, place value, number facts and inverse operations to estimate and check calculations

Identify pairs of factors of two-digit whole numbers and find common multiples (e.g. for 6 and 9)

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<i>Understand that division is the inverse of multiplication and vice versa; use this to derive and record related multiplication and division number sentences</i>	Add or subtract mentally pairs of two-digit whole numbers (e.g. $47 + 58$ , $91 - 35$ )	Use efficient written methods to add and subtract whole numbers and decimals with up to two places	Calculate mentally with integers and decimals: $U.t \pm U.t$ , $TU \times U$ , $TU \div U$ , $U.t \times U$ , $U.t \div U$
Add or subtract mentally combinations of one-digit and two-digit numbers.	Develop and use written methods to record, support and explain multiplication and division of two-digit numbers by a one-digit number, including division with remainders (e.g. $15 \times 9$ , $98 \div 6$ )	Use a calculator to solve problems	Use efficient written methods to add and subtract integers and decimals, to multiply and divide integers and decimals by a one-digit integer, and to multiply two-digit and three-digit integers by a two-digit integer
Multiply one-digit and two-digit numbers by 10 or 100, and describe the effect	Use a calculator to carry out one-step and two-step calculations involving all four operations; recognise negative numbers in the display, correct mistaken entries and interpret the display correctly in the context of money	Extend mental methods for whole-number calculations, for example to multiply a two-digit by a one-digit number (e.g. $12 \times 9$ ), to multiply by 25 (e.g. $16 \times 25$ ), to subtract one near multiple of 1000 from another (e.g. $6070 - 4097$ )	Use a calculator to solve problems involving multi-step calculations

## Block A: Counting, partitioning and calculating

### Unit 3 – 10 days

Year 3	Year 4	Year 5	Year 6
Solve one-step and two-step problems involving numbers, money or measures, including time, choosing and carrying out appropriate calculations	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	Solve one-step and two-step problems involving whole numbers and decimals and all four operations, choosing and using appropriate calculation strategies, including calculator use	Solve multi-step problems, and problems involving fractions, decimals and percentages; choose and use appropriate calculation strategies at each stage, including calculator use
		Explain reasoning using diagrams, graphs and text; refine ways of recording using images and symbols	Explain reasoning and conclusions, using words, symbols or diagrams as appropriate
Round two-digit or three-digit numbers to the nearest 10 or 100 and give estimates for their sums and differences	Use decimal notation for tenths and hundredths and partition decimals; relate the notation to money and measurement; position one-place and two-place decimals on a number line	Count from any given number in whole-number and decimal steps, extending beyond zero when counting backwards; relate the numbers to their position on a number line	Use decimal notation for tenths, hundredths and thousandths; partition, round and order decimals with up to three places, and position them on the number line
Read, write and order whole numbers to at least 1000 and position them on a number line; count on from and back to zero in single-digit steps or multiples of 10	Recognise and continue number sequences formed by counting on or back in steps of constant size	Explain what each digit represents in whole numbers and decimals with up to two places, and partition, round and order these numbers	

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	Partition, round and order four-digit whole numbers; use positive and negative numbers in context and position them on a number line; state inequalities using the symbols $<$ and $>$ (e.g. $-3 > -5$ , $-1 < +1$ )		
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 multiplication facts up to $10 \times 10$ , 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	Use knowledge of place value and addition and subtraction of two-digit numbers to derive sums and differences and doubles and halves of decimals (e.g. $6.5 \pm 2.7$ , half of 5.6, double 0.34)  Recall quickly multiplication facts up to $10 \times 10$ and use them to multiply pairs of multiples of 10 and 100; derive quickly corresponding division facts  Use knowledge of rounding, place value, number facts and inverse operations to estimate and check calculations	Use approximations, inverse operations and tests of divisibility to estimate and check results
<i>Understand that division is the inverse of multiplication and vice versa; use this to derive and record related multiplication and division number sentences</i>	Add or subtract mentally pairs of two-digit whole numbers (e.g. $47 + 58$ , $91 - 35$ )	Use efficient written methods to add and subtract whole numbers and decimals with up to two places	Calculate mentally with integers and decimals: $U.t \pm U.t$ , $TU \times U$ , $TU \div U$ , $U.t \times U$ , $U.t \div U$

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Add or subtract mentally combinations of one-digit and two-digit numbers

Develop and use written methods to record, support or explain addition and subtraction of two-digit and three-digit numbers

Use practical and informal written methods to multiply and divide two-digit numbers (e.g.  $13 \times 3$ ,  $50 \div 4$ ); round remainders up or down, depending on the context

Develop and use written methods to record, support and explain multiplication and division of two-digit numbers by a one-digit number, including division with remainders (e.g.  $15 \times 9$ ,  $98 \div 6$ )

Refine and use efficient written methods to add and subtract two-digit and three-digit whole numbers and £.p

Use a calculator to carry out one-step and two-step calculations involving all four operations; recognise negative numbers in the display, correct mistaken entries and interpret the display correctly in the context of money

Refine and use efficient written methods to multiply and divide  $HTU \times U$ ,  $TU \times TU$ ,  $U.t \times U$  and  $HTU \div U$

Use a calculator to solve problems, including those involving decimals or fractions (e.g. to find  $\frac{3}{4}$  of 150g); interpret the display correctly in the context of measurement

Use efficient written methods to add and subtract integers and decimals, to multiply and divide integers and decimals by a one-digit integer, and to multiply two-digit and three-digit integers by a two-digit integer

Use a calculator to solve problems involving multi-step calculations