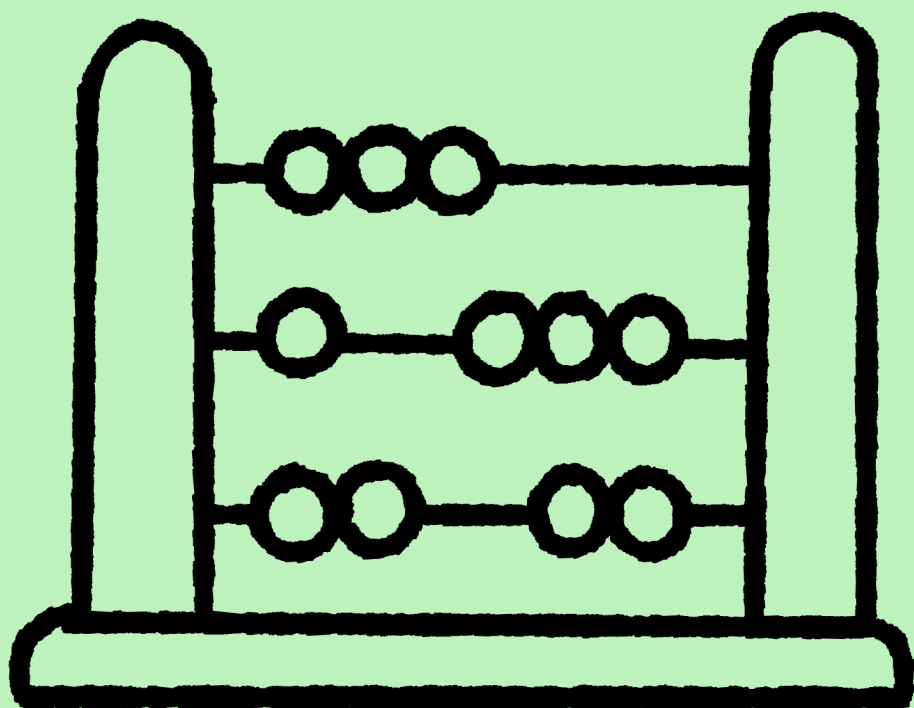


KS2 maths curriculum plan



Year 3 units

[View interactive sequence online](#) 

1 Review strategies for adding and subtracting across 10	2 Securing place value to 100 and applying to addition and subtraction	3 Bridging 100: counting on and back in 10s, adding/subtracting multiples of 10
4 Measuring length and recording in tables	5 Representing 3-digit numbers, comparing and positioning on number lines	6 Measures: mass and capacity
7 Right angles	8 Informal and mental strategies for adding and subtracting two 3-digit numbers	9 Understand additive relationships and apply them to rearrange equations
10 Column addition	11 2, 4 and 8 times tables: using times tables to solve problems	12 Column subtraction
13 Unit fractions as part of a whole	14 Identify parts and wholes in different contexts	15 Compare and order unit fractions

16

Calculate the value of a part (fractions as operators)

17

Non-unit fractions

18

Composition of non-unit fractions: addition and subtraction

19

Parallel and perpendicular sides in polygons (and perimeter)

20

Tell the time to the nearest minute and compare units of time



1. Review strategies for adding and subtracting across 10

Lessons in unit

1. Add 3 numbers together using doubles and near doubles
2. Add 3 numbers together in different contexts
3. Numbers can be added in any order
4. Add three addends by finding pairs that total 10
5. Add three addends efficiently using a range of strategies
6. Addition by bridging through 10
7. Subtracting small numbers
8. Subtracting to and from 10
9. Subtracting numbers that bridge through 10
10. Solving problems involving addition and subtraction

[Go to unit resources](#) 

2. Securing place value to 100 and applying to addition and subtraction

Lessons in unit

1. Composition of 100 in 10s and 1s
2. Composition of 100 in 50s, 25s and 20s
3. Multiples of 10 that total 100
4. Use known facts to find pairs of numbers that total 100
5. Use known facts to find complements to 100 efficiently
6. Represent 3-digit multiples of 10 in different ways
7. Use place value knowledge to write addition and subtraction equations
8. Bridge 100 by adding in multiples of 10
9. Bridge 100 by subtracting in multiples of 10
10. Solve problems using knowledge of addition and subtraction of multiples of 10

[Go to unit resources](#) 

3. Bridging 100: counting on and back in 10s, adding/subtracting multiples of 10

Lessons in unit

1. Count across and on from 100
2. Represent a 3-digit number up to 199 in different ways
3. Bridge 100 by adding or subtracting a single-digit number
4. Find 10 more or 10 less than a given number
5. Cross the hundreds boundary when adding and subtracting any 2-digit multiple of 10

[Go to unit resources](#) 

4. Measuring length and recording in tables

Lessons in unit

1. Estimate in metres and describe a metre in different ways
2. Measure length and height from zero using whole m or cm
3. Converting between metres and centimetres
4. Millimetres as a unit of measure and the relationship between them and cm
5. Measuring length and height using cm and mm
6. Converting between centimetres and millimetres
7. Estimate and measure lengths and heights and record in a table
8. Using graphs to represent lengths and heights
9. Solve problems involving length
10. Solve problems involving length and height

[Go to unit resources](#) 

5. Representing 3-digit numbers, comparing and positioning on number lines

Lessons in unit

1. Represent a 3-digit number up to 1,000 in different ways
 2. Count forwards and backwards within 3-digits
 3. Position 3-digit numbers on number lines
 4. Estimate the position of 3-digit numbers on unmarked number lines
-

5. Comparing and ordering numbers with 1, 2 and 3 digits
6. Ordering sets of 3-digit numbers
7. Use known facts to add and subtract multiples of 100 within 1000
8. Write a 3-digit multiple of 10 as a multiplication equation
9. Partition 3-digit numbers in different ways
10. Use known facts to solve problems involving partitioning numbers
11. Use known facts to add and subtract to and from multiples of 100
12. Add and subtract to and from a 3-digit number bridging 100
13. Solve problems by adding and subtracting to or from 3-digit numbers
14. Count forwards and backwards in multiples of 2, 20, 5, 50 and 25
15. Solve problems by counting forwards and backwards in multiples of 2, 20, 5, 50 and 25

[Go to unit resources](#) 

6. Measures: mass and capacity

Lessons in unit

1. Become familiar with scales with different intervals when measuring in grams
2. Measure the mass of objects using grams
3. Measure mass in whole kilograms and grams
4. Understanding capacity and volume
5. Measuring the volume of liquids using millilitres.
6. Measure volume in whole litres and millilitres
7. Comparing and estimating mass and volume
8. Estimate then measure mass and volume and record in a table
9. Solve problems involving mass
10. Solve problems involving volume

[Go to unit resources](#) 

7. Right angles

Lessons in unit

1. Make different sized angles by rotating two lines around a fixed point
2. Identify properties of triangles
3. Identify properties of quadrilaterals
4. Identify and describe right angles
5. Know that a rectangle is a 4-sided polygon with four right angles

6. Know that a square is a rectangle in which the four sides are of equal length
7. Know that a right angle describes a quarter turn
8. Investigate the shapes made when rectangles and squares are cut on the diagonal
9. Join four right angles at a point using different right-angled polygons
10. Investigate and draw other polygons with right angles

[Go to unit resources](#) 

8. Informal and mental strategies for adding and subtracting two 3-digit numbers

Lessons in unit

1. Informal and mental strategies for adding and subtracting two 3-digit numbers
2. Add two 3-digit numbers using partitioning
3. Add two 3-digit numbers using adjusting strategies
4. Add 2 and 3-digit numbers by redistributing
5. Choose the most efficient strategy to add two 3-digit numbers
6. Subtract 2 or 3-digit numbers using partitioning and bridging a multiple of 10
7. Subtract a pair of 2-digit numbers by finding the difference
8. Subtract 3-digit multiples of 10 by finding the difference between them
9. Choose the most efficient strategy to subtract from a 3-digit number
10. Use addition and subtraction to solve problems involving bar charts, pictograms and tables
11. Use addition and subtraction to solve problems in different contexts

[Go to unit resources](#) 

9. Understand additive relationships and apply them to rearrange equations

Lessons in unit

1. Use the additive relationship to rearrange addition equations
 2. Use the additive relationship to rearrange subtraction equations
 3. Understand the relationship between addition and subtraction
 4. Identify knowns and unknowns in addition equations
 5. Identify knowns and unknowns in subtraction equations
-

6. Use the additive relationship to rearrange and solve equations
7. Solve problems using bar charts, pictograms and tables
8. Understand why the order of addition and subtraction steps can be chosen
9. Solve multi-step addition and subtraction problems efficiently
10. Solve one and two-step problems in different contexts

[Go to unit resources](#) 

10. Column addition

Lessons in unit

1. Identify the addends and the sum in column addition
2. Use place value to correctly lay out column addition
3. Add 2-digit numbers using column addition
4. Add 3-digit numbers using column addition
5. Use column addition to solve problems
6. Use column addition to add numbers by regrouping ones
7. Use column addition to add numbers by regrouping tens
8. Use column addition with regrouping in ones and tens
9. Use known facts and strategies to accurately and efficiently calculate and check column addition
10. Use column addition with regrouping to solve problems

[Go to unit resources](#) 

11. 2, 4 and 8 times tables: using times tables to solve problems

Lessons in unit

1. Represent counting in fours as the 4 times table
2. Use knowledge of the 4 times table to solve problems
3. Explain the relationship between adjacent multiples of four
4. Explain the relationship between multiples of 2 and multiples of 4
5. Use knowledge of the relationship between the 2 and 4 times tables to solve problems
6. Represent counting in eights as the 8 times table
7. Explain the relationship between adjacent multiples of eight

8. Explain the relationship between multiples of 4 and multiples of 8
9. Use knowledge of the relationship between the 4 and 8 times tables to solve problems
10. Explain the relationship between the multiples of 2, 4 and 8
11. Use knowledge of the relationship between the 2, 4 and 8 times tables to solve problems
12. Use knowledge of the divisibility rules for divisors of 2 and 4 to solve problems
13. Use knowledge of the divisibility rules for divisors 8 to solve problems
14. Scale known multiplication facts by 10
15. Scale divisions derived from multiplication facts by 10

[Go to unit resources](#) 

12. Column subtraction

Lessons in unit

1. Identify the minuend and subtrahend in column subtraction
2. Use column subtraction to subtract from a 2- or 3-digit number
3. Subtract from a 2-digit number using column subtraction with regrouping
4. Subtract from a 3-digit number using column subtraction with regrouping
5. Make efficient use of subtraction strategies including column subtraction

[Go to unit resources](#) 

13. Unit fractions as part of a whole

Lessons in unit

1. Identify a whole and the parts that make it up
2. Explain why a part can only be defined in relation to a whole
3. Identify the number of equal or unequal parts in a whole
4. Identify equal parts when they do not look the same
5. Explain the size of a part in relation to the whole
6. Construct a whole when given a part and the number of parts
7. Identify how many equal parts a whole has been divided into
8. Use fraction notation to describe an equal part of the whole
9. Represent unit fractions in different ways
10. Solve problems involving identifying equal parts and the whole



14. Identify parts and wholes in different contexts

Lessons in unit

1. Identify parts and wholes in the contexts of lines and 3D objects
2. Identify parts and wholes in different contexts
3. Identify equal parts in a whole when they do not look the same in 2D shapes
4. Identify equal parts in a whole when they do not look the same in 3D contexts
5. Solve problems by identifying parts and wholes in a range of contexts

[Go to unit resources](#) 

15. Compare and order unit fractions

Lessons in unit

1. Compare unit fractions by looking at the denominator
2. Compare and order unit fractions by looking at the denominator
3. Identify when unit fractions cannot be compared
4. Solve problems involving comparing unit fractions
5. Solve problems involving comparing and ordering unit fractions in a range of contexts

[Go to unit resources](#) 

16. Calculate the value of a part (fractions as operators)

Lessons in unit

1. Constructing a whole
2. Use knowledge of the relationship between parts and wholes to solve problems
3. Use parts and wholes to find a unit fraction of a set of objects
4. Calculate the value of parts and wholes using understanding of division
5. Connect division with finding a fraction of a quantity to find parts and wholes



17. Non-unit fractions

Lessons in unit

1. Explain that non-unit fractions are made of more than one unit fraction
2. Identify non-unit fractions
3. Identifying equal parts in a whole in different contexts
4. Use knowledge of non-unit fractions to solve problems
5. Use knowledge of unit fractions to find one whole
6. Place fractions between 0 and 1 on a number line
7. Compare non-unit fractions with the same denominator
8. Review comparing unit fractions
9. Compare fractions with the same numerator
10. Compare non-unit fractions including those equal to 1

[Go to unit resources](#) 

18. Composition of non-unit fractions: addition and subtraction

Lessons in unit

1. Use repeated addition of a unit fraction to form a non-unit fraction
2. Use repeated addition of a unit fraction to form 1
3. Add up fractions with the same denominator
4. Add on fractions with the same denominator
5. Add fractions with the same denominator and generalise the rule
6. Subtract fractions with the same denominator
7. Add and subtract fractions with the same denominator in a range of contexts
8. Explain that addition and subtraction of fractions are inverse operations
9. Subtract fractions from a whole by converting the whole to a fraction
10. Represent a whole as a fraction in different ways and use this to solve subtraction problems

[Go to unit resources](#) 

19. Parallel and perpendicular sides in polygons (and perimeter)

Lessons in unit

1. Make compound shapes by joining two polygons in different ways
2. Investigate different ways of composing and decomposing a polygon
3. Draw polygons on isometric paper
4. Use geostrips to investigate quadrilaterals with and without parallel and perpendicular sides
5. Make and draw compound shapes with and without parallel and perpendicular sides
6. Extend lines and sides to identify parallel and perpendicular lines
7. Make and draw triangles on circular geoboards
8. Make and draw quadrilaterals on circular geoboards
9. Draw shapes with given properties
10. Draw shapes with given properties on a range of geometric grids

[Unit resources coming soon](#)

20. Tell the time to the nearest minute and compare units of time

Lessons in unit

1. Know the number of days in each month, year and leap year
2. Estimate and compare the duration of events and tasks
3. Tell and write the time to the nearest minute past
4. Tell and write the time to the nearest minute past and to
5. Tell and write the time including using Roman numerals

[Go to unit resources](#) 

Year 4 units

[View interactive sequence online](#)

1 Review of column addition and subtraction (Roman Numerals)	2 Secure place value to 1000: apply to addition and subtraction: multiples of 100	3 Calculation and conversion of measures
4 Comparing, ordering and rounding 4-digit numbers	5 Column addition and subtraction with 4-digit numbers	6 Perimeter
7 Represent counting in threes and sixes as the 3 and 6 times tables	8 Relationship between the 3 and 6 times tables and tests of divisibility	9 Represent counting in nines as the 9 times table
10 Relationship between the 3 and 9 times tables	11 7 times table: odd and even patterns, square numbers and tests of divisibility	12 Understand and represent multiplicative structures
13 Apply the distributive law to multiplication	14 Understand what happens when a number is multiplied or divided by 10 and 100	15 Coordinates
16 Review of fractions	17 Composition of fractions greater than one	18 Compare and order mixed numbers and position on a number line

19

Addition and subtraction of fractions and mixed numbers (within a whole)

20

Convert improper fractions to mixed numbers and vice versa

21

Efficient strategies for adding and subtracting mixed numbers (crossing a whole)

22

Symmetry in 2D shapes

23

Time: Convert between 12 and 24 hour clocks: analogue and digital

24

Division numbers with remainders



1. Review of column addition and subtraction (Roman Numerals)

Lessons in unit

1. Review column addition and identify and name the addends and sum
2. Review and use knowledge of place value to correctly lay out column addition
3. Review adding pairs of 2-digit numbers using column addition with no regrouping
4. Review using column addition
5. Use column addition to solve problems in different contexts
6. Review adding pairs of 2-digit numbers using column addition with regrouping in the ones column
7. Review adding pairs of 2-digit numbers using column addition with regrouping in the tens column
8. Review using column addition with regrouping in the ones and tens columns
9. Review using known facts and strategies to accurately and efficiently use and check column addition
10. Use knowledge of column addition to solve problems in a range of contexts
11. Review identifying the minuend and subtrahend in column subtraction
12. Use column subtraction to subtract without exchanging
13. Review subtracting from a 2-digit number using column subtraction with exchanging from tens to ones
14. Review subtracting from a 3-digit number using column subtraction with exchanging from 100s to 10s
15. Decide which is the most efficient subtraction strategy to use in different situations

Unit resources coming soon

2. Secure place value to 1000: apply to addition and subtraction: multiples of 100

Lessons in unit

1. Explain how many hundreds, tens and ones 1,000 is composed of
2. Use place value to explain how many hundreds, tens and ones compose 1,000
3. Use different strategies to add multiples of 100
4. Use different strategies to subtract multiples of 100
5. Use addition and subtraction strategies to solve problems with multiples of 100

Unit resources coming soon

3. Calculation and conversion of measures

Lessons in unit

1. Use knowledge of 1,000 to explain common measure conversions in the context of length
2. Use knowledge of 1,000 to explain common measure conversions in the context of volume and capacity
3. Use knowledge of calculation and measure conversions to solve problems involving length
4. Use knowledge of calculation and measure conversions to solve problems involving volume and capacity
5. Use efficient strategies and common measure conversions to solve problems in a range of contexts

Unit resources coming soon

4. Comparing, ordering and rounding 4-digit numbers

Unit title

Lessons in unit

1. Use place value and number facts to decompose 4-digit numbers in different ways
2. Compare and order 4-digit numbers
3. Explain what rounding is and round a 4-digit number to the nearest thousand
4. Round a 4-digit number to the nearest hundred and ten
5. Round a 4-digit number to the nearest thousand, hundred and ten

Unit resources coming soon

5. Column addition and subtraction with 4-digit numbers

Lessons in unit

1. Add two or more 4-digit numbers using column addition without regrouping
 2. Add two or more 4-digit numbers using column addition with regrouping in the ones and tens
 3. Add two or more 4-digit numbers using column addition with regrouping in the ones, tens and hundreds
-

4. Subtract two 4-digit numbers using column subtraction without exchanging
5. Subtract two 4-digit numbers exchanging in the tens and ones
6. Subtract two 4-digit numbers exchanging in the hundreds, tens and ones
7. Solve problems involving column addition and subtraction of up to 4-digit numbers
8. Use strategies to make solving calculations more efficient
9. Explain how many 100s and 200s that 1,000 is composed of
10. Explain how many 500s and 250s that 1,000 is composed of

Unit resources coming soon

5. Column addition and subtraction with 4-digit numbers

Lessons in unit

1. Add two or more 4-digit numbers using column addition without regrouping
2. Add two or more 4-digit numbers using column addition with regrouping in the ones and tens
3. Add two or more 4-digit numbers using column addition with regrouping in the ones, tens and hundreds
4. Subtract two 4-digit numbers using column subtraction without exchanging
5. Subtract two 4-digit numbers exchanging in the tens and ones
6. Subtract two 4-digit numbers exchanging in the hundreds, tens and ones
7. Solve problems involving column addition and subtraction of up to 4-digit numbers
8. Use strategies to make solving calculations more efficient
9. Explain how many 100s and 200s that 1,000 is composed of
10. Explain how many 500s and 250s that 1,000 is composed of

Unit resources coming soon

6. Perimeter

Lessons in unit

1. Know that a regular polygon has sides that are the same length and angles that are the same size
 2. Know that the perimeter is the distance around the edge of a 2D shape
 3. Understand that different shapes can have the same perimeter
 4. Know that perimeter is measured in units of length and can be found by counting or measuring units
-

5. Know that perimeter can be calculated by adding together the side lengths of a 2D shape
6. Know that the perimeter of a rectangle can be calculated by addition and multiplication
7. Know that unknown side lengths can be calculated from the perimeter and known side lengths
8. Understand that the perimeter of a regular polygon can be calculated by multiplication
9. Calculate the side length of a regular polygon by division where the perimeter is known
10. Solve problems involving the perimeter and side lengths of polygons

[Unit resources coming soon](#)

7. Represent counting in threes and sixes as the 3 and 6 times tables

Lessons in unit

1. Represent counting in threes as the 3 times table
2. Explain the relationship between adjacent multiples of three
3. Represent counting in sixes as the 6 times table
4. Explain the relationship between adjacent multiples of six
5. Solve problems involving multiples of 6

[Go to unit resources](#) 

8. Relationship between the 3 and 6 times tables and tests of divisibility

Lessons in unit

1. Use knowledge of the 3 and 6 times tables to solve problems
2. Explain the relationship between multiples of three and six
3. Use knowledge of the relationships between the 3 and 6 times tables to solve problems
4. Use the divisibility rules to find multiples of 3
5. Use divisibility rules for multiples of 6

[Go to unit resources](#) 

9. Represent counting in nines as the 9 times table

Lessons in unit

1. Represent counting in nines as the 9 times table
2. Explain the relationship between adjacent multiples of nine
3. Solve problems involving adjacent multiples of nine
4. Use known facts from the 10 times table to solve problems involving the 9 times table
5. Use knowledge of the 9 times table to solve problems

[Go to unit resources](#) 

10. Relationship between the 3 and 9 times tables

Lessons in unit

1. Explain the relationship between multiples of three and multiples of nine
2. Explain the relationship between pairs of 3 and 9 times table facts that have the same product
3. Solve problems using the relationship between 3 and 9 times table
4. Solve problems using divisibility rules for divisors of 3 and 6
5. Solve problems involving the 3, 6 and 9 times tables

[Go to unit resources](#) 

11. 7 times table: odd and even patterns, square numbers and tests of divisibility

Lessons in unit

1. Represent counting in sevens as the 7 times table
2. Explain the relationship between adjacent multiples of seven
3. Use known facts from the 2, 5 and 6 times tables to solve problems involving the 7 times table
4. Use knowledge of the 7 times table to solve problems
5. Identify patterns of odd and even numbers in the times tables
6. Use patterns of odd and even numbers in the times tables to solve problems
7. Represent a square number

8. Identify and use square numbers to solve problems
9. Use divisibility rules for 3, 4, 6 and 8 times tables to solve problems
10. Use divisibility rules for 2, 3, 4, 5, 6, 8 and 10 times tables to solve problems

Unit resources coming soon

12. Understand and represent multiplicative structures

Lessons in unit

1. Explain what each factor represents in a multiplication equation
2. Explain how each part of a multiplication and division equation relates to a story
3. Explain where zero can be part of a multiplication or division expression and the impact it has
4. Partition one of the factors in a multiplication equation in different ways using representations
5. Explain which is the most efficient factor to partition to solve a multiplication problem
6. Lesson 6 in Understand and represent multiplicative structures
7. Lesson 7 in Understand and represent multiplicative structures
8. Lesson 8 in Understand and represent multiplicative structures
9. Lesson 9 in Understand and represent multiplicative structures
10. Lesson 10 in Understand and represent multiplicative structures

Unit resources coming soon

13. Apply the distributive law to multiplication

Lessons in unit

1. Use knowledge of the distributive law to solve two part addition problems
2. Use knowledge of the distributive law to solve two part subtraction problems
3. Use knowledge of the distributive law to calculate products using known times tables
4. Use knowledge of the distributive law to calculate products beyond known times tables
5. Use knowledge of the distributive law to solve problems in different contexts

Unit resources coming soon

14. Understand what happens when a number is multiplied and divided by 10 and 100

Lessons in unit

1. Explain the relationship between multiplying a number by 10 and multiples of 10
2. Understand that multiplying by 10 makes a number ten times the size
3. Use place value to explain placing a zero after the final digit when we multiply whole numbers by 10
4. Understand that dividing a number by 10 makes it ten times smaller or one tenth the size
5. Use place value to explain removing the zero in the ones from a multiple of ten when we divide by 10
6. Explain the relationship between multiplying a number by 100 and multiples of 100
7. Use place value to explain placing 2 0's after the final digit when we multiply whole numbers by 100
8. Use place value to explain removing the final 2 zeros from a multiple of 100 when we divide by 100
9. Use knowledge of the composition of 100 to multiply and divide by 100 in different ways
10. Explain how making a factor 10 times the size affects the product
11. Explain how making the dividend 10 times the size affects the quotient
12. Explain how making a factor 100 times the size affects the product
13. Explain how making the dividend 100 times the size affects the quotient
14. Scale known multiplication facts by 100
15. Scale division facts derived from multiplication facts by 100

Unit resources coming soon

15. Coordinates

Lessons in unit

1. Give directions from one position to another on a grid
 2. Move objects including polygons on a grid according to directions and mark the new position
 3. Describe translations of polygons drawn on a square grid
 4. Draw polygons specified by translations
 5. Mark points specified as a translation from the origin
 6. Mark the position of points specified by coordinates in the first quadrant of a coordinate grid
 7. Write coordinates for already marked points in the first quadrant of a coordinate grid
 8. Draw polygons specified by coordinates in the first quadrant
-

9. Translate polygons in the first quadrant
10. Solve problems involving marking and translating points in the first quadrant on a coordinate grid

Unit resources coming soon

16. Review of fractions

Lessons in unit

1. Secure identifying a whole and the parts that make it up
2. Secure identifying the number of equal or unequal parts in a whole
3. Secure identifying equal parts when they do not look the same
4. Review explaining the size of the part in relation to the whole
5. Review constructing a whole when given a part and the number of parts

Unit resources coming soon

17. Composition of fractions greater than one

Lessons in unit

1. Explain how to express quantities made up of both whole numbers and a fractional part
2. Explain how a quantity made up of whole numbers and a fractional part is composed
3. Compose and decompose quantities made of whole numbers and fractional parts
4. Solve problems involving fractions greater than one
5. Accurately label a range of number lines and explain the meaning of each part

Unit resources coming soon

18. Compare and order mixed numbers and position on a number line

Lessons in unit

1. Identify numbers on marked but unlabelled number lines
 2. Estimate the position of number on a number line using fraction sense
-

3. Compare and order mixed numbers using fraction sense
4. Compare and order mixed numbers when the whole number is the same
5. Compare and order mixed numbers when the whole number and the numerator of the fractions is the same

Unit resources coming soon

19. Addition and subtraction of fractions and mixed number (within a whole)

Lessons in unit

1. Make efficient choices about the order when solving addition problems within a whole
2. Make efficient choices about the order when solving subtraction problems within a whole
3. Express a quantity as a mixed number and an improper fraction (quarters)
4. Express a quantity as a mixed number and an improper fraction (fifths)
5. Express a quantity as a mixed number and an improper fraction

Unit resources coming soon

20. Convert improper fractions to mixed numbers and vice versa

Lessons in unit

1. Convert a quantity from an improper fraction to a mixed number (quarters)
2. Express and convert a quantity from an improper fraction to a mixed number (fifths)
3. Explain how an improper fraction is converted into a mixed number
4. Explain how a mixed number is converted into an improper fraction
5. Solve problems involving converting between mixed numbers and improper fractions and vice versa

Unit resources coming soon

21. Efficient strategies for adding and subtracting mixed numbers (crossing a whole)

Lessons in unit

1. Add mixed numbers crossing the whole
2. Subtract a proper fraction from a mixed number crossing the whole
3. Subtract a mixed number from a mixed number and explain which strategy is most efficient
4. Use knowledge of subtraction to choose efficient approaches when subtracting mixed numbers
5. Solve problems involving the addition and subtraction of mixed numbers

Unit resources coming soon

22. Symmetry in 2D shapes

Lessons in unit

1. Complete a symmetrical pattern when the pattern touches the mirror line
2. Complete a symmetrical pattern when the pattern does not touch the mirror line
3. Compose symmetrical shapes from two identical shapes (congruent)
4. Investigate lines of symmetry in 2D shapes by folding
5. Find lines of symmetry in 2D shapes using a mirror
6. Reflect polygons in a line of symmetry parallel to the sides of the shape
7. Reflect polygons in a line of symmetry not parallel to the sides of the shape
8. Reflect polygons that are dissected (cut) by the line of symmetry
9. Reflect polygons in a line of symmetry that is not vertical or horizontal
10. Identify and create symmetrical patterns and shapes on a range of backgrounds

Unit resources coming soon

23. Time: Convert between 12 and 24 hour clocks: analogue and digital

Lessons in unit

1. Read the time on a 12 and 24 hour digital clock
 2. Convert between times given in 12 and 24 hours
 3. Convert from hours to minutes and minutes to seconds
 4. Use knowledge of the units of time to convert from days to weeks and years to months
 5. Solve problems involving writing, telling and converting the time
-

24. Division with remainders

Lessons in unit

1. Represent a quotative division story where there is a remainder with multiplication and addition
2. Represent a partitive division story where there is a remainder with multiplication and addition
3. Represent division stories where there is a remainder with division and multiplication equations
4. Explain how the remainder relates to the divisor in a division equation
5. Identify the largest possible remainder and how it relates to the divisor in a division equation
6. Identify and explain when there will or will not be a remainder in a division equation
7. Use knowledge of times tables and divisibility rules to identify when there will be a remainder
8. Use knowledge of division equations and remainders to solve problems
9. Decide what to do with the answer to a division calculation to solve a problem
10. Solve problems involving division with remainders in a range of contexts

[Unit resources coming soon](#)

Year 5 units

[View interactive sequence online](#)

1 Understand tenths as part of a whole, represent and calculate mentally	2 Compose and calculate with decimals including column addition and subtraction	3 Understand hundredths as parts of a whole and represent
4 Use knowledge of decimals to solve problems in different contexts: length	5 Money: apply efficient strategies when calculating with money	6 Negative numbers
7 Multiplication by partitioning leading to short multiplication (2 by 1-digit)	8 Multiplication by partitioning leading to short multiplication (3 by 1-digit)	9 Division by partitioning leading to short division (2 and 3-digits by 1-digit)
10 Understand the concept of area	11 Link area of rectangles to multiplication	12 Compare and describe measurements using knowledge of multiplication and division
13 Calculating with decimal fractions	14 Understand the concept of volume	15 Multiply 3 or more numbers (commutative and associative laws)

16

Understand and use the concept of factorisation (square and prime numbers)

17

Use common factors and multiples to solve calculations efficiently

18

Multiply a proper fraction by a whole number

19

Multiply improper fractions and mixed numbers by a whole number

20

Find unit and non-unit fractions of whole numbers exploring parts and wholes

21

Comparing fractions using equivalence and decimals

22

Converting units

23

Angles: compare, name, estimate and measure angles



1. Understand tenths as part of a whole, represent and calculate mentally

Lessons in unit

1. Identify tenths as part of a whole
2. Describe and represent tenths as a decimal number
3. Count tenths in different ways
4. Describe and write decimal numbers with tenths in different ways
5. Compare and order decimal numbers with tenths

[Go to unit resources](#) 

2. Compose and calculate with decimals including column addition and subtraction

Lessons in unit

1. Explain that decimal numbers with tenths can be composed additively
2. Explain that decimal numbers with tenths can be composed multiplicatively
3. Use known facts and mental strategies to calculate with decimal numbers within and across a whole
4. Use knowledge of column addition and subtraction to calculate with decimal numbers
5. Use representations to round a decimal number with tenths to the nearest whole number

[Go to unit resources](#) 

3. Understand hundredths as parts of a whole and represent

Lessons in unit

1. Identify hundredths as part of a whole
2. Describe and represent hundredths as a decimal number

3. Describe and write decimal numbers with hundredths in different ways
4. Compare and order decimal numbers with hundredths
5. Explain that decimal numbers with hundredths can be partitioned in different ways

[Go to unit resources](#) 

4. Use knowledge of decimals to solve problems in different contexts: length

Lessons in unit

1. Use knowledge of decimal place value to convert between and compare metres and centimetres
2. Explain that different lengths can be composed additively and multiplicatively
3. Use knowledge of decimal place value to solve problems in different contexts
4. Use knowledge of place value to calculate with decimal numbers up to and bridging one tenth
5. Use knowledge of column addition and subtraction to calculate with decimals: tenths and hundredths
6. Round a decimal number with hundredths to the nearest tenth
7. Round a decimal number with hundredths to the nearest whole number
8. Read and write numbers with up to 3 decimal places
9. Compare and order numbers with up to 3 decimal places
10. Solve problems with numbers with up to 3 decimal places

[Go to unit resources](#) 

5. Money: apply efficient strategies when calculating with money

Lessons in unit

1. Explain and represent whole pounds as a quantity of money
 2. Explain and represent whole pounds and pence as a quantity of money
 3. Explain how to compare amounts of money without converting
 4. Convert quantities of money between pounds and pence
 5. Use knowledge of addition to add commonly used prices efficiently
-

6. Use knowledge of subtraction to calculate change when paying with whole pounds or notes
7. Use and explain the most efficient strategies when adding quantities of money
8. Use and explain the most efficient strategies when subtracting quantities of money
9. Calculate change when purchasing several items
10. Solve a range of problems, including finding change

[Go to unit resources](#) 

6. Negative numbers

Lessons in unit

1. Represent a change story using addition and subtraction symbols
2. Interpret numbers greater than and less than zero in different contexts
3. Read and write negative numbers
4. Explain how the value of a number relates to its position from zero
5. Identify and place negative numbers on a number line
6. Interpret sets of negative and positive numbers in a range of contexts
7. Use knowledge of positive and negative numbers to calculate intervals
8. Explain how negative numbers are used on a coordinate grid
9. Use knowledge of positive and negative numbers to interpret graphs
10. Solve problems involving positive and negative numbers in a range of contexts

[Go to unit resources](#) 

7. Multiplication by partitioning leading to short multiplication (2 by 1-digit)

Lessons in unit

1. Multiply a 2-digit number by a 1-digit number using partitioning and representations (one regroup)
 2. Multiply a 2-digit number by a 1-digit number using partitioning and representations (two regroupings)
 3. Multiply a 2-digit number by a 1-digit number using partitioning
 4. Multiply a 2-digit number by a 1-digit number using expanded multiplication (no regroupings)
 5. Multiply a 2-digit number by a 1-digit number using short multiplication (no regroupings)
-

6. Multiply a 2-digit number by a 1-digit number using expanded multiplication (regrouping 1s to 10s)
7. Multiply a 2-digit number by a 1-digit number using short multiplication (regrouping 1s to 10s)
8. Multiply a 2-digit number by a 1-digit number using expanded multiplication (regrouping 10s to 100s)
9. Multiply a 2-digit number by a 1-digit number using short multiplication (regrouping 10s to 100s)
10. Estimate and multiply a 2-digit by a 1-digit number using expanded and short multiplication

[Go to unit resources](#) 

8. Multiplication by partitioning leading to short multiplication (3 by 1-digit)

Lessons in unit

1. Multiply a 3-digit by a 1-digit number using partitioning
2. Multiply a 3-digit by a 1-digit number with no regroups
3. Multiply a 3-digit by a 1-digit number with one or two regroups
4. Multiply a 3-digit by a 1-digit number with multiple regroups
5. Use estimation to support accurate calculation

[Go to unit resources](#) 

9. Division by partitioning leading to short division (2 and 3-digits by 1-digit)

Lessons in unit

1. Divide a 2-digit by a 1-digit number using partitioning and representations (no remainders)
 2. Divide a 2-digit by a 1-digit number using partitioning (with regrouping)
 3. Divide a 2-digit by a 1-digit number using representations with exchanging and remainders
 4. Divide a 2-digit by a 1-digit number using short division (no regrouping)
 5. Divide a 2-digit by a 1-digit number using short division (with regrouping)
-

6. Divide a 2-digit number using short division (with regrouping and remainders)
7. Divide a 3-digit by a 1-digit number using partitioning and representations (no remainders)
8. Divide a 3-digit number using partitioning and representations (one regroup)
9. Divide using partitioning and representations (multiple regroups and remainder)
10. Divide a 3-digit by a 1-digit number using short division
11. Divide using short division with regrouping and remainders
12. Use short division when the hundreds digit is smaller than the divisor
13. Use efficient division strategies to solve problems
14. Solve problems involving multiplication and division
15. Solve problems involving multiplication and division in a range of contexts

[Go to unit resources](#) 

10. Understand the concept of area

Lessons in unit

1. Explain what area is
2. Measure area using counting with squares as a strategy
3. Explain how to make different shapes with the same area
4. Explain how to compare the area of different shapes
5. Solve problems involving counting and drawing the areas of different shapes

[Go to unit resources](#) 

11. Link area of rectangles to multiplication

Lessons in unit

1. Measure the area of flat shapes using square centimetres
 2. Measure the area of flat shapes using square metres
 3. Explain how to calculate the area of a rectangle using multiplication
 4. Calculate the areas of rectangles using multiplication
 5. Calculate the area of shapes made from 2 rectangles by decomposing the shape in different ways
 6. Calculate the area of compound rectilinear shapes
 7. Choose an efficient way to decompose a compound shape to calculate the area
 8. Calculate missing dimensions in rectangles and compound rectilinear shapes
-

9. Calculate the area of shapes made from 2 or more rectangles
10. Use knowledge of area to solve problems in a range of contexts

[Go to unit resources](#) 

12. Compare and describe measurements using knowledge of multiplication and division

Lessons in unit

1. Compare and describe lengths using knowledge of multiplication
2. Solve comparison and change problems using multiplication
3. Compare and describe lengths using knowledge of division
4. Solve comparison and change problems using division
5. Solve problems involving comparison and change
6. Compare and describe measurements involving mass and capacity
7. Compare and describe measurements involving time and money
8. Describe changes in measurement using knowledge of multiplication and division
9. Use knowledge of multiplication and division to solve comparison and change problems
10. Solve comparison and change problems in a range of contexts

[Go to unit resources](#) 

13. Calculating with decimal fractions

Lessons in unit

1. Multiplying and dividing a number by 10, 100 and 1,000
2. Multiplying and dividing a number by 10, 100 and 1,000 including bridging 1
3. Explain how to multiply and divide a number by 10, 100 and 1,000
4. Converting units of length
5. Converting units of mass and capacity
6. Multiply tenths with whole numbers
7. Multiply hundredths with whole numbers
8. Solve measures problems using knowledge of multiplying decimal fractions
9. The relationship between multiplying by 0.1 and dividing by 10
10. The relationship between multiplying by 0.01 and dividing by 100
11. Explain how to use multiplying and dividing by 10 or 100 to multiply 1-digit numbers by decimals

12. Explain how to use written and mental methods to multiply 1-digit numbers by decimal fractions
13. Explain how to use the size of one factor to predict the size of the product
14. Explain how to use multiplying by 10 or 100 to divide decimal fractions by 1-digit numbers mentally
15. Explain how to use written and mental methods to divide decimal fractions by 1-digit numbers

[Go to unit resources](#) 

14. Understand the concept of volume

Lessons in unit

1. Explain what volume is in a range of contexts
2. Describe the units used to measure volume
3. Explain how to calculate the volume of a cuboid and a cube
4. Explain how to calculate the volume of compound shapes
5. Use knowledge of calculating volume to solve problems in a range of contexts

[Go to unit resources](#) 

15. Multiply 3 or more numbers (commutative and associative laws)

Lessons in unit

1. Explain the use of the commutative and associative laws when multiplying three or more numbers
2. Apply commutative and associative laws to simplify multiplications
3. Explain the reasons for changing two-factor multiplication calculations to three-factor calculations
4. Apply the commutative and associative laws to simplify volume calculations
5. Apply the commutative and associative laws to simplify problems in a range of contexts

[Go to unit resources](#) 

16. Understand and use the concept of factorisation (square and prime numbers)

Lessons in unit

1. Explain what a factor is and use arrays and multiplication and division facts to find them
2. Explain how to find all the factors of a number systematically
3. Use a complete list of factors to explain when a number is a square number
4. Explain how to identify a prime number or a composite number
5. Explain how to identify a prime factor of a number

[Go to unit resources](#) 

17. Use common factors and multiples to solve calculations efficiently

Lessons in unit

1. Explain how to identify common factors between two or more numbers
2. Explain how to identify a common multiple of two or more numbers
3. Use knowledge of properties of number to solve problems
4. Explain how to use the factor pairs of 100 to solve calculations efficiently
5. Use properties of numbers and the commutative and associative laws to simplify calculations

[Go to unit resources](#) 

18. Multiply a proper fraction by a whole number

Lessons in unit

1. Explain the relationship between repeated addition of unit fractions and multiplication of fractions
 2. Explain the relationship between repeated addition of fractions and multiplication of fractions
 3. Multiply a proper fraction by a whole number where the product is within a whole
 4. Multiply a proper fraction by a whole number where the product is greater than a whole
-

5. Solve problems involving multiplying proper fractions by whole numbers

[Go to unit resources](#) 

19. Multiply improper fractions and mixed numbers by a whole number

Lessons in unit

1. Represent and multiply an improper fraction by a whole number.
2. Multiply a mixed number by a whole number not bridging a whole
3. Multiply a mixed number by a whole number bridging a whole
4. Solve problems involving multiplication of mixed numbers by a whole number
5. Solve problems involving fractions and mixed numbers

[Go to unit resources](#) 

20. Find unit and non-unit fractions of whole numbers exploring parts and wholes

Lessons in unit

1. Find a unit fraction of a quantity using representations
2. Explain how finding a fraction of a quantity relates to multiplying by a unit fraction
3. Explain how dividing by a whole number relates to multiplying by a unit fraction
4. Use knowledge of multiplying a whole number by a unit fraction to solve problems
5. Find a non-unit fraction of a quantity using mental and written calculation strategies
6. Multiply a whole number by a proper fraction
7. Explain when a calculation represents scaling down and when it represents repeated addition
8. Find the whole when the size of a unit fraction is known
9. Find a unit fraction when the size of a non-unit fraction is known
10. Find the whole when the size of a non-unit fraction is known

Unit resources coming soon

21. Comparing fractions using equivalence and decimals

Lessons in unit

1. Use representations to describe and compare two fractions
2. Use representations to describe and compare fractions
3. Use representations to describe and compare two fractions in a continuous context
4. Use the language of equivalent fractions correctly
5. Explain the relationship between numerators and denominators in equivalent fractions
6. Use the relationship between the numerator and denominator in equivalent fractions to solve problems
7. Use the relationship between the numerator and denominator to simplify fractions
8. Explain the relationship between numerators and denominators across equivalent fractions
9. Explain the relationship within families of equivalent fractions
10. Use understanding of equivalent fractions to solve problems
11. Explain and represent how to divide 1 into different numbers of equal parts
12. Identify and describe patterns in the number system
13. Use knowledge of common equivalents to compare fractions and decimals
14. Recall common fraction-decimal equivalents
15. Solve problems using fraction-decimal equivalents

[Go to unit resources](#) 

22. Converting units

Lessons in unit

1. Apply known unit conversions to convert from larger to smaller units of measure
2. Apply known unit conversions to convert from smaller to larger units of measure
3. Convert to and from fraction and decimal quantities of larger units
4. Use known facts to derive common conversions over 1
5. Use known facts to carry out conversions that correspond to 100 parts
6. Solve problems involving different units of measure
7. Understand approximate equivalence between metric and imperial units such as inches, pounds, pints
8. Convert between miles and kilometres
9. Solve problems involving converting between units of time
10. Solve problems involving converting units in different contexts

[Unit resources coming soon](#)

23. Angles: compare, name, estimate and measure angles

Lessons in unit

1. Review understanding and identification of right angles
2. Review understanding of angles as a measure of turn
3. Compare the size of angles where there is a clear visual difference
4. Use the terms acute and obtuse when comparing angles to right angles
5. Use the term reflex when comparing angles to a right angle or a straight line
6. Use the unit of degrees as a standard unit to measure angles
7. Describe static angles using the standard unit of degrees when compared to a right angle
8. Describe rotations using the standard unit of degrees when compared to a right angle
9. Estimate acute and obtuse angles using the standard unit of degrees
10. Know that the angles in a full turn sum to 360 degrees and use this to solve problems
11. Know that the angles at a point sum to 360 degrees and use this to solve problems
12. Know that the angles on a straight line sum to 180 degrees and use this to solve problems
13. Measure the size of angles accurately using a protractor
14. Draw angles accurately using a protractor
15. Solve problems involving estimating, drawing, measuring and reasoning about angles

Unit resources coming soon

Year 6 units

[View interactive sequence online](#) 

1 Use knowledge of part whole structure to solve additive problems	2 Use equivalence and compensation to simplify and solve addition calculations	3 Use equivalence and compensation to simplify and solve subtraction problems
4 Multiples of 1,000	5 Understand place value within numbers with up to 7 digits	6 Order, compare and calculate with numbers up to 8 digits
7 Rounding and solving problems with numbers up to 7 digits	8 Draw, compose and decompose shapes	9 Using equivalence to calculate
10 Multiplying and dividing by 2-digit numbers	11 Area, perimeter, position and direction	12 Addition and subtraction of fractions
13 Comparing fractions	14 Multiplication and division of fractions	15 Understanding percentages
16 Statistics	17 Ratio and proportion	18 Calculating using knowledge of equivalence in addition and

		subtraction
19 Solving problems with two unknowns	20 Order of operations	21 Mean average



1. Use knowledge of part whole structure to solve additive problems

Lessons in unit

1. Explain how a combination of different parts can be equivalent to the same whole
2. Identify structures within stories and use knowledge of structures to create stories
3. Identify the missing part using knowledge of part whole relationships and structures
4. Use a model to interpret and represent a part-whole problem with three addends
5. Create stories to match structures presented in a model
6. Use knowledge of additive structure to solve problems
7. Use mental strategies and known facts to calculate the value of a missing part
8. Use written strategies and known facts to calculate the value of a missing part
9. Represent an equation in a part-whole model correctly
10. Use part-whole models to solve additive problems in a range of contexts

Unit resources coming soon

2. Use equivalence and compensation to simplify and solve addition calculations

Lessons in unit

1. Explain how adjusting both addends affects the sum with 2-digit numbers
2. Explain how adjusting both addends affects the sum with decimal fractions
3. Use the 'same sum' rule to balance equations
4. Use the same sum rule to balance equations with an unknown
5. Explain how adjusting one addend affects the sum
6. Solve addition calculations mentally by using known facts
7. Solve addition calculations mentally by using known facts in a range of contexts
8. Solve calculations with missing addends
9. Use equivalence and compensation strategies to solve problems
10. Use equivalence and compensation strategies to solve addition problems in a range of contexts

Unit resources coming soon

3. Use equivalence and compensation to simplify and solve subtraction problems

Lessons in unit

1. Explain and represent the same difference generalization for subtraction
2. Explain how using the same difference rule can make written calculations easier
3. Use the same difference rule to balance equations
4. Explain how increasing or decreasing the minuend affects the difference
5. Solve subtraction calculations mentally by using known facts
6. Explain how adjusting the minuend can make mental calculation easier
7. Explain how adjusting the subtrahend affects the difference: reduction structure
8. Explain how increasing or decreasing the subtrahend affects the difference: partitioning structure
9. Calculate the difference using knowledge of an adjusted subtrahend: difference structure
10. Use equivalence and compensation strategies to solve subtraction problems in a range of contexts

Unit resources coming soon

4. Multiples of 1,000

Lessons in unit

1. Explain how ten thousand can be composed
2. Explain how one hundred thousand can be composed
3. Read and write numbers up to one million using a place value chart
4. Read and write numbers up to one million in a range of contexts
5. Position five-digit multiples of one thousand on a marked but unlabeled number line
6. Position six-digit multiples of one thousand on a marked but unlabeled number line
7. Count forwards and backwards in steps of 10, 100 and 1,000 to and from any multiple of 1,000
8. Explain that 10,000 is composed of 5,000s, 2,500s and 2,000s
9. Explain that 100,000 is composed of 50,000s, 25,000s and 20,000s
10. Read the scales of graphs and measures using knowledge of the composition of 10,000 and 100,000

Unit resources coming soon

5. Understand place value within numbers with up to 7 digits

Lessons in unit

1. Use representations to identify and explain patterns in powers of 10
2. Compose 7 or 8-digit numbers using common intervals
3. Use knowledge of the composition of up to 8-digit numbers to solve problems
4. Explain how to read numbers with up to 7 digits efficiently
5. Recognise and create numbers that contain place-holding zeroes

Unit resources coming soon

6. Order, compare and calculate with numbers up to 8 digits

Lessons in unit

1. Determine the value of digits in numbers up to tens of millions
2. Explain how to compare up to 8-digit numbers
3. Add and subtract mentally without bridging a boundary with one or more digits changing
4. Add powers of 10 crossing the millions boundary
5. Subtract powers of 10 crossing the millions boundary
6. Explain how a 7-digit number can be composed and decomposed into parts
7. Identify and explain a pattern in a counting sequence
8. Estimate and identify numbers with up to 7-digits on marked and unmarked number lines
9. Add and subtract numbers with up to 7-digits using column addition and subtraction
10. Solve problems involving addition and subtraction of up to 7-digit numbers

Unit resources coming soon

7. Rounding and solving problems with numbers up to 7 digits

Lessons in unit

1. Explain how and why we round 7-digit numbers to the nearest million

2. Explain how to round 7-digit numbers to any power of 10
3. Identify and explain the most efficient way to solve a calculation
4. Explore and explain written and mental strategies to solve addition and subtraction problems
5. Solve addition and subtraction problems in and explain which strategy is most efficient

Unit resources coming soon

8. Draw, compose and decompose shapes

Lessons in unit

1. Use knowledge of shape properties to sketch and identify shapes
2. Use knowledge of shape properties to draw shapes accurately using rulers and protractors
3. 3D shapes can be composed from 2D nets
4. The same 3D shapes can be composed from different 2D nets
5. When a 2D shape is decomposed and the parts rearranged, the areas remains the same
6. Any parallelogram can be decomposed and the parts rearranged to form a rectangular parallelogram
7. Two congruent triangles can arranged to compose a parallelogram
8. Shapes with the same areas can have different perimeters and vice versa
9. Reason about shapes using the relationship between side lengths and area and perimeter
10. Reason about compound shapes using the relationship between side lengths and area and perimeter

Unit resources coming soon

9. Using equivalence to calculate

Lessons in unit

1. Explain why the product stays the same when one factor is doubled and the other is halved
 2. Explain the effect on the product when scaling the factors up and down by the same amount
 3. Use knowledge of equivalence when scaling factors to solve problems
 4. Explain the effect on the quotient when scaling the dividend and the divisor by 10
 5. Explain the effect on the quotient when scaling the dividend and the divisor by the same amount
-

10. Multiplying and dividing by 2-digit numbers

Lessons in unit

1. Explain how to multiply a 3-digit number by a 2-digit number
2. Explain how to use long multiplication to multiply two 2-digit numbers regrouping ones to tens
3. Explain how to use long multiplication to multiply two 2-digit numbers with regrouping
4. Explain how to use long multiplication to multiply a 3-digit by a 2-digit number
5. Explain how to use long multiplication to multiply a 4-digit by a 2-digit number
6. Explain how to use the associative law to multiply efficiently
7. Explain when it is efficient to use factorising or long multiplication to multiply by 2-digits
8. Explain how to use short and long division to divide 2 and 3-digits numbers by multiples of 10
9. Explain how to use long division to divide by 2-digit numbers with and without remainders
10. Use long division to solve problems in a range of contexts with and without remainders
11. Use estimation and lists of multiples to help solve division problems using long and short division
12. Use long division with fraction remainders
13. Use long division with decimal remainders with up to 2 decimal places
14. Explain how and why a quotient changes when a divisor increases or decreases multiplicatively
15. Identify and explain the relationship between divisors and quotients and use this to solve problems

11. Area, perimeter, position and direction

Lessons in unit

1. Review and explain how to calculate the area of a parallelogram
 2. Review and explain how to calculate the area of a triangle
 3. Review and explain why shapes can have the same perimeters but different areas
 4. Review and explain why shapes can have the same areas but different perimeters
 5. Describe the relationship between scale factors and side lengths of two shapes
 6. Describe the relationship between scale factors and perimeters of two shapes
 7. Review describing positions on a coordinate grid in the first quadrant
-

8. Draw and complete simple shapes by plotting positions on the full coordinate grid
9. Draw and translate simple shapes on the full coordinate grid
10. Reflect simple shapes in the axes on a full coordinate grid

Unit resources coming soon

12. Addition and subtraction of fractions

Lessons in unit

1. Explain how to write a fraction in its simplest form
2. Reason about how to write a fraction in its simplest form
3. Use knowledge of fractions in their simplest form when solving addition and subtraction problems
4. Explain how to add related unit fractions with and without a representation or image
5. Explain how to subtract related unit fractions
6. Use knowledge of adding and subtracting related unit fractions to solve problems
7. Explain with and without an image how to add and subtract related non-unit fractions
8. Explain with and without images how to add and subtract related non-unit fractions bridging a whole
9. Add and subtract non-related fractions with different denominators
10. Solve problems involving adding, subtracting and simplifying fractions

Unit resources coming soon

13. Comparing fractions

Lessons in unit

1. Explain how to compare non-related fractions finding equivalent fractions with common denominators
2. Explain how to compare pairs of non-related fractions by comparing to a half
3. Explain how to compare pairs of non-related fractions using fraction sense
4. Explain which strategy for comparing non-related fractions is most efficient
5. Order sets of non-related fractions using a range of strategies

Unit resources coming soon

14. Multiplication and division of fractions

Lessons in unit

1. Explain how to multiply two unit fractions
2. Explain how to multiply two non-unit fractions
3. Explain how to divide a unit fraction by a whole number
4. Explain how to divide a non-unit fraction by a whole number
5. Explain how to divide a fraction by a whole number efficiently

Unit resources coming soon

15. Understanding percentages

Lessons in unit

1. Explain what percent means and represent a percentage in different ways
2. Explain how to convert percentages to decimals and fractions with a denominator of 100
3. Explain how to convert a percentage to a fraction without a denominator of 100
4. Use knowledge of fraction-decimal-percentage conversions to solve problems in a range of contexts
5. Use knowledge of calculating 50%, 10% and 1% of a number to solve problems in a range of contexts
6. Use knowledge of calculating common percentages of a number to solve problems in a range of contexts
7. Use knowledge of calculating any percentage of a number to solve problems in a range of contexts
8. Explain how to solve problems where the percentage part and size is known but the whole is unknown
9. Solve problems where the known percentage part and size represents a change to the whole
10. Solve problems involving percentages in a range of contexts

Unit resources coming soon

16. Statistics

Lessons in unit

1. Use understanding of angles, fractions and percentages to interpret pie charts
 2. Use understanding of angles, fractions and percentages to construct pie charts
 3. Interpret line graphs representing two variables in familiar contexts
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4. Construct line graphs representing two variables in familiar contexts
5. Interpret the scales used in graphs, including pie charts, to solve problems

[Unit resources coming soon](#)

17. Ratio and proportion

Lessons in unit

1. Describe the relationship between two factors in a ratio context
2. Representing ratio in different ways
3. Explain how to represent ratio and to calculate unknown values
4. Use multiplication and division to calculate unknown values in ratio problems
5. Solve problems involving ratio
6. Explain how and why scaling is used to make and interpret maps
7. Use knowledge of multiplication and division to solve scaling problems in a range of contexts
8. Solve problems involving scaling and ratio
9. Identify and describe the relationship between regular polygons using scale factors
10. Identify and describe the relationship between irregular polygons using scale factors

[Go to unit resources](#) 

18. Calculating using knowledge of equivalence in addition and subtraction

Lessons in unit

1. Explain how to balance equations with addition expressions
2. Explain how to balance equations with subtraction expressions
3. Explain how to balance equations with addition or subtraction expressions
4. Explain how to balance equations with addition and subtraction expressions
5. Use knowledge of balancing equations to solve problems

[Unit resources coming soon](#)

19. Solving problems with two unknowns

Lessons in unit

1. Compare the structure of problems with one or two unknowns
2. Represent the structure of a problem with two unknowns in context
3. Explain why there is sometimes only one solution to a problem
4. Explain the values that a part-whole model could represent
5. Use a bar model to represent a problem with two unknowns including spatial problems
6. Explain how to represent an equation with a bar model
7. Solve problems with two unknowns in a range of contexts
8. Explain how you know you have found all the possible solutions to a problem with two unknowns
9. Explain how to balance an equation with two unknowns
10. Systematically solve problems with two unknowns with one, several and infinite solutions

Unit resources coming soon

20. Order of operations

Lessons in unit

1. Explain how to combine multiplication with addition and subtraction to solve problems effectively
2. Explain how the distributive law applies to multiplication expressions with a common factor
3. Explain how to combine division with addition and subtraction to solve problems effectively
4. Explain how the distributive law applies to division expressions with a common divisor
5. Use knowledge of the distributive law to solve equations

Unit resources coming soon

21. Mean average

Lessons in unit

1. Explain the relationship between the mean and sharing equally
2. Explain how to calculate the mean of a set of data including a value of zero
3. Explain how the mean changes when the total quantity or number of values changes
4. Explain how to use the mean to make comparisons between two sets of information
5. Explain why the mean is useful and when it is not appropriate

Unit resources coming soon

Transition to year 7

We include year 7 units in our primary curriculum to support coherence as pupils transition between primary and secondary

[View interactive sequence online](#) 

1
Place value

2
Properties of
number: factors,
multiples, squares
and cubes

3
Arithmetic
procedures with
integers and
decimals

4
Expressions and
equations

5
Plotting coordinates

6
Perimeter and area

7
Comparing and
ordering fractions
and decimals
(positive and
negative)

8
Arithmetic
procedures with
fractions

9
Understanding
multiplicative
relationships:
fractions and ratio

10
Transformations

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