Year 6

Term 1

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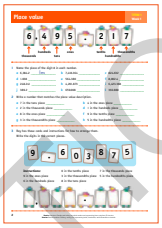
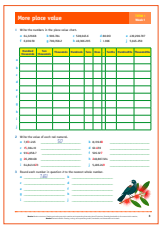
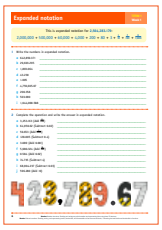
Term 1 Teaching Overview

Week & Unit	High-Level Curriculum Focus	Student Book and Online lessons	Resources
Week 1 **Numbers and decimals**	**Number** Number structures, Rational numbers Reading, writing, comparing, and ordering any whole number and representing them using base 10 structure Reading, writing, and representing tenths, hundredths, and thousandths as fractions and decimals	**Pages 2–6** **Mathletics: New Courses, Skill Quests, Challenge: Number structures, Rational numbers**	Place-value charts, digit cards, decimal-point cards, number cards, number lines, fraction labels, instruction cards, place-value clue cards, expanded-form cards, decimal and fraction equivalent cards
Week 2 **Place value**	**Number** Number structures, Rational numbers Rounding whole numbers to the nearest million, hundred thousand, ten thousand, thousand, hundred, or ten Rounding hundredths to the nearest whole number or tenth Multiplying and dividing numbers by 10, 100, or 1,000 to make decimals and whole numbers and to identify tenths, hundredths, and thousandths places	**Pages 7–11** **Mathletics: New Courses, Skills Quests, Activities (Courses): Number structures, Rational numbers**	Place-value charts, digit cards, place-value mats, number cards, operation cards, number lines, multiplier cards, rule cards, calculation cards, play money
Week 3 **Symmetry and geometric patterns**	**Geometry** Shapes, Spatial reasoning Identifying shapes with rotational symmetry and determining their order of rotational symmetry Visualising, creating, and describing 2D geometric patterns and tessellations using rotation, reflection, and translation, and identifying the properties of the shapes that do not change	**Pages 12–16** **Mathletics: Activities (Courses), Skill Quests: Shapes, Spatial reasoning**	Paper shapes, cut-out shapes, tracing paper, rulers, geometric paper, regular polygon shapes, shape cards, transformation cards, letter cards, shape blocks
Week 4 **Fractions**	**Number** Rational numbers Finding equivalent fractions Comparing and ordering fractions where at least one denominator is a common multiple of all the others Converting between mixed numbers and improper fractions	**Pages 17–21** **Mathletics: New Courses, Skills Quests, Challenge: Rational numbers**	Fraction strips, fraction cards, fraction circles, fraction walls, fraction pieces, number lines, factor cards, counters, paper circles, multiplication tables
Week 5 **Operations with fractions**	**Number** Rational numbers Adding and subtracting fractions and mixed numbers when one denominator is a multiple of the other Converting between mixed numbers and improper fractions	**Pages 22–25** **Mathletics: New Courses, Skill Quests: Rational numbers**	Fraction strips, fraction cards, fraction pieces, fraction walls, number lines, benchmark cards, mixed numeral cards, common denominator cards, multiplication facts charts, fraction diagrams
Checkpoint 1 **Mid-term review**	Review rational numbers with fractions and decimals, as well as symmetry and geometric patterns.	**Pages 26–27**	
Week 6 **Addition**	**Number** Operations Addition can be carried out mentally, using known facts, place value and partitioning, or column methods Standard written algorithms rely on place value, regrouping, and renaming	**Pages 28–32** **Mathletics: New Courses, Skill Quests, Challenge: Operations, Rational numbers**	Place-value charts, place-value materials, number cards, digit cards, open number lines, calculation cards, strategy cards, grid paper, decimal calculation cards
Week 7 **Subtraction**	**Number** Operations Subtraction can be carried out mentally, using known facts, place value and partitioning, or column methods Standard written algorithms rely on place value, regrouping, and renaming	**Pages 33–37** **Mathletics: New Courses, Skill Quests: Operations, Rational numbers, financial maths**	Number cards, open number lines, place-value charts, digit cards, base-ten blocks, counters, subtraction cards, operation cards, place-value mats, dice
Week 8 **Mass**	**Measurement** Measuring Converting metric units of mass (g and kg) including combining mixed units to produce units with up to 2 decimal places	**Pages 38–42** **Mathletics: Activities (Courses), Skill Quests: Measuring**	Mass cards, benchmark weights, digital scales, balance scales, kilogram and gram weights, object cards, recording tables
Week 9 **Volume**	**Measurement** Measuring Calculating, estimating, and comparing the volumes of cubes and rectangular prisms using standard units, including cubic centimetres (cm^3) and cubic metres (m^3)	**Pages 43–47** **Mathletics: Activities (Courses), Skill Quests, Challenge: Measuring**	Cubic centimetre blocks, rectangular boxes, cubic blocks, rulers, tape measures, string, target-volume cards, trundle wheels
Checkpoint 2 **End-of-term review**	Review rational numbers, adding and subtracting as well as mass and volume.	**Pages 48–49**	

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Term 1 Week 1 Overview Number: Number structures, Rational numbers: Numbers and decimals

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 **Place value**	Use place value to read, describe and construct whole numbers and decimals to thousandths.	✓ Identify digit places from thousands to thousandths ✓ Explain the value of digits ✓ Write numbers to match place-value descriptions ✓ Construct numbers from place-value clues	– Identify places and values of digits – Construct numbers from place-value descriptions – Arrange digits using place-value clues – **Mathletics Online Practice** **New Courses: Number: Are you ready?**	**Page 2:** Identify digit places, match numbers to place-value descriptions and arrange digits using clues. 
2 **More place value**	Understand how place value determines the value of digits and round decimals to the nearest whole number.	✓ Represent numbers in a place-value chart ✓ Identify the value of digits ✓ Use the tenths digit when rounding ✓ Round decimals to the nearest whole number	– Represent numbers from hundred thousands to thousandths – Identify digit values – Use place value to round decimals – **New Courses: Number: Place value**	**Page 3:** Place-value charts, digit values and rounding decimals to the nearest whole number. 
3 **Expanded notation**	Understand that numbers can be decomposed according to the value of each digit.	✓ Identify the value of each digit ✓ Write numbers in expanded notation ✓ Represent tenths, hundredths and thousandths as fractions ✓ Add or subtract place-value amounts	– Decompose whole numbers and decimals – Connect decimal places with fractions – Interpret zero placeholders – Change specified place values and expand the result – **New Courses: Number: Partitioning**	**Page 4:** Expanded notation, fractional decimal parts and adding or subtracting place-value amounts. 
4 **Working with large numbers**	Compare and order numbers to three decimal places.	✓ Identify whole-number and decimal parts ✓ Identify places from millions to thousandths ✓ Check place-value statements ✓ Order decimals in ascending and descending order	– Separate whole-number and decimal parts – Evaluate place-value statements – Compare numbers place by place – Order decimals in ascending and descending order – **New Courses: Decimals: Order and compare decimals**	**Page 5:** Whole-number and decimal parts, place-value statements and ordering decimals. 
5 **Problem solving: Decimals**	Apply decimal place-value understanding to solve problems.	✓ Expand decimals using place value ✓ Represent decimal parts as fractions ✓ Determine possible numbers from clues ✓ Convert decimals to fractions ✓ Identify and explain errors	– Analyse correct and incorrect expanded forms – Find possible numbers from place-value information – Connect decimals and fractions – Explain and justify solutions – **Challenge: Decimals: Code cracker**	**Page 6:** Decimal problem solving, expanded form, possible numbers, decimal–fraction connections and reasoning. 

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Unit: Number: Number structures, Rational numbers: Numbers and decimals

Focus: Read, represent, expand, compare and reason with whole numbers and decimals using place value from millions to thousandths

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Place value	Know that the position of a digit determines its value.	Identifies and explains digit places and values from millions to thousandths.
Expanded notation	Understand that numbers can be decomposed according to the value of each digit.	Writes whole numbers and decimals in expanded notation, including fractional decimal parts.
Rounding and ordering	Use place value to round, compare and order decimals.	Rounds to the nearest whole number and orders decimals accurately using place-value reasoning.
Decimal reasoning	Apply place-value understanding to solve and explain decimal problems.	Connects decimals and fractions, identifies errors and justifies solutions clearly.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Observe students during place-value, expanded notation and decimal activities.	Are students using digit position and place value accurately?
Oral Check	Ask students to identify digit values and explain decimal comparisons and rounding.	Listen for accurate place-value language and clear reasoning.
Written Work	Review student book pages 2–6.	Check accuracy in representing, expanding, rounding, comparing and ordering numbers.
Practical Task	Give students digit cards to construct, expand and order decimal numbers.	Can students move flexibly between different place-value representations?
Exit Ticket	Use quick questions covering place value with decimals.	Identify students requiring targeted support or extension with place value and decimals.

Quick Quiz / Exit Ticket (5 Questions)

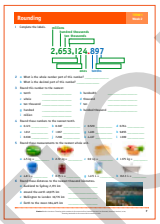
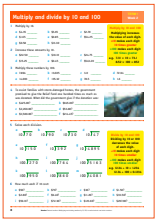
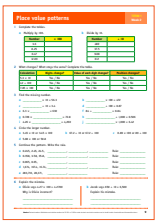
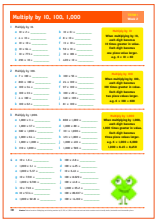
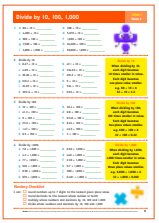
1. What is the value of the 6 in 264,381.725?
2. Write 53,204.718 in expanded notation.
3. Round 8,426.583 to the nearest whole number.
4. Order these numbers from smallest to largest: 638.492, 638.249, 638.924.
5. Write 0.437 in expanded form using fractions.

Teaching as Inquiry: Reflection Notes

Reflection Prompts	Notes/Next Steps
Can students confidently identify the place and value of digits from millions to thousandths?	
Can students accurately represent and expand whole numbers and decimals?	
Are students transferring their place-value knowledge to connect decimals, fractions and expanded notation?	
Can students round, compare and order decimals using place-value reasoning?	
What misconceptions about decimal place value or zero placeholders require further teaching?	
Which students are ready for extension with more complex decimal reasoning and problem solving?	

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Term 1 Week 2 Overview Number: Number structures, Rational numbers: Place values

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 **Rounding**	Use place value to round whole numbers, decimals and measurements to a specified place or unit.	✓ Identify the rounding place ✓ Use the deciding digit correctly ✓ Round whole numbers and decimals ✓ Round measurements accurately ✓ Explain rounding decisions	– Round the same number to different levels of precision – Use place value to justify rounding decisions – Determine possible numbers from a rounded value – **Mathletics Online Practice** **New Courses: Number: Rounding whole numbers**	**Page 7:** Round whole numbers, decimals and measurements to specified places and units. 
2 **Multiply and divide by 10 and 100**	Use place value to multiply and divide whole numbers and decimals by 10 and 100.	✓ Multiply by 10 and 100 ✓ Divide by 10 and 100 ✓ Explain changes in digit value ✓ Apply place value to decimals ✓ Use inverse operations	– Multiply and divide whole numbers and decimals by 10 and 100 – Explore inverse operation chains – Identify and correct place-value errors – **Skill Quests: Multiply/ divide by 10 & 100: Dividing numbers by 10**	**Page 8:** Multiply and divide whole numbers, decimals and money amounts by 10 and 100. 
3 **Place value patterns**	Identify, describe and apply place-value patterns when multiplying and dividing by powers of 10.	✓ Multiply and divide by powers of 10 ✓ Explain changes in digit value and position ✓ Solve missing-number equations ✓ Compare expressions ✓ Continue place-value patterns	– Solve missing-factor and divisor equations – Compare expressions using place-value reasoning – Identify and continue multiplicative patterns – **Skill Quests: Multiply/ divide by 10 & 100: Multiply numbers by 10, 100 & 1,000**	**Page 9:** Apply powers of 10 to missing-number equations, expressions and place-value patterns. 
4 **Multiply by 10, 100, 1,000**	Use place-value relationships to multiply whole numbers and decimals efficiently by 10, 100 and 1,000.	✓ Multiply whole numbers by powers of 10 ✓ Multiply decimals by powers of 10 ✓ Explain changes in place value ✓ Predict product size ✓ Check answers for reasonableness	– Multiply whole numbers and decimals by 10, 100 and 1,000 – Track changes in digit position and value – Compare the effect of different powers of 10 – Estimate and check products – **New Courses: Decimals: Multiply or divide by 10, 100 or 1,000**	**Page 10:** Multiply whole numbers and decimals by 10, 100 and 1,000 using place-value relationships. 
5 **Divide by 10, 100, 1,000**	Use place-value relationships to divide whole numbers and decimals efficiently by 10, 100 and 1,000.	✓ Divide whole numbers by powers of 10 ✓ Divide decimals by powers of 10 ✓ Use placeholder zeros correctly ✓ Explain changes in place value ✓ Check using multiplication	– Divide whole numbers and decimals by 10, 100 and 1,000 – Use place value and placeholder zeros accurately – Compare quotients for different powers of 10 – Connect division to inverse multiplication – **Activities (Courses): Fractions & decimals: Divide decimals: 10, 100, 1,000**	**Page 11:** Divide whole numbers and decimals by 10, 100 and 1,000 using place value and inverse relationships. 

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Unit: Number: Number structures, Rational numbers: Place values

Focus: Apply place-value understanding to round whole numbers and decimals; recognise, explain and use multiplicative relationships when multiplying and dividing by 10, 100 and 1,000

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Place value and rounding	Use place value to round whole numbers, decimals and measurements to a specified place or unit.	Identifies the rounding place and deciding digit, rounds accurately and explains whether the value rounds up or down.
Multiplying by powers of 10	Multiplying by 10, 100 or 1,000 increases the value of each digit predictably.	Calculates accurately with whole numbers and decimals and explains changes in digit position and value.
Dividing by powers of 10	Dividing by 10, 100 or 1,000 decreases the value of each digit predictably.	Divides accurately, including when quotients are less than 1, and uses placeholder zeros correctly.
Place value patterns and relationships	Recognise patterns and inverse relationships involving powers of 10.	Solves missing-number equations, continues patterns, compares expressions and identifies errors using place-value reasoning.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Observe students using place-value charts during rounding and powers-of-10 activities.	Are students reasoning from digit position and value rather than relying on moving the decimal point?
Oral Check	Give a number such as 6.42 and ask students to explain what happens when it is ×10, ×100, ÷10 and ÷100.	Listen for accurate place-value language and understanding of how each operation changes the value of the digits.
Written Work	Review student book pages 7–11.	Check accuracy with rounding, powers of 10, decimal notation, missing-number equations and multiplicative patterns.
Practical Task	Ask students to use place-value cards to model a number, then multiply or divide it by 10, 100 or 1,000.	Can students reposition digits accurately and explain how their value changes?
Exit Ticket	Use quick questions covering rounding, place value and powers of 10.	Identify students requiring targeted support or extension with place value and powers of 10.

Quick Quiz / Exit Ticket (5 Questions)

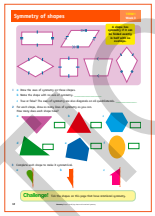
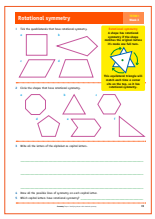
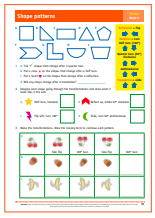
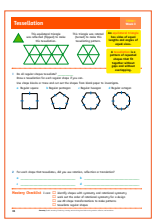
1. Round 6,487.263 to the nearest tenth.
2. Calculate: 7.36 × 100 =
3. Calculate: 4.8 ÷ 1,000 =
4. Find the missing number: _____ × 100 = 642
5. Continue the pattern and write the rule:
   0.53, 5.3, 53, _____, _____
   Rule: _____

Teaching as Inquiry: Reflection Notes

Reflection Prompts	Notes/Next Steps
Can students securely round whole numbers and decimals to a specified place or unit?	
Which students need further support with place-value changes when multiplying or dividing by 10, 100 and 1,000?	
Are students using place-value reasoning, or relying mainly on rules about zeros or moving the decimal point?	
What misconceptions remain around decimal place value, placeholder zeros or the direction of change when multiplying and dividing?	
Which students are ready to extend their reasoning to more complex patterns, missing-number equations and combinations of powers of 10?	

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Term 1 Week 3 Overview Geometry: Shapes, Spatial reasoning: Symmetry and geometric patterns

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 **Symmetry of shapes**	Identify, describe and construct line and rotational symmetry in 2D shapes.	✓ Identify line symmetry ✓ Draw axes of symmetry ✓ Complete symmetrical shapes ✓ Recognise rotational symmetry	– Investigate symmetry through folding and reflection – Identify and compare axes of symmetry – Complete symmetrical shapes – Distinguish line and rotational symmetry	**Page 12:** Draw axes of symmetry, complete symmetrical figures and recognise rotational symmetry. 
2 **Rotational symmetry**	Identify and describe rotational symmetry and distinguish it from line symmetry.	✓ Identify rotational symmetry ✓ Test shapes using rotation ✓ Compare line and rotational symmetry ✓ Recognise symmetry in shapes and letters	– Rotate shapes to identify matching positions – Investigate rotational symmetry in polygons – Compare reflection and rotation – Explore symmetry in capital letters – **Mathletics Online Practice Activities (Courses): Shape, space & pathways: Rotational Symmetry**	**Page 13:** Identify rotational symmetry in shapes and letters and distinguish it from line symmetry. 
3 **Order of rotational symmetry**	Determine and describe the order of rotational symmetry of 2D shapes.	✓ Identify the centre of rotation ✓ Count matching positions during a full turn ✓ Determine the order of rotational symmetry ✓ Connect rotational order with angle of turn	– Rotate shapes around a fixed centre – Count matching positions during a full turn – Determine rotational order – Create rotationally symmetrical designs – **Skill Quests: Spatial reasoning: Rotational symmetry**	**Page 14:** Determine the order of rotational symmetry, analyse designs and create rotationally symmetrical figures. 
4 **Shape patterns**	Visualise, describe and apply reflections, rotations and translations to shapes and patterns.	✓ Identify reflections, rotations and translations ✓ Describe quarter and half turns ✓ Distinguish clockwise and anticlockwise turns ✓ Continue transformation patterns	– Compare reflection, rotation and translation – Apply transformations to shapes – Explore changes in position and orientation – Identify and continue transformation patterns – **Skill Quests: Transformation: Two-step transformations**	**Page 15:** Apply reflections, rotations and translations and identify and continue transformation patterns. 
5 **Tessellation**	Investigate which regular shapes tessellate and use transformations to create tessellating patterns.	✓ Explain tessellation ✓ Identify gaps and overlaps ✓ Determine which regular shapes tessellate ✓ Create and describe a tessellating pattern	– Investigate which regular polygons tessellate – Explore how angles fit around a point – Connect tessellation with transformations – Create and describe tessellating patterns – **Skill Quests: Tessellations: Creating patterns using transformations**	**Page 16:** Test regular polygons for tessellation, create tessellating patterns and identify transformations used. 

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Unit: Geometry: Shapes, Spatial reasoning: Symmetry and geometric patterns

Focus: Identify and describe line and rotational symmetry; apply transformations to shapes and patterns; use these understandings to investigate and create tessellations

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Line and rotational symmetry	Distinguish between line and rotational symmetry and identify these properties in 2D shapes.	Draws valid axes of symmetry, tests shapes for rotational symmetry and explains the difference between reflection and rotation.
Order of rotational symmetry	Understand that the order describes how many times a shape matches itself during one complete turn.	Determines the order accurately and relates matching positions to turns around a fixed centre.
Transformations and patterns	Recognise and apply reflection, rotation and translation and use them to analyse patterns.	Predicts the result of transformations, uses appropriate turn language and continues transformation patterns.
Tessellation	Understand that tessellating shapes repeat without gaps or overlaps and can be generated using transformations.	Tests whether shapes tessellate, identifies gaps or overlaps and describes the transformations used.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Observe students rotating, reflecting and translating cut-out shapes and constructing tessellations.	Are students using accurate spatial reasoning and maintaining shape and size during transformations?
Oral Check	Show a familiar polygon and ask students to describe its line and rotational symmetry.	Listen for correct symmetry vocabulary, justification of decisions and understanding of rotational order.
Written Work	Review student book pages 12–16.	Check accuracy identifying symmetry, determining rotational order, applying transformations and investigating tessellations.
Practical Task	Ask students to use cut-out shapes to demonstrate a reflection, rotation and translation, then create a simple tessellation.	Can students perform each transformation accurately and create a tessellation without gaps or overlaps?
Exit Ticket	Use short questions covering symmetry, transformations and tessellation.	Identify students requiring targeted support or extension with the week's key geometric concepts.

Quick Quiz / Exit Ticket (5 Questions)

1. How many lines of symmetry does a square have?
2. What is the order of rotational symmetry of a non-square rectangle?
3. An arrow points upwards. It is rotated 90° clockwise. Which direction will it point?
4. What is the difference between a reflection and a translation?
5. A regular hexagon tessellates on its own. What must be true about the shapes where they meet for the pattern to have no gaps or overlaps?

Teaching as Inquiry: Reflection Notes

Reflection Prompts

Can students securely distinguish line symmetry from rotational symmetry?

Which students need further support determining the order of rotational symmetry?

Are students accurately visualising and describing reflection, rotation and translation?

Can students explain transformations and symmetry using clear and accurate geometric language?

Are students transferring their understanding of transformations to create and analyse tessellating patterns?

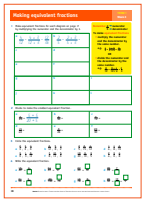
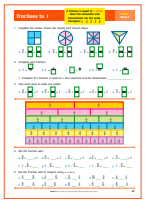
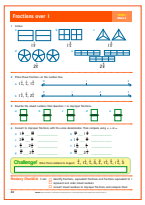
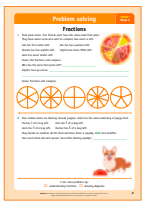
What misconceptions remain about rotational order, orientation, gaps or overlaps in tessellations?

Which students are ready to create and explain more complex transformation patterns and tessellations?

Notes/Next Steps

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Term 1 Week 4 Overview Number: Rational numbers: Fractions

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 Equivalent fractions	Recognise, represent and generate equivalent fractions and explain why they have the same value.	✓ Identify fractions represented visually ✓ Recognise equivalent fractions ✓ Match equivalent fractions ✓ Generate equivalent fractions ✓ Explain equivalence	– Recognise equivalent fractions using visual models – Compare fractions representing the same proportion – Generate equivalent fractions by multiplying numerator and denominator – Find simpler equivalent fractions using division – **Mathletics Online Practice New Courses: Fractions: Equivalent fractions**	**Page 17:** Identify, match and generate equivalent fractions and explain why they represent the same value. 
2 Making equivalent fractions	Use multiplication and division to generate and simplify equivalent fractions.	✓ Generate equivalent fractions ✓ Simplify fractions ✓ Identify common factors ✓ Find missing numerators and denominators ✓ Explain why fraction value is preserved	– Generate equivalent fractions using multiplication – Simplify fractions using common factors – Identify equivalent fractions within sets – Find missing numerators and denominators – **Skill Quests: Equivalent fractions: Finding equivalent fractions**	**Page 18:** Generate and simplify equivalent fractions and find missing numerators and denominators. 
3 Fractions to 1	Find fractional parts that combine to make one whole and use equivalent fractions to compare fractions.	✓ Recognise fractions equal to 1 ✓ Find complements to 1 ✓ Connect fraction addition and subtraction ✓ Use equivalent fractions to compare ✓ Explain fraction relationships	– Recognise when a fraction represents one whole – Find missing fractional parts needed to make 1 – Use fraction walls to reason about fractions – Compare fractions using equivalent forms and common denominators – **New Courses: Fractions: Compare and order fractions**	**Page 19:** Find fractions that complete one whole and use equivalent fractions to compare fractions. 
4 Fractions over 1	Represent, convert and compare fractions greater than one whole.	✓ Represent mixed numbers ✓ Locate mixed numbers on number lines ✓ Convert mixed numbers to improper fractions ✓ Compare fractions greater than 1 ✓ Order fractions and mixed numbers	– Represent fractions greater than 1 using visual models – Locate mixed numbers accurately on number lines – Connect mixed numbers and improper fractions – Compare and order fractions using equivalent forms – **Skill Quests: Improper and mixed: Converting improper fractions & mixed numbers**	**Page 20:** Represent and locate mixed numbers, convert to improper fractions, and compare and order fractions greater than 1. 
5 Problem solving: Fractions	Use equivalent fractions, common denominators and visual representations to solve fraction problems.	✓ Represent fraction problems ✓ Find useful common denominators ✓ Compare fractions ✓ Add fractions in equivalent forms ✓ Solve equal-sharing problems ✓ Explain and justify solutions	– Compare fractions using equivalent forms and common denominators – Combine fractions with different denominators – Explain and justify problem-solving strategies – **Challenge: Fractions: A yarn about simple fractions**	**Page 21:** Compare, combine and share fractional quantities using equivalent fractions and common denominators. 

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Unit: Number: Rational numbers: Fractions

Focus: Develop understanding of equivalent fractions; complements to 1; fractions greater than 1; mixed and improper fractions; strategies for comparing and solving fraction problems

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Equivalent fractions	Equivalent fractions represent the same value and can be generated or simplified using the same factor.	Identifies, generates and simplifies equivalent fractions and explains why they are equal.
Fractions to and beyond 1	Fractions can be completed to make 1, and quantities greater than 1 can be represented as mixed or improper fractions.	Finds complements to 1 and converts accurately between mixed and improper fractions.
Comparing and ordering fractions	Equivalent fractions, common denominators and benchmarks can be used to compare fractions.	Compares and orders fractions accurately and justifies decisions using appropriate strategies.
Applying fractions	Fraction knowledge can be applied to comparison, addition, subtraction and sharing problems.	Selects suitable strategies, calculates accurately and explains whether answers are reasonable.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Observe students using fraction strips, diagrams and number lines.	Are students connecting visual models and symbolic fractions and demonstrating understanding of equivalence?
Oral Check	Ask students to compare pairs such as $\frac{2}{3}$ and $\frac{4}{6}$, $\frac{3}{4}$ and $\frac{5}{8}$, or $1\frac{1}{2}$ and $\frac{6}{4}$.	Listen for accurate vocabulary and clear justification of equivalence and comparison strategies.
Written Work	Review student book pages 17–21.	Check accuracy with equivalent fractions, complements to 1, mixed and improper fractions and comparison.
Practical Task	Ask students to represent one fraction in several equivalent ways, then build and rename a mixed number.	Can students move flexibly between visual and symbolic representations?
Exit Ticket	Use short questions covering equivalence, complements, conversion and comparison.	Identify students requiring targeted support or extension with the week's fraction concepts.

Quick Quiz / Exit Ticket (5 Questions)

1. Complete: $\frac{3}{5} = \frac{\quad}{20}$
2. Write $\frac{12}{18}$ in its simplest form.
3. Complete: $\frac{7}{8} + ___ = 1$
4. Convert $2\frac{3}{5}$ to an improper fraction.
5. Which is greater: $\frac{3}{4}$ or $\frac{5}{8}$? Explain your strategy.

Teaching as Inquiry: Reflection Notes

Reflection Prompts

Which students understand equivalent fractions as the same value rather than only applying a rule?

Can students confidently identify and generate equivalent fractions?

Can students independently simplify fractions and find missing numerators or denominators?

Can students independently choose a useful factor or common denominator?

Are students secure in finding complements to 1?

Which students can confidently convert between mixed numbers and improper fractions?

Are students using equivalent fractions, common denominators and benchmarks effectively when solving fraction problems?

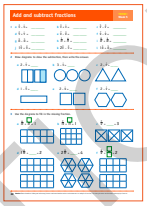
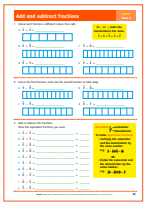
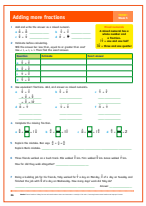
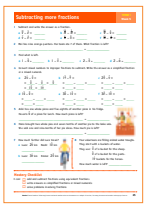
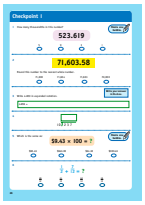
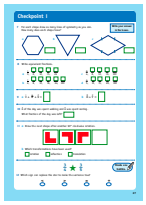
Which students require targeted support with equivalence, fraction comparison or fractions greater than 1?

Which students are ready for more complex fraction problems, and who needs further visual or concrete support?

Notes/Next Steps

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Term 1 Week 5 Overview Number: Rational numbers: Operations with fractions

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 **Add and subtract fractions**	Add and subtract fractions and mixed numbers using equivalent fractions and common denominators.	✓ Rename fractions when needed ✓ Create common denominators ✓ Add and subtract fractions ✓ Subtract fractions from wholes	– Use equivalent fractions to create common-sized parts – Add and subtract related fractions – Regroup whole numbers into fractional parts – Find missing fractions to make a whole – **Mathletics Online Practice** **New Courses: Fractions: Add and subtract fractions**	**Page 22:** Add and subtract fractions using equivalent fractions and common denominators, including fractions from whole numbers. 
2 **Add and subtract fractions**	Add and subtract fractions with different denominators using equivalent fractions.	✓ Use diagrams to represent calculations ✓ Find common denominators ✓ Add and subtract accurately ✓ Simplify answers	– Connect diagrams with equivalent fractions – Find efficient common denominators – Rename and combine fractions – Simplify answers – **New Courses: Fractions: Add related fractions**	**Page 23:** Model, add and subtract fractions with different denominators using equivalent fractions and common denominators. 
3 **Adding more fractions**	Add fractions with different denominators and express totals greater than 1 as mixed numerals.	✓ Estimate fraction sums ✓ Add using common denominators ✓ Identify totals greater than 1 ✓ Convert improper fractions to mixed numerals	– Estimate using benchmark fractions – Add using equivalent fractions – Convert improper fractions to mixed numerals – Solve fraction problems – **Skill Quests: Add/subtract related denominator: Adding/subtracting mixed numbers**	**Page 24:** Add fractions, estimate sums and express answers greater than 1 as mixed numerals. 
4 **Subtracting more fractions**	Subtract fractions and mixed numerals using equivalent fractions and efficient strategies.	✓ Subtract using common denominators ✓ Regroup whole numbers ✓ Convert mixed numerals to improper fractions ✓ Simplify answers	– Subtract using equivalent fractions – Regroup wholes into fractional parts – Convert mixed numerals to improper fractions – Apply strategies in problems – **New Courses: Fractions: Subtract related fractions**	**Page 25:** Subtract fractions and mixed numerals using equivalent fractions, regrouping and common denominators. 
Checkpoint 1	Demonstrate understanding of key number and geometry concepts from Weeks 1–5.	✓ Apply place value and rounding ✓ Use powers of 10 ✓ Work with equivalent fractions ✓ Add, subtract and compare fractions ✓ Identify symmetry and transformations	– Apply place-value and rounding knowledge – Multiply and divide using powers of 10 – Use fraction-equivalence and operation strategies – Apply symmetry and transformation understanding	**Pages 26–27:** Complete Checkpoint 1 independently to demonstrate understanding of number and geometry concepts from Weeks 1–5.  

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Unit: Number: Rational numbers: Operations with fractions

Focus: Develop efficient strategies for adding and subtracting fractions using equivalent fractions and common denominators, including mixed numerals and fractions greater than 1

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Equivalent fractions and common denominators	Rename fractions to create useful common denominators.	Generates equivalent fractions accurately and selects appropriate common denominators.
Adding fractions	Add fractions with the same or different denominators and express totals greater than 1 appropriately.	Adds accurately, simplifies answers and converts improper fractions to mixed numerals.
Subtracting fractions	Subtract fractions from fractions, wholes and mixed numerals.	Regroups or converts where needed, subtracts accurately and simplifies results.
Fraction reasoning and relationships	Apply fraction relationships and select appropriate strategies to solve problems.	Moves flexibly between fraction representations, shows clear working and checks answers for reasonableness.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Observe students modelling and solving fraction addition and subtraction problems.	Are students recognising when equivalent fractions are needed and connecting models with symbolic calculations?
Oral Check	Ask students to estimate whether fraction sums or differences are less than, equal to or greater than 1.	Listen for accurate use of fraction size and benchmark reasoning.
Written Work	Review student book pages 22–25.	Check accuracy with common denominators, fraction operations, mixed numerals and simplification.
Practical Task	Ask students to model an addition or subtraction calculation using fraction strips and explain their solution.	Can students represent the calculation accurately and use equivalent fractions appropriately?
Exit Ticket	Use short questions covering equivalent fractions, addition and subtraction.	Identify students requiring targeted support or extension with fraction operations.
Checkpoint 1	Review completed Checkpoint 1 (pages 26–27).	Identify strengths and misconceptions across rational numbers, place value, symmetry and shapes.

Quick Quiz / Exit Ticket (5 Questions)

1. Write an equivalent fraction for $\frac{3}{4}$ with a denominator of 12.
2. Calculate: $\frac{5}{6} + \frac{1}{3} =$ _____
3. Calculate: $2 - \frac{3}{5} =$ _____
4. Calculate: $1\frac{3}{4} - \frac{5}{8} =$ _____
5. Mia says $\frac{3}{4} + \frac{2}{3}$ must be greater than 1. Is she correct? Explain without calculating the exact answer.

Teaching as Inquiry: Reflection Notes

Reflection Prompts	Notes/Next Steps
Can students generate equivalent fractions and select useful common denominators independently?	
Can students add and subtract fractions, including mixed numerals and whole numbers?	
Are students using estimation and benchmark fractions to check whether their answers are reasonable?	
Which students require targeted support with common denominators, regrouping, mixed numerals or simplifying answers?	
Which students are ready for extension through more complex, multi-step fraction problems?	

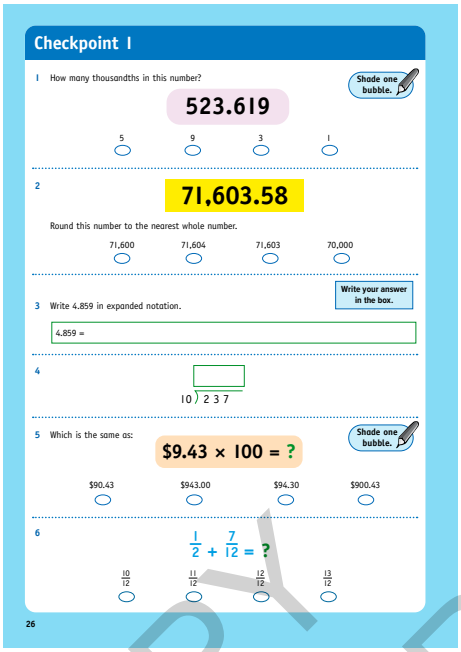
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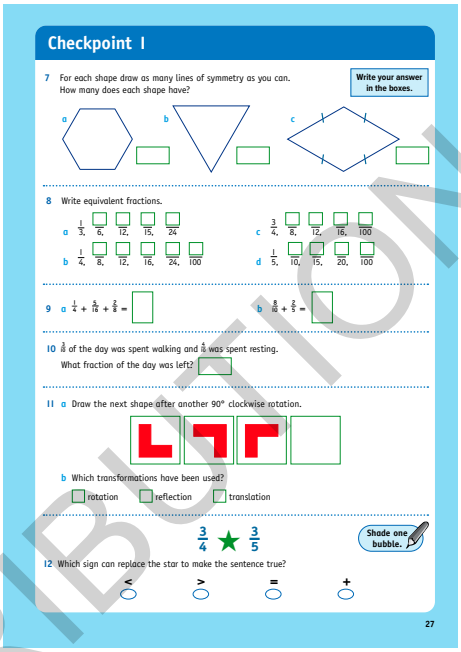
CHECKPOINT 1

Purpose

This checkpoint assesses students' understanding of **decimal place value, rounding, expanded notation, division, multiplication by powers of 10, fractions, symmetry and transformations**. It provides teachers with a snapshot of students' ability to identify decimal place value, round decimals, represent decimals in expanded form, divide whole numbers, multiply money amounts by 100, add and compare fractions, recognise equivalent fractions, identify lines of symmetry and apply rotations.

The Checkpoint should take approximately **20–30 minutes** and may be completed in two sittings.





Assessment Overview

Part	Focus	Questions	Curriculum Links	Skills Assessed
1–5	Place value and operations	Decimal place value, rounding, expanded notation, division, multiplying by 100	Number structures, Operations	Identifies thousandths, rounds decimals to the nearest whole number, writes decimals in expanded notation, completes division calculations and applies place value when multiplying by 100
6, 8–10, 12	Fractions	Adding, generating and comparing fractions, solving fraction problems	Rational numbers	Adds fractions, generates equivalent fractions, combines fractions in calculations, solves fraction-of-a-whole problems and compares fractions
7	Symmetry	Lines of symmetry in 2D shapes	Geometry	Identifies and draws lines of symmetry and determines the number of lines of symmetry in familiar shapes
11	Transformations	Rotation and identifying transformations	Geometry	Applies a 90° clockwise rotation and identifies the transformation used

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CHECKPOINT 1 Student Recording Sheet & Marking Rubric

Unit: Number: Number structures, Rational numbers, Geometry: Shapes, Spatial reasoning
Weeks: 1–5 / Year 6 Mathematics **Total Marks:** 30

Student Name: **Date:**

Marking Sheet

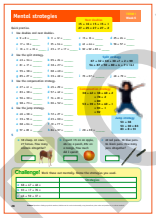
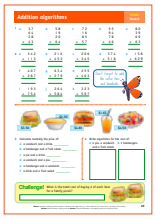
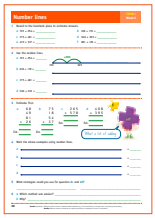
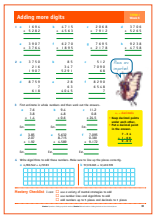
Part	Task	Max Marks	Student Score	Notes / Observations
1	Identify the thousandths digit in a decimal	1	/ 1	
2	Round a decimal to the nearest whole number	1	/ 1	
3	Write a decimal in expanded notation	2	/ 2	
4	Complete a division calculation	2	/ 2	
5	Multiply a money amount by 100	1	/ 1	
6	Add fractions with related denominators	2	/ 2	
7	Draw and identify lines of symmetry	4	/ 4	
8	Generate equivalent fractions	5	/ 5	
9	Add fractions and write the result	3	/ 3	
10	Solve a fraction problem involving parts of a whole	2	/ 2	
11	Apply a 90° clockwise rotation and identify the transformation	5	/ 3	
12	Compare two fractions using the correct symbol	2	/ 2	
	TOTAL:	30	/ 30	

Achievement Rubric

Score Range	Progress Descriptor	Interpretation	Suggested Follow-Up
27–30	Exceeding	Strong and consistent understanding of decimal place value, rounding, operations, fractions, symmetry and transformations. Applies strategies accurately across familiar and unfamiliar tasks.	Extend with more complex decimal operations, fraction equivalence and addition, multi-step fraction problems and combined transformations.
22–26	Proficient	Secure understanding of the assessed concepts, with only occasional errors in calculation, representation or application.	Reinforce decimal place value, equivalent fractions, fraction calculations and accurate use of symmetry and rotations.
17–21	Consolidating	Sound understanding of most concepts, with some gaps or inconsistencies in decimal, fraction or geometric reasoning.	Continue guided practice with decimal place value and rounding, equivalent fractions, fraction addition, symmetry and rotations.
9–16	Developing	Developing understanding of the assessed concepts and requires support to apply strategies consistently.	Focus on place-value representations, fraction models, equivalent fractions and hands-on exploration of symmetry and transformations.
0–8	Emerging	Beginning to develop foundational understanding of decimal place value, operations, fractions and geometric concepts.	Revisit decimal place value using concrete and visual models, basic fraction relationships, division and multiplication strategies, symmetry and simple transformations.

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Term 1 Week 6 Overview Number: Operations: Addition

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 **Mental strategies**	Select and use efficient mental strategies to add whole numbers.	✓ Use doubles and near doubles ✓ Split numbers using place value ✓ Use compensation ✓ Use jump strategies ✓ Choose and explain an efficient strategy	– Use doubles and near doubles to derive sums – Partition numbers using place value – Adjust numbers and compensate – Compare and select efficient mental strategies – **Mathletics Online Practice** **New Courses: Addition and subtraction: Addition strategies**	**Page 28:** Use doubles and near doubles, split, compensation and jump strategies to add mentally and solve addition problems. 
2 **Addition algorithms**	Use the written addition algorithm accurately and choose appropriately between mental and written strategies.	✓ Align numbers by place value ✓ Add several numbers accurately ✓ Regroup across place values ✓ Choose mental or written strategies ✓ Estimate to check answers	– Connect and compare mental strategies to written addition – Align digits according to place value – Regroup across ones, tens and hundreds – **New Courses: Addition and subtraction: Addition**	**Page 29:** Add two- and three-digit numbers using written algorithms, regroup accurately and select efficient strategies. 
3 **Number lines**	Use estimation and number lines to solve addition calculations and compare different addition strategies.	✓ Round numbers to estimate sums ✓ Partition addends into useful parts ✓ Make efficient number-line jumps ✓ Use friendly numbers ✓ Compare addition strategies	– Estimate sums by rounding – Partition addends into efficient jumps – Represent addition on open number lines – Use friendly numbers to simplify calculations – **Skill Quests: Add & subtract whole numbers: Addition using standard written algorithms**	**Page 30:** Estimate sums, solve addition calculations using open number lines and compare different addition strategies. 
4 **Adding more digits**	Use place value, estimation and written algorithms to accurately add larger whole numbers and decimals.	✓ Align whole numbers by place value ✓ Add larger whole numbers ✓ Align decimal points ✓ Add decimals accurately ✓ Estimate and check sums	– Extend written addition to larger whole numbers – Estimate decimal sums using whole numbers – Add decimals to three decimal places – **New Course: Decimals: Add decimals**	**Page 31:** Add larger whole numbers and decimals using accurate place-value alignment, regrouping and estimation. 
5 **Problem solving: Digit shuffling**	Use place-value reasoning and addition strategies to create, compare and investigate sums.	✓ Arrange digits to maximise or minimise sums ✓ Explain the effect of place value ✓ Create different calculations with the same total ✓ Calculate accurately ✓ Use a systematic strategy	– Use place value to justify digit placement – Investigate arrangements that produce the same total – Explain and justify solutions – **Challenge: Addition and Subtraction: Adding up, arithmagons!**	**Page 32:** Arrange digits to create largest and smallest sums, investigate equal totals and explain strategies using place-value reasoning. 

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Unit: Number: Operations: Addition

Focus: Develop efficient mental, number-line and written addition strategies for whole numbers and decimals; use place value and estimation to calculate; solve problems accurately

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Mental strategies	Select efficient mental strategies for addition.	Uses doubles, partitioning, compensation or jumps appropriately and explains thinking.
Written algorithms	Use place-value alignment and regrouping to add accurately.	Aligns digits correctly, regroups accurately and records working clearly.
Estimation and number lines	Estimate sums and represent addition on open number lines.	Uses sensible estimates and efficient jumps and checks exact answers for reasonableness.
Larger numbers and decimals	Apply place-value understanding and select efficient strategies when adding larger numbers and decimals.	Aligns place values and decimal points, calculates accurately and explains strategy choice.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Observe students using mental, number-line and written strategies.	Are students selecting efficient strategies, using place value accurately and moving flexibly between methods?
Oral Check	Ask students to solve 68 + 47 mentally and explain how they would approach 3,684 + 2,759.	Listen for appropriate strategy choice and clear mathematical reasoning.
Written Work	Review student book pages 28–32.	Check estimation, alignment, regrouping and accurate whole-number and decimal addition.
Practical Task	Use digit cards to make two three-digit numbers with the greatest and smallest possible sums.	Can students use place value strategically and justify their choices?
Exit Ticket	Use short questions covering addition.	Identify students requiring targeted support or extension with addition strategies.

Quick Quiz / Exit Ticket (5 Questions)

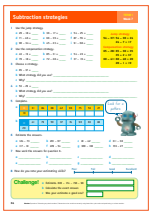
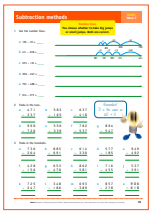
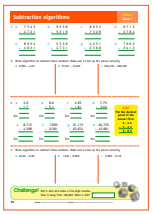
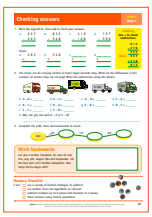
1. Calculate mentally:
   67 + 48 = _____
2. Estimate to the nearest hundred, then calculate exactly:
   584 + 327 = _____
3. Calculate using a written algorithm:
   4,786 + 3,957 = _____
4. Calculate:
   6.75 + 2.8 + 1.425 = _____
5. Use 2, 3, 5, 6, 8 and 9 once each to make two three-digit numbers with the largest possible sum. Explain your reasoning.

Teaching as Inquiry: Reflection Notes

Reflection Prompts	Notes/Next Steps
Can students select and use efficient mental addition strategies?	
Can students use written algorithms with accurate place-value alignment and regrouping?	
Which students explain their addition strategies and mathematical thinking clearly and accurately?	
Which students require targeted support with place-value alignment, regrouping, decimal addition or strategy selection?	
Which students are ready for extension through more complex, multi-step addition and place-value investigations?	

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Term 1 Week 7 Overview Number: Operations: Subtraction

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 **Subtraction of money**	Use subtraction strategies to calculate change and solve problems involving money.	✓ Read and compare prices ✓ Determine whether there is enough money ✓ Calculate change ✓ Choose efficient subtraction strategies ✓ Check and explain answers	– Calculate change using subtraction and counting up – Compare prices and amounts of change – Check calculations using addition – **Mathletics Online Practice** **Skill Quests: Financial plans: Solving problems involving purchases**	**Page 33:** Calculate change, compare prices and solve money problems using efficient subtraction strategies. 
2 **Subtraction strategies**	Use and select efficient mental strategies to subtract whole numbers and use estimation to check answers.	✓ Use the jump strategy ✓ Use compensation ✓ Choose an efficient strategy ✓ Recognise subtraction patterns ✓ Estimate and check differences	– Partition numbers and subtract using jumps – Use friendly numbers and compensation – Compare and select efficient mental strategies – Estimate to check reasonableness – **New Courses: Addition and subtraction: Subtraction strategies**	**Page 34:** Use jump and compensation strategies, recognise subtraction patterns and compare estimates with exact answers. 
3 **Subtraction methods**	Use number lines and written algorithms to subtract three-digit whole numbers accurately.	✓ Represent subtraction on a number line ✓ Choose efficient jumps ✓ Align digits by place value ✓ Regroup accurately ✓ Check answers for reasonableness	– Represent subtraction using flexible number-line jumps – Connect jumps to place-value partitioning – Regroup tens and hundreds accurately – Compare subtraction methods – **New Courses: Addition and subtraction: Subtraction**	**Page 35:** Use open number lines and written algorithms to subtract three-digit numbers and regroup accurately. 
4 **Subtraction algorithms**	Use the standard written algorithm to subtract whole numbers and decimals accurately.	✓ Align digits by place value ✓ Regroup accurately ✓ Subtract larger whole numbers ✓ Align decimal points ✓ Estimate and check differences	– Extend written subtraction to four- and five-digit numbers – Align numbers with different numbers of digits – Regroup across place-value positions – **New Courses: Decimals: Subtract decimals**	**Page 36:** Subtract larger whole numbers and decimals using accurate place-value alignment, regrouping and estimation. 
5 **Checking answers**	Use inverse operations and working backwards to check subtraction calculations and solve problems.	✓ Subtract accurately ✓ Check subtraction using addition ✓ Explain inverse operations ✓ Find and compare differences ✓ Work backwards through calculations	– Connect addition and subtraction as inverse operations – Check subtraction calculations using addition – Identify errors using inverse checks – Work backwards through operation sequences – **New Courses: Addition and subtraction: Problem solving + –**	**Page 37:** Check subtraction using inverse addition, compare differences and work backwards to solve and verify problems. 

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Unit: Number: Operations: Subtraction

Focus: Develop efficient mental; number-line and written subtraction strategies for whole numbers and decimals; using place value; estimation; inverse operations to solve calculations

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Mental strategies	Select efficient mental strategies for subtraction.	Uses partitioning, jumps or compensation accurately and explains strategy choice.
Number lines and place value	Represent subtraction using efficient jumps and place-value partitioning.	Uses accurate jumps and connects them to hundreds, tens and ones.
Written algorithms	Use place-value alignment and regrouping to subtract accurately.	Aligns digits correctly, regroups accurately and records working clearly.
Applying subtraction	Apply subtraction to money and decimals and use addition to check solutions.	Calculates differences and change accurately, aligns decimal places and uses inverse operations to check answers.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Observe students using mental, number-line and written subtraction strategies.	Are students selecting efficient strategies, using place value accurately and moving flexibly between methods?
Oral Check	Ask students to solve 83 – 29 mentally, then discuss a strategy for 835 – 297.	Listen for appropriate strategy choice and clear mathematical reasoning.
Written Work	Review student book pages 33–37.	Check alignment, regrouping, decimal subtraction and accurate calculation.
Practical Task	Ask students to solve subtraction cards using a number line or written algorithm, then check with addition.	Can students select an appropriate strategy, represent their thinking accurately and use inverse operations to check?
Exit Ticket	Use short questions covering subtraction.	Identify students requiring targeted support or extension.

Quick Quiz / Exit Ticket (5 Questions)

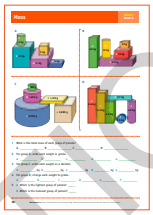
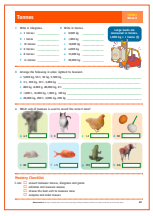
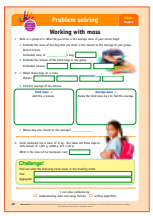
1. Calculate mentally:
   74 – 29 = _____
2. Estimate, then calculate exactly:
   603 – 174 = _____
3. Use a written algorithm:
   8,052 – 3,674 = _____
4. Estimate, then calculate:
   7.305 – 2.486 = _____
5. A student calculates:
   815 – 278 = 547

Teaching as Inquiry: Reflection Notes

Reflection Prompts	Notes/Next Steps
Can students select efficient subtraction strategies?	
Can students use place-value alignment and regrouping when subtracting whole numbers and decimals?	
Are students using estimation and inverse operations effectively to check the reasonableness of their answers?	
Which students require targeted support with regrouping, decimal subtraction, strategy selection or checking answers?	
Which students are ready for extension through more complex subtraction, working backwards and multi-step problems?	

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Term 1 Week 8 Overview Measurement: Measuring: Mass

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 **Mass**	Convert between grams and kilograms and use these units to calculate and compare mass.	✓ Read masses in grams and kilograms ✓ Convert between grams and kilograms ✓ Express kilograms using decimals ✓ Combine masses in different units ✓ Compare total masses	– Convert using multiplication and division by 1,000 – Express gram measurements as decimal kilograms – Combine and compare masses using common units – **Mathletics Online Practice Activities (Courses): Measuring, perimeter, area, volume & time: Grams and kilogram conversion**	**Page 38:** Convert between grams and kilograms, calculate total masses and compare groups of masses. 
2 **Grams and kilograms**	Compare, convert and round measurements of mass using grams and kilograms.	✓ Compare and order masses ✓ Convert mixed measurements to grams ✓ Express grams as decimal kilograms ✓ Round to the nearest 100 g ✓ Use benchmarks to check answers	– Compare and order masses using common units – Convert whole and mixed kilogram measurements to grams – Express gram measurements as decimal kilograms – Round masses to the nearest 100 g – **Skill Quests: Mass: Measuring and recording mass**	**Page 39:** Order and convert masses, express grams as decimal kilograms and round masses to the nearest 100 g. 
3 **Estimating mass**	Estimate, measure and compare the mass of everyday objects using appropriate metric units.	✓ Choose grams or kilograms appropriately ✓ Use benchmark masses ✓ Estimate before measuring ✓ Measure and record mass accurately ✓ Compare estimated and actual masses	– Select appropriate metric units for different objects – Use familiar benchmark masses to make estimates – Measure and compare actual and estimated masses – Order objects and calculate combined mass – **Skill Quests: Mass: Comparing and ordering mass**	**Page 40:** Estimate and measure mass using benchmarks, select appropriate units and compare and order measured masses. 
4 **Tonnes**	Convert, compare and order masses using tonnes, kilograms and grams and select appropriate units.	✓ Use 1 t = 1,000 kg ✓ Convert between tonnes and kilograms ✓ Compare masses in different units ✓ Order mixed-unit masses ✓ Select appropriate units	– Explore the relationship between tonnes and kilograms – Convert between tonnes and kilograms – Compare and order masses in grams, kilograms and tonnes – **Skill Quests: Convert units of measure: Converting units of capacity**	**Page 41:** Convert between tonnes and kilograms, compare and order mixed-unit masses and select appropriate units. 
5 **Problem solving: Working with mass**	Apply measurement and number strategies to solve problems involving mass, including totals and averages.	✓ Estimate and measure mass ✓ Calculate total mass ✓ Find average mass ✓ Compare masses with an average ✓ Convert units in multi-step problems	– Estimate and measure masses using benchmarks – Calculate and interpret average and total mass – Convert units and solve multi-step mass problems – **Skill Quests: Mass: Solving mass problems**	**Page 42:** Estimate and measure mass, calculate totals and averages and solve multi-step problems involving grams and kilograms. 

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Unit: Measurement: Measuring: Mass

Focus: Develop understanding of grams, kilograms and tonnes by converting, comparing, estimating and measuring mass; applying these skills to problems involving totals and averages

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Metric units	Understand relationships between grams, kilograms and tonnes.	Uses 1 kg = 1,000 g and 1 t = 1,000 kg accurately.
Converting mass	Convert between grams, kilograms and tonnes.	Converts accurately, including between decimal kilograms and grams.
Comparing and ordering	Compare masses expressed in different units.	Converts to common units where needed and orders measurements correctly.
Estimating and measuring	Estimate and measure mass using appropriate units and benchmarks.	Makes reasonable estimates, selects suitable units and reads scales accurately.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Observe students estimating, measuring and comparing masses.	Are students selecting appropriate units, making sensible estimates and measuring accurately?
Oral Check	Ask students how many grams are in 5 kg? How many kilograms are in 6 t? Which is heavier: 950 kg or 1 t?	Listen for understanding of metric relationships, conversions and relative size.
Written Work	Review student book pages 38–42.	Check accurate conversions, comparisons, ordering and use of units.
Practical Task	Ask students to estimate and measure four objects, order them by mass and find their total mass.	Can students use benchmarks, measure accurately and select appropriate units?
Exit Ticket	Use short questions covering mass.	Identify students requiring targeted support or extension with converting and calculating mass.

Quick Quiz / Exit Ticket (5 Questions)

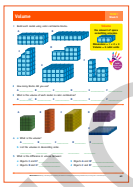
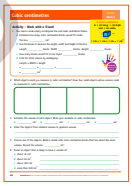
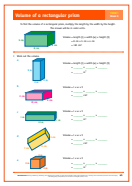
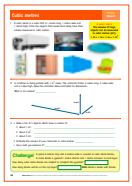
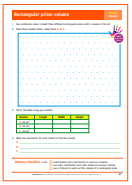
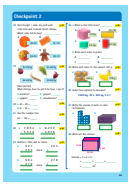
1. Convert 4.6 kg to grams.
2. Convert 7,250 g to kilograms.
3. Convert 12 t to kilograms.
4. Order from lightest to heaviest: 900 g, 1.5 kg, 750 g, 2 kg
5. Four school bags have masses of 3 kg, 4 kg, 5 kg and 8 kg. What is their average mass?

Teaching as Inquiry: Reflection Notes

Reflection Prompts	Notes/Next Steps
Do students understand the relationships between grams, kilograms and tonnes?	
Can students convert, compare and order masses expressed in different units?	
Are students selecting appropriate units and using benchmarks to estimate mass reasonably?	
Are students transferring their mass knowledge to calculate totals, averages and solve practical problems?	
Which students require targeted support with metric conversions, estimation, measurement or averages?	
Which students are ready for extension through more complex mixed-unit and multi-step mass problems?	

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Term 1 Week 9 Overview Measurement: Measuring: Volume

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 Volume	Build, calculate, compare and describe the volume of three-dimensional objects using cubic centimetres.	✓ Build and represent volume using cubic units ✓ Calculate volume using dimensions ✓ Record volume in cm^3 ✓ Compare volumes	– Calculate volume using equal layers and dimensions – Compare, order and find differences between volumes – **Mathletics Online Practice Activities (Courses): Measuring, perimeter, area, volume & time: Volume of Solids & Prisms — 1 cm^3 blocks**	**Page 43:** Build and analyse cubic models, calculate rectangular prism volume and compare and order volumes. 
2 Cubic centimetres	Estimate, measure and compare volume using cubic centimetres.	✓ Explain what 1 cm^3 represents ✓ Measure length, width and height ✓ Calculate volume accurately ✓ Compare estimated and actual volumes	– Estimate and measure the volume of small objects – Connect layers to length × width × height – Compare estimates with measured volumes – **Skill Quests: Volume using multiplication: Calculating the volume of rectangular prisms**	**Page 44:** Estimate and measure volume using cubic centimetres and use benchmarks to compare small objects. 
3 Volume of a rectangular prism	Calculate the volume of rectangular prisms using length, width and height.	✓ Use V = l × w × h ✓ Explain the volume calculation ✓ Calculate using centimetres and metres ✓ Record volume in cm^3 or m^3	– Connect equal layers to the volume formula – Calculate rectangular prism volumes – Select and record appropriate cubic units – **Activities (Courses): Measuring, perimeter, area, volume & time: Rectangular Prisms 1**	**Page 45:** Calculate rectangular prism volume using length × width × height and record answers in cm^3 and m^3. 
4 Cubic metres	Estimate, measure and calculate the volume using cubic metres.	✓ Calculate volume in m^3 ✓ Estimate large volumes ✓ Measure dimensions to check estimates	– Calculate volume using metre dimensions – Estimate and measure the volume of large spaces – **Skill Quests: Volume using standard units: Calculating volumes using standard units**	**Page 46:** Explore cubic metres, calculate large volumes and estimate and measure the volume of a classroom. 
5 Rectangular prism volume	Investigate and explain how rectangular prisms with different dimensions can have the same volume.	✓ Build prisms with a given volume ✓ Record length, width and height ✓ Find different dimension combinations ✓ Connect dimensions to factors	– Generate dimensions using factor combinations – Verify volume using length × width × height – Compare prisms with equal volumes but different dimensions – **Challenge: Volume & Capacity: Constructing cubes**	**Page 47:** Construct different rectangular prisms with a volume of 36 cm^3 and use multiplication to verify equal volumes. 
Checkpoint 2	Demonstrate understanding and application of key mathematical learning.	✓ Apply place value and rational numbers ✓ Apply addition and subtraction strategies ✓ Solve mass and volume problems	– Apply decimal place value, rounding, powers of 10 and fraction equivalence – Apply addition, subtraction and money strategies – Calculate mass and volume metric-unit models	**Pages 48 – 49:** Completed Checkpoint 2 reviewing number, geometry and measurement.  

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Unit: Measurement: Measuring: Volume

Focus: Understanding of volume using cubic units; estimate and calculate volumes in cm^3 and m^3; use factor reasoning to investigate rectangular prisms with equal volumes

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Volume and cubic units	Understand volume as the space occupied by a 3D object, measured in cubic units.	Counts cubic units accurately, including hidden cubes, and records volume using cubic units.
Estimating and selecting units	Estimate volume using familiar benchmarks and select appropriate cubic units.	Makes reasonable estimates, compares with actual volumes and selects appropriate units.
Rectangular prisms	Calculate the volume of rectangular prisms using length × width × height.	Identifies three dimensions, calculates accurately and connects the formula to layers of cubes.
Applying volume	Calculate larger volumes and recognise that different dimensions can produce the same volume.	Uses dimensions and factor combinations to calculate and construct prisms with equal volumes.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Observe students building and investigating rectangular prisms.	Are students counting cubes systematically and connecting dimensions, layers and volume?
Oral Check	Ask students what 1 cm^3 represents and why length × width × height calculates volume.	Listen for understanding of cubic units and volume rather than formula recall.
Written Work	Review student book pages 43–47.	Check accurate volume calculations and appropriate use of cm^3 and m^3.
Practical Task	Ask students to use 24 cubes to build two different rectangular prisms and record their dimensions.	Can students use factor combinations to create different prisms with equal volume?
Exit Ticket	Use short questions covering volume.	Identify students requiring targeted support or extension.
Checkpoint 2	Review completed Checkpoint 2 (pages 48–49).	Identify strengths and misconceptions across number, geometry and measurement.

Quick Quiz / Exit Ticket (5 Questions)

1. A model contains 28 one-centimetre cubes. What is its volume?
2. Find the volume of a 6 cm × 4 cm × 3 cm rectangular prism.
3. Find the volume of a 5 m × 3 m × 2 m storage space.
4. Which unit is more appropriate for the volume of a classroom: cm^3 or m^3? Explain.
5. A rectangular prism has a volume of 36 cm^3. Give two different sets of whole-number dimensions that could produce this volume.

Teaching as Inquiry: Reflection Notes

Reflection Prompts	Notes/Next Steps
Do students understand volume as the amount of 3D space an object occupies?	
Can students calculate the volume of rectangular prisms using length × width × height?	
Are students selecting and recording appropriate cubic units, including cm^3 and m^3?	
Which students explain the relationship between dimensions, layers of cubes and volume clearly and accurately?	
Which students require targeted support with cubic units, volume calculations, estimation or distinguishing volume from area?	
Which students are ready for extension through factor reasoning, missing dimensions and constructing different rectangular prisms with equal volumes?	

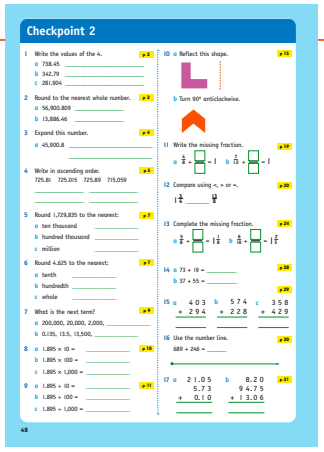
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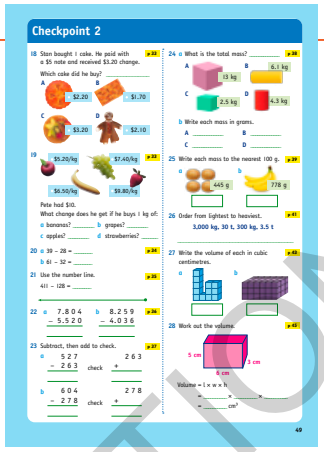
CHECKPOINT 2

Purpose

This checkpoint assesses students' understanding of **place value and rounding, fractions, addition and subtraction, financial mathematics, transformations, mass and volume**. It provides teachers with a snapshot of students' ability to interpret and manipulate whole numbers and decimals, round to specified place values, compare and complete fractions, apply addition and subtraction strategies, solve money problems, perform transformations, convert and round mass measurements, and calculate volume.

The checkpoint should take approximately **30–40 minutes** and may be completed in one sitting or divided into two shorter sessions.


Checkpoint 2


Checkpoint 2

Assessment Overview

Part	Focus	Questions	Curriculum Links	Skills Assessed
1–9	Place value and rounding	Decimal place value, rounding, expanded notation, ordering decimals, number patterns and multiplying and dividing by powers of 10	Number structures, Rational numbers	Identifies place value, rounds whole numbers and decimals, orders and expands numbers, recognises place-value patterns, and multiplies and divides decimals by powers of 10.
10	Transformations	Reflecting and rotating shapes	Spatial reasoning	Applies reflection and rotation to transform 2D shapes accurately.
11–13	Fractions	Completing fraction equations and comparing fractions	Rational numbers	Uses fraction relationships to complete equations and compares fractions with related denominators.
14–17, 20–23	Addition and subtraction	Mental and written addition and subtraction, decimal calculations, number lines and checking with inverse operations	Operations	Applies mental and written strategies to add and subtract whole numbers and decimals and uses inverse operations to check results.
18–19	Financial mathematics	Calculating prices and change	Financial mathematics	Solves practical money problems involving cost and change.
24–26	Mass	Finding total mass, converting to grams, rounding mass and ordering measurements	Measuring	Adds, converts, rounds and compares mass measurements using grams, kilograms and tonnes.
27–28	Volume	Counting cubic units and calculating volume	Measuring	Determines volume using cubic centimetres and calculates the volume of rectangular prisms.

Achievement Rubric

Score Range	Progress Descriptor	Interpretation	Suggested Follow-Up
36–40	Exceeding	Strong and consistent understanding of place value and rounding, fractions, addition and subtraction, transformations, mass and volume. Accurately applies number and measurement relationships independently.	Extend with more complex decimal place-value and rounding problems, fraction calculations, multi-step addition and subtraction, combined transformations, mass conversions and volume problems.
30–35	Proficient	Secure understanding of the assessed concepts, with only occasional errors when applying place value, fraction, calculation, transformation or measurement knowledge.	Reinforce decimal rounding and powers of 10, fraction relationships, written and mental addition and subtraction, transformations, mass conversions and calculating volume.
22–29	Consolidating	Sound understanding of most concepts, with some gaps or inconsistencies in place value, fractions, calculations, transformations or measurement.	Continue guided practice with decimal place value and rounding, fraction equations and comparisons, addition and subtraction strategies, reflection and rotation, mass and cubic units.
12–21	Developing	Developing understanding of number and measurement concepts, with support required to apply place-value, fraction, calculation and measurement skills consistently.	Focus on place-value models, rounding number lines, visual fraction models, concrete addition and subtraction strategies, practical transformations, mass measurement and building volume with cubes.
0–11	Emerging	Beginning to develop foundational understanding of place value, fractions, operations, transformations and measurement and requires support with key representations and calculations.	Revisit whole-number and decimal place value, simple rounding, basic fraction relationships, addition and subtraction using concrete materials, simple transformations, mass units and volume using cubic models.

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CHECKPOINT 2 Student Recording Sheet & Marking Rubric

Unit: Number: Number structures, Rational numbers, Operations, Financial mathematics; Geometry: Spatial reasoning; Measurement: Measuring

Weeks: 1–9 / Year 6 Mathematics **Total Marks:** 40

Student Name: **Date:**

Marking Sheet

Part	Task	Max Marks	Student Score	Notes / Observations
1	Identify the value of a digit in decimal numbers	2	/ 2	
2	Round decimals to the nearest whole number	2	/ 2	
3	Write a decimal in expanded form	1	/ 1	
4	Order decimal numbers in ascending order	1	/ 1	
5	Round a whole number to specified place values	2	/ 2	
6	Round a decimal to specified place values	2	/ 2	
7	Continue place-value number patterns	2	/ 2	
8	Multiply a decimal by 10, 100 and 1,000	2	/2	
9	Divide a decimal by 10, 100 and 1,000	2	/ 2	
10	Reflect and rotate 2D shapes	2	/ 2	
11	Complete fraction equations to make one whole	1	/ 1	
12	Compare fractions using <, > or =	2	/ 2	
13	Complete addition equations involving fractions	2	/ 2	
14	Calculate using mental addition strategies	1	/ 1	
15	Calculate written addition	1	/ 1	
16	Solve an addition problem using a number line	1	/ 1	
17	Add decimal numbers	1	/ 1	
18	Solve a money problem involving change	1	/ 1	
19	Calculate change from $10	2	/ 2	
20	Calculate subtraction mentally	1	/ 1	
21	Solve a subtraction problem using a number line	1	/ 1	
22	Subtract decimal numbers	1	/ 1	
23	Subtract and check using addition	1	/ 1	
24	Calculate total mass and convert to grams	2	/ 2	
25	Round mass to the nearest 100 g	1	/ 1	
26	Order masses from lightest to heaviest	1	/ 1	
27	Determine volume using cubic centimetres	1	/ 1	
28	Calculate the volume of a rectangular prism	1	/ 1	
	TOTAL:	40	/ 40	

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