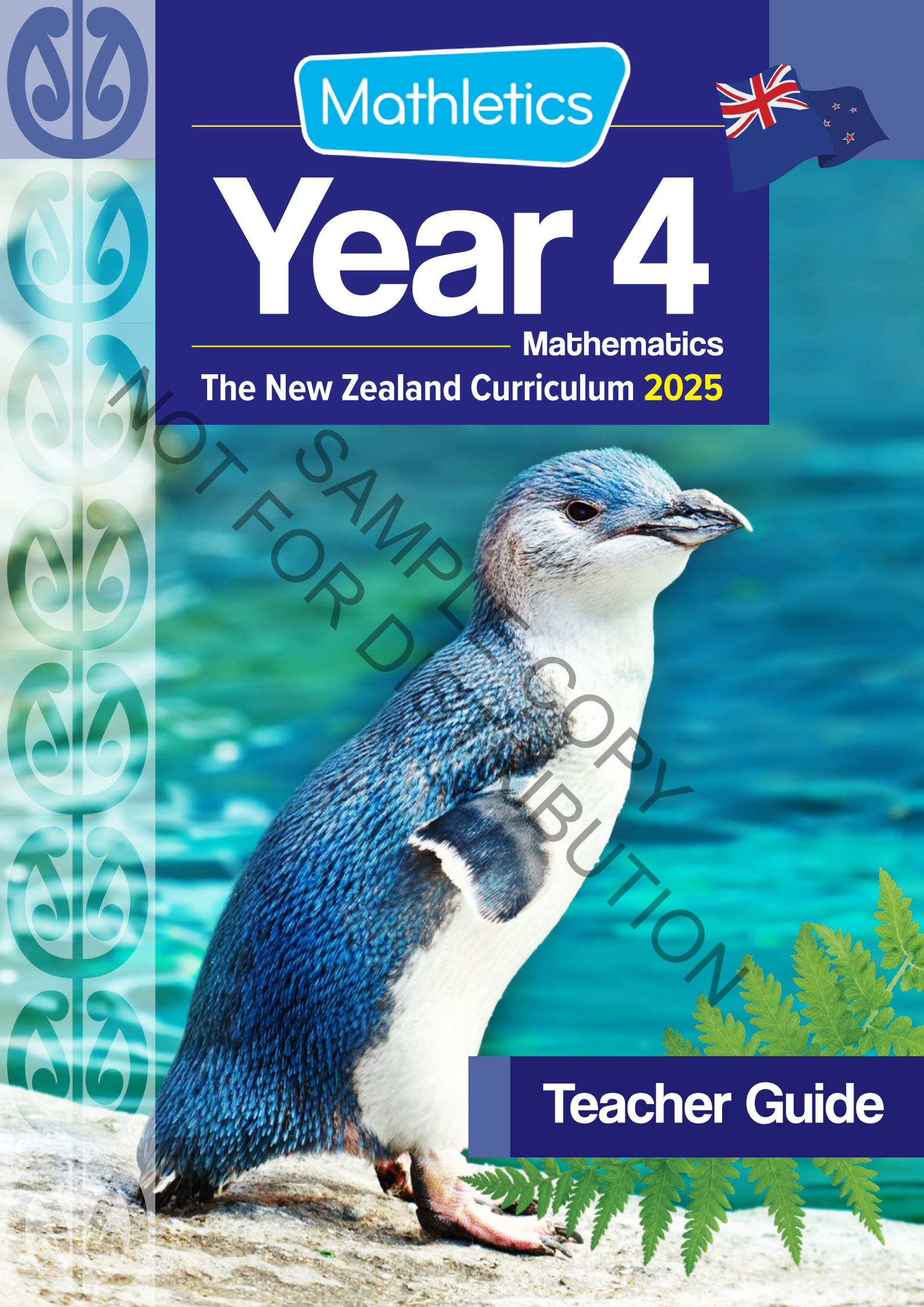
Mathletics

Year 4

Mathematics

The New Zealand Curriculum 2025



Teacher Guide

Mathletics

The New Zealand Curriculum 2025

Year 4

Teacher Guide

The Mathletics Programme – Year 4 Teacher Guide
ISBN: 978-1-923253-84-1

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Written for the 2025 curriculum
Published by:
3P Learning
655 Parramatta Rd Leichhardt NSW 2046
www.3plearning.com

Publisher: Katy Pike
Series editor: Megan Smith
Editors: Laurence Trinh, Stacey Belgre, Amanda Santamaria, Mandy Bradshaw
Designed and typeset by The Modern Art Production Group
Printed by TBA

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Contents

Term 1

Term 2

Term 3

Term 4

The Mathletics Programme is designed to support teaching and learning aligned with The New Zealand Curriculum – Mathematics and Statistics (2025)

The **Mathletics Programme Years 0–8** provides a comprehensive set of resources designed to support teachers in delivering high-quality mathematics teaching aligned with **The New Zealand Curriculum – Mathematics and Statistics**. The programme combines practical classroom materials with digital learning tools to support conceptual understanding, procedural fluency and problem solving.

The programme is built around a clear progression of mathematical ideas across the year. Concepts are introduced through explicit teaching, explored through discussion and hands-on activities, and reinforced through structured practice. Students then apply their learning through written tasks and digital activities that strengthen understanding and build confidence.

Each year level includes a **Teacher Guide**, **Student Book**, **Daily Lesson Plans** and **Mathletics online lessons**. Together, these resources support teachers in planning, teaching and assessing mathematics in a consistent and manageable way across the school year.

The programme supports the six strands of **The New Zealand Curriculum – Mathematics and Statistics**:

Number: numbers, quantities and calculations.

Algebra: patterns and relationships represented using symbols and diagrams.

Measurement: measuring and comparing length, mass, capacity and time.

Geometry: shapes, spatial relationships and transformations.

Statistics: collecting, representing and interpreting data.

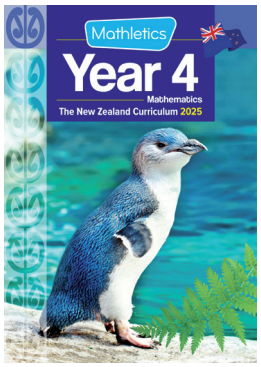
Probability: chance and likelihood and how to describe uncertainty.

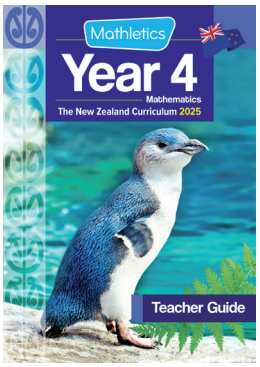
Learning is organised into weekly sequences that develop mathematical ideas step by step. Assessment opportunities are embedded throughout the programme so teachers can monitor understanding and respond to student needs.

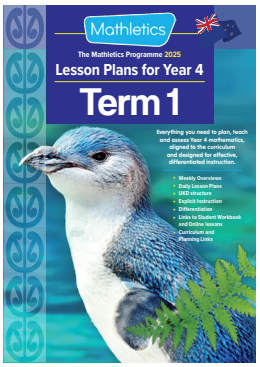
By combining structured teaching guidance, rich classroom activities and digital reinforcement, the programme helps teachers create engaging mathematics lessons while building strong mathematical understanding for every student.

How the Programme Works

The Mathletics Programme provides teachers with **clear weekly guidance and flexible daily teaching support**. The programme integrates four key components: the **Teacher Guide**, **Daily Lesson Plans**, **Student Book** and **Mathletics online lessons**.







Teacher Guide

The **Teacher Guide** provides a **week-by-week overview** of the mathematics learning across the year. Each week is presented as a double-page spread that summarises:

- the key mathematical ideas for the week
- learning intentions and success criteria
- the main classroom activities
- links to Student Book pages and Mathletics lessons
- suggested assessment opportunities

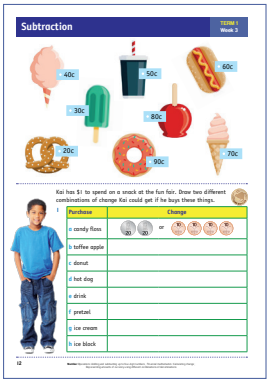
These weekly overviews provide teachers with a clear picture of the learning progression and support planning and reflection throughout the term.

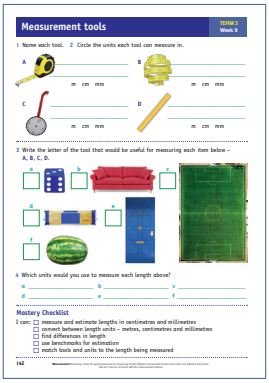
Daily Lesson Plans (Downloadable)

Detailed **Daily Lesson Plans** are provided as a downloadable resource. These plans expand the weekly overview
into a full sequence of daily lessons, including:

- explicit teaching explanations and worked examples
- language focus and discussion prompts
- step-by-step **I Do**, **We Do**, **You Do** teaching sequences
- hands-on activities and problem-solving tasks
- differentiation suggestions
- **Check for Understanding** questions

Providing these lesson plans digitally allows teachers to easily access and print the detailed guidance when needed while keeping the printed Teacher Guide concise and easy to use.





Student Book

The **Student Book** provides structured written practice that consolidates classroom learning. Tasks help students apply new ideas, practise key skills and represent mathematical thinking using diagrams, models and written explanations.

Mathletics Online

The **Mathletics online component** provides activities that reinforce concepts taught in class. These activities allow students to practise skills independently, receive immediate feedback and strengthen fluency with key mathematical ideas.

Assessment and Reflection

Assessment opportunities are embedded throughout the programme. Weekly quick quizzes and exit tasks allow teachers to check understanding, while reflection prompts in the Teacher Guide support ongoing **Teaching as Inquiry** and planning for next steps.

Together, these components create a connected learning system that supports **explicit teaching, meaningful practice and ongoing assessment**, helping teachers build strong mathematical understanding across the year.

Using the Mathletics Programme Teacher Guide, Lesson Plans and online learning package

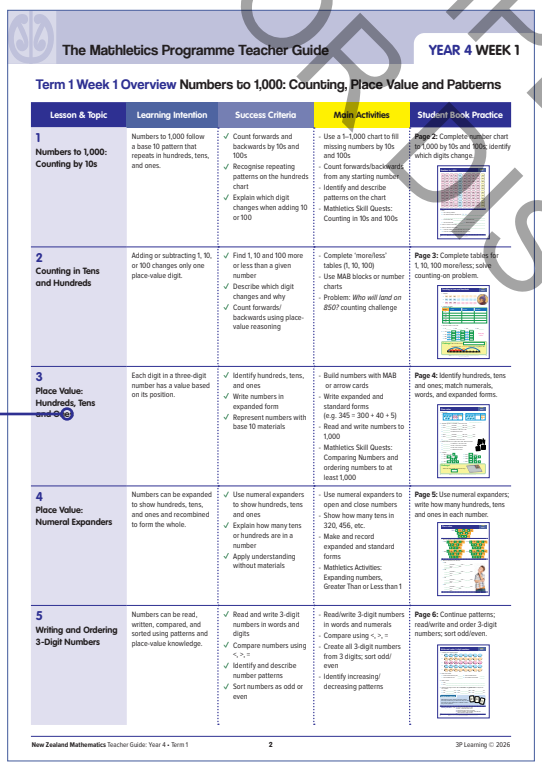
The Mathletics Programme: 0–8 provides practical, classroom-ready materials that enable schools to strengthen conceptual teaching and learning progressions across the Mathematics and Statistics learning area. Teachers retain full agency over planning, sequencing and delivery, using the programme to enrich, reinforce or extend learning within their existing mathematics programmes.

The Teacher Guide

The **Year 4 Teacher Guide** provides teachers with a clear, week-by-week overview of the mathematics concepts, skills and learning intentions taught across the term. Each week includes a summary of learning content, key activities, curriculum links and assessment focus areas. Together with the **Daily Lesson Plans**, it forms a complete, structured program that supports high-quality, consistent classroom instruction.

This guide ensures that every student experiences a balance of **conceptual understanding, procedural fluency and problem solving**, aligned to fully support the *New Zealand Curriculum – Mathematics and Statistics (2025)*.

Each week is presented as a **double-page spread** for easy reference and flexible use in planning, teaching and reflection.



The Mathletics Programme Teacher Guide — YEAR 4 WEEK 1

Term 1 Week 1 Overview Numbers to 1,000: Counting, Place Value and Patterns

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 Numbers to 1,000: Counting by 10s	Numbers to 1,000 follow a base 10 pattern that repeats in hundreds, tens, and ones.	✓ Count forwards and backwards by 10s and 100s ✓ Recognise repeating patterns on the hundreds chart ✓ Explain which digit changes when adding 10 or 100	· Use a 1–1,000 chart to fill missing numbers by 10s and 100s · Count forwards/backwards from any starting number · Identify and describe patterns on the chart · Mathletics Skill Quests: Counting in 10s and 100s	**Page 2:** Complete number chart to 1,000 by 10s and 100s; identify which digits change.
2 Counting in Tens and Hundreds	Adding or subtracting 1, 10, or 100 changes only one place-value digit.	✓ Find 1, 10 and 100 more or less than a given number ✓ Describe which digit changes and why ✓ Count forwards/backwards using place-value reasoning	· Complete 'more/less' tables (1, 10, 100) · Use MAB blocks or number charts · Problem: *Who will land on 850?* counting challenge	**Page 3:** Complete tables for 1, 10, 100 more/less; solve counting-on problem.
3 Place Value: Hundreds, Tens and Ones	Each digit in a three-digit number has a value based on its position.	✓ Identify hundreds, tens, and ones ✓ Write numbers in expanded form ✓ Represent numbers with base 10 materials	· Build numbers with MAB or arrow cards · Write expanded and standard forms (e.g. 345 = 300 + 40 + 5) · Read and write numbers to 1,000 · Mathletics Skill Quests: Comparing Numbers and ordering numbers to at least 1,000	**Page 4:** Identify hundreds, tens and ones; match numerals, words, and expanded forms.
4 Place Value: Numeral Expanders	Numbers can be expanded to show hundreds, tens, and ones and recombined to form the whole.	✓ Use numeral expanders to show hundreds, tens and ones ✓ Explain how many tens or hundreds are in a number ✓ Apply understanding without materials	· Use numeral expanders to open and close numbers · Show how many tens in 320, 456, etc. · Make and record expanded and standard forms · Mathletics Activities: Expanding numbers, Greater Than or Less than 1	**Page 5:** Use numeral expanders; write how many hundreds, tens and ones in each number.
5 Writing and Ordering 3-Digit Numbers	Numbers can be read, written, compared, and sorted using patterns and place-value knowledge.	✓ Read and write 3-digit numbers in words and digits ✓ Compare numbers using <, >, = ✓ Identify and describe number patterns ✓ Sort numbers as odd or even	· Read/write 3-digit numbers in words and numerals · Compare using <, >, = · Create all 3-digit numbers from 3 digits; sort odd/even · Identify increasing/decreasing patterns	**Page 6:** Continue patterns; read/write and order 3-digit numbers; sort odd/even.

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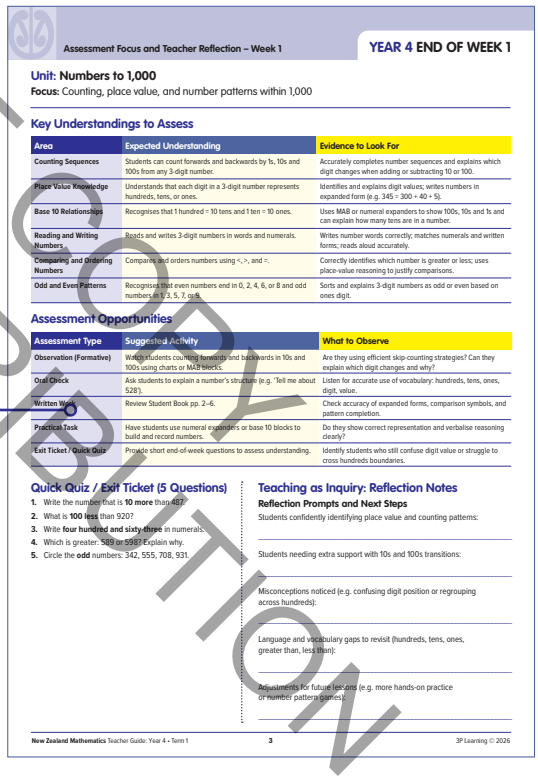

Assessment Focus and Teacher Reflection – Week 1 — YEAR 4 END OF WEEK 1

Unit: Numbers to 1,000

Focus: Counting, place value, and number patterns within 1,000

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Counting Sequences	Students can count forwards and backwards by 1s, 10s and 100s from any 3-digit number.	Accurately completes number sequences and explains which digit changes when adding or subtracting 10 or 100.
Place Value Knowledge	Understands that each digit in a 3-digit number represents hundreds, tens, or ones.	Identifies and explains digit values; writes numbers in expanded form (e.g. 345 = 300 + 40 + 5).
Base 10 Relationships	Recognises that 1 hundred = 10 tens and 1 ten = 10 ones.	Uses MAB or numeral expanders to show 100s, 10s and 1s and can explain how many tens are in a number.
Reading and Writing Numbers	Reads and writes 3-digit numbers in words and numerals.	Writes number words correctly; matches numerals and written forms; reads aloud accurately.
Comparing and Ordering Numbers	Compares and orders numbers using <, >, and =.	Correctly identifies which number is greater or less; uses place-value reasoning to justify comparisons.
Odd and Even Patterns	Recognises that even numbers end in 0, 2, 4, 6, or 8 and odd numbers in 1, 3, 5, 7, or 9.	Sorts and explains 3-digit numbers as odd or even based on ones digit.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Watch students counting forwards and backwards in 10s and 100s using charts or MAB blocks.	Are they using efficient skip-counting strategies? Can they explain which digit changes and why?
Oral Check	Ask students to explain a number's structure (e.g. 'Tell me about 528').	Listen for accurate use of vocabulary: hundreds, tens, ones, digit, value.
Written Work	Review Student Book pp. 2–6.	Check accuracy of expanded forms, comparison symbols, and pattern completion.
Practical Task	Have students use numeral expanders or base 10 blocks to build and record numbers.	Do they show correct representation and verbalise reasoning clearly?
Exit Ticket / Quick Quiz	Provide short end-of-week questions to assess understanding.	Identify students who still confuse digit value or struggle to cross hundreds boundaries.

Quick Quiz / Exit Ticket (5 Questions)

1. Write the number that is **10 more** than 427
2. What is **100 less** than 920?
3. Write **four hundred and sixty-three** in numerals.
4. Which is greater: 509 or 590? Explain why.
5. Circle the **odd** numbers: 342, 555, 708, 931

Teaching as Inquiry: Reflection Notes

Reflection Prompts and Next Steps

Students confidently identifying place value and counting patterns:

Students needing extra support with 10s and 100s transitions:

Misconceptions noticed (e.g. confusing digit position or regrouping across hundreds):

Language and vocabulary gaps to revisit (hundreds, tens, ones, greater than, less than):

Adjustments for future lessons (e.g. more hands-on practice or number pattern games):

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Left page

Week Overview:

Summarises the week's focus, learning intentions, success criteria, main activities and Student Book links.

- Provides quick visibility of the mathematical progression.
- Highlights connections to *Mathletics* and activities and New Courses.
- Supports lesson preparation and group differentiation.

Right page

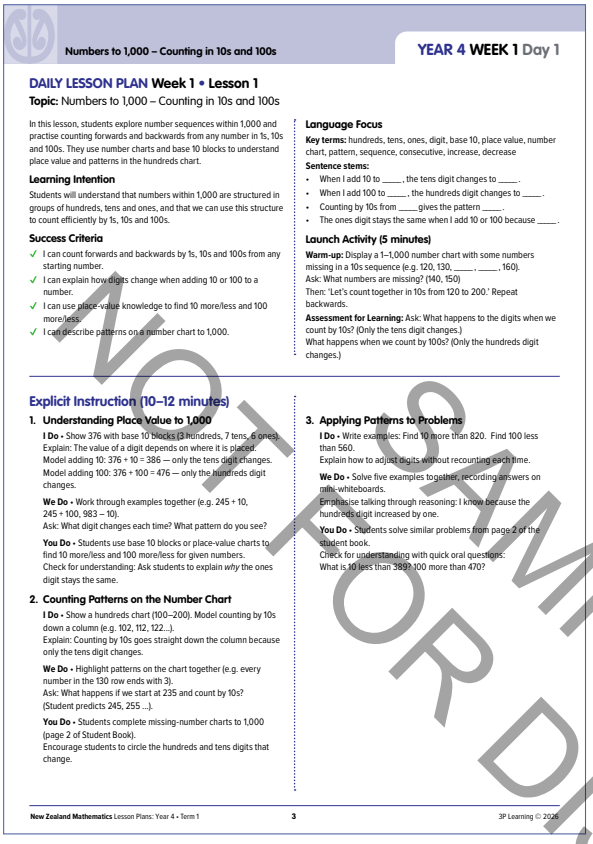
Assessment and Teacher Reflection:

Identifies what to assess and how to gather evidence of learning throughout the week.

- Includes suggested formative assessment methods (observation, oral check, written work, quick quiz).
- Offers 5-question exit tickets to check understanding.
- Provides reflection prompts to guide Teaching as Inquiry and next steps.

How a Lesson Works

Each **Daily Lesson Plan** provides a clear structure that guides teachers through the introduction, exploration and practice of a mathematical idea. Lessons are designed to build conceptual understanding, develop mathematical language and provide opportunities for students to practise and apply new learning.



Numbers to 1,000 – Counting in 10s and 100s

YEAR 4 WEEK 1 Day 1

DAILY LESSON PLAN Week 1 • Lesson 1

Topic: Numbers to 1,000 – Counting in 10s and 100s

In this lesson, students explore number sequences within 1,000 and practise counting forwards and backwards from any number in 1s, 10s and 100s. They use number charts and base 10 blocks to understand place value and patterns in the hundreds chart.

Learning Intention

Students will understand that numbers within 1,000 are structured in groups of hundreds, tens and ones, and that we can use this structure to count efficiently by 1s, 10s and 100s.

Success Criteria

- ✓ I can count forwards and backwards by 1s, 10s and 100s from any starting number.
- ✓ I can explain how digits change when adding 10 or 100 to a number.
- ✓ I can use place-value knowledge to find 10 more/less and 100 more/less.
- ✓ I can describe patterns on a number chart to 1,000.

Language Focus

Key terms: hundreds, tens, ones, digit, base 10, place value, number chart, pattern, sequence, consecutive, increase, decrease

Sentence stems:

- When I add 10 to ____, the tens digit changes to ____.
- When I add 100 to ____, the hundreds digit changes to ____.
- Counting by 10s from ____ gives the pattern ____.
- The ones digit stays the same when I add 10 or 100 because ____.

Launch Activity (5 minutes)

Warm-up: Display a 1–1,000 number chart with some numbers missing in a 10s sequence (e.g. 120, 130, ____, ____, 160).
Ask: What numbers are missing? (140, 150)
Then: 'Let's count together in 10s from 120 to 200.' Repeat backwards.

Assessment for Learning: Ask: What happens to the digits when we count by 10s? (Only the tens digit changes.)
What happens when we count by 100s? (Only the hundreds digit changes.)

Explicit Instruction (10–12 minutes)

1. Understanding Place Value to 1,000

I Do • Show 376 with base 10 blocks (3 hundreds, 7 tens, 6 ones).
Explain: The value of a digit depends on where it is placed.
Model adding 10: 376 + 10 = 386 — only the tens digit changes.
Model adding 100: 376 + 100 = 476 — only the hundreds digit changes.

We Do • Work through examples together (e.g. 245 + 10, 245 + 100, 983 – 10).
Ask: What digit changes each time? What pattern do you see?

You Do • Students use base 10 blocks or place-value charts to find 10 more/less and 100 more/less for given numbers.
Check for understanding: Ask students to explain *why* the ones digit stays the same.

2. Counting Patterns on the Number Chart

I Do • Show a hundreds chart (100–200). Model counting by 10s down a column (e.g. 102, 112, 122…).
Explain: Counting by 10s goes straight down the column because only the tens digit changes.

We Do • Highlight patterns on the chart together (e.g. every number in the 130 row ends with 3).
Ask: What happens if we start at 235 and count by 10s? (Student predicts 245, 255 …).

You Do • Students complete missing-number charts to 1,000 (page 2 of Student Book).
Encourage students to circle the hundreds and tens digits that change.

3. Applying Patterns to Problems

I Do • Write examples: Find 10 more than 820. Find 100 less than 560.
Explain how to adjust digits without recounting each time.

We Do • Solve five examples together, recording answers on mini-whiteboards.
Emphasise talking through reasoning: I know because the hundreds digit increased by one.

You Do • Students solve similar problems from page 2 of the student book.
Check for understanding with quick oral questions:
What is 10 less than 389? 100 more than 470?

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Learning Intention and Success Criteria

Each lesson begins with a clear **learning intention** that identifies the key mathematical idea for the lesson. **Success criteria** describe what students should be able to do by the end of the lesson and provide a shared focus for learning.

Language Focus

Key mathematical vocabulary and sentence stems support students in explaining their thinking. These prompts encourage students to use precise mathematical language when discussing patterns, strategies and solutions.

Launch Activity

A short warm-up activity activates prior knowledge and introduces the mathematical idea. This stage often includes quick questions or number tasks that help students notice patterns and prepare for the new concept.

Explicit Instruction

Teachers model the mathematical concept using examples, visual representations and worked solutions. Lessons follow a gradual release approach:

I Do – the teacher demonstrates the concept

We Do – the class works through examples together

You Do – students apply the idea independently

This structure helps students move from guided learning to independent understanding.

Guided and Independent Practice

Students practise and apply new learning through structured tasks and problem-solving activities. **Hands-on activities** encourage students to explore patterns, test ideas and explain their reasoning.

Student Book Practice

Students consolidate their understanding through written tasks in the **Student Book**, applying the concepts explored during the lesson.

Mathletics Online Practice

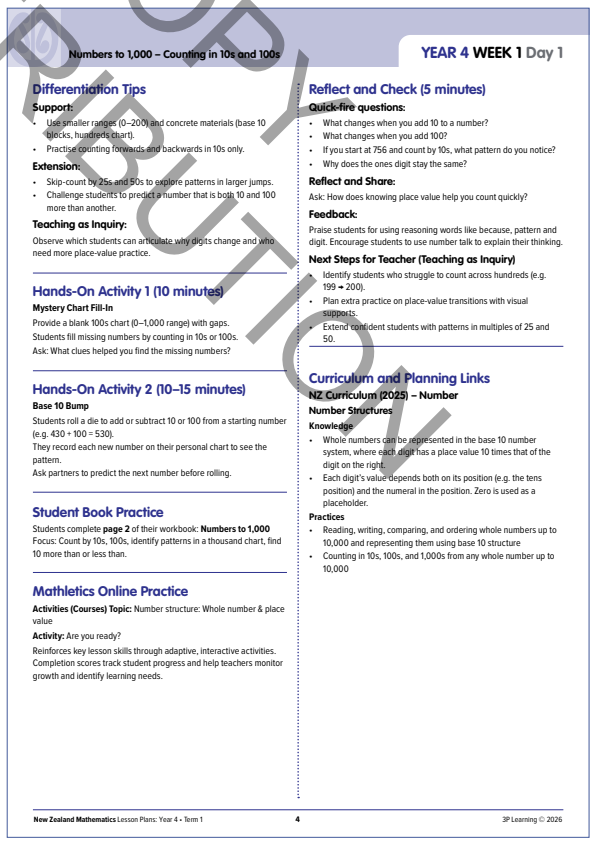
Interactive **Mathletics activities** reinforce key skills and provide additional independent practice. These activities provide immediate feedback and help strengthen fluency with important mathematical ideas.

Reflect and Check

Short questions and discussion prompts help teachers check student understanding. Students are encouraged to explain their thinking and reflect on the strategies they used.

Teaching as Inquiry

Each lesson includes prompts to help teachers observe student understanding and identify next steps for teaching. This supports ongoing planning and targeted support for students who need additional practice or extension.



Numbers to 1,000 – Counting in 10s and 100s

YEAR 4 WEEK 1 Day 1

Differentiation Tips

Support:

- Use smaller ranges (0–200) and concrete materials (base 10 blocks, hundreds chart).
- Practise counting forwards and backwards in 10s only.

Extension:

- Skip-count by 25s and 50s to explore patterns in larger jumps.
- Challenge students to predict a number that is both 10 and 100 more than another.

Teaching as Inquiry:

Observe which students can articulate why digits change and who need more place-value practice.

Hands-On Activity 1 (10 minutes)

Mystery Chart Fill-In

Provide a blank 100s chart (0–1,000 range) with gaps.
Students fill missing numbers by counting in 10s or 100s.
Ask: What clues helped you find the missing numbers?

Hands-On Activity 2 (10–15 minutes)

Base 10 Bump

Students roll a die to add or subtract 10 or 100 from a starting number (e.g. 430 + 100 = 530).
They record each new number on their personal chart to see the pattern.
Ask partners to predict the next number before rolling.

Student Book Practice

Students complete **page 2** of their workbook: **Numbers to 1,000**
Focus: Count by 10s, 100s, identify patterns in a thousand chart, find 10 more than or less than.

Mathletics Online Practice

Activities (Courses) Topic: Number structure: Whole number & place value

Activity: Are you ready?

Reinforces key lesson skills through adaptive, interactive activities. Completion scores track student progress and help teachers monitor growth and identify learning needs.

Reflect and Check (5 minutes)

Quick-fire questions:

- What changes when you add 10 to a number?
- What changes when you add 100?
- If you start at 756 and count by 10s, what pattern do you notice?
- Why does the ones digit stay the same?

Reflect and Share:

Ask: How does knowing place value help you count quickly?

Feedback:

Praise students for using reasoning words like because, pattern and digit. Encourage students to use number talk to explain their thinking.

Next Steps for Teacher (Teaching as Inquiry)

- Identify students who struggle to count across hundreds (e.g. 199 → 200).
- Plan extra practice on place-value transitions with visual supports.
- Extend confident students with patterns in multiples of 25 and 50.

Curriculum and Planning Links

NZ Curriculum (2025) – Number

Number Structures

Knowledge

- Whole numbers can be represented in the base 10 number system, where each digit has a place value 10 times that of the digit on the right.
- Each digit's value depends both on its position (e.g. the tens position) and the numeral in the position. Zero is used as a placeholder.

Practices

- Reading, writing, comparing, and ordering whole numbers up to 10,000 and representing them using base 10 structure
- Counting in 10s, 100s, and 1,000s from any whole number up to 10,000

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Prior Learning: Year 3 Overview

This summary highlights the key mathematical knowledge and practices covered during Year 3.
These understandings provide the foundation for learning in Year 4.

Number – Number structures

Read, write, compare and order numbers to 1,000. Represent numbers to 1,000 using base 10 structure. Recognise the place value of digits in three-digit numbers and use groups of ones, tens and hundreds to structure numbers. Use grouping and rounding to the nearest 10 or 100 to estimate quantities. Identify odd and even numbers and skip count in sequences such as 2s, 3s, 4s, 5s, 8s, 10s and 100s.

Number – Operations

Add and subtract numbers to 1,000 using mental strategies, known facts, place value, and written strategies, including column methods. Solve one-step and simple multi-step problems involving addition and subtraction.

Multiply and divide using grouping, arrays, repeated addition or subtraction, and known facts. Recall multiplication and related division facts for 2s, 3s, 4s, 5s, 8s and 10s. Multiply a two-digit number by a one-digit number. Divide whole numbers by a one-digit divisor with no remainders.

Number – Rational numbers

Recognise fractions as equal parts of a whole and represent fractions of sets, of regions, in measurements, and on number lines. Work with unit fractions and fractions with denominators up to 12. Compare fractions with the same denominator, identify simple equivalent fractions and add or subtract fractions with the same denominator within a whole. Find a fraction of a quantity and, given a fraction, calculate the whole.

Number – Financial mathematics

Represent amounts of money using common coins and notes. Combine amounts and calculate totals or change using addition and subtraction.

Algebra – Equations and relationships

Compare numbers in equations using greater than (>), less than (<) and equals (=). Check the truth of number sentences and complete open number sentences involving the four operations. Recognise, continue and create repeating and growing number patterns using shapes and numbers, and refer to individual terms using ordinal numbers.

Measurement – Measuring

Estimate, measure, order and compare length, mass and capacity using metric units. Measure, estimate and compare the perimeter and area of rectilinear shapes on grids in square units. Measure and calculate the perimeter of simple polygons with up to 5 sides in metric units. Describe turns using full, half and quarter rotations, in clockwise and anti-clockwise directions. Read time to the minute on analogue and digital clocks. Read time in words and on a calendar. Describe durations using common units of time.

Geometry – Shapes and Spatial Reasoning

Identify and describe regular polygons and common three-dimensional shapes from different viewpoints. Recognise lines of symmetry and create symmetrical patterns. Flip, slide and turn shapes to create patterns.

Geometry – Pathways

Follow and create step-by-step directions to move or place objects or people, including half and quarter turns. Use simple maps and directional language to describe locations.

Statistics – Developing knowledge from data, Visualisation and Interpretation of data

Collect categorical and numerical data by asking investigative questions. Represent data using tallies, tables, dot plots and bar graphs. Interpret data displays by describing patterns and answering questions about the data.

Year 4 Overview

This summary highlights the key mathematical knowledge and practices developed in Year 4.

Number – Number Structures

Read, write, compare and order numbers up to 10,000. Represent numbers to 10,000 using base 10 structure and recognise the place value of digits in four-digit numbers. Round whole numbers to the nearest 10, 100 and 1,000 and tenths to the nearest whole number.

Use rounding to estimate answers. Count forwards and backwards in jumps of 2-10, 25, 50, 100 and 1,000.

Number – Operations

Add and subtract numbers up to four digits using mental strategies, known facts, place value, and written methods including the vertical algorithm. Recall multiplication and division facts from 0 × 0 up to 10 × 10. Use place value and known facts to multiply and divide mentally. Use mental and written strategies including diagrams and vertical algorithm formats to multiply two- and three-digit numbers by a one-digit number and divide up to three-digit numbers by a one-digit divisor with no remainder.

Number – Rational numbers

Read, write, compare, order and represent tenths as fractions, decimals and using diagrams. Recognise ½ in tenths and as a decimal. Understand tenths as a place value and what happens when whole numbers are divided by 10 and tenths are multied by 10. Compare and order fractions with the same numerator or denominator. Recognise equivalent fractions and connect fractions, improper fractions and mixed numbers on a number line. Add and subtract fractions with the same denominator and decimals to one decimal place. Find fractions of quantities and determine a whole from a unit fraction. Scale quantities.

Number – Financial mathematics

Represent the same amount of money using multiple combinations of coins and notes. Calculate totals and determine change in everyday purchasing situations.

Algebra – Equations and relationships

Check the truth of number sentences and complete open number sentences involving the four operations. Recognise, continue, create and describe growing patterns that change through addition, subtraction or multiplication.

Measurement – Measuring

Estimate and measure length, mass and capacity using metric units, benchmarks and appropriate tools. Measure temperature in degrees Celsius. Measure the perimeter and area of shapes in metric units using grids and calculations relying on side lengths. Explore the volume of rectangular prisms using cube blocks. Estimate angle size using benchmark turns. Read time to the minute on analogue and digital clocks. Measure and compare durations using hours, minutes and seconds.

Geometry – Shapes and Spatial reasoning

Identify, classify and describe regular and irregular polygons using edges, vertices and angles. Recognise and describe lines of symmetry in two-dimensional shapes. Visualise three-dimensional shapes and connect them with two-dimensional representations. Perform simple transformations including reflections, translations and rotations.

Geometry – Pathways

Follow and create sequences of directions to move objects or people, including half and quarter turns. Use simple maps and grid references to locate and describe positions.

Statistics – Developing knowledge from data, Visualisation and Interpretation of data

Collect numerical data from investigations and organise it for analysis. Represent data using dot plots and bar graphs. Interpret data displays by identifying frequencies, describing patterns and answering questions about the data.

Year 4 Outcomes

The New Zealand Curriculum 2025 Mathematics and Statistics

Knowledge	Practices	Weeks			
Number — Number structures		**Term 1**	**Term 2**	**Term 3**	**Term 4**
Whole numbers can be represented in the base 10 number system, where each digit has a place value 10 times that of the digit on the right. Each digit's value depends both on its position (e.g. the tens position) and the numeral in the position. Zero is used as a placeholder.	Reading, writing, comparing, and ordering whole numbers up to 10,000 and representing them using base 10 structure	2, 3, 4, 5, 6	50, 51, 52, 53		146, 148, 149, 150
Rounding can support predicting or estimating the result of a calculation. Rounding is based on identifying the nearest place value or unit (ten, hundred, thousand) for a given number; a number line supports this.	Rounding whole numbers to the nearest thousand, hundred, or ten		50		146, 147
	Rounding tenths to the nearest whole number				164
	Counting forwards and backwards in 2s, 3s, 4s, 5s, 6s, 7s, 8s, 9s, 25s and 50s from multiples of the counting unit	8, 27	54, 55, 56, 57, 58, 59,	121, 122	152, 153, 170
	Counting in 10s, 100s, and 1,000s from any whole number up to 10,000	2, 3, 6, 8, 49,	57	117	
Number — Operations		**Term 1**	**Term 2**	**Term 3**	**Term 4**
Addition and subtraction can be carried out mentally, using known facts, place value and partitioning, or column methods. Standard written algorithms (e.g. column addition, column subtraction) rely on place value, regrouping, and renaming.	Adding and subtracting up to four-digit numbers	7, 8, 9, 10, 11, 12, 13, 14, 15, 16	50, 60, 61, 62, 63, 64, 75, 80, 85	99, 100, 101, 102	182
Multiplication can be represented as repeated addition, scaling, or arrays, and larger numbers can be multiplied using an area model or column multiplication.	Memorising multiplication and corresponding division facts for 2s to 10s	17, 18, 21	55, 56, 57, 58, 59	103, 106	151, 152, 153, 154, 155, 156, 157, 169, 170, 171, 172, 178
	Using place value and known and derived facts to multiply and divide mentally, including multiplying by 0 and 1 and dividing by 1	19, 20	55, 56, 57, 58, 59	103, 104, 105, 106, 107, 108, 110, 112	151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 168, 171, 180, 181
	Multiplying two-digit and three-digit numbers by a one-digit number		56, 57, 75, 85	107	152, 153, 154, 155, 172, 179, 180, 181, 182
	Dividing up to a three-digit whole number by a one-digit divisor, with no remainder	19, 20	85	109, 110, 112	158, 160, 182
Number — Rational Numbers		**Term 1**	**Term 2**	**Term 3**	**Term 4**
The base 10 number system continues past the ones column, to the right, to create decimals such as tenths. Decimals are fractions that have powers of 10 as their denominators, and they can be written as numbers using a decimal point. A decimal point marks the column immediately to the right of the ones column as the tenths column. Tenths can be created by dividing whole numbers by 10 and can be expressed as fractions or decimals.	Reading, writing, and representing tenths as fractions and decimals		66		161, 162, 163, 183, 184
	Comparing and ordering tenths as fractions and decimals				162, 163, 165, 184
	Memorising and using the decimal equivalent of ½ and fractions with denominators of 10				162, 163, 165
	Dividing one- and two-digit whole numbers by 10 to make decimals and identify tenths				183, 184

Year 4 Outcomes

The New Zealand Curriculum 2025 Mathematics and Statistics

Knowledge	Practices	Weeks			
Number — Rational Numbers		**Term 1**	**Term 2**	**Term 3**	**Term 4**
The base 10 number system continues past the ones column, to the right, to create decimals such as tenths. Decimals are fractions that have powers of 10 as their denominators, and they can be written as numbers using a decimal point. A decimal point marks the column immediately to the right of the ones column as the tenths column. Tenths can be created by dividing whole numbers by 10 and can be expressed as fractions or decimals.	Multiplying decimal tenths by 10				184
	Comparing and ordering fractions with the same numerator or same denominator		65, 67, 69	113, 114	
Improper fractions and mixed numbers are different representations of the same quantity.	Relating fractions, improper fractions, and mixed numbers to their position on a number line			115, 116	187
	Identifying when two fractions are equivalent, using representations			113, 114	
Addition and subtraction of fractions with the same denominator follow the same principles as whole numbers and can result in improper fractions or whole numbers.	Adding and subtracting fractions with the same denominators, including beyond a whole				186, 187
	Adding and subtracting decimals to one decimal place				185
Scaling changes quantities proportionally, using multiplication and division.	Using known multiplication and division facts to scale a quantity (e.g. to double or halve a recipe)			117	
	Finding a unit fraction of a whole number, using multiplication and division facts and where the answer is a whole number	19	68, 69	111	
	Finding the whole set or amount when given a unit fraction, using multiplication and division facts		68	111	
Number — Financial mathematics		**Term 1**	**Term 2**	**Term 3**	**Term 4**
New Zealand currency is a decimal system of dollars made up of 100 cents.	Calculating the total cost of several items costing whole-dollar amounts and with different prices, or of multiples of the same item, including giving change	12	50, 76, 78, 79, 80, 85	98, 108	
	Representing amounts of currency using different combinations of denominations	12	77, 78, 79, 80		
Algebra — Equations and relationships		**Term 1**	**Term 2**	**Term 3**	**Term 4**
Numbers can be compared using "greater than" (>), "less than" (<), and equals (=). Applying the same operation to both sides of a number sentence preserves the balance.	Checking the truth of number sentences and completing open number sentences involving addition and subtraction	8		99	148, 182, 185
	Checking the truth of number sentences and completing open number sentences involving multiplication and division		55	109, 111	148, 159, 182
Growing patterns can increase or decrease by the addition or subtraction of a constant (arithmetically) or multiplication or division by a constant (geometrically).	Recognising, continuing, creating, and describing growing patterns (including numerical and non-numerical patterns) that change by adding, subtracting, or multiplying by a constant whole number	8, 9, 15, 24, 25, 26, 27	72, 73, 74, 75	120, 121, 122, 123	172, 182

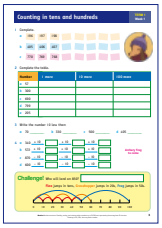
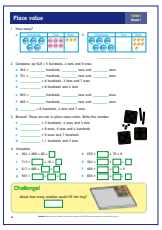
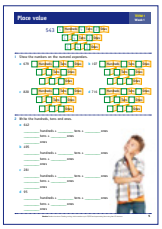
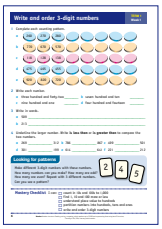
Year 4

Term 1

Term 1 Teaching Overview Weeks 1–9

Week & Unit	High-Level Curriculum Focus	Student Book and Online lessons	Resources
Week 1 **Numbers to 1,000**	**Number** Number structures Reading, writing, comparing, and ordering whole numbers up to 10,000 and representing them using base 10 structure; Counting in 10s and 100s from any whole number	**Pages 2–6** Mathletics Number Structure	Base 10 blocks Place value charts Number cards 0–1,000 Counters/cubes Mini whiteboards
Week 2 **Addition**	**Number** Operations: Adding and subtracting up to four-digit numbers **Number** Number structures Counting forwards and backwards in 5s; Counting in 10s from any whole number **Algebra** Equations and relationships Completing open number sentences involving addition and subtraction; Recognising, continuing and describing growing patterns (including numerical patterns) that change by adding, subtracting or multiplying by a constant whole number	**Pages 7–11** Mathletics Operations: Add and Subtract	Base 10 blocks Number lines Place value mats Counters/cubes Mini whiteboards
Week 3 **Subtraction**	**Number** Operations Adding and subtracting up to four-digit numbers **Number** Financial mathematics Calculating change; Representing amounts of currency using different combinations of denominations **Algebra** Equations and relationships Recognising and continuing growing patterns (including numerical patterns)	**Pages 12–16** Mathletics Operations: Add and Subtract	Number lines Counters/cubes Base 10 materials Mini whiteboards
Week 4 **Multiplication and sharing**	**Number** Operations Multiplication can be represented as repeated addition or arrays; Memorising multiplication and corresponding division facts for 2s to 10s; Using known and derived facts to divide mentally, including dividing by 1; Dividing up to a three-digit whole number by a one-digit divisor, with no remainder **Number** Rational numbers Finding a unit fraction of a whole number, using multiplication and division facts and where the answer is a whole number	**Pages 17–21** Mathletics Operations: Multiplication and Division Rational Numbers: Fractions	Counters/cubes Array mats Fraction circles Paper folding shapes Mini whiteboards
Checkpoint 1 **Mid-term review**	**Assessment and Review** Review numbers to 1,000, addition, subtraction, multiplication and sharing	**Pages 22–23**	
Week 5 **Patterns**	**Algebra** Equations and relationships Recognising, continuing, creating, and describing growing patterns (including numerical and non-numerical patterns) that change by adding, subtracting or multiplying by a constant whole number **Number** Number structures Counting forwards in 2s, 4s, 5s	**Pages 24–27** Mathletics Algebra	Pattern blocks Counters/cubes Number cards Grid paper Mini whiteboards
Week 6 **Time**	**Measurement** Measuring Telling the time on analogue and digital clocks to the nearest minute; Measuring duration in hours, minutes	**Pages 28–32** Mathletics Measuring Time	Teaching clocks Mini clocks Timetable examples Clock templates
Week 7 **3D shapes**	**Geometry** Spatial reasoning Visualising 3D shapes and connecting them with 2D diagrams, verbal descriptions, and the same shapes drawn from different perspectives	**Pages 33–37** Mathletics Geometry	3D shape models Building blocks Shape cards Mini whiteboards
Week 8 **Data**	**Statistics** Developing knowledge from data Collecting numerical data **Statistics** Visualisation of data Creating dot-plot or bar-graph data visualisations **Statistics** Interpretation of data Answering questions about the frequency of a particular value in dot plots; Answering questions about individual values in a dot plot, while referring to the context; Interpreting data visualisations; Distinguishing between when to use a particular value or the frequency for a given value when answering questions about dot plots	**Pages 38–42** Mathletics Statistics	Graph paper Counters/cubes Survey sheets Coloured pencils
Week 9 **Length** **Checkpoint 2**	**Measurement** Measuring: Estimating and measuring length (cm and m), using tools with labelled markings and whole-number metric units; Comparing and ordering objects using whole-number metric units of length; Using familiar objects (e.g. body parts) to create estimation benchmarks; Using the appropriate tool for measuring length	**Pages 43–47** Mathletics Measuring Length	Rulers Tape measures Metre sticks Classroom objects for measuring
Checkpoint 2 **End-of-term review**	**Assessment and Review** Review numbers to 1,000, addition, subtraction, multiplication and sharing, patterns, time, 3D shapes, data and length	**Pages 48-49**	

Term 1 Week 1 Overview Numbers to 1,000: Counting, Place Value and Patterns

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 **Numbers to 1,000: Counting by 10s**	Numbers to 1,000 follow a base 10 pattern that repeats in hundreds, tens, and ones.	✓ Count forwards and backwards by 10s and 100s ✓ Recognise repeating patterns on the hundreds chart ✓ Explain which digit changes when adding 10 or 100	- Use a 1–1,000 chart to fill missing numbers by 10s and 100s - Count forwards/backwards from any starting number - Identify and describe patterns on the chart - Mathletics Skill Quests: Counting in 10s and 100s	**Page 2:** Complete number chart to 1,000 by 10s and 100s; identify which digits change. 
2 **Counting in Tens and Hundreds**	Adding or subtracting 1, 10, or 100 changes only one place-value digit.	✓ Find 1, 10 and 100 more or less than a given number ✓ Describe which digit changes and why ✓ Count forwards/ backwards using place-value reasoning	- Complete 'more/less' tables (1, 10, 100) - Use MAB blocks or number charts - Problem: *Who will land on 850?* counting challenge	**Page 3:** Complete tables for 1, 10, 100 more/less; solve counting-on problem. 
3 **Place Value: Hundreds, Tens and Ones**	Each digit in a three-digit number has a value based on its position.	✓ Identify hundreds, tens, and ones ✓ Write numbers in expanded form ✓ Represent numbers with base 10 materials	- Build numbers with MAB or arrow cards - Write expanded and standard forms (e.g. 345 = 300 + 40 + 5) - Read and write numbers to 1,000 - Mathletics Skill Quests: Comparing Numbers and ordering numbers to at least 1,000	**Page 4:** Identify hundreds, tens and ones; match numerals, words, and expanded forms. 
4 **Place Value: Numeral Expanders**	Numbers can be expanded to show hundreds, tens, and ones and recombined to form the whole.	✓ Use numeral expanders to show hundreds, tens and ones ✓ Explain how many tens or hundreds are in a number ✓ Apply understanding without materials	- Use numeral expanders to open and close numbers - Show how many tens in 320, 456, etc. - Make and record expanded and standard forms - Mathletics Activities: Expanding numbers, Greater Than or Less than 1	**Page 5:** Use numeral expanders; write how many hundreds, tens and ones in each number. 
5 **Writing and Ordering 3-Digit Numbers**	Numbers can be read, written, compared, and sorted using patterns and place-value knowledge.	✓ Read and write 3-digit numbers in words and digits ✓ Compare numbers using <, >, = ✓ Identify and describe number patterns ✓ Sort numbers as odd or even	- Read/write 3-digit numbers in words and numerals - Compare using <, >, = - Create all 3-digit numbers from 3 digits; sort odd/ even - Identify increasing/ decreasing patterns	**Page 6:** Continue patterns; read/write and order 3-digit numbers; sort odd/even. 

Unit: Numbers to 1,000

Focus: Counting, place value, and number patterns within 1,000

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Counting Sequences	Students can count forwards and backwards by 1s, 10s and 100s from any 3-digit number.	Accurately completes number sequences and explains which digit changes when adding or subtracting 10 or 100.
Place Value Knowledge	Understands that each digit in a 3-digit number represents hundreds, tens, or ones.	Identifies and explains digit values; writes numbers in expanded form (e.g. 345 = 300 + 40 + 5).
Base 10 Relationships	Recognises that 1 hundred = 10 tens and 1 ten = 10 ones.	Uses MAB or numeral expanders to show 100s, 10s and 1s and can explain how many tens are in a number.
Reading and Writing Numbers	Reads and writes 3-digit numbers in words and numerals.	Writes number words correctly; matches numerals and written forms; reads aloud accurately.
Comparing and Ordering Numbers	Compares and orders numbers using <, >, and =.	Correctly identifies which number is greater or less; uses place-value reasoning to justify comparisons.
Odd and Even Patterns	Recognises that even numbers end in 0, 2, 4, 6, or 8 and odd numbers in 1, 3, 5, 7, or 9.	Sorts and explains 3-digit numbers as odd or even based on ones digit.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Watch students counting forwards and backwards in 10s and 100s using charts or MAB blocks.	Are they using efficient skip-counting strategies? Can they explain which digit changes and why?
Oral Check	Ask students to explain a number's structure (e.g. 'Tell me about 528').	Listen for accurate use of vocabulary: hundreds, tens, ones, digit, value.
Written Work	Review Student Book pp. 2–6.	Check accuracy of expanded forms, comparison symbols, and pattern completion.
Practical Task	Have students use numeral expanders or base 10 blocks to build and record numbers.	Do they show correct representation and verbalise reasoning clearly?
Exit Ticket / Quick Quiz	Provide short end-of-week questions to assess understanding.	Identify students who still confuse digit value or struggle to cross hundreds boundaries.

Quick Quiz / Exit Ticket (5 Questions)

1. Write the number that is **10 more** than 487.
2. What is **100 less** than 920?
3. Write **four hundred and sixty-three** in numerals.
4. Which is greater: 589 or 598? Explain why.
5. Circle the **odd** numbers: 342, 555, 708, 931.

Teaching as Inquiry: Reflection Notes

Reflection Prompts and Next Steps

Students confidently identifying place value and counting patterns:

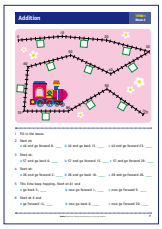
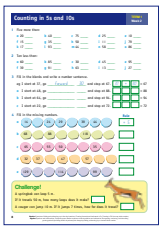
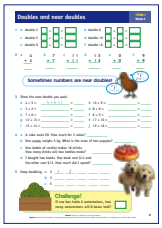
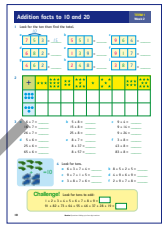
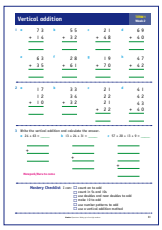
Students needing extra support with 10s and 100s transitions:

Misconceptions noticed (e.g. confusing digit position or regrouping across hundreds):

Language and vocabulary gaps to revisit (hundreds, tens, ones, greater than, less than):

Adjustments for future lessons (e.g. more hands-on practice or number pattern games):

Term 1 Week 2 Overview Addition: Mental and Written Strategies

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 **Jumping Forwards and Backwards by Two-Digit Numbers**	We can add and subtract by making jumps of tens and ones on a number line.	✓ Count forwards and backwards by tens and ones ✓ Use jumps of tens and ones to solve addition and subtraction ✓ Explain which digits change and why	– Use number lines to show jumps of 10s and 1s – Add and subtract two-digit numbers using jumps – Problem-solving: *Who will land on 100?*	**Page 7:** Count forwards and backwards by tens and ones; solve addition and subtraction using number lines. 
2 **Counting in 5s and 10s**	Counting in 5s and 10s creates predictable patterns that help with addition and subtraction.	✓ Count forwards and backwards in 5s and 10s from any number ✓ Recognise patterns in tens and ones digits ✓ Use skip-counting to solve problems	– Skip-count forwards and backwards in 5s and 10s – Identify multiples of 5 and 10 – Colour and describe number patterns on hundreds charts	**Page 8:** Count forwards and backwards in 5s and 10s; identify patterns; complete skip-counting sequences. 
3 **Doubles and Near Doubles to 20 + 20**	Doubles and near doubles can be used to solve addition problems efficiently.	✓ Recall doubles and near doubles to 20 + 20 ✓ Use doubles to solve near doubles ✓ Apply doubles strategies to real-world problems	– Quick-fire doubles and near doubles – Solve word problems using near doubles – Game: 'Double It, Then Add One'	**Page 9:** Recall doubles and near doubles; apply to solve addition and word problems. 
4 **Addition Facts to 10 and 20: Look for the Ten and the Associative Property**	Numbers can be grouped in different ways when adding and making ten helps to add efficiently.	✓ Recall addition facts to 10 and 20 ✓ Group numbers to make ten ✓ Use the associative property to regroup and add ✓ Explain that grouping does not change the total	– Look for the Ten strategy with 3 numbers – Explore and model the associative property – Create equations showing different groupings	**Page 10:** Use make-ten strategies and associative property to add three numbers. 
5 **Vertical Addition: 2- and 3-Number Algorithms**	Vertical algorithms help us add efficiently when digits are lined up by place value.	✓ Line up tens and ones correctly ✓ Add 2- and 3-number 2-digit problems using vertical addition ✓ Regroup when ones make more than ten ✓ Write algorithms for word problems	– Model vertical addition with and without regrouping – Add three 2-digit numbers – Write vertical algorithms for real-life addition problems	**Page 11:** Complete vertical addition with and without regrouping; write and solve addition word problems. 

Unit: Addition

Focus: Mental and written addition strategies using number patterns, doubles, make-ten strategies and vertical algorithms

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Counting Strategies	Students can add and subtract by jumping forwards and backwards on a number line using tens and ones.	Demonstrates structured jumps (e.g. +20 then +5) and explains which digits change.
Skip-Counting Patterns	Students recognise and use skip-counting patterns in 5s and 10s to support addition and subtraction.	Accurately skip-counts forwards and backwards from any number within 100; identifies patterns in tens and ones digits.
Doubles and Near Doubles	Students recall doubles and near doubles to 20 + 20 and use these to solve related problems.	Uses known doubles to solve near doubles efficiently (e.g. 8 + 9 → 8 + 8 + 1).
Make-Ten and Associative Property	Students group numbers to make ten and understand that numbers can be added in any order or grouping.	Finds and groups pairs that make ten; demonstrates associative property (e.g. (6 + 4) + 5 = 6 + (4 + 5)).
Vertical Algorithms	Students add two or three 2-digit numbers using vertical addition, correctly aligning tens and ones and regrouping when necessary.	Sets out problems accurately, adds columns correctly and writes vertical algorithms for word problems.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Watch students during number line and skip-counting tasks.	Are they breaking numbers into tens and ones? Do they use consistent patterns when jumping?
Oral Check	Ask students to explain a strategy: 'How did you work out 8 + 9?' or 'Why did you add those numbers first?'	Listen for reasoning that includes doubles, near doubles or make-ten strategies.
Written Work	Review Student Book pp. 7–11.	Check accuracy of number sequences, correct regrouping in vertical addition and evidence of associative reasoning.
Practical Task	Have students solve a short word problem using a vertical algorithm.	Do they identify the relevant numbers, line up place values and explain regrouping clearly?
Exit Ticket / Quick Quiz	Provide five mixed questions covering addition strategies.	Identify which strategies students can recall automatically and which require reinforcement.

Quick Quiz / Exit Ticket (5 Questions)

1. What is 47 + 36? Show your working.
2. Count forwards by 10s from 43 five times.
3. What is double 14? What is one more than double 14?
4. Add 7 + 3 + 5. Show how you can make ten first.
5. Write and solve a vertical addition problem for this story: *Ella buys one book for $25 and another for $18. How much does she spend in total?*

Teaching as Inquiry: Reflection Notes

Reflection Prompts and Next Steps

Students confidently applying mental strategies (doubles, near doubles, make-ten):

Students confidently solving vertical addition problems:

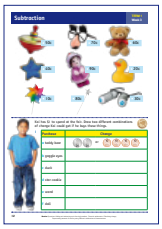
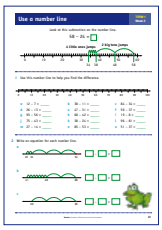
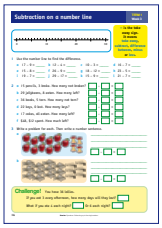
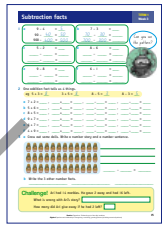
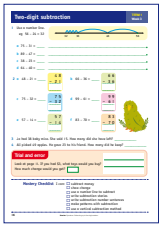
Students needing extra support (e.g. aligning digits, regrouping, skip-counting):

Misconceptions noticed (e.g. adding tens before ones, losing a carry):

Language and reasoning to reinforce (e.g. grouping, associative property, total):

Adjustments for future lessons (e.g. more vertical addition practice or regrouping visuals):

Term 1 Week 3 Overview Subtraction within 100

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 **Subtraction with Money: Working Out Change**	We can use subtraction to find how much money is left after spending.	✓ Use subtraction to find change from $1 ✓ Write subtraction equations for money problems ✓ Model subtraction using coins and drawings	– Subtract cents from $1 – Use coins to model spending and change – Write and solve money word problems	**Page 12:** Subtract money amounts from $1; model change; write subtraction equations. 
2 **Subtracting Two-Digit Numbers on a Number Line**	Subtraction can be shown by jumping backwards or finding the difference between two numbers.	✓ Subtract two-digit numbers using jumps of tens and ones ✓ Find the difference between two numbers ✓ Write equations to match number-line diagrams	– Use big-ten and little-one jumps on a number line – Label jumps and record matching equations – Explore subtraction as difference	**Page 13:** Use number lines to subtract two-digit numbers; label jumps; write matching equations. 
3 **Subtraction on a Number Line: Word Problems**	Subtraction can show how many are left or how much is spent in real-world problems.	✓ Use number lines to show subtraction ✓ Write equations to match word problems and pictures ✓ Create subtraction stories from visual prompts	– Solve picture and story-based subtraction problems – Draw number lines and label differences – Create and solve their own subtraction word problems	**Page 14:** Use number lines to solve subtraction stories; write equations; create own word problems. 
4 **Subtraction Patterns: Fact Families and Growing & Reducing Patterns**	Addition and subtraction are related and patterns repeat when numbers grow or reduce by tens or hundreds.	✓ Identify addition and subtraction fact families ✓ Use patterns to solve subtraction with tens and hundreds ✓ Explain how adding zeros changes place value	– Build fact families using related facts – Explore 9–4, 90–40, 900–400 patterns – Describe how the place-value pattern repeats	**Page 15:** Build fact families; complete subtraction pattern tables; describe rules in words. 
5 **Two-Digit Subtraction: Number Lines, Vertical Algorithms and Word Problems**	Subtraction can be solved in different ways that all show the same relationship between numbers.	✓ Subtract using number lines and vertical algorithms ✓ Regroup tens and ones where needed ✓ Write and solve subtraction word problems	– Subtract using both number lines and vertical methods – Practise regrouping – Write and solve two-digit subtraction stories	**Page 16:** Subtract using number lines and algorithms; regroup; solve real-world word problems. 

Unit: Subtraction within 100

Focus: Subtraction as taking away, finding the difference, and exploring patterns using number lines, money, and vertical algorithms

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Subtraction as Take Away	Students understand that subtraction shows how much is left after spending or removing an amount.	Uses subtraction correctly in money or real-life contexts; explains subtraction as 'what's left'.
Subtraction as Difference	Recognises subtraction as finding the difference between two numbers.	Shows the space between two numbers on a number line and labels jumps accurately.
Number Line Strategies	Uses big-ten and little-one jumps to subtract efficiently.	Draws structured jumps rather than counting back by ones; records matching equations.
Fact Families and Patterns	Identifies related addition and subtraction facts; recognises how patterns repeat in tens and hundreds.	Writes all four related facts correctly; extends patterns such as 9–4, 90–40, 900–400.
Vertical Algorithms	Sets out and solves two-digit subtraction problems with or without regrouping.	Aligns tens and ones correctly; shows regrouping; checks results using inverse addition.
Problem Solving	Applies subtraction to practical situations and explains reasoning.	Writes appropriate equations for story problems; interprets remainders correctly.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Watch students as they jump along number lines to subtract two-digit numbers.	Are jumps structured by tens and ones? Can students label and explain their jumps?
Oral Check	Ask: 'How would you show 75 − 28 on a number line?' or 'What does subtraction mean in this problem?'	Look for use of correct language: difference, tens, ones, regroup, remaining.
Written Work	Review Student Book pp. 12–16.	Check accurate subtraction, correct regrouping and understanding of patterns and relationships.
Practical Task	Money challenge: Give each student $1 and several price cards (10c–70c). Ask them to calculate change and write matching equations.	Can students model subtraction using coins or diagrams? Do they write accurate subtraction sentences?
Exit Ticket / Quick Quiz	Provide 5 short mixed subtraction questions.	Identify students needing reinforcement of regrouping, pattern recognition, or difference models.

Quick Quiz / Exit Ticket (5 Questions)

1. John has $1. He spends 65c. How much change does he get?
2. Solve on a number line: 72 − 38 = ?
3. Complete the pattern:
   8 − 3 = 5, 80 − 30 = ___, 800 − 300 = ___.
4. Write a subtraction equation for this problem: There were 24 apples, 9 were eaten.
5. Solve using a vertical algorithm:
   94
   − 57

Teaching as Inquiry: Reflection Notes

Reflection Prompts and Next Steps

Students confidently subtracting using number lines and vertical algorithms:

Students confidently identifying subtraction patterns and fact families:

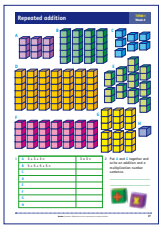
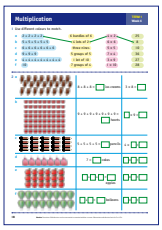
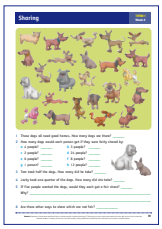
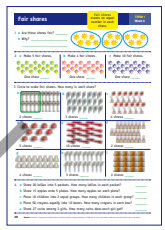
Students needing support (e.g. regrouping, linking subtraction and addition):

Misconceptions noticed (e.g. subtracting the smaller number first, counting incorrectly on number lines):

Vocabulary and reasoning to reinforce (difference, regroup, remaining):

Adjustments for future lessons (e.g. more visual practice, focus on regrouping or difference):

Term 1 Week 4 Overview Multiplication and Fractions

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 **Repeated Addition and Visual Models for Multiplication**	Multiplication is a quick way to add equal groups.	✓ Represent equal groups using drawings or objects ✓ Write repeated addition sentences ✓ Write matching multiplication sentences	– Build or draw block towers to show equal groups – Complete table showing repeated addition and multiplication – Discuss the meaning of each number in a multiplication sentence	**Page 17:** Draw and label block towers, write repeated addition and matching multiplication sentences. 
2 **Matching Repeated Addition and Multiplication**	Multiplication represents equal groups and can be written as repeated addition or 'lots of'.	✓ Match repeated addition and multiplication ✓ Describe 'groups of' using pictures and equations ✓ Check totals using skip counting	– Match pictures to repeated addition and multiplication – Draw and label groups of items – Explore 'lots of' and 'groups of' language	**Page 18:** Match repeated addition, 'groups of,' and multiplication; find totals using pictures and equations. 
3 **Multiplication Problem Solving: The Vegetable Garden**	Multiplication can solve real-world problems involving equal rows and groups.	✓ Use multiplication to plan equal rows ✓ Represent items using colour-coded symbols ✓ Write repeated addition and multiplication sentences	– Draw a garden with equal rows of lettuce, tomato and radish plants – Record repeated addition and multiplication – Describe totals using sentences	**Page 19:** Draw vegetable rows using symbols, record repeated addition and multiplication for each type of plant. 
4 **Fractions on a Line: Halves, Quarters, Thirds, Fifths and Tenths**	Fractions show equal parts of a whole and can be represented on number lines or fraction bars.	✓ Identify and label halves, quarters, thirds, fifths and tenths ✓ Order fractions from smallest to largest ✓ Recognise that more equal parts mean smaller fractions	– Shade and label fractions on bars – Place fractions on number lines – Order and colour matching fractions	**Page 20:** Shade fraction bars, mark fractions on number lines, and order from smallest to largest. 
5 **Fractions of a Group: Halves, Quarters, Thirds, Sixths and Twelfths**	Fractions can represent equal parts of a group or set.	✓ Divide groups into equal parts ✓ Find $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{6}$ and $\frac{1}{12}$ of numbers ✓ Explain how division and multiplication link to fractions	– Use counters or drawings to divide groups equally – Find fractions of 8 and 12 – Record results using division and multiplication equations	**Page 21:** Find fractions of groups using counters, drawings and division; write matching equations. 

Unit: Multiplication and Fractions

Focus: Understanding multiplication as repeated addition and applying it to real-world contexts, and recognising fractions as equal parts of a whole and a group.

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Multiplication as Repeated Addition	Students understand that multiplication represents equal groups and is a more efficient way to add repeated amounts.	Explains multiplication as 'groups of' or 'lots of'. Matches repeated addition to multiplication sentences.
Visual Models of Multiplication	Can represent multiplication using arrays, block towers or rows of items.	Draws accurate models with equal groups. Labels correctly with repeated addition and multiplication sentences.
Real-World Application of Multiplication	Uses multiplication to solve practical problems such as arranging items in rows.	Records clear equations for visual models (e.g. 4 rows of 6 = 24). Describes meaning of each number in a multiplication sentence.
Fractions as Parts of a Whole	Recognises that fractions represent equal parts of a whole or number line.	Labels and orders halves, quarters, thirds, fifths and tenths on fraction bars and number lines.
Fractions of a Group	Understands that finding a fraction of a group involves dividing into equal parts.	Finds $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{5}$ and $\frac{1}{12}$ of a group or number. Records division and multiplication equations correctly.
Comparing and Ordering Fractions	Can compare fractions and explain size relationships.	Orders fractions from smallest to largest and explains reasoning using denominators.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Watch students using counters or drawing arrays to show multiplication and fractions of groups.	Do they create equal groups accurately? Can they describe what each group represents?
Oral Check	Ask: 'What does 4 × 6 mean?' and 'How would you find ¼ of 12?'	Listen for correct use of language such as 'groups of', 'equal parts' and 'divide by the denominator'.
Written Work	Review Student Book pp. 17–21.	Check for correct matching of repeated addition and multiplication, accurate use of division for fractions of groups, and clear fraction ordering.
Practical Task	Students draw or build their own garden layout showing equal rows of items and label multiplication equations.	Can students explain their reasoning and identify totals correctly?
Exit Ticket / Quick Quiz	Provide 5 short problems combining multiplication and fractions.	Identify who can move fluently between models, equations and reasoning.

Quick Quiz / Exit Ticket (5 Questions)

1. Write the repeated addition and multiplication sentence for 5 groups of 3.
2. Draw an array that shows 4 × 6 and write the total.
3. Which is larger: $\frac{1}{4}$ or $\frac{1}{5}$? Explain why.
4. What is $\frac{1}{2}$ of 8? What is $\frac{1}{4}$ of 8?
5. Write a word problem that can be solved using multiplication or fractions.

Teaching as Inquiry: Reflection Notes

Reflection Prompts and Next Steps

Students confidently matching repeated addition and multiplication:

Students using visual models effectively to represent equal groups:

Students confidently identifying and ordering fractions on number lines:

Students needing support with division to find fractions of a group:

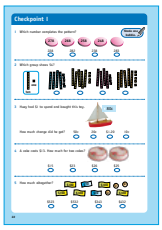
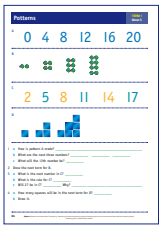
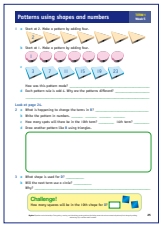
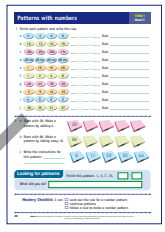
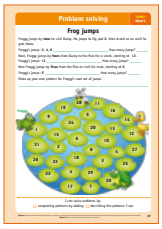
Misconceptions noticed (e.g. uneven grouping, confusing numerator and denominator):

Vocabulary to revisit (groups of, equal parts, denominator, numerator):

Adjustments for future lessons (e.g. add more practice with arrays or fraction lines):

Term 1 Week 5 Overview

Patterns and Algebra – Recognising, Creating and Explaining Patterns

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 **Checkpoint 1 (Review and Apply Learning)**	Previously learned number and pattern skills can be reviewed and applied to show understanding and identify next learning steps.	✓ Recall key number skills ✓ Recognise simple patterns ✓ Apply addition and subtraction ✓ Explain reasoning ✓ Show working clearly	– Complete Checkpoint assessment – Review number and pattern questions – Apply strategies to solve problems – Explain thinking – Identify strengths and areas for support	**Pages 22–23:** Review number skills and patterns, demonstrate understanding and apply strategies. 
2 **Growing Patterns (Identifying Rules)**	Patterns grow when numbers change by a constant amount, and the rule helps us continue the pattern.	✓ Recognise growing patterns ✓ Identify the rule ✓ Continue patterns ✓ Predict next terms ✓ Describe how patterns grow	– Identify pattern rules – Continue numerical patterns – Predict future terms – Use visual models – Explain rule using numbers	**Page 24:** Identify rules, continue patterns and predict future numbers. 
3 **Pattern Rules (Applying Rules)**	A pattern rule describes how numbers change, and the rule can be used to continue or create patterns.	✓ Identify pattern rule ✓ Continue patterns ✓ Create patterns ✓ Explain rule clearly ✓ Apply rule to new situations	– Identify rule from patterns – Continue number sequences – Create own pattern – Explain rule using words and numbers – Apply rule in new examples	**Page 25:** Identify pattern rules, continue sequences and describe how patterns change. 
4 **Number Patterns (Explaining Patterns)**	Patterns can be described by how numbers change, and understanding the change helps explain and predict patterns.	✓ Continue number patterns ✓ Explain how patterns change ✓ Identify increasing/ decreasing patterns ✓ Predict future terms ✓ Use reasoning	– Continue pattern rows – Identify change between terms – Explain pattern growth – Predict missing numbers – Describe reasoning	**Page 26:** Continue number patterns, explain rules and describe how patterns change. 
5 **Describing Patterns (Reasoning and Justifying)**	Patterns can be described and justified using mathematical reasoning and understanding of number relationships.	✓ Identify missing terms ✓ Explain pattern rule ✓ Justify reasoning ✓ Compare patterns ✓ Recognise multiple pattern types	– Identify missing numbers – Explain reasoning for pattern – Compare patterns – Solve reasoning questions – Use pattern vocabulary	**Page 27:** Describe patterns, explain rules and justify reasoning using number relationships. 

Unit: Number Patterns

Focus: Recognising, continuing, creating, and explaining growing patterns, and understanding how patterns change using constant addition, subtraction or multiplication.

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Growing Patterns	Students understand that patterns can increase or decrease using a constant change.	Identifies whether a pattern grows or shrinks and continues it correctly.
Arithmetic Pattern Rules	Recognises patterns that change by adding or subtracting the same number each time.	States the rule (e.g. 'add 3 each time') and applies it correctly.
Multiplicative Pattern Rules	Understands that some patterns grow by multiplying by a constant.	Identifies multiplication patterns and predicts future terms accurately.
Identifying Pattern Rules	Can determine and explain the rule governing a pattern.	Explains rule clearly using correct mathematical language (add, subtract, multiply, constant).
Continuing and Creating Patterns	Can extend a pattern and create a new pattern using a rule.	Generates correct next terms and creates consistent pattern sequences.
Describing Patterns	Explains how and why a pattern changes.	Uses reasoning such as 'it increases by 5 each step' or 'it doubles each time'.
Recognising Structure	Recognises patterns in number sentences and operations.	Identifies repeating structure and explains relationships between numbers.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Watch students continue and create number patterns using manipulatives, number lines or written sequences.	Do they apply a consistent rule? Can they explain how the pattern changes?
Oral Check	Ask: 'What is the rule for this pattern?' 'How do you know?' 'Does it add, subtract or multiply?'	Listen for correct use of vocabulary such as rule, pattern, constant, increase, decrease.
Written Work	Review Student Book pp. 70–73.	Check accuracy of continued patterns, correct identification of rules, and clear explanations.
Practical Task	Students create their own pattern and explain it to a partner or group.	Are rules consistent? Can students explain how the pattern grows or changes?
Exit Ticket / Quick Quiz	Provide 5 short pattern questions.	Identify students who understand pattern rules vs those guessing without reasoning.

Quick Quiz / Exit Ticket (5 Questions)

1. Continue the pattern: **4, 7, 10, 13, ___ , ___**
2. What is the rule for the pattern: **5, 10, 15, 20, 25**?
3. Continue the pattern: **3, 6, 12, 24, ___**
4. Find the missing number: **9, 14, 19, ___ , 29**
5. Create your own growing pattern and write the rule.

Teaching as Inquiry: Reflection Notes

Reflection Prompts and Next Steps

Students confidently identifying and continuing growing patterns:

Students correctly identifying and explaining pattern rules:

Students recognising multiplication patterns vs addition patterns:

Students able to describe how patterns change using reasoning:

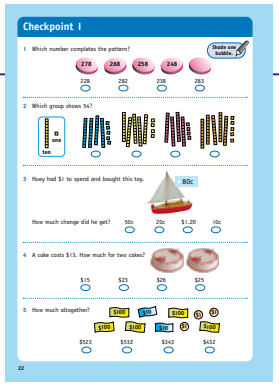
Students needing support to identify the rule consistently:

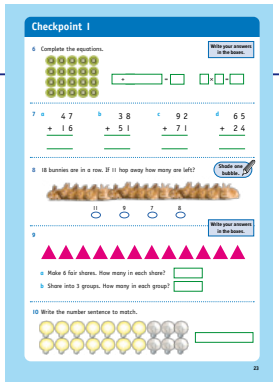
Misconceptions noticed (e.g. inconsistent rule, counting instead of identifying change, confusion between add and multiply):

Vocabulary to revisit (pattern, rule, constant, increase, decrease, multiply, sequence):

CHECKPOINT 1 Week 5 • Term 1

Topic: Number, Place Value, Money and Operations





Purpose

This Checkpoint assesses students' understanding of key mathematical concepts taught across the first five weeks of Year 4. It provides teachers with a clear snapshot of students' number knowledge, place value understanding, money calculations and basic operations.

The Checkpoint should take approximately **30–40 minutes** and may be completed in one or **two sittings**.

Assessment Overview

Area	Focus	Curriculum Links	Key Skills Assessed
Number & Place Value	Patterns, sequencing, place value	Number Structures	Recognising patterns, identifying missing numbers, understanding place value
Money	Calculating totals and change	Calculating totals and change	Adding money, calculating change, understanding value
Operations	Addition and subtraction	Addition and subtraction	Using number strategies, solving equations, applying number facts
Multiplication & Sharing	Equal groups and sharing	Equal groups and sharing	Understanding grouping, multiplication and division concepts

Checkpoint 1 Structure

Part	Focus	Questions	Skills Tested
1	Number Patterns	Identify missing number in pattern	Recognising patterns and sequencing
2	Place Value	Identify value using tens and ones	Understanding base 10 representation
3	Money	Calculate change from $1	Applying subtraction in money context
4	Multiplication	Solve real-world multiplication problem	Using multiplication facts
5	Money Totals	Add values of notes and coins	Combining money correctly
6	Number Sentences	Complete addition and multiplication equation	Understanding number relationships
7	Written Addition	Solve multi-digit addition	Applying addition strategies
8	Problem Solving	Subtraction in context	Applying operations in real-life situations
9	Equal Sharing	Divide into equal groups	Understanding grouping and division
10	Representing Groups	Write matching number sentence	Connecting visual model to equation

CHECKPOINT 1 Week 5 • Term 1

Topic: Number, Place Value, Money and Operations **Total Marks:** 30

Student Name:

Marking Sheet

Part	Task	Max Marks	Student Score	Notes / Observations
1	Complete number pattern	2	/ 2	
2	Place value using tens/ones	3	/ 3	
3	Calculate money change	3	/ 3	
4	Solve multiplication problem	3	/ 3	
5	Add money amounts	3	/ 3	
6	Complete number sentence	3	/ 3	
7	Solve written addition	4	/ 4	
8	Solve subtraction problem	4	/ 4	
9	Equal sharing	4	/ 4	
10	Write matching number sentence	1	/ 1	
			TOTAL: / 30	

Achievement Rubric

Score Range	Level	Interpretation	Suggested Follow-Up
26–30	**Secure**	Strong understanding of number, money and operations.	Ready to extend into multi-step problems and larger numbers.
18–25	**Developing**	Core skills evident but some errors present.	Reinforce place value, money calculations and operations.
10–17	**Emerging**	Partial understanding with gaps in key areas.	Provide small-group support in number operations and money.
Below 10	**At Risk**	Significant foundational gaps.	Provide targeted intervention in number sense and operations.

Diagnostic Notes (Teacher Use)

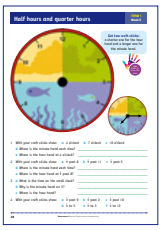
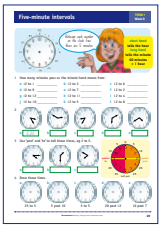
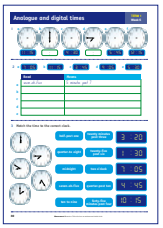
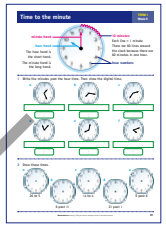
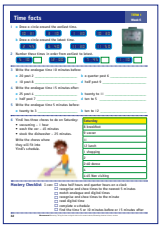
Skill Area	Observations	Follow-Up Plan
Number Patterns		
Place Value		
Money Calculations		
Addition & Subtraction		
Multiplication & Sharing		
Problem Solving		

If students struggled with:

- **Patterns →** Revisit skip counting and place-value sequences
- **Place value →** Use base 10 materials and partitioning practice
- **Addition/Subtraction →** Reinforce number line and place-value strategies
- **Multiplication →** Revisit equal groups and repeated addition models
- **Fractions/Sharing →** Use concrete grouping and visual fraction models

Term 1 Week 6 Overview

Time – Reading, Measuring and Calculating Time

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 **Half Hours and Quarter Hours**	Time can be read on an analogue clock using hour and minute hands.	✓ Read o'clock, half past, quarter past and quarter to ✓ Identify hour and minute hands ✓ Describe time using past and to language	– Use craft sticks to model clock hands – Read half and quarter hours – Describe minute and hour hand positions	**Page 28:** Show o'clock, half and quarter hours on clocks and describe hand positions. 
2 **Five-Minute Intervals**	Clocks measure time in 5-minute intervals around the clock face.	✓ Count in 5-minute intervals ✓ Read time to nearest 5 minutes ✓ Describe time using past and to	– Count minutes around clock – Read clocks in 5-minute steps – Match analogue times and write in words	**Page 29:** Read clocks to nearest 5 minutes and use past/to language. 
3 **Analogue and Digital Time**	The same time can be shown using analogue or digital clocks.	✓ Read analogue time ✓ Read digital time ✓ Match analogue and digital times ✓ Write time in words	– Match analogue and digital clocks – Read and write digital times – Translate between clock formats	**Page 30:** Match analogue and digital times and describe in words. 
4 **Time to the Minute**	Each small mark on a clock represents one minute.	✓ Read time to nearest minute ✓ Write digital time ✓ Draw time accurately ✓ Count minutes precisely	– Count individual minutes on clock – Convert analogue to digital – Draw clocks showing given times	**Page 31:** Read and write time to nearest minute and draw clocks accurately. 
5 **Time Facts and Duration**	Time can be measured, compared and calculated using hours and minutes.	✓ Order times ✓ Find time before and after ✓ Measure duration ✓ Apply time to schedules	– Compare and order times – Find time before and after – Solve duration problems – Use time in schedules	**Page 32:** Order times, calculate before/after and apply time to a schedule. 

Unit: Time – Reading, Measuring and Calculating Time

Focus: Reading time accurately, calculating duration and applying time in real-world contexts

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Reading Analogue Time	Students can read time to the nearest minute using hour and minute hands.	Correctly reads and explains time from analogue clock.
Reading Digital Time	Students understand digital time format (hours and minutes).	Writes correct digital time matching analogue clock.
Past and To Language	Students describe time using correct vocabulary.	Uses terms such as past, to, half past, quarter past correctly.
Ordering Time	Students can compare and sequence times.	Correctly orders earliest to latest.
Calculating Before and After	Students can find time before and after given times.	Accurately calculates using minutes.
Duration	Students understand duration as how long something takes.	Measures or calculates duration in hours and minutes.
Applying Time	Students use time in real-world contexts such as schedules.	Correctly places tasks within a timetable.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Watch students reading clocks and calculating time.	Are students counting minutes correctly? Do they understand before/after?
Oral Check	Ask students to explain how they know the time.	Listen for correct reasoning and vocabulary.
Written Work	Review Student Book pp.28–32.	Look for correct reading of time, ordering, duration and scheduling.
Exit Ticket / Quick Quiz	Provide short time questions.	Identify students needing further support.

Quick Quiz / Exit Ticket (5 Questions)

1. What time is shown if the minute hand is on 6 and hour hand between 4 and 5?
2. Write the digital time for quarter past 7.
3. What time is 10 minutes before 3:40?
4. Order these times from earliest to latest: 2:45, 6:10, 1:30.
5. How many minutes are in 1 hour?

Teaching as Inquiry: Reflection Notes

Reflection Prompts and Next Steps

Students confidently reading time to the minute:

Students needing extra support:

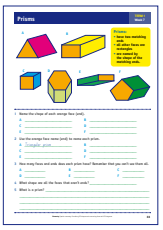
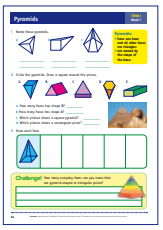
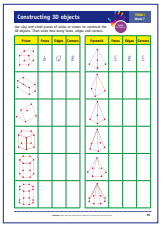
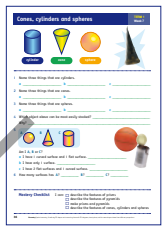
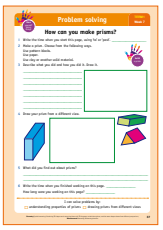
Misconceptions noticed (e.g. confusing hour and minute hand):

Language and vocabulary gaps to revisit:

Adjustments for future lessons:

Term 1 Week 7 Overview

3D Shapes: Prisms, Pyramids and Spatial Reasoning

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 **Prisms**	Prisms have two matching ends and rectangular faces, and shapes can look different from different perspectives.	✓ Identify prisms by their matching ends ✓ Name prisms using the shape of the base ✓ Recognise rectangular faces and ends ✓ Describe how a prism looks from different views	– Observe and discuss different prisms – Identify and name prisms from diagrams – Count faces and ends – Compare prisms from different perspectives	**Page 33:** Name the shape of each prism end; name each prism; identify faces and ends; describe what makes a prism. 
2 **Pyramids**	Pyramids have one base and triangular faces, and are named by the shape of the base.	✓ Identify pyramids and prisms ✓ Name pyramids using the base shape ✓ Count faces on pyramids ✓ Compare pyramids and prisms	– Identify pyramids vs prisms – Count faces and base – Draw pyramid faces – Discuss real-world pyramid examples	**Page 34:** Name pyramids; identify pyramids and prisms; count faces; draw faces; describe real-life pyramid shapes. 
3 **Constructing 3D Objects**	3D objects have faces, edges and vertices that can be counted and described.	✓ Build prisms and pyramids ✓ Count faces, edges and corners ✓ Describe properties of 3D shapes ✓ Compare different 3D shapes	– Construct prisms and pyramids using sticks/clay – Count faces, edges, vertices – Compare shapes – Record findings in table	**Page 35:** Construct prisms and pyramids; record number of faces, edges and corners. 
4 **Cones, Cylinders and Spheres**	Some 3D shapes have curved surfaces and different numbers of flat faces.	✓ Identify cones, cylinders and spheres ✓ Describe curved and flat surfaces ✓ Compare stacking ability ✓ Match shapes to real-world objects	– Identify curved vs flat surfaces – Match shapes to objects – Compare properties – Count surfaces	**Page 36:** Name real-life objects; identify surfaces; compare shapes; count surfaces; describe properties. 
5 **Problem Solving – Making Prisms**	3D shapes can be constructed, described and drawn from different perspectives.	✓ Construct a prism ✓ Describe how it was made ✓ Draw a prism from another view ✓ Explain properties of prisms	– Build prism using materials – Describe construction steps – Draw prism from different perspective – Reflect on properties	**Page 37:** Build a prism; describe and draw; explain properties; record start/finish time and learning. 

Unit: Geometry – 3D Shapes and Spatial Reasoning

Focus: Identifying, constructing and describing 3D shapes, understanding faces, edges and vertices, distinguishing flat and curved surfaces and recognising how shapes appear from different viewpoints.

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Identifying 3D Shapes	Recognises prisms, pyramids, cones, cylinders and spheres.	Correctly identifies and names common 3D shapes in diagrams and real-world contexts.
Shape Properties	Understands faces, edges, vertices and surfaces.	Correctly counts and describes faces, edges and vertices of prisms and pyramids.
Flat and Curved Surfaces	Distinguishes between flat and curved surfaces.	Correctly identifies curved vs flat surfaces and explains differences.
Spatial Visualisation	Understands that shapes look different from different perspectives.	Can recognise and draw the same shape from another viewpoint.
Constructing and Describing Shapes	Applies knowledge to build and explain 3D shapes.	Builds prisms or pyramids and clearly describes their properties and construction.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Watch students identify and describe 3D shapes during lessons.	Are students correctly naming shapes and using terms such as faces, edges and vertices?
Oral Check	Ask: 'What is the difference between a prism and a pyramid?'	Listen for correct description of matching ends vs single base and triangular faces.
Written Work	Review Student Book pp.33–37.	Check correct identification of shapes, counting of faces/edges and accurate diagrams.
Practical Task	Students construct a prism or pyramid using materials.	Can they correctly build and describe the shape? Do they understand faces, edges and vertices?
Exit Ticket / Quick Quiz	Provide short visual questions identifying shapes and properties.	Identify students confusing prisms and pyramids or curved vs flat surfaces.

Quick Quiz / Exit Ticket (5 Questions)

1. How many matching ends does a prism have?
2. What shape are the faces of a pyramid (other than the base)?
3. Which shape has only curved surfaces — sphere, prism or pyramid?
4. How many edges does a cube have?
5. Why might a 3D shape look different from another viewpoint?

Teaching as Inquiry: Reflection Notes

Reflection Prompts and Next Steps

Students confidently identifying and describing 3D shapes:

Students needing support with faces, edges or vertices:

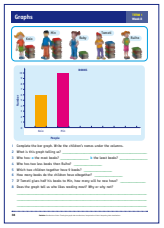
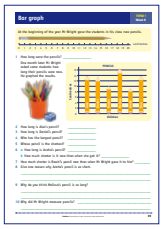
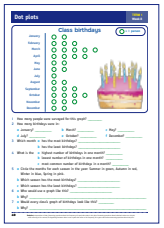
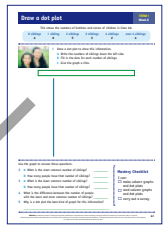
Misconceptions noticed (e.g. prisms vs pyramids, flat vs curved surfaces):

Vocabulary to revisit (faces, edges, vertices, surface, base, prism, pyramid):

Adjustments for future lessons (e.g. more hands-on construction, 3D modelling, visualisation practice):

Term 1 Week 8 Overview

Data: Graphs and Interpretation

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 **Graphs – Reading and Interpreting Bar Graphs**	Data can be organised and shown visually using graphs to help us see patterns, compare amounts, and interpret information.	✓ Read and interpret a bar graph correctly ✓ Identify what the graph represents (title, categories, values) ✓ Compare quantities using graph information ✓ Use graph data to answer questions ✓ Describe patterns, middle and spread in simple terms	– Explore parts of a bar graph (title, axes, categories, scale) – Read values and compare quantities – Discuss what the graph shows – Identify most, least and equal values – Describe simple patterns and middle	**Page 38:** Read and interpret bar graphs; answer questions; compare values; describe patterns. 
2 **Constructing Bar Graphs**	Data can be collected, organised and represented using bar graphs to show frequency clearly.	✓ Collect and organise simple data ✓ Construct a bar graph with correct labels and scale ✓ Choose appropriate categories ✓ Represent frequency accurately ✓ Interpret own graph	– Collect class data (e.g. favourite fruit) – Organise data into table – Construct bar graph using labelled axes – Choose appropriate scale starting at zero – Interpret completed graph	**Page 39:** Create bar graph from data; label axes; represent frequency; interpret graph. 
3 **Comparing Data from Graphs**	Graphs help us compare quantities and identify differences between categories.	✓ Compare values using graph information ✓ Identify greatest and least values ✓ Find differences between categories ✓ Interpret what the graph shows ✓ Explain comparisons using graph evidence	– Compare two or more categories – Identify highest and lowest values – Calculate simple differences – Discuss what comparisons show – Use graph language (more, less, difference)	**Page 40:** Compare graph values; find differences; interpret graph information. 
4 **Patterns, Middle and Spread**	Graphs show patterns and how data values are distributed.	✓ Identify patterns in data ✓ Recognise the middle (typical value) ✓ Describe spread (range) ✓ Interpret what data suggests ✓ Explain observations using graph evidence	– Identify repeating or increasing patterns – Find middle value visually – Discuss smallest and largest values – Describe spread of data – Interpret meaning of distribution	**Page 41:** Identify patterns, middle and spread; interpret graph information. 
5 **Problem Solving – Interpreting Data**	Graphs can be used to answer questions and solve real-life problems using data.	✓ Use graph data to solve problems ✓ Interpret questions carefully ✓ Compare and justify answers ✓ Use graph evidence ✓ Explain reasoning clearly	– Solve word problems using graph data – Interpret multi-step questions – Compare categories to justify answers – Explain reasoning using graph evidence – Discuss real-life uses of data	**Page 42:** Solve problems using graph data; interpret and explain answers. 

Unit: Data – Graphs and Interpretation

Focus: Reading, constructing, and interpreting bar graphs; identifying patterns, middle, and spread; using data to compare and solve problems.

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Reading Graphs	Students understand that graphs represent data values and frequencies visually.	Correctly reads values from bars; identifies title, categories and scale.
Graph Structure	Recognises the key features of a good graph (title, labelled axes, scale starting at zero).	Labels graphs correctly; uses appropriate scale; organises categories clearly.
Comparing Data	Understands how graphs help compare quantities between categories.	Identifies most, least and equal values; compares using graph evidence.
Patterns, Middle and Spread	Recognises patterns and describes distribution of data.	Identifies highest, lowest and middle values; describes simple patterns and range.
Constructing Graphs	Can organise data and represent it accurately in a bar graph.	Constructs graph with correct labels, scale and bar heights matching data.
Problem Solving with Data	Uses graph information to answer questions and solve problems.	Interprets questions correctly; justifies answers using graph evidence.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Watch students read and interpret a class bar graph.	Can students read values accurately? Do they understand graph parts (title, axes, scale)?
Oral Check	Ask: 'What does this graph show?' 'Which category has the most?' 'How do you know?'	Look for use of correct language: most, least, difference, data, graph, category, scale.
Written Work	Review Student Book pp. 38–42.	Check graph reading accuracy, correct construction, comparisons and interpretation.
Practical Task	Class survey → students construct their own bar graph from collected data.	Are axes labelled? Is scale correct? Do bars match data? Can students interpret their graph?

Quick Quiz / Exit Ticket (5 Questions)

1. Look at a bar graph. Which category has the highest value?
2. Which category has the lowest value?
3. How many more ___ than ___? (comparison question)
4. What does the title of the graph tell you?
5. What is the difference between the highest and lowest values?

Teaching as Inquiry: Reflection Notes

Reflection Prompts and Next Steps

Students confidently reading and interpreting graphs:

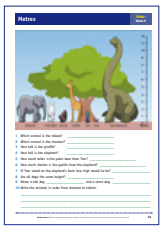
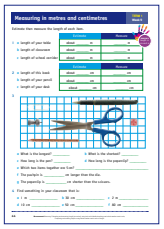
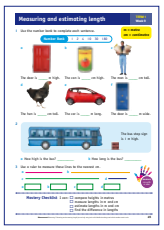
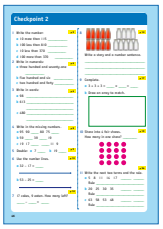
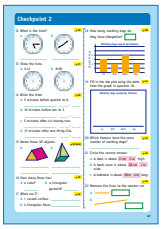
Students accurately constructing bar graphs with correct scale and labels:

Students confidently comparing data and identifying most/least:

Misconceptions noticed (e.g. reading bar height incorrectly, ignoring scale, mislabelling axes):

Term 1 Week 9 Overview

Measurement: Length (metres and centimetres)

Lesson & Topic	Learning Intention	Success Criteria	Main Activities	Student Book Practice
1 **Metres**	Length can be measured and compared using metres as a whole-number unit.	✓ Identify the tallest and shortest ✓ Read and interpret a metre scale ✓ Compare heights using 'taller than/ shorter than' and 'difference' language	– Use the animal height picture to read heights in metres – Compare and discuss which is tallest/shortest – Order the animals from shortest to tallest – Solve 'how much taller/ shorter' questions using the scale	**Page 43:** Read heights on a metre scale; compare and order animals; answer difference questions. 
2 **Measuring in metres and centimetres**	Different tools and units (m and cm) are used to measure different lengths, and the unit must be recorded with the measurement.	✓ Choose whether to measure in metres or centimetres ✓ Estimate and then measure using an appropriate tool ✓ Record measurements using correct units (m or cm)	– Estimate lengths around the room then measure and record – Estimate common items in centimetres then measure and record – Use the grid picture to compare object lengths and answer 'longest/ shortest/difference' questions	**Page 44:** Estimate then measure items in m and cm; compare objects on a grid; find and record lengths and differences. 
3 **Measuring and estimating length**	Real-world objects have lengths that can be reasonably estimated and measured using metric units (m and cm).	✓ Select sensible units for different objects ✓ Estimate realistic lengths using benchmarks ✓ Measure to the nearest centimetre and compare lengths	– Use the number bank to choose reasonable estimates (m or cm) for everyday items – Use benchmarks (e.g. 1 m = door handle height, 10 cm = hand width) to justify estimates – Measure the line segments to the nearest cm and compare results	**Page 45:** Choose sensible estimates in m or cm; measure lines to the nearest cm; compare and check reasonableness. 
4 **Checkpoint 2**	You can show what you have learned by applying number, patterns, time, geometry, data and measurement skills in one assessment.	✓ Apply skills from Weeks 5–9 across strands ✓ Show working and explain thinking where needed ✓ Complete tasks accurately and independently	– Complete Checkpoint 2 (may be done in two sittings) – Teacher circulates to note strategies, misconceptions and confidence – Quick review: revisit 2–3 common error types as a class	**Pages 46–47:** Checkpoint 2 assessment (covers number, patterns, time, 3D objects, graphs and measurement).  

Unit: Measurement – Measuring and Estimating Length

Focus: Reading height scales in metres, choosing appropriate units (metres and centimetres), estimating and measuring length accurately, and comparing and calculating differences between measurements.

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Understanding Metres	Students understand that metres are used to measure longer or taller objects.	Correctly reads height from a metre scale and identifies objects measured in metres.
Comparing Height and Length	Students can compare and order objects by height or length using measurement language.	Uses words such as taller, shorter, longest and shortest accurately and orders objects correctly.
Choosing Measurement Units	Students understand when to measure using metres or centimetres.	Correctly selects appropriate units for different objects and explains reasoning.
Estimating Length	Students estimate length before measuring and understand estimation as a prediction.	Provides reasonable estimates and compares them with actual measurements.
Measuring Using Tools	Students measure length accurately using rulers or metre tools.	Starts measurement at zero, reads scale correctly and records measurements accurately.
Recording Measurements	Students understand that measurements must always include units.	Correctly writes measurements using cm or m and explains choice of unit.
Comparing and Calculating Differences	Students compare lengths and determine differences between measurements.	Identifies which object is longer or shorter and calculates difference correctly.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Watch students measuring classroom objects using rulers and metre sticks.	Do students start measuring at zero? Are they reading the scale accurately?
Oral Check	Ask: "When do we measure in metres?" "When do we use centimetres?" "Why do we estimate first?"	Listen for correct use of measurement vocabulary such as metre, centimetre, unit, estimate and compare.
Written Work	Review Student Book pp.43–45.	Check correct ordering of heights, accurate measurement recording and use of correct units.
Practical Task	Students estimate and measure classroom objects and record the results.	Are estimates reasonable? Do students choose appropriate units and measure accurately?
Exit Ticket / Quick Quiz	Provide 5 quick measurement questions.	Identify students confident with measurement and those needing support reading scales or choosing units.

Quick Quiz / Exit Ticket (5 Questions)

1. Which unit would you use to measure the height of a door: **metres or centimetres**?
2. A desk measures **80 cm**. Is it longer or shorter than **1 m**?
3. Measure a line that is **6 cm** long. What unit do you record?
4. Which is taller: **1.2 m or 90 cm?**
5. If one object is **30 cm** long and another is **50 cm**, how much longer is the second object?

Teaching as Inquiry: Reflection Notes

Students confidently reading metre scales

Students choosing appropriate units (m vs cm)

Students estimating length before measuring

Students accurately measuring using rulers

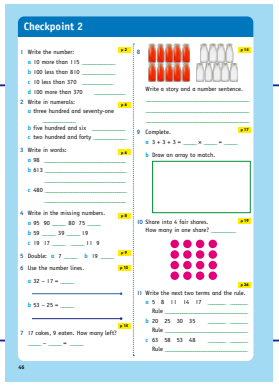
Students comparing lengths and identifying differences

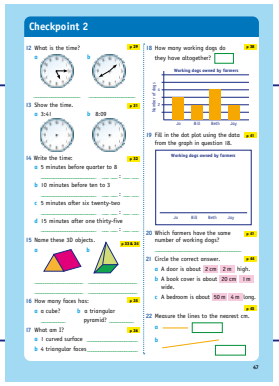
Students needing support reading measurement scales

Misconceptions noticed (e.g. confusing metres and centimetres, starting ruler at 1 instead of 0)

CHECKPOINT 2 Week 9 • Term 1

Topic: Measurement, Time, Geometry and Number





Purpose

This Checkpoint assesses students' understanding of the key mathematical concepts taught across the first nine weeks of Year 4. It provides a clear snapshot of student progress in number knowledge, operations, patterns, measurement, time, geometry and data interpretation. The Checkpoint should take approximately **30–40 minutes** and may be completed in **one or two sittings**.

Assessment Overview

Area	Focus	Curriculum Links	Key Skills Assessed
Number Knowledge	Place value, more/less, numerals and number words	Number – Place Value	Understanding hundreds, tens and ones, reading and writing numbers
Operations	Addition, subtraction, multiplication thinking	Operations	Solving number sentences, using number lines, arrays and equal groups
Patterns & Algebra	Identifying and continuing number patterns	Algebraic Thinking	Recognising rules and extending sequences
Time	Reading and interpreting analogue time	Measurement – Time	Reading clocks and solving time problems
Measurement	Length and real-world measurement estimates	Measurement – Length	Choosing appropriate units and estimating/measuring
Geometry	3D shapes and properties	Geometry – Shape	Identifying faces, curved surfaces and shape properties
Statistics	Interpreting bar graphs and dot plots	Statistics – Data	Reading data displays and comparing values

Checkpoint 2 Structure

Part	Focus	Questions	Skills Tested
1	Place value and more/less	Write numbers 10 more/less, 100 more/less	Understanding place value changes
2	Numerals and number words	Write numbers in numerals and words	Reading and writing numbers correctly
3	Number sequences	Fill missing numbers	Pattern recognition and sequencing
4	Doubles and basic facts	Double numbers	Recall and fluency
5	Number line subtraction	Solve subtraction using number lines	Understanding difference and jumps
6	Word problem	Solve subtraction in context	Applying operations
7	Equal groups and arrays	Complete multiplication representation	Understanding repeated addition
8	Sharing equally	Divide into equal groups	Early division reasoning
9	Pattern rules	Continue sequences and describe rule	Algebraic thinking
10	Time	Read and interpret clocks	Understanding time language
11	3D shapes	Identify shapes and properties	Geometry knowledge
12	Data & Measurement	Interpret graphs and measure length	Reading data and using units

CHECKPOINT 2 Week 9 • Term 1

Topic: Number, Operations, Time, Measurement and Data **Total Marks:** 40

Student Name:

Marking Sheet

Part	Task	Max Marks	Student Score	Notes / Observations
1	Place value (10/100 more or less)	4	/ 4	
2	Write numerals from words	3	/ 3	
3	Write numbers in words	3	/ 3	
4	Complete number sequences	3	/ 3	
5	Doubles facts	2	/ 2	
6	Subtraction using number lines	2	/ 2	
7	Solve word problem	2	/ 2	
8	Equal groups / sharing	3	/ 3	
9	Continue patterns and state rule	6	/ 6	
10	Read and interpret time	4	/ 4	
11	Identify 3D shapes & properties	4	/ 4	
12	Interpret graph & measure length	4	/ 4	
			TOTAL: / 40	

Achievement Rubric

Score Range	Level	Interpretation	Suggested Follow-Up
34–40	**Secure**	Strong understanding across number, measurement, time and data.	Ready for extension into multi-step problems and deeper reasoning.
26–33	**Developing**	Core skills mostly secure but some gaps remain.	Target place value, time interpretation and pattern rules.
18–25	**Emerging**	Partial understanding with noticeable gaps.	Provide small-group support in number operations and measurement.
Below 18	**At Risk**	Significant foundational gaps.	Prioritise intervention in place value, number facts and reading data.

Diagnostic Notes (Teacher Use)

Skill Area	Observations	Follow-Up Plan
Place Value & Number Knowledge		
Addition/Subtraction Strategies		
Equal Groups & Sharing		
Pattern Recognition		
Time Understanding		
Measurement & Units		
Geometry (3D Shapes)		
Data Interpretation		

Unit: Measurement, Checkpoint 2 – Number, Operations, Time, Geometry and Data

Focus: Measuring and comparing length using appropriate units, estimating and measuring accurately, and reviewing key skills through Checkpoint 2 to identify strengths, misconceptions and next steps.

Key Understandings to Assess

Area	Expected Understanding	Evidence to Look For
Measuring Length **Comparing Length** **Estimating Length**	Understands that length can be measured using standard units (cm, m) and appropriate tools. Can compare and order objects by length and determine differences. Understands how to estimate length before measuring.	Accurately measures objects, aligns ruler correctly and records correct units. Correctly identifies longer/shorter and calculates difference between lengths. Makes reasonable estimates and checks accuracy using measurement.
Unit Understanding	Recognises when to use cm vs m in real-life contexts.	Chooses appropriate unit for small vs large objects.
Number Knowledge	Demonstrates understanding of place value, numerals and number patterns.	Correct answers in number, sequencing and place-value tasks.
Operations	Applies addition, subtraction and equal-group thinking accurately.	Correct working in number sentences, sharing and subtraction problems.
Time Understanding	Reads and interprets analogue time correctly.	Correctly reads clocks and solves time questions.
Geometry Knowledge	Recognises 3D shapes and describes properties.	Correct identification of shapes, faces and curved surfaces.
Data Interpretation	Reads and interprets bar graphs and dot plots.	Correctly compares values and explains data meaning.

Assessment Opportunities

Assessment Type	Suggested Activity	What to Observe
Observation (Formative)	Watch students measure classroom objects using rulers.	Do students align ruler at zero? Do they use correct unit and read scale accurately?
Oral Check	Ask: 'How do you know whether to measure in cm or m?' and 'How can you check if your measurement is correct?'	Listen for understanding of units, estimation and measurement reasoning.
Written Work	Review Student Book pp.43–45 and Checkpoint 2 (pp.46–47).	Check accurate measurement, correct units, number understanding and reasoning.
Practical Task	Students estimate, measure and compare two classroom objects, then explain difference.	Can students estimate reasonably, measure correctly and compare lengths accurately?
Checkpoint Review	Analyse Checkpoint 2 results.	Identify strengths, gaps and misconceptions across number, time, geometry and data.
Exit Ticket / Quick Quiz	Provide short length and number questions.	Identify students secure vs needing support in measurement and key concepts.

Quick Quiz / Exit Ticket (5 Questions)

1. Estimate the length of your pencil, then measure it in centimetres.
2. Which unit would you use to measure a classroom: cm or m? Why?
3. What is the difference between 48 cm and 35 cm?
4. A clock shows 3:30. What time is it?
5. Which is longer: 2 m or 150 cm? Explain.

Teaching as Inquiry: Reflection Notes

Students accurately estimating and then measuring length using correct units:

Students able to compare and calculate differences in length:

Students demonstrating strong number and operations knowledge in Checkpoint 2:

Students needing support with reading time or interpreting graphs:

Misconceptions noticed (e.g. cm vs m confusion, place value errors):

Vocabulary to revisit (length, measure, estimate, centimetre, metre, difference, unit, scale):