Using Maths Aotearoa and Wilkie Way to deliver the refreshed New Zealand Curriculum

Maths Aotearoa teacher book 1B is set out in 4 units providing a sequenced approach to developing key knowledge and concepts. Each unit has suggested teaching activities and accompanying activity cards (100 cards instead of a textbook) for follow up work. More practice material for each unit is available through write on practice workbooks downloaded from the membership area of wilkieway.co.nz Book 2A is a teacher book and student text book continuing the sequenced approach. (For Year 2 Units 1 and part of unit 3 from book 2A apply)

Maths Aotearoa teacher books and activity cards are available from edify.co.nz

Phase 1: Year 2

Understand: (big ideas)	Do (practices)
As students build knowledge through their use of the mathematical and statistical processes, they begin to understand: • Patterns and variation • Logic and reasoning • Visualisation and application	Students will have learning opportunities, and be guided to: • Investigate situations • Represent situations • Connect situations • Generalise findings • Explain and justify findings

Know: Contexts of Number & Algebra

Number Structure	Operations	Rational Numbers	Equations & relationships
Group objects in a collection of at least 10, subitise the number in each part & find the total number in the collection using the parts. Count forwards or backwards in 1s, 2s, 5s&10s from any number in range 1-100 Identify, read & write numbers up to at least 100 and represent them using base 10 structure. Compare and order numbers up to at least 100. Partition & regroup numbers up to at least 100 using a systematic approach and noticing patterns.	Use estimation to predict results & check reasonableness of calculations. Identify the nearest ten to any whole number up to 100 Add & subtract numbers up to 100 without renaming. Recall addition facts up to 10 and explore addition facts up to 20 and their corresponding subtraction facts including doubles and halves. Identify the relationship between skip counting and multiplication facts for 2s 5s and 10s Multiply and divide using equal grouping or skip counting (e;g; in 2s, 5s & 10s)	Identify, read, write (using symbols & words) and represent halves, quarters & eighths as fractions of sets and regions using equal parts of the whole. Directly compare two fractions involving halves, quarters & eighths.	Solve true and false number sentences and open number sentences involving addition & subtraction, of one and two digit numbers, using an understanding of the equals sign. Recognise, and describe the unit of repeat in a repeating patterns, and use it to predict further elements using the ordinal position.
		Financial Maths Recognise and order New Zealand denominations up to $20 according to their value, make groups of "like" denominations and calculate their value.	**Algorithmic Thinking** Follow and give step by step instructions for a simple task, identifying & correcting errors as the instructions are followed.

Maths Literacy Development

- Deliberate focus on learning specialist vocabulary - see vocabulary list in curriculum document
- Deliberate focus with reading & understanding math texts.
- Communicate and explain counting, grouping and equal sharing strategies, using manipulatives, words, numbers and pictures.
- Use the symbols (+, -)for addition and subtraction conceptual ideas
- Use the equal symbol (=) in an equation to represent the same quantity of both sides
- Recognise and use the symbols for half and quarter

Concepts being developed	Key knowledge being developed
• The next counting number is the result of adding one more; • Addition is commutative; • Addition is associative; • Subtraction as takeaway; • Subtraction as difference; • Subtraction and addition are inverse relationships. • Multiplication as repeated addition • Equal sharing and equal grouping • Fractions as equal sharing and equal partitioning • The importance of a group of ten to the number system.	• Read, write and order numbers to 1000 • Recall family of facts with 10 • Recall family of facts for teen numbers • Recall doubles to 20 and corresponding halves • Know one half = 2 quarters • Know the number of groups of ten and groups of one in any 2 digit number • Know basic addition and subtraction facts within 10 are repeated in each column.

Maths Aotearoa Book 1B

Unit 1: Understanding Addition & Subtraction	Unit 2: Larger Numbers & Beginning Multiplication	Unit 3: Combining. Comparing & Ordering	Unit 4: Combining, Grouping & Sharing
• Use counting on to solve addition problems. • Use counting backwards to solve subtraction (take away) type problems. • Recognise and use patterns to recall basic facts • Apply recall of known facts to addition and subtraction situation; • Use known facts to reason unknown facts. • Begin connecting addition and subtraction facts. • Compare numbers to find the difference in quantity • Use counting on to solve a difference situation – how many more or how many less? • Use counting backwards to solve a difference situation • Use recall of known facts to solve a difference situation. • Recognise the pairs to make ten • Notice the pattern in pairs to make ten • Reason unknown pairs from known pairs to make ten.	• Count on from any number within the range 0 – 100 • Count backwards from any number in the range 0 – 100 • Read and write two digit numbers • Count in twos, fives and tens • Recognise patterns in counting sequences • Notice odd and even numbers • Make equal groups • Count how many altogether using the appropriate counting sequence • Recognise and solve repeated addition (equal grouping multiplication) type problems using the appropriate counting sequence. • Recall doubles up to 10 + 10 • Make a connection between counting in twos and the recall of doubles. • Begin to use doubles as an additive strategy for recalling addition facts.	• Draw a picture to show an addition or subtraction situation; • Count all objects to find how many altogether; • Image objects and count all to find how many altogether; • Take a number of objects away from a set and count how many remain using the objects: • Image take a number of objects away from a set and count how many remain using imaging. • Recall doubles to 10 • Recalls pairs within 5	• Read and write numbers to 20 • Sequence and order numbers to 20 • Reliably count a set of objects up to 20 • Give the number before and after in the range 0 – 20 • Give the number between two numbers in the range 0 – 20 • Give the number one more and one less/fewer in the range 0 - 20 • Investigate teen numbers as 10 + (including Te Reo Maori) • Create equal groups from a set of objects • Solve equal group type word problems • Count in twos, fives and tens • Solve a word problem by equal sharing • Halve a shape into equal pieces • Find half of a number of objects by equal sharing between two • Quarter a shape into four equal pieces • Find quarter a number of objects by equal sharing between four

Support Material available from Wilkie Way website wilkieway.co.nz: membership area (subscription)			
Practice workbooks: 13. Adding and Taking Away 14. Patterns and Relationships 15. Finding the Difference 16. Making 10	**Practice workbooks:** 17. Sequencing to 100 18. Equal Grouping 19. Working with Doubles	**Practice workbooks:** 20. Fractions of Shapes 21. Equal Sharing 22. Fractions of Numbers	**Practice workbooks:** 23. Using 10 as a Counting Set 24. The importance of a group of 10 25. Addition & Subtraction to 20

Maths Aotearoa Book 2A

Unit 1: Addition, Subtraction & Place Value

Chapter 1 Addition & Subtraction
- Read straightforward word problems
- Represent word problems as addition or subtraction equations
- Write a word problem represented by an addition or subtraction equation
- Solve word problems involving addition & subtraction within 20
- Use the commutative property of addition
- Use the = symbol to represent same quantity of either side.

Chapter 2 Numbers to 20
- Recall of 10+ knowledge and corresponding subtractions
- Use key knowledge of facts to 10 and 10+ knowledge when adding strings of numbers in equations and word problems.
- The importance of patterns in mathematics
- The importance of a group of 10 in the number system
- Using the associative property of addition

Chapter 3 Using a hundred square
- Read, write and order numbers to 1000
- Understand the hundreds square as a material support to thinking about 2 digit numbers
- Add and subtract 10 from any two digit number

Chapter 4 Tens and Ones
- Read, write and order numbers to 1000
- Know the column heading tens represent the number of groups of ten
- Know the column heading ones represents the number of groups of one
- Understand a zero in a column represents none of the groups represented by the column heading
- Represent two digit numbers in groups of ten and groups of one
- Identify the number of groups of ten and groups of one in any two digit number

Chapter 5 Money
- Know the value of coins in circulation in New Zealand
- Know 100 cents = 1 dollar
- Know basic addition and subtraction facts are repated in the tens column
- Add and subtract tens numbers in the context of money

Unit 3: Addition & Subtraction

Chapter 9 Working with tens numbers
- Building on the idea that basic facts are repeated in each of the columns
- Begin to see how the number sytem (Place value) assist estimating and numeric reasoning
- Consolidating addition and subtraction fatcs to 10

Chapter 10 Adding and subtracting
- Use rounding to the closest decade to make a sensible estimate
- Use standard partitioning to add and subtract 2 digit numbers (no regrouping)

Consolidating addition & subtraction facts to 10

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Practice Workbooks 1. (Chapters 1 & 2) Addition & Subtraction, Facts to 10, Teens & Doubles 2. (Chapters 3 & 4) Numbers to 100 3. (Chapter 5) Money **Financial Maths:** Phase One Activity Cards and worksheets	**Practice Workbooks** 6. (Chapter 9) Add & Subtract Decades, Rounding to closest Decade 7. (Chapter 10) Multi digit addition, making use of basic facts to 10 8. (Chapter 10) Multi digit subtraction, making use of facts to 10