## **MATHS**

YEAR 1 – BERTIE'S SOCKS

YEAR 2 – KEIREN'S COIN

YEAR 3 – SAL'S SECRET

YEAR 4 – HOW MUCH LOVE CAN FIT INTO A SHOEBOX?

YEAR 5 – HEY LETS HAVE A BIG DAY OUT!

YEAR 6 – IT'S RAINING CATS AND DOGS....AND CHICKENS?

Resource title: Bertie's socks

Year level: 1

Key learning areas: Mathematics

### **National Consumer and Financial Literacy Framework**

Dimension: Knowledge and understanding (Year 2)

Student learnings: Recognise Australian money includes notes and coins

Recognise that money is limited and comes from a variety of sources

Recognise that money can be saved to meet needs and wants Explain how money is exchanged in return for goods and services

Identify and describe the differences between needs and wants

**Dimension: Responsibility and enterprise (Year 2)** 

Student learnings: Use money to buy basic goods and services in 'real-life' contexts

Recognise common symbols and terms used on a variety of Australian notes and coins

Identify consumer and financial matters that are part of daily life such as earning money, spending, saving, paying bills, making donations

Compare the cost of similar items

Order spending preferences and explain reasons for their choices

Dimension Responsibility and enterprise (Year 2)

Student learnings: Identify and explain how peer pressure can affect what you buy

### Stage 1 Stage Statements: This unit of work contributes to the following stage statements for Stage 1 (highlighted)

#### **MATHEMATICS**

By the end of Stage 1, students ask questions and use known facts, objects, diagrams and technology to explore mathematical problems and develop mathematical fluency. They link mathematical ideas and use appropriate language and diagrams to explain strategies used.

Students count, order, read and write two- and three-digit numbers and use a range of strategies and recording methods. They use mental strategies and concrete materials to add, subtract, multiply and divide, and solve problems. Students model and describe objects and collections divided into halves, quarters and eighths. They associate collections of Australian coins with their value. They use place value to partition numbers. Students describe and continue a variety of number patterns and build number relationships. They relate addition and subtraction facts for sums to at least 20.

Students estimate, measure, compare and record using informal units for length, area, volume, capacity and mass. They recognise the need for formal units of length and use the metre and centimetre to measure length and distance. They use a calendar to identify the date and name and order the months and the seasons of the year. Students use informal units to compare and order the duration of events and tell the time on the half- and quarter-hour. They identify, describe, sort and model particular three-dimensional objects and two-dimensional shapes. Students represent and describe the position of objects and interpret simple maps.

Students collect, organise, display and interpret data using lists, tables and picture graphs. They recognise and describe the element of chance in everyday events.

Australian Curriculum	NSW syllabus		
MATHEMATICS	MATHEMATICS	CONTENT	
Strand Number and algebra  Sub-strand Number and place value  Develop confidence with number sequences to and from 100 by ones from any starting point. Skip count by twos, fives and tens starting from zero (ACMNA012)	Number and Algebra: Whole numbers 1  Describes mathematical situations and methods using every day and some mathematical language, actions, materials, diagrams and symbols (MA1-1WM)  Uses objects, diagrams and technology to explore mathematical problems (MA1-2WM)  Supports conclusions by explaining or demonstrating how answers were obtained (MA1-3WM)  Applies place value, informally, to count, order, read and represent two- and three-digit numbers (MA1-4NA)	Students:  Develop confidence with number sequences to 100 by ones from any starting point (ACMNA012)  - count forwards and backwards by ones from a given two-digit number  - identify the number before and after a given two-digit number  o describe the number before as 'one less than' and the number after as 'one more than' a given number (Communicating)  - read and use the ordinal names to at least 'thirty-first', e.g. when reading calendar dates	
Strand Number and algebra Sub-strand Number and place value Recognise, model, read, write and order numbers to at least 100. Locate these numbers on a number line (ACMNA013)	Number and Algebra: Whole numbers 1  Describes mathematical situations and methods using every day and some mathematical language, actions, materials, diagrams and symbols (MA1-1WM)  Uses objects, diagrams and technology to explore mathematical problems (MA1-2WM)  Supports conclusions by explaining or demonstrating how answers were obtained (MA1-3WM)  Applies place value, informally, to count, order, read and represent two- and three-digit numbers (MA1-4NA)	Students:  Recognise, model, read, write and order numbers to at least 100; locate these numbers on a number line (ACMNA013)  - represent two-digit numbers using objects, pictures, words and numerals  - locate and place two-digit numbers on a number line  - apply an understanding of place value and the role of zero to read, write and order two-digit numbers  - use number lines and number charts to assist with counting and ordering  o give reasons for placing a set of numbers in a particular order (Communicating, Reasoning)  - round numbers to the nearest ten  - estimate, to the nearest ten, the number of objects in a collection and check by counting, e.g. estimate the number of children in a room to the nearest ten  - solve simple everyday problems with two-digit numbers  o choose an appropriate strategy to solve problems, including trial-and-error and drawing a diagram (Communicating, Problem Solving)  o ask questions involving two-digit numbers, e.g.  'Why are the houses on either side of my house numbered 32 and 36?' (Communicating)	

Strand Number and algebra	Number and Algebra: Whole numbers 1	Students:
Sub-strand Number and place value  Count collections to 100 by partitioning numbers using place value (ACMNA014)	Describes mathematical situations and methods using every day and some mathematical language, actions, materials, diagrams and symbols (MA1-1WM)  Uses objects, diagrams and technology to explore mathematical problems (MA1-2WM)  Supports conclusions by explaining or demonstrating how answers were obtained (MA1-3WM)  Applies place value, informally, to count, order, read and represent two- and three-digit numbers (MA1-4NA)	Count collections to 100 by partitioning numbers using place value  (ACMNA014)  - count and represent large sets of objects by systematically grouping in tens - use and explain mental grouping to count and to assist with estimating the number of items in large groups CCT - use place value to partition two-digit numbers, e.g. 32 as 3 groups of ten and 2 ones - state the place value of digits in two-digit numbers, e.g. 'In the number 32, the "3" represents 30 or 3 tens' L - partition two-digit numbers in non-standard forms, e.g. 32 as 32 ones or 2 tens and 12 ones
Strand Number and algebra  Sub-strand Money and financial mathematics  Recognise, describe and order Australian coins according to their value (ACMNA017)	Number and Algebra: Whole numbers 1  Describes mathematical situations and methods using every day and some mathematical language, actions, materials, diagrams and symbols (MA1-1WM)  Uses objects, diagrams and technology to explore mathematical problems (MA1-2WM)  Supports conclusions by explaining or demonstrating how answers were obtained (MA1-3WM)  Applies place value, informally, to count, order, read and represent two- and three-digit numbers (MA1-4NA)	Students:  Recognise, describe and order Australian coins according to their value (ACMNA017)  - identify, sort, order and count money using the appropriate language in everyday contexts, e.g. coins, notes, cents, dollars WE  - recognise that total amounts can be made using different denominations, e.g. 20 cents can be made using a single coin or two 10-cent coins  - recognise the symbols for dollars (\$) and cents (c)
Strand Measurement and geometry Sub-strand Shape Recognise and classify familiar two-dimensional shapes and three-dimensional objects using obvious features (ACMMG022)	Measurement and Geometry: Two-dimensional space  Describes mathematical situations and methods using every day and some mathematical language, actions, materials, diagrams and symbols (MA1-1WM)  Supports conclusions by explaining or demonstrating how answers were obtained (MA1-3WM)  Manipulates, sorts, represents, describes and	Students:  Recognise and classify familiar two-dimensional shapes using obvious features (ACMMG022)  - identify vertical and horizontal lines in pictures and the environment and use the terms 'vertical' and 'horizontal' to describe such lines  o relate the terms 'vertical' and 'horizontal' to 'portrait' and 'landscape' page orientation, respectively, when using digital technologies (Communicating)  - identify parallel lines in pictures and the environment and use the term 'parallel' to describe such lines

explores two-dimensional shapes, including quadrilaterals, pentagons, hexagons and octagons **(MA1-5MG)** 

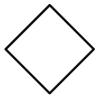
Sorts, describes, represents and recognises familiar three-dimensional objects, including cones, cubes, cylinders, spheres and prisms (MA1-14MG)

- recognise that parallel lines can occur in orientations other than vertical and horizontal (Reasoning)
- give everyday examples of parallel lines, e.g. railway tracks (Reasoning)
- manipulate, compare and describe features of twodimensional shapes, including triangles, quadrilaterals, pentagons, hexagons and octagons
  - describe features of two-dimensional shapes using the terms 'side' and 'vertex' (Communicating)
- sort two-dimensional shapes by a given attribute, e.g. by the number of sides or vertices
  - explain the attribute used when sorting twodimensional shapes (Communicating, Reasoning)
- identify and name two-dimensional shapes presented in different orientations according to their number of sides, including using the terms 'triangle', 'quadrilateral', 'pentagon', 'hexagon' and 'octagon', e.g.





 recognise that the name of a shape does not change when the shape changes its orientation in space, e.g. a square turned on its vertex is still a square



select a shape from a description of its features

(Reasoning)

- o recognise that shapes with the same name may have sides of equal or different lengths (Reasoning)
- recognise that rectangles and squares are quadrilaterals
- identify and name shapes embedded in pictures, designs and the environment, e.g. in Aboriginal art
  - use computer drawing tools to outline shapes embedded in a digital picture or design (Communicating)

Recognise and classify familiar three-dimensional objects using obvious features (ACMMG022)

- manipulate and describe familiar three-dimensional objects, including cones, cubes, cylinders, spheres and prisms
- identify and name familiar three-dimensional objects, including cones, cubes, cylinders, spheres and prisms, from a collection of everyday objects
  - select an object from a description of its features,
     e.g. find an object with six square faces
     (Reasoning)
- use the terms 'surface', 'flat surface' and 'curved surface' in describing familiar three-dimensional objects
  - identify the type and number of flat and curved surfaces of three-dimensional objects, e.g. 'This prism has eight flat surfaces', 'A cone has two surfaces: one is a flat surface and the other is a curved surface' (Reasoning)
- use the term 'face' to describe the flat surfaces of threedimensional objects with straight edges, including squares, rectangles and triangles
  - distinguish between 'flat surfaces' and 'curved surfaces' and between 'flat surfaces' and 'faces' when describing three-dimensional objects (Communicating)
- sort familiar three-dimensional objects according to obvious features, e.g. 'All these objects have curved surfaces
- select and name a familiar three-dimensional object from a description of its features, e.g. find an object with six square faces
- recognise that three-dimensional objects look different from different vantage points
- identify cones, cubes, cylinders and prisms when drawn in different orientations, e.g.

		CONES  - recognise familiar three-dimensional objects from pictures and photographs, and in the environment
Strand Statistics and Probability	Statistics and Probability: Data	Students:
Sub-strand Data representation and interpretation  Choose simple questions and gather responses (ACMSP262)	Describes mathematical situations and methods using every day and some mathematical language, actions, materials, diagrams and symbols (MA1-WM)  Supports conclusions by explaining or demonstrating how answers were obtained (MA1-3WM)  Gathers and organises data, displays data in lists, tables and picture graphs, and interprets the results (MA1-17SP)	Choose simple questions and gather responses (ACMSP262)  — investigate a matter of interest by choosing suitable questions to obtain appropriate data  — gather data and track what has been counted by using concrete materials, tally marks, words or symbols

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Resource title: Kieren's coin

Year level: 2

**Key learning areas:** Mathematics

### **National Consumer and Financial Literacy Framework**

Dimension: Knowledge and understanding (Year 2)

Student learnings: Recognise Australian money includes notes and coins

Explain how money is exchanged in return for goods and services

**Dimension: Competence (Year 2)** 

Student learnings: Use money to buy basic goods and services in 'real-life' contexts

Describe how advertising can influence consumer choices

Dimension: Responsibility and enterprise (Year 2)

Student learnings: Apply consumer and financial knowledge and skills in relevant class and/or school activities such as student investigations, charity fundraising,

business ventures and special events

Demonstrate enterprising behaviours through participation in relevant class and/or school activities

### Stage 1 Stage Statements: This unit of work contributes to the following stage statements for Stage 1 (highlighted)

#### **ENGLISH**

By the end of Stage 1, students ask questions and use known facts, objects, diagrams and technology to explore mathematical problems and develop mathematical fluency. They link mathematical ideas and use appropriate language and diagrams to explain strategies used.

Students count, order, read and write two- and three-digit numbers and use a range of strategies and recording methods. They use mental strategies and concrete materials to add, subtract, multiply and divide, and solve problems. Students model and describe objects and collections divided into halves, quarters and eighths. They associate collections of Australian coins with their value. They use place value to partition numbers. Students describe and continue a variety of number patterns and build number relationships. They relate addition and subtraction facts for sums to at least 20.

Students estimate, measure, compare and record using informal units for length, area, volume, capacity and mass. They recognise the need for formal units of length and use the metre and centimetre to measure length and distance. They use a calendar to identify the date and name and order the months and the seasons of the year. Students use informal units to compare and order the duration of events and tell the time on the half- and quarter-hour. They identify, describe, sort and model particular three-dimensional objects and two-dimensional shapes. Students represent and describe the position of objects and interpret simple maps.

Students collect, organise, display and interpret data using lists, tables and picture graphs. They recognise and describe the element of chance in everyday events.

Australian Curriculum		NSW syllabus
MATHEMATICS	MATHEMATICS	CONTENT
Sub-strand Number and place value Investigate number sequences, initially those increasing and decreasing by twos, threes, fives and tens from any starting point, then moving to other sequences (ACMNA026)	Number and algebra: Whole numbers 2  Describes mathematical situations and methods using every day and some mathematical language, actions, materials, diagrams and symbols (MA1-1WM)  Uses objects, diagrams and technology to explore mathematical problems (MA1-2WM)  Supports conclusions by explaining or demonstrating how answers were obtained (MA1-3WM)  Applies place value, informally, to count, order, read and represent two- and three-digit numbers (MA1-4NA)	Students:  Investigate number sequences, initially those increasing and decreasing by twos, threes, fives and tens from any starting point, then moving to other sequences (ACMNA026)  - count forwards and backwards by twos, threes and fives from any starting point - count forwards and backwards by tens, on and off the decade, with two- and three-digit numbers, e.g. 40, 30, 20, (on the decade); 427, 437, 447, (off the decade) - identify number sequences on number charts
Sub-strand Number and place value Recognise, model, represent and order numbers to at least 1000 (ACMNA027)	Number and algebra: Whole numbers 2  Describes mathematical situations and methods using every day and some mathematical language, actions, materials, diagrams and symbols (MA1-1WM)  Uses objects, diagrams and technology to explore mathematical problems (MA1-2WM)  Supports conclusions by explaining or demonstrating how answers were obtained (MA1-3WM)  Applies place value, informally, to count, order, read and represent two- and three-digit numbers (MA1-4NA)	Students:  Recognise, model, represent and order numbers to at least 1000 (ACMNA027)  - represent three-digit numbers using objects, pictures, words and numerals - use the terms 'more than' and 'less than' to compare numbers - arrange numbers of up to three digits in ascending order  o use number lines and number charts beyond 100 to assist with counting and ordering (Communicating, Problem Solving) o give reasons for placing a set of numbers in a particular order (Communicating, Reasoning)

Strand Number and algebra

Sub-strand Number and place value

Group, partition and rearrange collections up to 1000 in hundreds, tens and ones to facilitate more efficient counting (ACMNA028)

Number and algebra: Whole numbers 2

Describes mathematical situations and methods using every day and some mathematical language, actions, materials, diagrams and symbols (MA1-1WM)

Uses objects, diagrams and technology to explore mathematical problems (MA1-2WM)

Supports conclusions by explaining or demonstrating how answers were obtained **(MA1-3WM)** 

Applies place value, informally, to count, order, read and represent two- and three-digit numbers (MA1-4NA)

#### Students:

Group, partition and rearrange collections of up to 1000 in hundreds, tens and ones to facilitate more efficient counting (ACMNA028)

- apply an understanding of place value and the role of zero to read, write and order three-digit numbers
  - form the largest and smallest number from three given digits (Communicating, Reasoning)
- count and represent large sets of objects by systematically grouping in tens and hundreds
  - use models such as base 10 material, interlocking cubes and bundles of sticks to explain grouping (Communicating, Reasoning)
- use and explain mental grouping to count and to assist with estimating the number of items in large groups
- use place value to partition three-digit numbers, e.g.
   326 as 3 groups of one hundred, 2 groups of ten and 6 ones
- state the place value of digits in numbers of up to three digits, e.g. 'In the number 583, the "5" represents 500 or 5 hundreds'
- partition three-digit numbers in non-standard forms, e.g.
   326 can be 32 groups of ten and 6 ones
- round numbers to the nearest hundred
- estimate, to the nearest hundred, the number of objects in a collection and check by counting, e.g. show 120 pop sticks and ask students to estimate to the nearest hundred

Strand Number and algebra

Sub-strand Number and place value

Solve simple addition and subtraction problems using a range of efficient mental and written strategies (ACMNA030)

Number and Algebra: Addition and Subtraction 2

Describes mathematical situations and methods using every day and some mathematical language, actions, materials, diagrams and symbols (MA1-1WM)

Uses objects, diagrams and technology to explore mathematical problems (MA1-2WM)

Supports conclusions by explaining or demonstrating how answers were obtained (MA1-3WM)

#### Students:

Solve simple addition and subtraction problems using a range of efficient mental and written strategies (ACMNA030)

- use and record a range of mental strategies to solve addition and subtraction problems involving two-digit numbers, including: CCT
  - the jump strategy on an empty number line
  - the split strategy, e.g. record how the answer to 37 + 45 was obtained using the split strategy

30+40=70

	Uses a range of strategies and informal	7+5=12
	recording methods for addition and subtraction	so 70+12=82
	involving one- and two-digit numbers (MA1-5NA)	an inverse strategy to change a subtraction into an addition, e.g. 54 – 38: start at 38, adding 2 makes 40, then adding 10 makes 50, then adding 4 makes 54, and so the answer is 2 + 10 + 4 = 16  - select and use a variety of strategies to solve addition and subtraction problems involving one- and two-digit numbers  • perform simple calculations with money, e.g. buying items from a class shop and giving change (Problem Solving) LWE  • check solutions using a different strategy (Problem Solving) CCT  • recognise which strategies are more efficient
		and explain why (Communicating, Reasoning) CCT  explain or demonstrate how an answer was obtained for addition and subtraction problems, e.g. show how the answer to 15 + 8 was obtained using a jump strategy on an empty number line  +5  +3
		15 20 23
Strand Number and algebra	Number and Algebra: Multiplication and	Students:
	Division 2	Recognise and represent multiplication as repeated addition,
Sub-strand Number and place value	Describes mathematical situations and methods	groups and arrays (ACMNA031)
Recognise and represent multiplication as repeated addition, groups and arrays (ACMNA031)	using every day and some mathematical language, actions, materials, diagrams and symbols (MA1-1WM)	<ul> <li>model multiplication as repeated addition, e.g. 3 groups of 4 is the same as 4 + 4 + 4</li> <li>find the total number of objects by placing them</li> </ul>
	Uses objects, diagrams and technology to explore mathematical problems (MA1-2WM)	into equal-sized groups and using repeated addition (Problem Solving)  o use empty number lines and number charts to
	Supports conclusions by explaining or demonstrating how answers were obtained (MA1-3WM)	record repeated addition, e.g.

Applies place value, informally, to count, order,

read and represent two- and three-digit numbers

	Uses a range of mental strategies and concrete materials for multiplication and division (MA1-6NA)	explore the use of repeated addition to count in practical situations, e.g. counting stock on a farm (Problem Solving)  recognise when items have been arranged into groups, e.g. 'I can see two groups of three pencils'  use concrete materials to model multiplication as equal 'groups' and by forming an array of equal 'rows' or equal 'columns', e.g.  'two rows of three'  'two groups of three' or 'three columns of two'  describe collections of objects as 'groups of', 'rows of' and 'columns of' (Communicating)  determine and distinguish between the 'number of rows/columns' and the 'number in each row/column' when describing collections of objects (Communicating)  recognise practical examples of arrays, such as seedling trays or vegetable gardens
		seedling trays or vegetable gardens (Reasoning)  model the commutative property of multiplication, e.g. '3 groups of 2 is the same as 2 groups of 3'
Strand Number and algebra	Number and Algebra: Whole numbers 2	Students:
Sub-strand Money and financial mathematics	Describes mathematical situations and methods	Count and order small collections of Australian coins and notes
Count and order small collections of Australian coins and notes according to their value (ACMNA034)	using every day and some mathematical language, actions, materials, diagrams and symbols (MA1-1WM)	<ul> <li>according to their value (ACMNA034)</li> <li>use the face value of coins and notes to sort, order and count money</li> </ul>
. ,	Uses objects, diagrams and technology to explore mathematical problems (MA1-2WM)	<ul> <li>compare Australian coins and notes with those from other countries, e.g. from students' cultural backgrounds (Communicating)</li> </ul>
	Supports conclusions by explaining or demonstrating how answers were obtained (MA1-3WM)	o determine whether there is enough money to buy a particular item (Problem Solving, Reasoning)
		roopgoing that there are 1/1/1 contain #1 1/1/1 contain

recognise that there are 100 cents in \$1, 200 cents in

identify equivalent values in collections of coins and in

collections of notes, e.g. four \$5 notes have the same

	(MA1-4NA)	value as one \$20 note
Sub-strand Chance Identify practical activities and everyday events that involve chance. Describe outcomes as 'likely' or 'unlikely' and identify some events as 'certain' or 'impossible' (ACMSP047)	Statistics and Probability: Chance 2  Describes mathematical situations and methods using every day and some mathematical language, actions, materials, diagrams and symbols (MA1-1WM)  Recognises and describes the element of chance in everyday events (MA1-18SP)	Students:   Identify practical activities and everyday events that involve chance (ACMSP047)

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Resource title: Sal's secret

Year levels: 3

Key learning areas: Mathematics

### **National Consumer and Financial Literacy Framework**

Dimension: Knowledge and understanding (Year 4)

Student learnings: Explain some different forms that money can take

Explain how saving money in a financial institution can earn interest

**Dimension: Competence (Year 4)** 

Student learnings: Use money to buy basic goods and services in 'real-life' contexts

Create simple budgets for specific purposes

Order and discuss reasons for spending preferences

Discuss some options for paying for goods and services such as: cash, debit card, credit card and direct debit

Dimension: Responsibility and enterprise (Year 4)

Student learnings: Apply consumer and financial knowledge and skills in relevant class and/or school activities such as student investigations, charity fundraising,

business ventures and special events.

Stage 1 Stage Statements: This unit of work contributes to the following stage statements for Stage 1 (highlighted)

#### **MATHEMATICS**

This unit of work contributes to the following stage statements for Stage 2 (highlighted).

By the end of Stage 2, students ask questions and use efficient mental and written strategies with increasing fluency to solve problems. They use technology to investigate mathematical concepts and check their solutions. Students use appropriate terminology to describe and link mathematical ideas, check statements for accuracy and explain their reasoning.

Students count, order, read and record numbers of up to five digits. They use informal and formal mental and written strategies to solve addition and subtraction problems. Students use mental strategies to recall multiplication facts up to 10 × 10 and related division facts. They use informal written strategies for multiplication and division of two-digit numbers by one-digit numbers. Students represent, model and compare commonly used fractions, and model, compare and represent decimals of up to two decimal places. Students perform simple calculations with money and solve simple purchasing problems. They record, describe and complete number patterns and determine missing numbers in number sentences. Students recognise the properties of odd and even numbers.

Students estimate, measure, compare, convert and record length, area, volume, capacity and mass using formal units. They read and record time in hours and minutes, convert between units of time, and solve simple problems involving the duration of time. Students name, describe and sketch particular three-dimensional objects and two-dimensional shapes. They combine and split two-dimensional shapes to create other shapes. They compare angles using informal means and classify angles according to their size. Students use a grid-reference system to describe position, and compass points to give and follow directions. They make simple calculations using scales on maps and plans.

Students collect and organise data, and create and interpret tables and picture and column graphs. They list all possible outcomes of everyday events, and describe and compare chance events in social and experimental contexts.

Australian Curriculum	NSW syllabus		
MATHEMATICS	MATHEMATICS	CONTENT	
Sub-strand Number and place value Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems (ACMNA053)	Number and Algebra: Whole numbers 1 Uses appropriate terminology to describe, and symbols to represent, mathematical ideas (MA2-1WM) Selects and uses appropriate mental or written strategies, or technology, to solve problems (MA2-2WM) Checks the accuracy of a statement and explains the reasoning used (MA2-3WM) Applies place value to order, read and represent numbers of up to five digits (MA2-4NA)	Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems (ACMNA053)  - apply an understanding of place value and the role of zero to read, write and order numbers of up to four digits - interpret four-digit numbers used in everyday contexts (Problem Solving) - CCT  - use place value to partition numbers of up to four digits, e.g. 3265 as 3 groups of one thousand, 2 groups of one hundred, 6 groups of ten and 5 ones - state the 'place value' of digits in numbers of up to four digits, e.g. 'In the number 3426, the place value of the "4" is 400 or 4 hundreds' - record numbers of up to four digits using place value, e.g. 5429 = 5000 + 400 + 20 + 9 - partition numbers of up to four digits in nonstandard forms, e.g. 3265 as 32 hundreds and 65 ones CCT - round numbers to the nearest ten, hundred or thousand	
Strand Number and Algebra Sub-strand Number and place value Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation (ACMNA055)	Number and Algebra: Addition and Subtraction 1 Uses appropriate terminology to describe, and symbols to represent, mathematical ideas (MA2-1WM) Selects and uses appropriate mental or written strategies, or technology, to solve problems (MA2-2WM)	Students:  Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation (ACMNA055)  - add three or more single-digit numbers - model and apply the associative property of addition to aid mental computation, e.g. 2 + 3 + 8	
	Checks the accuracy of a statement and explains the reasoning used (MA2-3WM)	<ul> <li>= 2 + 8 + 3 = 10 + 3 = 13</li> <li>apply known single-digit addition and subtraction facts to mental strategies for addition and subtraction of two-, three- and four-digit numbers,</li> </ul>	

Uses mental and written strategies for addition and		includin	ıg:	
subtraction involving two-, three-, four- and five-digit			•	the jump strategy on an empty
numbers (MA2-5NA)				number line, e.g. 823 + 56: 823 +
, ,				50 = 873, 873 + 6 = 879
			•	the split strategy, e.g. $23 + 35$ : 20 $+ 30 + 3 + 5 = 58$
				the compensation strategy, e.g.
			_	63 + 29: 63 + 30 = 93, subtract 1
				to obtain 92
			•	using patterns to extend number
				facts, e.g. 500 – 200: 5 – 2 = 3, so 500
				- 200 = 300
			•	bridging the decades, e.g. 34 +
				26: 34 + 6 = 40, 40 + 20 = 60
			•	changing the order of addends to
				form multiples of 10, e.g. 16 + 8 + 4: add 16 to 4 first
			•	using place value to partition
				numbers,
				e.g. 2500 + 670: 2500 + 600 + 70
			_	= 3170
			•	partitioning numbers in non- standard forms,
				e.g. 500 + 670: 670 = 500 + 170,
				so $500 + 670 = 500 + 500 + 170$ ,
				which is $1000 + 170 = 1170$
		0		and apply efficient strategies for
				and subtraction (Problem
		0	Solving	and compare different methods of
		O		and subtraction (Communicating)
	_	use cor		aterials to model the addition and
				wo or more numbers, with and
			-	and record the method used
!	_			record a variety of mental
				lve addition and subtraction
			four dig	ding word problems, with numbers
		or up to	_	easonable estimate for a problem,
		-		how the estimate was obtained,
!			and che	eck the solution (Communicating,
!		_	Reasor	0,
!	_			sign to record equivalent number
				ving addition and subtraction and
		50 to m	ean is t	he same as', rather than to mean

		to perform an operation, e.g. $32 - 13 = 30 - 11$ o check given number sentences to determine if they are true or false and explain why, e.g. 'ls $39 - 12 = 15 + 11$ true? Why or why not?' (Communicating, Reasoning)
Sub-strand Money and financial mathematics Represent money values in multiple ways and count the change required for simple transactions to the nearest five cents (ACMNA059)	Number and Algebra: Addition and Subtraction 1 Uses appropriate terminology to describe, and symbols to represent, mathematical ideas (MA2-1WM) Selects and uses appropriate mental or written strategies, or technology, to solve problems (MA2-2WM) Checks the accuracy of a statement and explains the reasoning used (MA2-3WM) Uses mental and written strategies for addition and subtraction involving two-, three-, four- and five-digit numbers (MA2-5NA)	Represent money values in multiple ways and count the change required for simple transactions to the nearest five cents (ACMNA059)  - calculate equivalent amounts of money using different denominations, e.g. 70 cents can be made up of three 20-cent coins and a 10-cent coin, or two 20-cent coins and three 10-cent coins, etc  - perform simple calculations with money, including finding change, and round to the nearest five cents PSCWE  - calculate mentally to give change
Sub-strand Money and financial mathematics Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies (ACMNA057)	Number and Algebra: Multiplication and Division  Uses appropriate terminology to describe, and symbols to represent, mathematical ideas (MA2-1WM)  Selects and uses appropriate mental or written strategies, or technology, to solve problems (MA2-2WM)  Checks the accuracy of a statement and explains the reasoning used (MA2-3WM)  Uses mental and informal written strategies for multiplication and division (MA2-6NA)	Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies (ACMNA057)  - use mental strategies to multiply a one-digit number by a multiple of 10, including:  • repeated addition, e.g. 3 × 20: 20 + 20 + 20 = 60  • using place value concepts, e.g. 3 × 20: 3 × 2 tens = 6 tens = 60  • factorising the multiple of 10, e.g. 3 × 20: 3 × 2 × 10 = 6 × 10 = 60  • apply the inverse relationship of multiplication and division to justify answers, e.g. 12 ÷ 3 is 4 because 4 × 3 = 12 (Reasoning)  - Select, use and record a variety of mental strategies, and appropriate digital technologies, to solve simple multiplication problems  • pose multiplication problems and apply appropriate strategies to solve them

		(Communicating, Problem Solving)
	0	explain how an answer was obtained and
		compare their own method of solution
		with the methods of other students
		(Communicating, Reasoning)
	0	explain problem-solving strategies using
		language, actions, materials and drawings
		(Communicating, Problem Solving)

Strand Number and Algebra

Sub-strand Money and financial mathematics

Recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and decimal notation (ACMNA079)

Number and Algebra: Fractions and Decimals 2

Uses appropriate terminology to describe, and symbols to represent, mathematical ideas (MA2-1WM)

Checks the accuracy of a statement and explains the reasoning used (MA2-3WM)

Represents, models and compares commonly used fractions and decimals (MA2-7NA)

#### Students:

Recognise that the place value system can be extended to tenths and hundredths, and make connections between fractions and decimal notation (ACMNA079)

- recognise and apply decimal notation to express whole numbers, tenths and hundredths as decimals, e.g. 0.1 is the same as  $\frac{1}{10}$ 

describe methods used in solving

multiplication problems (Communicating)

- o investigate equivalences using various methods, e.g. use a number line or a calculator to show that 12 is the same as 0.5 and  $\frac{5}{10}$  (Communicating, Reasoning)
- identify and interpret the everyday use of fractions and decimals, such as those in advertisements (Communicating, Problem Solving)
- state the place value of digits in decimal numbers of up to two decimal places
- use place value to partition decimals of up to two decimal places,

e.g. 
$$5.37 = 5 + \frac{3}{10} + \frac{7}{100}$$

 partition decimals of up to two decimal places in non-standard forms,

e.g. 
$$5.37 = 5 + \frac{37}{100}$$

- apply knowledge of hundredths to represent amounts of money in decimal form, e.g. five dollars and 35 cents is 5 <sup>35</sup>/<sub>100</sub>, which is the same as \$5.35 (Communicating)
- model, compare and represent decimals of up to two decimal places
  - o apply knowledge of decimals to record

**Strand** Number and Algebra

**Sub-strand** Data representation and interpretation

Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies (ACMSP069)

## Statistics and Probability: Data 1

Uses appropriate terminology to describe, and symbols to represent, mathematical ideas (MA2-1WM)

Selects and uses appropriate mental or written strategies, or technology, to solve problems (MA2-2WM)

Checks the accuracy of a statement and explains the reasoning used **(MA2-3WM)** 

Selects appropriate methods to collect data, and constructs, compares, interprets and evaluates data displays, including tables, picture graphs and column graphs (MA2-18SP)

- measurements, e.g. 123 cm = 1.23 m (Communicating)
- o interpret zero digit(s) at the end of a decimal, e.g. 0.70 has the same value as 0.7, 3.00 and 3.0 have the same value as 3 (Communicating)
- recognise that amounts of money are written with two decimal places, e.g. \$4.30 is not written as \$4.3 (Communicating)
- use one of the symbols for dollars (\$) and cents (c) correctly when expressing amounts of money, i.e. \$5.67 and 567c are correct, but \$5.67c is not (Communicating)
- use a calculator to create patterns involving decimal numbers, e.g. 1 ÷ 10, 2 ÷ 10, 3 ÷ 10 (Communicating)
- place decimals of up to two decimal places on a number line, e.g. place 0.5, 0.25 and 0.75 on a number line
- round a number with one or two decimal places to the nearest whole number

#### Students:

Collect data, organise it into categories, and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies (ACMSP069)

 collect data and create a list or table to organise the data, e.g. collect data on the number of each colour of lollies in a packet

Colour	Number of Iollies
Red	5
Blue	2
Yellow	7
Green	1

- use computer software to create a table to organise collected data, e.g. a spreadsheet (Communicating)
- construct vertical and horizontal column graphs and picture graphs that represent data using one-

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	to-one correspondence  use grid paper to assist in constructing graphs that represent data using one-to-one correspondence (Communicating)  use the terms 'horizontal axis', 'vertical axis' and 'axes' appropriately when referring to column graphs (Communicating)  use graphing software to enter data and create column graphs that represent data (Communicating)  mark equal spaces on axes, name and label axes, and choose appropriate titles for column graphs (Communicating)  choose an appropriate picture or symbol for a picture graph and state the key used (Communicating)	

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Resource title: How much love can fit into a shoebox?

Year levels: 4

Key learning areas: Mathematics

### **National Consumer and Financial Literacy Framework**

Dimension: Knowledge and understanding (Year 4)

Student learnings: Recognise that different countries use different currencies

Explain why similar goods and services may vary in price

**Dimension: Competence (Year 4)** 

Student learnings: Use money to buy basic goods and services in 'real-life' contexts

Order and discuss reasons for spending preference

Dimension: Responsibility and enterprise (Year 4)

Student learnings: Identify consumer and financial matters that are part of daily life such as earning money, spending, saving, paying bills, making donations

Identify and explain how some influences, such as advertising and peer pressure, can affect what you buy

Demonstrate awareness that family, community and socio-cultural values and customs can influence consumer behaviour and financial

decision-making

Stage 2 Stage Statements: This unit of work contributes to the following stage statements for Stage 2 (highlighted)

#### **MATHEMATICS**

By the end of Stage 2, students ask questions and use efficient mental and written strategies with increasing fluency to solve problems. They use technology to investigate mathematical concepts and check their solutions. Students use appropriate terminology to describe and link mathematical ideas, check statements for accuracy and explain their reasoning.

Students count, order, read and record numbers of up to five digits. They use informal and formal mental and written strategies to solve addition and subtraction problems. Students use mental strategies to recall multiplication facts up to 10 x 10 and related division facts. They use informal written strategies for multiplication and division of two-digit numbers by one-digit numbers. Students represent, model and compare commonly used fractions, and model, compare and represent decimals of up to two decimal places. Students perform simple calculations with money and solve simple purchasing problems. They record, describe and complete number patterns and determine missing numbers in number sentences. Students recognise the properties of odd and even numbers.

Students estimate, measure, compare, convert and record length, area, volume, capacity and mass using formal units. They read and record time in hours and minutes, convert between units of time, and solve simple problems involving the duration of time. Students name, describe and sketch particular three-dimensional objects and two-dimensional shapes. They combine and split two-dimensional shapes to create other shapes. They compare angles using informal means and classify angles according to their size. Students use a grid-reference system to describe position, and compass points to give and follow directions. They make simple calculations using scales on maps and plans.

Students collect and organise data, and create and interpret tables and picture and column graphs. They list all possible outcomes of everyday events, and describe and compare chance events in social and experimental contexts.

Australian Curriculum	NSW syllabus	
MATHEMATICS	MATHEMATICS	CONTENT
Sub-strand Money and financial mathematics  Solve problems involving purchases and the calculation of change to the nearest five cents with and without digital technologies (ACMNA080)	Sub-strand Addition and Subtraction 2  Uses appropriate terminology to describe, and symbols to represent, mathematical ideas (MA2-1WM)  Selects and uses appropriate mental or written strategies, or technology, to solve problems (MA2-2WM)  Checks the accuracy of a statement and explains the reasoning used (MA2-3WM)  Uses mental and written strategies for addition and subtraction involving two-, three- and four-digit numbers (MA2-5NA)	Solve problems involving purchases and the calculation of change to the nearest five cents with and without digital technologies (ACMNA080)  - solve addition and subtraction problems involving money, with and without digital technologies  • use a variety of strategies to solve unfamiliar problems involving money (Communicating, Problem Solving)  • reflect on own method of solution for a money problem, considering whether it can be improved (Communicating, Reasoning)  - calculate change correct to the nearest five cents  - use estimation to check the reasonableness of solutions to addition and subtraction problems, including those involving money
Strand Number and Algebra Sub-strand Fractions and Decimals Investigate equivalent fractions used in contexts (ACMNA077)	Strand Number and Algebra Sub-strand Fractions and Decimals 2 Uses appropriate terminology to describe, and symbols to represent, mathematical ideas (MA2-1WM) Checks the accuracy of a statement and explains the reasoning used (MA2-3WM) Represents, models and compares commonly used fractions and decimals (MA2-7NA)	Students:  Investigate equivalent fractions used in contexts (ACMNA077)  - model, compare and represent fractions with denominators of 2, 4 and 8; 3 and 6; and 5, 10 and 100  - model, compare and represent the equivalence of fractions with related denominators by redividing the whole, using concrete materials and diagrams, e.g.

Strand Number and Algebra

Sub-strand Fractions and Decimals

Recognise that the place value system can be extended to tenths and hundredths, and make connections between fractions and decimal notation (ACMNA079)

Strand Number and Algebra

Sub-strand Fractions and Decimals 2

Uses appropriate terminology to describe, and symbols to represent, mathematical ideas (MA2-1WM)

Checks the accuracy of a statement and explains the reasoning used (MA2-3WM)

Represents, models and compares commonly used fractions and decimals (MA2-7NA)

Students:

Recognise that the place value system can be extended to tenths and hundredths, and make connections between fractions and decimal notation (ACMNA079)

- recognise and apply decimal notation to express whole numbers, tenths and hundredths as decimals, e.g. 0.1 is the same as  $\frac{1}{10}$ 
  - investigate equivalences using various methods, e.g. use a number line or a calculator to show that  $\frac{1}{2}$  is the same as 0.5 and  $\frac{5}{10}$  (Communicating, Reasoning)
  - identify and interpret the everyday use of fractions and decimals, such as those in advertisements (Communicating, Problem Solving)
- state the place value of digits in decimal numbers of up to two decimal places
- use place value to partition decimals of up to two decimal places,

e.g. 
$$5.37 = 5 + \frac{3}{10} + \frac{7}{100}$$

 partition decimals of up to two decimal places in non-standard forms,

e.g. 5.37=5+
$$\frac{37}{100}$$

- apply knowledge of hundredths to represent amounts of money in decimal form, e.g. five dollars and 35 cents is 5<sup>35</sup>/<sub>100</sub>, which is the same as \$5.35 (Communicating)
- model, compare and represent decimals of up to two decimal places
  - interpret zero digit(s) at the end of a decimal, e.g. 0.70 has the same value as 0.7, 3.00 and 3.0 have the same value as 3 (Communicating)
  - recognise that amounts of money are written with two decimal places, e.g. \$4.30 is not written as \$4.3 (Communicating)
  - use one of the symbols for dollars (\$) and cents (c) correctly when expressing amounts of money, i.e. \$5.67 and 567c are correct, but \$5.67c is not (Communicating)
  - o use a calculator to create patterns involving

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	decimal numbers, e.g. 1 ÷ 10, 2 ÷ 10, 3 ÷ 10 (Communicating)  - place decimals of up to two decimal places on a number line, e.g. place 0.5, 0.25 and 0.75 on a number line  - round a number with one or two decimal places to the nearest whole number	

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Resource title: Hey! Let's have a big day out!

Year levels: 5

**Key learning areas:** Mathematics

### **National Consumer and Financial Literacy Framework**

**Dimension: Knowledge and understanding** 

Student learnings: Recognise that families use household income to meet regular financial commitments and immediate and future expenses (Year 6)

**Dimension: Competence** 

Student learnings: Create simple budgets for specific purposes (Year 4)

Order and justify reasons for spending preferences (Year 6)

**Dimension: Responsibility and enterprise** 

Student learnings: Identify and describe the impact that the consumer decisions of individuals may have on themselves and their families, the broader community

and/or the environment (Year 6)

Stage 3Stage Statements: This unit of work contributes to the following stage statements for Stage 3(highlighted)

#### **MATHEMATICS**

By the end of Stage 3, students ask questions and undertake investigations, selecting appropriate technological applications and problem-solving strategies to demonstrate fluency in mathematical techniques. They use mathematical terminology and some conventions, and they give valid reasons when comparing and selecting from possible solutions, making connections with existing knowledge and understanding.

Students select and apply appropriate mental, written or calculator strategies for the four operations and check the reasonableness of answers using estimation. They solve word problems and apply the order of operations to number sentences where required. Students identify factors and multiples and recognise the properties of prime, composite, square and triangular numbers. They connect fractions, decimals and percentages as different representations of the same value. Students compare, order and perform calculations with simple fractions, decimals and percentages and apply the four operations to money in real-life situations. Students record, describe and continue geometric and number patterns, and they find missing numbers in number sentences. They locate an ordered pair in any one of the four quadrants on the Cartesian plane.

Students select and use the appropriate unit to estimate, measure and calculate length, area, volume, capacity and mass. They make connections between capacity and volume, and solve problems involving length and area. Students use 24-hour time in real-life situations, construct and interpret timelines and use timetables. They convert between units of length, units of capacity and units of mass. They construct and classify three-dimensional objects and two-dimensional shapes, and compare and describe their features, including line and rotational symmetries. Students measure and construct angles, and find unknown angles in diagrams using known angle results. They use a grid-reference system to locate landmarks and describe routes using landmarks and directional language.

Students use appropriate data collection methods to interpret and analyse sets of data and construct a range of data displays. They assign probabilities as fractions, decimals or percentages in simple chance experiments.

Australian Curriculum	NSW syllabus	
MATHEMATICS	MATHEMATICS	CONTENT
Strand Number and Algebra Sub-strand Money and financial mathematics Create simple financial plans (ACMNA106)	Sub-strand Addition and Subtraction 1  Describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions (MA3-1WM)  Selects and applies appropriate problem-solving strategies, including technological applications, in undertaking investigations (MA3-2WM)  Gives a valid reason for supporting one possible solution over another (MA3-3WM)  Selects and applies appropriate strategies for addition and subtraction with counting numbers of any size (MA3-5NA)	Students:  Create simple financial plans (ACMNA106)  - use knowledge of addition and subtraction facts to create a financial plan such as a budget, e.g. organise a class celebration on a budget of \$60 for all expenses  - record numerical data in a simple spreadsheet (Communicating) - give reasons for selecting, prioritising and deleting items when creating a budget (Communicating, Reasoning)
Strand Number and Algebra Sub-strand Number and place value Use estimation and rounding to check the reasonableness of answers to calculations (ACMNA099)	Strand Number and Algebra  Sub-strand Multiplication and Division 1  Describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions (MA3-1WM)  Selects and applies appropriate problem-solving strategies, including technological applications, in undertaking investigations (MA3-2WM)  Gives a valid reason for supporting one possible solution over another (MA3-3WM)  Selects and applies appropriate strategies for multiplication and division, and applies the order of operations to calculations involving more than one operation (MA3-6NA)	Students:  Use estimation and rounding to check the reasonableness of answers to calculations (ACMNA099)  - round numbers appropriately when obtaining estimates to numerical calculations - use estimation to check the reasonableness of answers to addition and subtraction calculations, e.g. 1438 + 129 is about 1440 + 130
Strand Number and Algebra Sub-strand Number and place value Solve problems involving multiplication of large numbers by one- or two-digit numbers using efficient mental, written strategies and appropriate digital technologies (ACMNA100)	Strand Number and Algebra  Sub-strand Multiplication and Division 1  Describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions (MA3-1WM)  Selects and applies appropriate problem-solving	Students:  Solve problems involving multiplication of large numbers by one- or two-digit numbers using efficient mental and written strategies and appropriate digital technologies (ACMNA100)  use mental and written strategies to multiply three- and four-digit numbers by one-digit numbers,

strategies, including technological applications, in undertaking investigations (MA3-2WM)

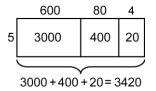
Gives a valid reason for supporting one possible solution over another **(MA3-3WM)** 

Selects and applies appropriate strategies for multiplication and division, and applies the order of operations to calculations involving more than one operation (MA3-6NA)

including:

 multiplying the thousands, then the hundreds, then the tens and then the ones, e.g.

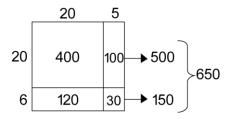
using an area model, e.g. 684 x 5



o using the formal algorithm, e.g. 432 x 5

$$\begin{array}{r} 432 \times \\ \hline 2160 \end{array}$$

- use mental and written strategies to multiply twoand three-digit numbers by two-digit numbers, including:
  - using an area model for two-digit by two-digit multiplication, e.g. 25 x 26



- o factorising the numbers, e.g.  $12 \times 25 = 3 \times 4 \times 25 = 3 \times 100 = 300$
- using the extended form (long multiplication) of the formal algorithm,
   e.g.

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	<ul> <li>use digital technologies to multiply numbers of up to four digits</li> <li>check answers to mental calculations using digital technologies (Problem Solving)</li> <li>apply appropriate mental and written strategies, and digital technologies, to solve multiplication word problems</li> <li>use the appropriate operation when solving problems in real-life situations (Problem Solving)</li> <li>use inverse operations to justify solutions (Problem Solving, Reasoning)</li> <li>record the strategy used to solve multiplication word problems</li> <li>use selected words to describe each step of the solution process (Communicating, Problem Solving)</li> </ul>	

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Resource title: It's raining cats and dogs... and chickens?

Year levels: 6

**Key learning areas:** Mathematics

### **National Consumer and Financial Literacy Framework**

Dimension: Knowledge and understanding (Year 6)

Student learnings: Analyse the value of a range of goods and services in relation to an identified need

**Dimension: Competence (Year 6)** 

Student learnings: Evaluate the value of a range of goods and services in a variety of 'real-life' situations

Dimension: Responsibility and enterprise (Year 6)

Student learnings: Explain there are ethical considerations to some consumer and financial decisions

Examine and discuss the external factors that influence consume choices

### Stage 3 Stage Statements: This unit of work contributes to the following stage statements for Stage 3 (highlighted)

#### **MATHEMATICS**

By the end of Stage 3, students ask questions and undertake investigations, selecting appropriate technological applications and problem-solving strategies to demonstrate fluency in mathematical techniques. They use mathematical terminology and some conventions, and they give valid reasons when comparing and selecting from possible solutions, making connections with existing knowledge and understanding.

Students select and apply appropriate mental, written or calculator strategies for the four operations and check the reasonableness of answers using estimation. They solve word problems and apply the order of operations to number sentences where required. Students identify factors and multiples and recognise the properties of prime, composite, square and triangular numbers. They connect fractions, decimals and percentages as different representations of the same value. Students compare, order and perform calculations with simple fractions, decimals and percentages and apply the four operations to money in real-life situations. Students record, describe and continue geometric and number patterns, and they find missing numbers in number sentences. They locate an ordered pair in any one of the four quadrants on the Cartesian plane.

Students select and use the appropriate unit to estimate, measure and calculate length, area, volume, capacity and mass. They make connections between capacity and volume, and solve problems involving length and area. Students use 24-hour time in real-life situations, construct and interpret timelines and use timetables. They convert between units of length, units of capacity and units of mass. They construct and classify three-dimensional objects and two-dimensional shapes, and compare and describe their features, including line and rotational symmetries. Students measure and construct angles, and find unknown angles in diagrams using known angle results. They use a grid-reference system to locate landmarks and describe routes using landmarks and directional language.

Students use appropriate data collection methods to interpret and analyse sets of data and construct a range of data displays. They assign probabilities as fractions, decimals or percentages in simple chance experiments.

Australian Curriculum	NSW syllabus	
MATHEMATICS	MATHEMATICS	CONTENT
Sub-strand Money and financial mathematics Investigate and calculate percentage discounts of 10%, 25% and 50% on sale items, with and without digital technologies (ACMNA132)	Strand Number and Algebra Sub-strand Fractions and Decimals 2  Describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions (MA3-1WM)  Selects and applies appropriate problem-solving strategies, including technological applications, in undertaking investigations (MA3-2WM)  Gives a valid reason for supporting one possible solution over another (MA3-3WM)  Compares, orders and calculates with decimals, simple fractions and simple percentages (MA3-7NA)	Students:  - investigate and calculate percentage discounts of 10%, 25% and 50% on sale items, with and without digital technologies ( <b>ACMNA132</b> )  - equate 10% to 1/10, 25% to 1/4 and 50% to 1/2  - calculate simple percentages (10%, 25%, 50%) of quantities, with and without digital technologies  · choose the most appropriate equivalent form of a percentage to aid calculation, e.g. (Problem Solving)  25% of \$200 = 1/4 of \$200 = \$200 ÷ 4 = \$50  - use mental strategies to estimate discounts of 10%, 25% or 50%, e.g. '50% off the price of \$122.70; 50% is the same as 1/2, so the discount is approximately \$60'  - calculate the sale price of an item after a discount of 10%, 25% or 50%, with and without digital technologies, recording the strategy and result
Sub-strand Fractions and decimals  Make connections between equivalent fractions, decimals and percentages (ACMNA131)	Strand Number and Algebra Sub-strand Fractions and Decimals 2 Describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions (MA3-1WM) Selects and applies appropriate problem-solving strategies, including technological applications, in undertaking investigations (MA3-2WM) Gives a valid reason for supporting one possible solution over another (MA3-3WM) Compares, orders and calculates with decimals, simple fractions and simple percentages	Students:  Make connections between equivalent fractions, decimals and percentages (ACMNA131)  - recognise that the symbol % means 'percent' - represent common percentages as fractions and decimals, e.g. '25% means 25 out of 100 or \(\frac{1}{4}\) or 0.25'  o recognise fractions, decimals and percentages as different representations of the same value (Communicating)  o recall commonly used equivalent percentages, decimals and fractions, e.g. 75%, 0.75, \(\frac{3}{4}\) (Communicating)

	(MA3-7NA)	<ul> <li>represent simple fractions as decimals and as percentages</li> <li>interpret and explain the use of fractions, decimals and percentages in everyday contexts, e.g., 3/4 hour = 45 minutes, percentage of native trees in the local area (Communicating, Reasoning)</li> <li>represent decimals as fractions and percentages, e.g. 1.37 = 137% = , <sup>137</sup>/<sub>100</sub>, 1 <sup>37</sup>/<sub>100</sub>,</li> </ul>
Strand Measurement and Geometry	Strand Measurement and Geometry	Students:
Sub-strand Using units of measurement	Sub-strand Length 2	Solve problems involving the comparison of lengths using
Solve problems involving the comparison of lengths and areas using appropriate units (ACMMG137)	Describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions (MA3-1WM)	appropriate units (ACMMG137)  - investigate and compare perimeters of rectangles with the same area  o determine the number of different rectangles
	Selects and applies appropriate problem-solving strategies, including technological applications, in undertaking investigations (MA3-2WM)	that can be formed using whole-number dimensions for a given area (Problem Solving, Reasoning)  - solve a variety of problems involving length and perimeter, including problems involving different
	Gives a valid reason for supporting one possible solution over another (MA3-3WM)	units of length, e.g. 'Find the total length of three items measuring 5 mm, 20 cm and 1.2 m'
	Selects and uses the appropriate unit and device to measure lengths, distances and perimeters, and converts between units of length (MA3-9MG)	,
Strand Measurement and Geometry	Strand Measurement and Geometry	Students:
Sub-strand Using units of measurement	Sub-strand Area 2	Solve problems involving the comparison of areas using
Solve problems involving the comparison of	A student:	appropriate units (ACMMG137)
lengths and areas using appropriate units (ACMMG137)	Describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions (MA3-1WM)	<ul> <li>investigate the area of a triangle by comparing the area of a given triangle to the area of the rectangle of the same length and perpendicular height, e.g. use a copy of the given triangle with the given triangle to form a rectangle</li> </ul>
	Selects and applies appropriate problem-solving strategies, including the use of digital technologies, in undertaking investigations (MA3-2WM)	<ul> <li>explain the relationship between the area of a triangle and the area of the rectangle of the same length and perpendicular height (Communicating, Reasoning)</li> </ul>
	Selects and uses the appropriate unit to calculate AREAS, including areas of squares, rectangles and triangles (MA3-10MG)	<ul> <li>establish the relationship between the base length, perpendicular height and area of a triangle</li> <li>record, using words, the method for finding the area</li> </ul>

		of any triangle, e.g. 'Area of triangle = \frac{1}{2} \times base \times perpendicular height'  - investigate and compare the areas of rectangles that have the same perimeter, e.g. compare the areas of all possible rectangles with whole-number dimensions and a perimeter of 20 centimetres  o determine the number of different rectangles that can be formed using whole-number dimensions for a given perimeter (Problem Solving, Reasoning)  - solve a variety of problems involving the areas of rectangles (including squares) and triangles
Strand Measurement and Geometry	Strand Measurement and Geometry	Students:
Sub-strand Shape	Sub-strand Three-dimensional Space 2	Construct simple prisms and pyramids(ACMMG140)
Construct simple prisms and pyramids (ACMMG140)	Describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions (MA3-1WM)  Identifies three-dimensional objects on the basis of their properties, and visualises, sketches and constructs them given drawings of different views (MA3-14MG)	<ul> <li>create prisms and pyramids using a variety of materials, e.g. plasticine, paper or cardboard nets, connecting cubes</li> <li>construct as many rectangular prisms as possible using a given number of connecting cubes (Problem Solving)</li> <li>create skeletal models of prisms and pyramids, e.g. using toothpicks and modelling clay or straws and tape</li> <li>connect the edges of prisms and pyramids with the construction of their skeletal models (Problem Solving)</li> <li>construct three-dimensional models of prisms and pyramids and sketch the front, side and top views</li> <li>describe to another student how to construct or draw a three-dimensional object (Communicating)</li> <li>construct three-dimensional models of prisms and pyramids, given drawings of different views</li> </ul>
Strand Statistics and probability	Strand Measurement and Geometry	Students:
Sub-strand Data representation and interpretation	Sub-strand Data 2	Interpret and compare a range of data displays, including side-
Interpret and compare a range of data displays, including side-by-side column graphs for two	Describes and represents mathematical situations in a variety of ways using mathematical	by-side column graphs for two categorical variables (ACMSP147)

categorical variables (ACMSP147)	terminology and some conventions (MA3 -1WM) Gives a valid reason for supporting one possible solution over another (MA3-3WM) Uses appropriate data collection methods, constructs and interprets data displays, and analyses sets of data (MA3-18SP)	<ul> <li>interpret information presented in two-way tables</li> <li>create a two-way table to organise data involving two categorical variables, e.g.</li> <li>Drinks Boys Girls Milk 5 6 Water 3 2 Juice 2 1</li> <li>interpret side-by-side column graphs for two categorical variables, e.g. favourite television show of students in Year 1 compared to students in Year 6</li> <li>interpret and compare different displays of the sar data set to determine the most appropriate display for the data set</li> <li>compare the effectiveness of different student created data displays (Communicating)</li> <li>discuss the advantages and disadvantages of</li> </ul>

different representations of the same data

explain which display is the most appropriate for interpretation of a particular data set

compare representations of the same data set in a side-by-side column graph and in a two-way

(Communicating)

table (Reasoning)

(Communicating, Reasoning)

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## **INTEGRATED**

YEAR F-2 – PANCAKES CAN MAKE A DIFFERENCE (English Mathematics Science)

YEAR 3 – THE HOUSE OF NEEDS AND WANTS (English Mathematics Science)

YEAR 4 – ADVERTISING DETECTIVES (English Mathematics)

YEAR 5 – NEVER TOO YOUNG TO BE MONEYSMART WITH CLOTHES (English Mathematics Science)

YEAR 6 – THE FUN BEGINS: BUDGET, PLAN PROFIT! (English Mathematics Science)

Resource title: Pancakes can make a difference

Year levels: F-2

Key learning areas: English, Mathematics and Science

### **National Consumer and Financial Literacy Framework**

Dimension: Knowledge and understanding (Year 2)

Student learnings: Recognise that money is limited and comes from a variety of sources

**Dimension: Competence (Year 2)** 

Student learnings: Identify consumer and financial matters that are part of daily life such as earning money, spending, saving, paying bills, making donations

Dimension: Responsibility and enterprise (Year 2)

Student learnings: Apply consumer and financial knowledge and skills in relevant class and/or school activities such as student investigations, charity fundraising,

business ventures and special events

### Stage 1 Stage Statements: This unit of work contributes to the following stage statements for Stage 1 (highlighted)

#### **ENGLISH**

By the end of Stage 1 students communicate with a wide range of audiences on familiar and introduced topics to achieve a variety of purposes. They interact effectively, adopting new communication skills and select vocabulary to enhance meaning in order to give confident presentations. Students attend to instructions, share ideas and engage effectively in group and class discussions. They recognise that spoken language has a range of purposes and audiences and use this knowledge when attempting to communicate effectively with others. They investigate the different types and organisational patterns of common spoken texts and recognise features within them. Students create imaginative, informative and persuasive spoken texts drawing on their own experiences, their imagination, and ideas they have learned.

Students read and view imaginative, informative and persuasive texts. They use an increasing variety of skills and strategies, including knowledge of text structure, context, grammar, punctuation, word usage and phonics, to make connections between texts and between their own experiences and information in texts. Students read with developing fluency and intonation short texts with

#### **MATHEMATICS**

By the end of Stage 1, students ask questions and use known facts, objects, diagrams and technology to explore mathematical problems and develop mathematical fluency. They link mathematical ideas and use appropriate language and diagrams to explain strategies used.

Students count, order, read and write two- and three-digit numbers and use a range of strategies and recording methods. They use mental strategies and concrete materials to add, subtract, multiply and divide, and solve problems. Students model and describe objects and collections divided into halves, quarters and eighths. They associate collections of Australian coins with their value. They use place value to partition numbers. Students describe and continue a variety of number patterns and build number relationships. They relate addition and subtraction facts for sums to at least 20.

Students estimate, measure, compare and record using informal units for length, area, volume, capacity and mass. They recognise the need for formal units of length and use the metre and centimetre to measure length and distance. They use a calendar to identify the date and name and

#### **SCIENCE**

By the end of Stage 1 students show an interest in science and technology by responding to questions, perceived needs and wants. They describe situations where they and other people use science and technology in their daily lives. They investigate the variety of ways in which the Earth's resources are used and suggest ways that science and technology can help people care for the environment and shape sustainable futures.

Through activities structured by the teacher, students continue to learn about and engage in applying the processes of Working Scientifically and Working Technologically. Students show curiosity about the Natural Environment and the Made Environment, while purposeful play becomes more focused on exploring and making observations using their senses.

When engaging in the processes of Working Scientifically and Working Technologically, students safely and carefully manipulate available tools, materials and equipment. They use a range of methods to represent information and to communicate their observations and ideas to others, with the assistance of digital technologies where appropriate.

When Working Scientifically students identify questions, make predictions and investigate everyday phenomena to explore and answer their questions. They participate in a

some unfamiliar vocabulary, simple sentences and images. Students read, interpret and discuss texts from a variety of cultures, including visual and multimodal texts, using a range of skills and strategies. They locate literal information in written texts and refer to features of language and images to make inferences about characters' actions and motivations. Students explore and identify ways in which texts differ according to purpose, audience and subject.

Students create imaginative, informative and persuasive texts on familiar topics for known readers by planning, proofreading and editing their own writing. They write using basic grammatical features and conventions of punctuation, showing an awareness of different purposes, audiences and subject matter. Students use knowledge of letter—sound correspondence, sight words and regular spelling patterns to accurately spell known words and an increasing number of irregularly spelt words. They write consistently and clearly using NSW Foundation Style as appropriate and use digital technologies to produce texts, recognising simple conventions, language and functions. Students reflect on and assess their own and others' learning.

order the months and the seasons of the year. Students use informal units to compare and order the duration of events and tell the time on the half-and quarter-hour. They identify, describe, sort and model particular three-dimensional objects and two-dimensional shapes. Students represent and describe the position of objects and interpret simple maps.

Students collect, organise, display and interpret data using lists, tables and picture graphs. They recognise and describe the element of chance in everyday events.

range of types of investigations, including surveys, testing ideas and accessing information sources. Students follow instructions to collect, record and compare their observations using informal measurements as appropriate.

When Working Technologically students use a structured design process to produce solutions in response to identified needs and wants of users/audiences. They generate and develop design ideas using research and communicate their ideas using plans, drawings and models. Students use a sequence of simple steps to produce these solutions for built environments, information and products. They give simple explanations about what they did to design and produce the solution and how it meets the needs of the user/audience.

Students describe the features of and ways in which living things grow and change, and how living things depend on places in their environment to meet their needs. They describe some sources of light and sound that they sense in their daily lives. They also describe changes in the sky and landscape, as well as the effects of pushes and pulls on objects.

Students identify ways in which materials can be physically changed and combined, and that properties of everyday materials can be related to their uses for particular purposes. They use their understanding of the Made Environment to describe a range of manufactured products, built environments and information sources and technologies, and how their different purposes influence their design.

Australian Curriculum	NS	SW syllabus
ENGLISH	ENGLISH	CONTENT
Sub-strand Language for interaction Understand that there are different ways of asking for information, making offers and giving commands (ACELA1446)	Communicating Communicates with a range of people in informal and guided activities demonstrating interaction skills and considers how own communication is adjusted in different situations (EN1-1A)	Students:  Understand and apply knowledge of language forms and features  - understand that there are different ways of asking for information, making offers and giving commands (ACELA1446)  - use turn-taking, questioning and other behaviours related to class discussion  Respond to and compose texts  - use role-play and drama to represent familiar events and characters in texts  - formulate open and closed questions appropriate to the context  - use a comment or a question to expand on an idea in a discussion  - use some persuasive language to express a point of view  - contribute appropriately to class discussions
Sub-strand Responding to literature Discuss characters and events in a range of literary texts and share personal responses to these texts, making connections with students' own experiences (ACELT1582)	Thinking imaginatively and creatively Thinks imaginatively and creatively about familiar topics, ideas and texts when responding to and composing texts (EN1-10C)  Expressing themselves Responds to and composes a range of texts about familiar aspects of the world and their own experiences (EN1-11D)  Writing and representing Identifies how language use in their own writing differs according to their purpose, audience and	Students:  Engage personally with texts  - engage in wide reading of self-selected and teacher-selected texts, including digital texts, for enjoyment, and share responses  - recognise the way that different texts create different personal responses  - respond to a wide range of texts through discussing, writing and representing  Respond to and compose texts  - compose simple print, visual and digital texts that depict aspects of their own experience  - discuss characters and events in a range of literary texts and share personal responses to these texts, making connections with students'

subject matter (EN1-7B)	own experiences (ACELT1582)
	Respond to and compose texts
	<ul> <li>draw on personal experience and feelings as subject matter to compose imaginative and other texts for different purposes</li> <li>compose and review written and visual texts for different purposes and audiences</li> </ul>

MATHEMATICS	MATHEMATICS	CONTENT
Strand Number and Algebra Sub-strand Money and financial mathematics Recognise, describe and order Australian coins according to their value (ACMNA017)	Strand Number and Algebra Sub-strand Whole Numbers 2  Describes mathematical situations and methods using every day and some mathematical language, actions, materials, diagrams and symbols (MA1-1WM)  Uses objects, diagrams and technology to explore mathematical problems (MA1-2WM)  Supports conclusions by explaining or demonstrating how answers were obtained (MA1-3WM)  Applies place value, informally, to count, order, read and represent two- and three-digit numbers (MA1-4NA)	Students:  Recognise, describe and order Australian coins according to their value (ACMNA017)  - identify, sort, order and count money using the appropriate language in everyday contexts, e.g. coins, notes, cents, dollars  - recognise that total amounts can be made using different denominations, e.g. 20 cents can be made using a single coin or two 10-cent coins  - recognise the symbols for dollars (\$) and cents (c)

SCIENCE	SCIENCE	CONTENT
Strand Science Understanding Sub-strand Chemical sciences Everyday materials can be physically changed in a variety of ways (ACSSU018)	Material world (Knowledge and understanding) Identifies ways that everyday materials can be physically changed and combined for a particular purpose (ST1-12MW) relates the properties of common materials to their use for particular purposes (ST1-13MW)	Everyday materials can be physically changed in a variety of ways. (ACSSU018)  - explore how some everyday materials can be physically changed by actions, e.g. bending, twisting, stretching, squashing or heating

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Resource title: The house of needs and wants

Year levels: 3

Key learning areas: English, Mathematics and Science

### **National Consumer and Financial Literacy Framework**

Dimension: Knowledge and understanding (Year 4)

Student learnings: Explain why similar goods and services may vary in price

Identify, explain and prioritise different needs and wants

**Dimension: Competence (Year 4)** 

Student learnings: Use money to buy basic goods and services in 'real-life' contexts

Create simple budgets for specific purposes

Classify and compare goods and services

Order and discuss reasons for spending preferences

Stage 2 Stage Statements: This unit of work contributes to the following stage statements for Stage 2 (highlighted)

#### **ENGLISH**

By the end of Stage 2 students communicate expressively and clearly with growing proficiency about ideas and information in classroom, school and social situations for a range of purposes. They explore a variety of roles when interacting in pairs and groups, attending to different views and responding appropriately. Students use various listening behaviours to gather general ideas and key points from conversations, reports or spoken presentations. They identify the effect of purpose, audience and culture on spoken texts and shape and present ideas accordingly. Students identify common organisational patterns and language features of predictable spoken texts.

Students independently read, view and respond to familiar and challenging texts and justify interpretations of ideas, information and events using a range of skills and strategies. They integrate a range of skills and strategies efficiently when reading, interpreting, analysing and evaluating texts and visual images. Students identify literal information in texts and make

### **MATHEMATICS**

By the end of Stage 2, students ask questions and use efficient mental and written strategies with increasing fluency to solve problems. They use technology to investigate mathematical concepts and check their solutions. Students use appropriate terminology to describe and link mathematical ideas, check statements for accuracy and explain their reasoning.

Students count, order, read and record numbers of up to five digits. They use informal and formal mental and written strategies to solve addition and subtraction problems. Students use mental strategies to recall multiplication facts up to 10 x 10 and related division facts. They use informal written strategies for multiplication and division of two-digit numbers by one-digit numbers. Students represent, model and compare commonly used fractions, and model, compare and represent decimals of up to two decimal places. Students perform simple calculations with money and solve simple purchasing problems. They record, describe and complete number patterns and determine missing

### **SCIENCE**

By the end of Stage 2 students are responsive to ideas and show interest in and enthusiasm for science and technology. They appreciate the importance of science and technology in their lives and show a willingness to improve the quality of their local environment.

Students begin to initiate their own investigations and develop ideas for design tasks based on their prior science and technology knowledge and experiences. When using the processes of Working Scientifically and Working Technologically, they begin to develop and apply a sequence of steps.

When engaging in the processes of Working Scientifically and Working Technologically, students safely and carefully manipulate available tools, materials and equipment. They identify ways of improving techniques and methods used in their investigations and design tasks. Students suggest ways that findings from the processes of Working Scientifically and Working Technologically can inform further investigations and design tasks. They use a range of representations to document and communicate methods, techniques, findings, ideas and information, including digital technologies as appropriate.

inferences, integrating and linking ideas and asking questions to clarify understandings. They recognise the representation of characters, settings and events in imaginative texts and start to evaluate point of view. They explain some ways in which authors and illustrators engage the interests of audiences and achieve a range of purposes. Students explore the structural and grammatical features and purposes for a range of written, visual and multimodal texts.

Students create well-structured imaginative. informative and persuasive texts in terms of topic. purpose, audience and language by drafting, proofreading and editing for familiar and unfamiliar audiences. They use simple and complex sentences, paragraphing, punctuation and grammatical features characteristic of the various texts to support meaning. Students spell familiar and unfamiliar words using knowledge of lettersound correspondence, regular and irregular spelling patterns, spelling rules and a range of other strategies. They use increasing fluency when writing, applying NSW Foundation Style as appropriate, and develop digital publishing skills. Students explain and reflect on how they structure their writing to achieve intended purposes.

numbers in number sentences. Students recognise the properties of odd and even numbers.

Students estimate, measure, compare, convert and record length, area, volume, capacity and mass using formal units. They read and record time in hours and minutes, convert between units of time, and solve simple problems involving the duration of time. Students name, describe and sketch particular three-dimensional objects and two-dimensional shapes. They combine and split two-dimensional shapes to create other shapes. They compare angles using informal means and classify angles according to their size. Students use a grid-reference system to describe position, and compass points to give and follow directions. They make simple calculations using scales on maps and plans.

Students collect and organise data, and create and interpret tables and picture and column graphs. They list all possible outcomes of everyday events, and describe and compare chance events in social and experimental contexts.

Students identify when science is used to ask investigable questions and predict outcomes. They follow instructions to plan and conduct a range of first-hand investigations, including fieldwork. Students make and record observations, using formal measurements as appropriate and suggesting reasons why methods were fair or not. They organise and identify patterns in data using provided tables and simple column graphs. Students suggest reasons for observations and compare findings with predictions.

Students explore a design task and develop a design brief that identifies simple design criteria. They continue to generate and develop ideas and begin to use creative thinking techniques, including brainstorming and sketching. They begin to develop and apply a structured plan to produce their solutions for built environments, information and products. Students use design criteria and feedback to explain how their design solution could be adjusted and improved to meet their needs and those of others.

Students use their understanding of the Natural Environment to describe observable changes on the Earth's surface that result from natural and human processes. They relate movements of the Earth to regular observable changes and describe interactions between objects that result from contact and noncontact forces. Students sequence key stages in the life cycle of a plant or animal, distinguish between living and non-living things and group them based on observable features. They identify relationships between living things and describe situations where science knowledge can influence their own and others' actions.

Students relate the behaviour of heat to observable changes in state that occur between solids and liquids. In suggesting explanations for everyday observations, they identify how the observable properties of materials influence their use. Using their understanding of the Made Environment, students describe how products are designed, produced and used in different ways by people. They describe how people interact within a place and space, and explain how these are designed to meet the needs of users.

Australian Curriculum	NSW syllabus	
ENGLISH	ENGLISH	CONTENT
Strand Language Sub-strand Language for interaction Examine how evaluative language can be varied to be more or less (ACELA1477)	Writing and representing Identifies and uses language forms and features in their own writing appropriate to a range of purposes, audiences and contexts. (EN2-7B)	Students: Understand and apply knowledge of language forms and features  - examine how evaluative language can be varied to be more or less forceful (ACELA1477)  - use images in imaginative, informative and persuasive texts to enhance meaning  - understand how audience and purpose influence the choice of vocabulary.

MATHEMATICS	MATHEMATICS	CONTENT
Strand Number and Algebra	Strand Number and Algebra	Students:
Sub-strand Number and place value Recognise, model, represent and order numbers to at least 10 000 (ACMNA052)	Sub-strand Whole numbers 1  Uses appropriate terminology to describe, and symbols to represent, mathematical ideas (MA2-1WM)  Selects and uses appropriate mental or written strategies, or technology, to solve problems (MA2-2WM)  Checks the accuracy of a statement and explains the reasoning used (MA2-3WM)  Applies place value to order, read and represent numbers of up to five digits (MA2-4NA)	Recognise, model, represent and order numbers to at least 10 000 (ACMNA052)  - represent numbers of up to four digits using objects, words, numerals and digital displays - make the largest and smallest number from four given digits (Communicating)  - identify the number before and after a given two-, three- or four-digit number - describe the number before as 'one less than' and the number after as 'one more than' a given number (Communicating)  - count forwards and backwards by tens and hundreds on and off the decade, e.g. 1220, 1230, 1240, (on the decade); 423, 323, 223, (off the decade)  - arrange numbers of up to four digits in ascending and descending order - use place value to compare and explain the relative size of four-digit numbers (Communicating, Reasoning)  - use the terms and symbols for 'is less than' (<) and 'is greater than' (>) to show the relationship between two numbers
Strand Number and Algebra	Strand Number and Algebra	Students:
Sub-strand Number and place value Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems (ACMNA053)	Sub-strand Whole numbers 1  Uses appropriate terminology to describe, and symbols to represent, mathematical ideas (MA2-1WM)  Selects and uses appropriate mental or written strategies, or technology, to solve problems (MA2-2WM)  Checks the accuracy of a statement and explains the reasoning used (MA2-3WM)  Applies place value to order, read and represent numbers of up to five digits (MA2-4NA)	Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems  (ACMNA053)  - apply an understanding of place value and the role of zero to read, write and order numbers of up to four digits  - interpret four-digit numbers used in everyday contexts (Problem Solving)  - use place value to partition numbers of up to four digits, e.g. 3265 as 3 groups of one thousand, 2 groups of one hundred, 6 groups of ten and 5 ones  - state the 'place value' of digits in numbers of up to four digits, e.g. 'In the number 3426, the place value of the "4" is 400 or 4 hundreds'  - record numbers of up to four digits using place

- value, e.g. 5429 = 5000 + 400 + 20 + 9thousand Strand Number and Algebra Strand Number and Algebra Students: Sub-strand Addition and Subtraction 1 **Sub-strand** Number and place value Recall addition facts for single-digit numbers and Uses appropriate terminology to describe, and related subtraction facts to develop increasingly symbols to represent, mathematical ideas efficient mental strategies for computation (MA2-1WM) (ACMNA055) Selects and uses appropriate mental or written strategies, or technology, to solve problems (MA2-2WM) Checks the accuracy of a statement and explains and four-digit numbers the reasoning used (MA2-3WM) Uses mental and written strategies for addition and subtraction involving two-, three- and four-digit numbers (MA2-5NA) obtain 92

  - partition numbers of up to four digits in non-standard forms, e.g. 3265 as 32 hundreds and 65 ones
  - round numbers to the nearest ten, hundred or

Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation (ACMNA055)

- add three or more single-digit numbers
- model and apply the associative property of addition to aid mental computation, e.g. 2 + 3 + 8 = 2 + 8 + 3= 10 + 3 = 13 (Communicating, Reasoning)
- apply known single-digit addition and subtraction facts to aid addition and subtraction of two-, three
  - the jump strategy, e.g. 23 + 35; 23+30 is 53.53 + 5 = 58
  - the split strategy, e.g. 23 + 35; 20 + 30 + 5 + 3 is 58
  - the compensation strategy, e.g. 63 + 29; 63 + 30 is 93, subtract 1 to
  - using patterns to extend number facts, e.g. 500 - 200; since 5 - 2 =3, so 500 - 200 is 300
  - bridging the decades, e.g. 34 + 26; 34 + 6 is 40, 40 + 20 is 60
  - changing the order of addends to form multiples of 10, e.g. 16 + 8 + 4; add 16 to 4 first
  - using place value to partition numbers, 500 + 670; 500 + 600 + 70 is 1170
  - partitioning number in non-standard forms, e.g. 500 + 670; 670 is 500 + 170, so 500 + 670 is 500 + 500 +170 which is 1000 + 170
  - o choose and apply efficient strategies for addition and subtraction (Problem Solving)
  - discuss and compare different methods of addition and subtraction (Communicating)
- use concrete materials to model the addition and

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- subtraction of two or more numbers, with and without trading, and record the method used
- select, use and record a variety of mental strategies to solve addition and subtraction problems, including word problems, with numbers of up to four digits
  - give a reasonable estimate for a problem, explain how the estimate was obtained, and check the solution (Communicating, Reasoning)
- use the equals sign to record equivalent number sentences involving addition and subtraction and so to mean 'is the same as', rather than to mean to perform an operation, e.g. 32 13 = 30 11
  - check given number sentences to determine if they are true or false and explain why, e.g.
     'Is 39 12 = 15 + 11 true? Why or why not?' (Communicating, Reasoning)

Strand Number and Algebra

Sub-strand Money and financial mathematics

Represent money values in multiple ways and count the change required for simple transactions to the nearest five cents (ACMNA059)

Strand Number and Algebra

**Sub-strand** Addition and Subtraction 1

Uses appropriate terminology to describe, and symbols to represent, mathematical ideas (MA2-1WM)

Selects and uses appropriate mental or written strategies, or technology, to solve problems (MA2-2WM)

Checks the accuracy of a statement and explains the reasoning used **(MA2-3WM)** 

Uses mental and written strategies for addition and subtraction involving two-, three- and four-digit numbers (MA2-5NA)

Students:

Represent money values in multiple ways and count the change required for simple transactions to the nearest five cents (ACMNA059)

- calculate equivalent amounts of money using different denominations, e.g. 50 cents can be made up of two 20 cent coins and a 10 cent coin
- perform simple calculations with money, including finding change, and round to the nearest five cents
- calculate mentally to give change

SCIENCE	SCIENCE	CONTENT:
Strand Science Inquiry skills  Sub-strand Questioning and predicting  With guidance, identify questions in familiar contexts that can be investigated scientifically and predict what might happen based on prior knowledge (ACSIS053)	Working scientifically (skills) investigates their questions and predictions by analysing collected data, suggesting explanations for their findings, and communicating and reflecting on the processes undertaken (ST2-4WS)	Students:  Question and predict by:  - using curiosity, prior knowledge, experiences and scientific information with guidance, identifying questions in familiar contexts that can be investigated scientifically (ACSIS053, ACSIS064, ACSHE050, ACSHE061)  - predicting what might happen based on prior knowledge in an investigation. (ACSIS053, ACSIS064, ACSHE050, ACSHE061)
Strand Science Inquiry skills  Sub-strand Planning and conducting  Suggest ways to plan and conduct investigations to find answers to questions (ACSIS054)	Working scientifically (skills) investigates their questions and predictions by analysing collected data, suggesting explanations for their findings, and communicating and reflecting on the processes undertaken (ST2-4WS)	Students:  Plan investigations by:  - working collaboratively and individually, to suggest ways to plan and conduct investigations to find answers to questions (ACSIS054, ACSIS065) (WE)  - suggesting appropriate materials, tools and equipment they could use in conducting their investigations and recording their findings, identifying appropriate safety rules  - identifying where Working Scientifically might inform or test elements of Working Technologically in relation to established criteria. (CCT)

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Resource title: Advertising detectives

Year levels: 4

**Key learning areas:** English and Mathematics

### **National Consumer and Financial Literacy Framework**

Dimension: Knowledge and understanding (Year 4)

Student learnings: Explain why similar goods and services may vary in price

**Dimension: Competence (Year 4)** 

Student learnings: Identify key features of a range of advertisements

Dimension: Responsibility and enterprise (Year 4)

Student learnings: Identify and explain how some influences, such as advertising and peer pressure, can affect what you buy

Demonstrate awareness that family, community and socio-cultural values and customs can influence consumer behaviour and financial decision-

making.

### Stage 1 Stage Statements: This unit of work contributes to the following stage statements for Stage 1 (highlighted)

#### **ENGLISH**

By the end of Stage 2 students communicate expressively and clearly with growing proficiency about ideas and information in classroom, school and social situations for a range of purposes. They explore a variety of roles when interacting in pairs and groups, attending to different views and responding appropriately. Students use various listening behaviours to gather general ideas and key points from conversations, reports or spoken presentations. They identify the effect of purpose, audience and culture on spoken texts and shape and present ideas accordingly. Students identify common organisational patterns and language features of predictable spoken texts.

Students independently read, view and respond to familiar and challenging texts and justify interpretations of ideas, information and events using a range of skills and strategies. They integrate a range of skills and strategies efficiently when reading, interpreting, analysing and evaluating texts and visual images. Students identify literal information in texts and make inferences, integrating and linking ideas and asking questions to clarify understandings. They recognise the representation of characters, settings and events in imaginative texts and start to evaluate point of view. They explain some ways in which authors and illustrators engage the interests of audiences and achieve a range of purposes. Students explore the structural and grammatical features and purposes for a range of written, visual and multimodal texts.

### **MATHEMATICS**

By the end of Stage 2, students ask questions and use efficient mental and written strategies with increasing fluency to solve problems. They use technology to investigate mathematical concepts and check their solutions. Students use appropriate terminology to describe and link mathematical ideas, check statements for accuracy and explain their reasoning.

Students count, order, read and record numbers of up to five digits. They use informal and formal mental and written strategies to solve addition and subtraction problems. Students use mental strategies to recall multiplication facts up to 10 x 10 and related division facts. They use informal written strategies for multiplication and division of two-digit numbers by one-digit numbers. Students represent, model and compare commonly used fractions, and model, compare and represent decimals of up to two decimal places. Students perform simple calculations with money and solve simple purchasing problems. They record, describe and complete number patterns and determine missing numbers in number sentences. Students recognise the properties of odd and even numbers.

Students estimate, measure, compare, convert and record length, area, volume, capacity and mass using formal units. They read and record time in hours and minutes, convert between units of time, and solve simple problems involving the duration of time. Students name, describe and sketch particular three-dimensional objects and two-dimensional shapes. They combine and split two-dimensional shapes to create other shapes. They compare angles using informal means and classify angles according to their size. Students use a grid-reference system to describe position, and compass points to give and follow directions. They make simple calculations using scales on maps and plans.

Students collect and organise data, and create and interpret tables and picture and column

Students create well-structured imaginative, informative and persuasive texts in terms of topic, purpose, audience and language by drafting, proofreading and editing for familiar and unfamiliar audiences. They use simple and complex sentences, paragraphing, punctuation and grammatical features characteristic of the various texts to support meaning. Students spell familiar and unfamiliar words using knowledge of letter—sound correspondence, regular and irregular spelling patterns, spelling rules and a range of other strategies. They use increasing fluency when writing, applying NSW Foundation Style as appropriate, and develop digital publishing skills. Students explain and reflect on how they structure their writing to achieve intended purposes.

graphs. They list all possible outcomes of everyday events, and describe and compare chance events in social and experimental contexts.

Australian Curriculum	NSW syllabus	
ENGLISH	ENGLISH	CONTENT
Strand Language Sub-strand Language for interaction Understand differences between the language of opinion and feeling and the language of factual reporting or recording (ACELA1489)	Expressing themselves  Responds to and composes a range of texts that express viewpoints of the world similar to and different from their own (EN2-11D)	Students:  Understand and apply knowledge of language forms and features  - understand differences between the language of opinion and feeling and the language of factual reporting or recording (ACELA1489)  - identify and compare the differences between texts from a range of cultures, languages and times  - make connections between students' own experiences and those of characters and events represented in texts
Sub-strand Text structure and organisation Understand how texts vary in complexity and technicality depending on the approach to the topic, the purpose and the intended audience (ACELA1490)	Reading and viewing 2  Identifies and compares different kinds of texts when reading and viewing and shows an understanding of purpose, audience and subject matter (EN2-8B)	Students:  Develop and apply contextual knowledge  - identify the audience and purpose of imaginative, informative and persuasive texts (ACELY1678)  - understand how texts vary in complexity and technicality depending on the approach to the topic, the purpose and the intended audience (ACELA1490)  - interpret how imaginative, informative and persuasive texts vary in purpose, structure and topic
Sub-strand Interpreting, analysing, evaluating Identify characteristic features used in imaginative, informative and persuasive texts to meet the purpose of the text (ACELY1690)	Reading and viewing 2  Identifies and compares different kinds of texts when reading and viewing and shows an understanding of purpose, audience and subject matter (EN2-8B)	Students:  Understand and apply knowledge of language forms and features  - identify organisational patterns and language features of print and visual texts appropriate to a range of purposes  - identify characteristic features used in imaginative, informative and persuasive texts to meet the purpose of the text (ACELY1690)
Strand Literacy Sub-strand Expressing and developing ideas Incorporate new vocabulary from a range of sources into students' own texts including vocabulary encountered in research (ACELA1498)	Grammar, punctuation and vocabulary  Uses effective and accurate sentence structure, grammatical features, punctuation conventions and vocabulary relevant to the type of text when responding to and composing texts EN2-9B	Students:  Respond to and compose texts  - compose a range of effective imaginative, informative and persuasive texts using language appropriate to purpose and audience - use grammatical features to create complex sentences when composing texts - experiment with figurative language when composing

New South Wales Curriculum mapped to MoneySmart Teaching Primary resources		
New South Wales Curriculum r	mapped to MoneySmart Teaching Primary i	texts to engage an audience, e.g. similes, metaphors, idioms and personification  - incorporate new vocabulary from a range of sources into students' own texts including vocabulary encountered in research (ACELA1498)

MATHEMATICS	MATHEMATICS	CONTENT
Sub-strand Number and place value Recognise, model, represent and order numbers to at least 10 000 (ACMNA052)	Strand Number and Algebra Sub-strand Whole Numbers 1 Uses appropriate terminology to describe, and symbols to represent, mathematical ideas (MA2-1WM) Selects and uses appropriate mental or written strategies, or technology, to solve problems (MA2-2WM) Checks the accuracy of a statement and explains the reasoning used (MA2-3WM) Applies place value to order, read and represent numbers of up to five digits (MA2-4NA)	Students:  Recognise, model, represent and order numbers to at least 10 000 (ACMNA052)  - represent numbers up to four digits using objects, words, numerals and digital displays - make the largest and smallest number from four given digits (Communicating)  - identify the number before and after a given two-, three- or four-digit number - describe the number before as 'one less than' and the number after as 'one more than' a given number (Communicating)  - count forwards and backwards by tens and hundreds on and off the decade, e.g. 1220, 1230, 1240, (on the decade); 423, 323, 223, (off the decade)  - arrange numbers of up to four digits in ascending and descending order - use place value to compare and explain the relative size of four-digit numbers - (Communicating, Reasoning)  - use the terms and symbols for 'is less than' (<) and 'is greater than' (>) to show the relationship between two numbers
Sub-strand Number and place value Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems (ACMNA053)	Sub-strand Whole Numbers 1 Uses appropriate terminology to describe, and symbols to represent, mathematical ideas (MA2-1WM) Selects and uses appropriate mental or written strategies, or technology, to solve problems (MA2-2WM) Checks the accuracy of a statement and explains the reasoning used (MA2-3WM) Applies place value to order, read and represent numbers of up to five digits (MA2-4NA)	<ul> <li>Students:</li> <li>Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems (ACMNA053)</li> <li>apply an understanding of place value and the role of zero to read, write and order numbers of up to four digits <ul> <li>interpret four-digit numbers used in everyday contexts (Problem Solving)</li> </ul> </li> <li>use place value to partition numbers of up to four digits, e.g. 3265 as 3 groups of one thousand, 2 groups of one hundred, 6 groups of ten and 5 ones</li> <li>state the 'place value' of digits in numbers of up to four digits, e.g. 'In the number 3426, the place value of the "4" is 400 or 4 hundreds'</li> <li>record numbers of up to four digits using place value, e.g. 5429 = 5000 + 400 + 20 + 9</li> <li>partition numbers of up to four digits in non-standard</li> </ul>

Strand Number and Algebra  Sub-strand Algibra and place value  Recall addition facts for single-digit numbers and related subtraction and subtraction and subtraction facts to develop increasingly efficient mental strategies for computation (ACMNA055)  Selects and uses appropriate mental or written strategies, or technology, to solve problems (MA2-TWM)  Checks the securacy of a statement and explains the reasoning used (MA2-SNA)  Class mental and written strategies for addition and subtraction involving two-, three- and four-digit numbers (MA2-SNA)  Wesse mental and written strategies for addition and subtraction involving two-, three- and four-digit numbers (MA2-SNA)  Substrand Number and Algebra  Sub-strand Addition and Subtraction 1  Uses appropriate mental or written strategies for subtraction (ACMNA056)  Lises mental and written strategies for addition and subtraction facts to develop increasingly efficient mental strategies for computation (ACMNA056)  Lises mental and written strategies for addition and subtraction facts to develop increasingly efficient mental strategies for computation (ACMNA056)  Lises mental and written strategies for addition and subtraction facts to develop increasingly efficient mental strategies for addition and subtraction facts to develop increasingly efficient mental strategies for addition and subtraction in working the case of the plant plan			forms, e.g. 3265 as 32 hundreds and 65 ones  – round numbers to the nearest ten, hundred or thousand
$()^{n}$	Sub-strand Number and place value  Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for	Sub-strand Addition and Subtraction 1  Uses appropriate terminology to describe, and symbols to represent, mathematical ideas (MA2-1WM)  Selects and uses appropriate mental or written strategies, or technology, to solve problems (MA2-2WM)  Checks the accuracy of a statement and explains the reasoning used (MA2-3WM)  Uses mental and written strategies for addition and subtraction involving two-, three- and four-	Students:  Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation (ACMNA055)  - add three or more single-digit numbers - model and apply the associative property of addition to aid mental computation, e.g. 2 + 3 + 8 = 2 + 8 + 3 = 10 + 3 = 13  - apply known single-digit addition and subtraction facts to mental strategies for addition and subtraction of two-, three- and four-digit numbers, including:  • the jump strategy on an empty number line, e.g. 823 + 56: 823 + 50 = 873, 873 + 6 = 879  • the split strategy, e.g. 23 + 35: 20 + 30 + 3 + 5 = 58  • the compensation strategy, e.g. 63 + 29: 63 + 30 = 93, subtract 1 to obtain 92  • using patterns to extend number facts, e.g. 500 - 200: 5 - 2 = 3, so 500 - 200 = 300  • bridging the decades, e.g. 34 + 26: 34 + 6 = 40, 40 + 20 = 60  • changing the order of addends to form multiples of 10, e.g. 16 + 8 + 4: add 16 to 4 first  • using place value to partition numbers, e.g. 2500 + 670: 2500 + 600 + 70 = 3170  • partitioning numbers in non-standard forms, e.g. 500 + 670: 500 + 500 + 170, which is 1000 + 170 = 1170  • choose and apply efficient strategies for addition and subtraction (Problem Solving)  • discuss and compare different methods of addition and subtraction (Communicating)  - use concrete materials to model the addition and

		<ul> <li>select, use and record a variety of mental strategies to solve addition and subtraction problems, including word problems, with numbers of up to four digits         <ul> <li>give a reasonable estimate for a problem, explain how the estimate was obtained, and check the solution (Communicating, Reasoning)</li> </ul> </li> <li>use the equals sign to record equivalent number sentences involving addition and subtraction and so to mean 'is the same as', rather than to mean to perform an operation, e.g. 32 – 13 = 30 – 11</li> <li>check given number sentences to determine if they are true or false and explain why, e.g. 'Is 39 – 12 = 15 + 11 true? Why or why not?' (Communicating, Reasoning)</li> </ul>
Strand Number and Algebra	Strand Number and Algebra	Students:
Sub-strand Money and financial mathematics Represent money values in multiple ways and count the change required for simple transactions to the nearest five cents (ACMNA059)	Sub-strand Addition and Subtraction 1  Uses appropriate terminology to describe, and symbols to represent, mathematical ideas (MA2-1WM)  Selects and uses appropriate mental or written strategies, or technology, to solve problems (MA2-2WM)  Checks the accuracy of a statement and explains the reasoning used (MA2-3WM)  Uses mental and written strategies for addition and subtraction involving two-, three- and four-digit numbers (MA2-5NA)	Represent money values in multiple ways and count the change required for simple transactions to the nearest five cents (ACMNA059)  - calculate equivalent amounts of money using different denominations, e.g. 70 cents can be made up of three 20-cent coins and a 10-cent coin, or two 20-cent coins and three 10-cent coins, etc  - perform simple calculations with money, including finding change, and round to the nearest five cents  - calculate mentally to give change

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Never too young to be MoneySmart with clothes

Year levels: 5

Key learning areas: English, Mathematics and Science

### **National Consumer and Financial Literacy Framework**

Dimension: Knowledge and understanding (Year 6)

Student learnings: Analyse the value of a range of goods and services in relation to an identified need

**Dimension: Competence (Year 6)** 

Student learnings: Evaluate the value of a range of goods and services in a variety of 'real-life' situations

Order and justify reasons for spending preferences

Dimension: Responsibility and enterprise (Year 6)

Student learnings: Identify and describe the impact that the consumer decisions of individuals may have on themselves and their families, the broader community

and/or the environment

Examine and discuss the external factors that influence consumer choices

### Stage 3 Stage Statements: This unit of work contributes to the following stage statements for Stage 3 (highlighted)

### **ENGLISH**

By the end of Stage 3 students communicate effectively, using considered language to entertain, inform and persuade audiences for an increasing range of purposes. They work productively and independently in pairs or groups to deliver effective presentations using various skills and strategies. Students collaborate with others to share and evaluate ideas and opinions and to develop different points of view. They express welldeveloped and well-organised ideas about literary texts and respond constructively to different opinions. They demonstrate active listening behaviours in order to gather specific information and ideas, recognising and exploring how spoken and written language differ and how spoken language varies according to context. Students evaluate characteristic language features and organisational patterns of challenging spoken texts.

Students independently read and view an extensive range of complex texts and visual images using a comprehensive range of skills and strategies. They

### **MATHEMATICS**

By the end of Stage 3, students ask questions and undertake investigations, selecting appropriate technological applications and problem-solving strategies to demonstrate fluency in mathematical techniques. They use mathematical terminology and some conventions, and they give valid reasons when comparing and selecting from possible solutions, making connections with existing knowledge and understanding.

Students select and apply appropriate mental, written or calculator strategies for the four operations and check the reasonableness of answers using estimation. They solve word problems and apply the order of operations to number sentences where required. Students identify factors and multiples and recognise the properties of prime, composite, square and triangular numbers. They connect fractions, decimals and percentages as different representations of the same value. Students compare order and perform calculations with simple fractions, decimals and percentages and apply the four operations to money in real-life situations. Students record, describe and continue geometric and number patterns,

### SCIENCE

By the end of Stage 3 students show informed attitudes to issues related to the current and future use and influence of science and technology. They are interested and willing to engage in local, national and global issues that are relevant to their lives and the maintenance of a sustainable future. They are able to discuss how science and technology directly affect people's lives and are used to solve problems.

Students initiate, use and apply the processes of Working Scientifically and Working Technologically with a greater level of independence. They are more self-reliant in undertaking a range of scientific investigations and design projects, and in collaboratively completing the tasks. Students select and safely use a variety of equipment, materials and resources identifying potential risks. They identify where improvements to their methods, techniques or research could enhance the quality of the information gathered. Students use a range of representations to present, document and communicate methods, findings and ideas, including tables, graphs, diagrams and multi-modal texts, using

respond to themes and issues within texts, recognise point of view and justify interpretations by referring to their own knowledge, values and experiences. They identify, critically analyse and respond to techniques, literary devices and language features used by writers to influence readers. Students compare and accurately summarise information on a particular topic from different texts and make well-supported generalisations about the topic. Students identify text structure of a range of complex texts and explore how grammatical features work to influence an audience's understanding of written, visual, media and multimodal texts.

Students create well-structured and well-presented written and multimodal imaginative, informative and persuasive texts for a wide range of purposes and audiences. They deal with complex topics, issues and language features. Students select information and ideas from personal, literary and researched resources, and adapt imaginative ideas and situations from literature. They make considered choices in written texts from an expanding vocabulary and from growing knowledge of grammatical patterns, complex sentence structures, cohesive links and literary devices. Students write well-structured sentences and paragraphs on particular aspects of the topic, clarifying and explaining how choices of language and literary features were designed to influence the meaning communicated in their texts. They spell most common words accurately and use a variety of strategies to spell less common words. They develop a fluent writing style and employ digital technology to present written texts effectively in a variety of ways for different purposes and audiences. Students evaluate the effectiveness of their writing by drafting, proofreading, editing, reviewing and publishing, focusing on grammatical features and the conventions of writing.

and they find missing numbers in number sentences. They locate an ordered pair in any one of the four quadrants on the Cartesian plane.

Students select and use the appropriate unit to estimate, measure and calculate length, area, volume, capacity and mass. They make connections between capacity and volume, and solve problems involving length and area. Students use 24-hour time in real-life situations, construct and interpret timelines and use timetables. They convert between units of length, units of capacity and units of mass. They construct and classify three-dimensional objects and two-dimensional shapes, and compare and describe their features, including line and rotational symmetries. Students measure and construct angles, and find unknown angles in diagrams using known angle results. They use a grid-reference system to locate landmarks and describe routes using landmarks and directional language.

Students use appropriate data collection methods to interpret and analyse sets of data and construct a range of data displays. They assign probabilities as fractions, decimals or percentages in simple chance experiments.

digital technologies where relevant.

When Working Scientifically, students follow instructions, pose questions for investigations, predict likely outcomes and demonstrate honesty and accuracy in collecting, recording and analysing data and information. In planning and conducting fair tests they are able to identify variables to be changed and measured, and check results by repeating observations and measurements. They construct tables and graphs to organise data and identify patterns. They use evidence to draw conclusions and develop explanations.

When Working Technologically, students plan and implement a design process to meet the needs and wants of users/audiences. They explore and define the design task, establishing design criteria and considering constraints when planning the process. Students select and apply appropriate methods to develop and generate ideas and apply established criteria to evaluate and modify them. They develop plans, specifications and production sequences to produce solutions for built environments, information and products. They evaluate their solutions using self and peer assessment, and identify the strengths and limitations of the process used.

As students continue to observe and investigate aspects of the Natural Environment, they explain how natural events cause rapid changes to the Earth's surface. They describe key features of the solar system and the contribution of people from a range of cultures over time to the advancement of science. Students explain everyday phenomena associated with the transfer of light and requirements for the transfer and transformation of electricity. They identify how energy from a variety of sources can be used to generate electricity and how science knowledge is used to inform personal and community decisions. Students describe how features of living things help them to survive in their environment and how the growth and survival of living things is affected by changes in the physical conditions of their environment.

Students identify the observable properties of solids, liquids and gases. They compare and classify different types of observable changes to materials, considering how their properties determine their use.

New South Wales Curriculum mapped to MoneySmart Teaching Primary resources		
New South Wales Curriculum ma	pped to MoneySmart Teaching Primary resources	Within the Made Environment students explain how production systems are used to manufacture products. They explore changes that have occurred in the design of products over time and the social and environmental factors that influence the design of products. Students investigate how systems in built environments are designed to meet the needs of people, in response to social and environmental influences. They explain how systems can be used to transfer information and support communication, and how social influences impact on the design of a range of emerging information products.

Australian Curriculum	NSW syllabus	
ENGLISH	ENGLISH	CONTENT
Strand Literacy Sub-strand Interpreting, analysing, evaluating Use comprehension strategies to analyse information, integrating and linking ideas from a variety of print and digital sources (ACELY1703)	Reading and viewing Uses an integrated range of skills, strategies and knowledge to read, view and comprehend a wide range of texts in different media and technologies EN3-3A	Respond to, read and view texts  - use comprehension strategies to interpret and analyse information and ideas, comparing content from a variety of textual sources including media and digital texts (ACELY1703, ACELY1713)

MATHEMATICS	MATHEMATICS	CONTENT
Strand Statistics and Probability	Strand Statistics and Probability	Students:
<b>Sub-strand</b> Data representation and interpretation	Sub-strand Data 1	Pose questions and collect categorical or numerical data by observation or survey (ACMSP118)  - pose and refine questions to construct a survey to obtain categorical and numerical
Pose questions and collect categorical or numerical data by observation or survey (ACMSP118)	Describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions (MA3-1WM)	
	Gives a valid reason for supporting one possible solution over another (MA3-3WM)	data about an issue of interest  - collect categorical and numerical data
	Uses appropriate methods to collect data and constructs, interprets and evaluates data displays, including dot plots, line graphs and two-way tables (MA3-18SP)	through observation or by conducting surveys, e.g. observe the number of a particular type of insect in one square metre of the playground over time
Strand Statistics and Probability	Strand Statistics and Probability	Students:
Sub-strand Data representation and interpretation	Sub-strand Data 1	Construct displays, including column graphs, dot plots
Sub-strand Data representation and interpretation  Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies (ACMSP119)	Sub-strand Data 1  Describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions (MA3-1WM)  Gives a valid reason for supporting one possible solution over another (MA3-3WM)  Uses appropriate methods to collect data and constructs, interprets and evaluates data displays, including dot plots, line graphs and two-way tables (MA3-18SP)	Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies (ACMSP119)  - tabulate collected data, including numerical data, with and without the use of digital technologies such as spreadsheets - construct column and line graphs of numerical data using a scale of many-to-one correspondence, with and without the use of digital technologies  o name and label the horizontal and vertical axes when constructing graphs (Communicating)  choose an appropriate title to describe the data represented in a data display (Communicating)  determine an appropriate scale of many-to-one correspondence to represent the data in a data display (Reasoning)  mark equal spaces on the axes when constructing graphs, and use the scale to label the markers (Communicating)
		<ul> <li>construct dot plots for numerical data, e.g. the number of siblings of each student in the class</li> <li>consider the data type to determine and draw the most appropriate display(s), such as</li> </ul>

New South Wales Curriculum mapped to MoneySmart Teaching Primary resources		
		column graphs, dot plots and line graphs     discuss and justify the choice of data display used (Communicating, Reasoning)     recognise that line graphs are used to represent data that demonstrates continuous change, e.g. hourly temperature (Communicating)     recognise which types of data display are most appropriate to represent categorical data (Communicating)
Strand Statistics and Probability	Strand Statistics and Probability	Students:
Sub-strand Data representation and interpretation	Sub-strand Data 1	Describe and interpret different data sets in context
Describe and interpret different data sets in context (ACMSP120)	Describes and represents mathematical situations in a variety of ways using mathematical terminology and some conventions (MA3-1WM)  Gives a valid reason for supporting one possible solution over another (MA3-3WM)  Uses appropriate methods to collect data and constructs, interprets and evaluates data displays, including dot plots, line graphs and two-way tables (MA3-18SP)	<ul> <li>interpret line graphs using the scales on the axes</li> <li>describe and interpret data presented in tables, dot plots, column graphs and line graphs, e.g. 'The graph shows that the heights of all children in the class are between 125 cm and 154 cm'</li> <li>determine the total number of data values represented in dot plots and column graphs, e.g. find the number of students in the class from a display representing the heights of all children in the class (Problem Solving, Reasoning)</li> <li>identify and describe relationships that can be observed in data displays, e.g. 'There are four times as many children in Year 5 whose favourite food is noodles compared to children whose favourite food is chicken' (Communicating, Reasoning)</li> <li>use information presented in data displays to aid decision making, e.g. decide how many of each soft drink to buy for a school fundraising activity by</li> </ul>

SCIENCE	SCIENCE	CONTENT
Strand Science as a human endeavour Sub-strand Use and influence of science Scientific understandings, discoveries and inventions are used to solve problems that directly affect peoples' lives (ACSHE083)	Physical world (Knowledge and Understanding)  Describes how people use scientific understanding about the sources, transfer and transformation of electricity in making decisions about its use (ST3-6PW)  Identifies that scientific knowledge about the transfer of light is used to solve problems that directly affect people's lives (ST3-7PW)  Working Scientifically (Skills)  Investigates by posing questions, including testable questions, making predictions, and gathering data to draw evidence-based conclusions and develop explanations (ST3-4WS)	Students:  Research, using secondary sources to gather information about science understandings, discoveries and/or inventions that depend on the reflection and refraction of light and how these are used to solve problems that directly affect people's lives, e.g. mirrors, magnifiers, spectacles and prisms (ACSHE083, ACSHE100)  Plan investigations by:  - with guidance, planning appropriate investigation methods to test predictions, answer questions or solve problems including surveys, fieldwork, research and fair tests (ACSIS086, ACSIS103, ACSHE081, ACSHE098)  - deciding which variable should be changed and measured in fair tests while keeping everything else the same (ACSIS087, ACSIS104)  - collaboratively and individually selecting suitable methods for gathering data and information first-hand and from reliable secondary sources

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Resource title: The fun begins: Budget, plan, profit!

Year levels: 6

Key learning areas: English, Mathematics and Science

### **National Consumer and Financial Literacy Framework**

Dimension: Knowledge and understanding (Year 6)

Student learnings: Describe how an individual can influence their income

**Dimension: Competence (Year 6)** 

Student learnings: Use a range of methods and tools to keep financial records in 'real-life' contexts

Dimension: Responsibility and enterprise (Year 6)

Student learnings: Apply consumer and financial knowledge and skills in relevant class and/or school activities such as student investigations, charity fundraising,

product design and development, business ventures and special events

### Stage 1 Stage Statements: This unit of work contributes to the following stage statements for Stage 1 (highlighted)

### **ENGLISH**

By the end of Stage 3 students communicate effectively, using considered language to entertain, inform and persuade audiences for an increasing range of purposes. They work productively and independently in pairs or groups to deliver effective presentations using various skills and strategies. Students collaborate with others to share and evaluate ideas and opinions and to develop different points of view. They express welldeveloped and well-organised ideas about literary texts and respond constructively to different opinions. They demonstrate active listening behaviours in order to gather specific information and ideas, recognising and exploring how spoken and written language differs and how spoken language varies according to context. Students evaluate characteristic language features and organisational patterns of challenging spoken texts.

Students independently read and view an extensive range of complex texts and visual images using a comprehensive range of skills and strategies. They respond to themes and issues within texts, recognise point of view and justify interpretations by referring to their own knowledge, values and experiences. They identify, critically analyse and

### **MATHEMATICS**

By the end of Stage 3, students ask questions and undertake investigations, selecting appropriate technological applications and problem-solving strategies to demonstrate fluency in mathematical techniques. They use mathematical terminology and some conventions, and they give valid reasons when comparing and selecting from possible solutions, making connections with existing knowledge and understanding.

Students select and apply appropriate mental, written or calculator strategies for the four operations and check the reasonableness of answers using estimation. They solve word problems and apply the order of operations to number sentences where required. Students identify factors and multiples and recognise the properties of prime, composite, square and triangular numbers. They connect fractions, decimals and percentages as different representations of the same value. Students compare, order and perform calculations with simple fractions, decimals and percentages and apply the four operations to money in real-life situations. Students record, describe and continue

### **SCIENCE**

By the end of Stage 3 students show informed attitudes to issues related to the current and future use and influence of science and technology. They are interested and willing to engage in local, national and global issues that are relevant to their lives and the maintenance of a sustainable future. They are able to discuss how science and technology directly affect people's lives and are used to solve problems.

Students initiate, use and apply the processes of Working Scientifically and Working Technologically with a greater level of independence. They are more self-reliant in undertaking a range of scientific investigations and design projects, and in collaboratively completing the tasks. Students select and safely use a variety of equipment, materials and resources identifying potential risks. They identify where improvements to their methods, techniques or research could enhance the quality of the information gathered. Students use a range of representations to present, document and communicate methods, findings and ideas, including tables, graphs, diagrams and multi-modal texts, using digital technologies where relevant.

When Working Scientifically, students follow instructions, pose questions for investigations, predict likely outcomes and demonstrate honesty and accuracy in collecting, recording and analysing data and information. In planning and conducting fair tests they are able to identify variables to be changed and

respond to techniques, literary devices and language features used by writers to influence readers. Students compare and accurately summarise information on a particular topic from different texts and make well-supported generalisations about the topic. Students identify text structure of a range of complex texts and explore how grammatical features work to influence an audience's understanding of written, visual, media and multimodal texts.

Students create well-structured and well-presented written and multimodal imaginative, informative and persuasive texts for a wide range of purposes and audiences. They deal with complex topics, issues and language features. Students select information and ideas from personal, literary and researched resources, and adapt imaginative ideas and situations from literature. They make considered choices in written texts from an expanding vocabulary and from growing knowledge of grammatical patterns, complex sentence structures, cohesive links and literary devices. Students write well-structured sentences and paragraphs on particular aspects of the topic, clarifying and explaining how choices of language and literary features were designed to influence the meaning communicated in their texts. They spell most common words accurately and use a variety of strategies to spell less common words. They develop a fluent writing style and employ digital technology to present written texts effectively in a variety of ways for different purposes and audiences. Students evaluate the effectiveness of their writing by drafting, proofreading, editing, reviewing and publishing, focusing on grammatical features and the conventions of writing.

geometric and number patterns, and they find missing numbers in number sentences. They locate an ordered pair in any one of the four quadrants on the Cartesian plane.

Students select and use the appropriate unit to estimate, measure and calculate length, area, volume, capacity and mass. They make connections between capacity and volume, and solve problems involving length and area. Students use 24-hour time in real-life situations. construct and interpret timelines and use timetables. They convert between units of length, units of capacity and units of mass. They construct and classify three-dimensional objects and two-dimensional shapes, and compare and describe their features, including line and rotational symmetries. Students measure and construct angles, and find unknown angles in diagrams using known angle results. They use a grid-reference system to locate landmarks and describe routes using landmarks and directional language.

Students use appropriate data collection methods to interpret and analyse sets of data and construct a range of data displays. They assign probabilities as fractions, decimals or percentages in simple chance experiments

measured, and check results by repeating observations and measurements. They construct tables and graphs to organise data and identify patterns. They use evidence to draw conclusions and develop explanations.

When Working Technologically, students plan and implement a design process to meet the needs and wants of users/audiences. They explore and define the design task, establishing design criteria and considering constraints when planning the process. Students select and apply appropriate methods to develop and generate ideas and apply established criteria to evaluate and modify them. They develop plans, specifications and production sequences to produce solutions for built environments, information and products. They evaluate their solutions using self and peer assessment, and identify the strengths and limitations of the process used.

As students continue to observe and investigate aspects of the Natural Environment, they explain how natural events cause rapid changes to the Earth's surface. They describe key features of the solar system and the contribution of people from a range of cultures over time to the advancement of science. Students explain everyday phenomena associated with the transfer of light and requirements for the transfer and transformation of electricity. They identify how energy from a variety of sources can be used to generate electricity and how science knowledge is used to inform personal and community decisions. Students describe how features of living things help them to survive in their environment and how the growth and survival of living things is affected by changes in the physical conditions of their environment.

Students identify the observable properties of solids, liquids and gases. They compare and classify different types of observable changes to materials, considering how their properties determine their use.

Within the Made Environment students explain how production systems are used to manufacture products. They explore changes that have occurred in the design of products over time and the social and environmental factors that influence the design of products. Students investigate how systems in built environments are designed to meet the needs of people, in response to social and environmental influences. They explain how systems can be used to transfer information and support communication, and how social influences impact on the design of a range of emerging information products.

Australian Curriculum		NSW syllabus
ENGLISH	ENGLISH	CONTENT
Strand Literacy Sub-strand Interacting with others Participate in and contribute to discussions, clarifying and interrogating ideas, developing and supporting arguments, sharing and evaluating information, experiences and opinions (ACELY1709)	Communicating Communicates effectively for a variety of audiences and purposes using increasingly challenging topics, ideas, issues and language forms and features EN3-1A	Understand respond to and compose texts use  — participate in and contribute to discussions, clarifying and interrogating ideas, developing and supporting arguments, sharing and evaluating information, experiences and opinions (ACELY1709)  — discuss and experiment with ways to strengthen and refine spoken texts in order to entertain, inform, persuade or inspire the audience
Sub-strand Interacting with others  Plan, rehearse and deliver presentations, selecting and sequencing appropriate content and multimodal elements for defined audiences and purposes, making appropriate choices for modality and emphasis (ACELY1710)	Communicating Communicates effectively for a variety of audiences and purposes using increasingly challenging topics, ideas, issues and language forms and features EN3-1A	Understand respond to and compose texts use  - plan, rehearse and deliver presentations, selecting and sequencing appropriate content and multimodal elements for defined audiences and purposes, making appropriate choices for modality and emphasis (ACELY1700, ACELY1710)

MATHEMATICS	MATHEMATICS	CONTENT
Strand Number and algebra	Strand Number and algebra	Students:
Sub-strand Number and place value	Sub-strand Addition and Subtraction 2	Select and apply efficient mental and written strategies and
· ·		
	Selects and applies appropriate strategies for multiplication and division, and applies the order of operations to calculations involving more than one operation (MA3-6NA)	multiplication and division with whole numbers ( <b>ACMNA123</b> )  - select and use efficient mental and written strategies, and digital technologies, to multiply whole numbers of up to four digits by one- and two-digit numbers  - select and use efficient mental and written strategies, and digital technologies, to divide whole numbers of up to four digits by a one-digit divisor, including where there is a remainder

estimate solutions to problems and check to justify solutions (Problem Solving, Reasoning)

New South Wales Curriculum mapped to MoneySmart Teaching Primary resources		
	<ul> <li>use mental strategies to multiply and divide numbers by 10, 100, 1000 and their multiples</li> <li>solve word problems involving multiplication and division, e.g. 'A recipe requires 3 cups of flour for 10 people. How many cups of flour are required for 40 people?'</li> <li>use appropriate language to compare quantities, e.g. 'twice as much as', 'half as much as' (Communicating)</li> <li>use a table or similar organiser to record methods used to solve problems (Communicating, Problem Solving)</li> <li>recognise symbols used to record speed in kilometres per hour, e.g. 80 km/h</li> <li>solve simple problems involving speed, e.g. 'How long would it take to travel 600 km if the average speed for the trip is 75 km/h?'</li> </ul>	

SCIENCE	SCIENCE	CONTENT
Strand Science inquiry skills  Sub-strand Planning and conducting  With guidance, plan appropriate investigation methods to answer questions or solve problems (ACSIS103)	Working scientifically (Skills) Investigates by posing questions, including testable questions, making predictions, and gathering data to draw evidence-based conclusions and develop explanations (ST3-4WS)	Students:  Plan investigations by:  - with guidance, planning appropriate investigation methods to test predictions, answer questions or solve problems including surveys, field work, research and fair tests (ACSIS086, ACSIS103, ACSHE081, ACSHE098)  - deciding which variable should be changed and measured in fair tests while keeping everything else the same (ACSIS087, ACSIS104)  - collaboratively and individually selecting suitable methods for gathering data and information first-hand and from reliable secondary sources.
Strand Science inquiry skills  Sub-strand Processing and analysing data and information  Construct and use a range of representations, including tables and graphs, to represent and describe observations, patterns or relationships in data using digital technologies as appropriate (ACSIS107)	Working scientifically (Skills) Investigates by posing questions, including testable questions, making predictions, and gathering data to draw evidence-based conclusions and develop explanations (ST3-4WS)	Students:  Communicate by:  - constructing and using a range of representations, including tables and graphs to represent and describe observations, patterns or relationships in data including using digital technologies as appropriate (ACSIS090, ACSIS107)  - using a variety of ways to honestly and accurately communicate ideas, explanations and processes, including multi-modal texts, labelled diagrams, as well as written and oral factual texts as appropriate (ACSIS093, ACSIS110)

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