Links to nzmaths units and Figure It Outs using Te Mātaiaho Outcomes (Refreshed NZC)

Year 5

Related theme-based resources

Problem Solving (A Figure It Out book devoted to problems of the day)

Time Travel (A Figure It Out book around the theme of travelling in time)

In this Year (A theme-based unit designed for your class to start the year)

The School Fair (A theme-based unit based around a School Fair)

Topic and Outcomes	**Nzmaths units with Tāhurangi links**	Figure It Out links	Numeracy Project Teacher Guides
Number Structure • identify, read, write, compare, and order whole numbers up to 100,000, and represent them using base 10 structure • identify factors of numbers up to 100	Building a multiplicative view of Whole Numbers	When? Number Stretches Expanding Horizons Card Arrays Team Schemes Banking Issues	Book 4 Teaching Number Knowledge Nudge (p. 24) Traffic Lights (p. 25) Zap (p. 26) Tens in Hundreds and More (p. 27) Book 5 Teaching Addition, Subtraction, and Place Value How many tens and hundreds? (p. 35)

Operations ● use rounding, estimation, and inverse operations to predict results and to check the reasonableness of calculations ● round whole numbers to the nearest ten thousand, thousand, hundred, or ten, and round tenths to the nearest whole number ● add and subtract whole numbers up to 10,000	Addition and Subtraction with Whole Numbers	Maths Detective Digit Shuffle Steeplechase Up in the Air (Addition and Subtraction) Rounding Up and Down Tracking Toroa Stepping Out Keeping Score Pick a Plate Curling	Book 5 Teaching Addition, Subtraction, and Place Value Problems like 23 + _ = 71 (p. 35) Problems like 37 + _ = 79 (p. 36) Problems like _ + 39 = 81 (p. 37) When one number is near a Hundred (p. 37) Problems like 73 – 19 = _ (p.38) Teaching Number Sense and Algebraic Thinking Reversing Addition (p. 7)
● recall multiplication facts for 7s, 8s, and 9s and corresponding division facts		Chocoblocks The Field of 100 Sheep Horsing Around Stars and Students Six Shooters Almost Squares Easy Nines Multiple Mirrors Mind Boggling Train Teasers The Hundreds Board Hunt Movie Maths Fair Mix Times Up On Track Heading for Home Secret Codes	

Topic and Outcomes	Nzmaths units with Tāhurangi links and moveNproves (TLF)	Figure It Out links	Numeracy Project Teacher Guides
Operations • multiply a three-digit by one-digit number and two two-digit whole numbers (e.g., 245 × 6; 34 × 83)	Combos Productive Thinking	Sticking Together Multiple Multiplication Methods Crafty Combinations (averaging) Trying Times Eleventh Heaven Problems on the Way to School Fun Rides High Powered Thinking Booked Multiple Methods Busking Blues What a view Arcade Adventure Wheels Galore (Story Problems) Calendar Capers (Patterns)	
• divide up to three-digit whole number by a one-digit divisor, with a remainder (e.g., 83 ÷ 5 = 16, remainder 3)		Triple Trouble Pizza Split Fiordland Holiday	

Topic and Outcomes	**Nzmaths units with Tāhurangi links** and moveNproves (TLF)	Figure It Out links	Numeracy Project Teacher Guides
Rational Numbers			

• identify, read, write, and represent tenths and hundredths as fractions and decimals • compare and order tenths and hundredths as fractions and decimals, and convert decimal tenths and hundredths to fractions	Cuisenaire Rod Fractions	More Fractions To Market, to Market Racing to New Heights Decimal Day Dealing with Decimals	Book 4 Teaching Number Knowledge Creating Fractions (p. 6) More Geoboard Fractions (p. 7) Non-unit Fractions (p. 7) Packets of Lollies (p. 8) Reading Decimal Fractions (p. 8) Arrow Cards (p. 13) Using Calculators (p. 14) Rocket (p. 15) Squeeze – Guess My Number (p. 15) Super Liquorice (p. 19) Who wins? (p. 20) Who gets more? (p.21)
• divide whole numbers by 10 and 100 to make decimals			

• for fractions with denominators of 2, 3, 4, 5, 6, 8, 10, 12, or 100:
  • compare and order the fractions
  • identify when two fractions are equivalent
	Fraction Benchmarks	Fun with Fractions
		Fraction Frenzy
			Book 7: Teaching Fractions, Decimals and Percentages
			Birthday Cakes (p. 26)
			Who has more Cake? (p. 18)

• convert between mixed numbers and improper fractions with denominators of up to 10	Ordering proper and improper Fractions		
• find a fraction of a whole number, using multiplication and division facts and where the answer is a whole number (e.g., 2/3 of 24) • identify, from a fractional part of a set, the whole set	Symbols and Sets	Fraction Tagging Fractions in Room 7 Sweet As Saving Up Stacking Up Marble Marvels Puzzling Patterns	Book 7: Teaching Fractions, Decimals and Percentages Birthday Cakes (p. 26) Fraction Trains (p. 32)

		Shaping Up Star Clusters Kapa Haka Practice	
• add and subtract fractions with the same denominators, including to make more than one whole.			
• add and subtract whole numbers and decimals to two decimal places (e.g., 32.55 – 21.21 = 11.34)		Tidying Up Quick Thinking Target Time Dallying with Decimals Worth the Work Dead Calculators (Mixed operations) Crazy Compatibles (Whole numbers) Strategy Strut (Whole Numbers) Skimming Stones (Basic facts)	
• use known multiplication facts to scale a quantity	Dare to Compare		Book 7: Teaching Fractions, Decimals and Percentages Seed Packets (p. 30)
Financial Mathematics • represent money values in multiple ways using notes and coins • estimate to the nearest dollar and calculate the total cost of items costing dollars and cents, and the change from the nearest ten dollars.	Money Matters	Time for Change Serious Circus Sums Can you afford a Pet? Comparing Costs	

Algebra

Topic and Outcomes	**Nzmaths units with Tāhurangi links** and moveNproves (TLF)	Figure It Out links	Numeracy Project Teacher Guides
Equations and relationships			
• form and solve true or false number sentences and open number sentences involving all four operations (e.g., 674 + 56 – __ = 671)	Food for Thought Multiplication and Division Symbols Number Relations	Number Nibbles (Connecting equalities) Crunch Machine Perfect Patterns Flower Power Balancing Acts Total Recall Good as Gold	
• use tables to recognise the relationship between the ordinal position and its corresponding element in a growing pattern, develop a rule for the pattern in words, and make conjectures about further elements or terms in the pattern	Matchstick Patterns	Sticking Around Pegging Problems Pattern Parade Slide Shows Fair and Square Table Time Puzzling Picnics Soccer Saturdays Biscuit Binge (Graphing)	

Measurement

Topic and Outcomes	**Nzmaths units with Tāhurangi links** and moveNproves (TLF)	Figure It Out links	Numeracy Project Teacher Guides

Measuring			
• estimate and then accurately measure length, mass (weight), capacity, temperature, and duration, using appropriate metric or time-based units or a combination of units • use the appropriate tool for a measurement and the appropriate unit for the attribute being measured • use the metric measurement system to explore relationships between units, including relationships represented by benchmark fractions and decimals	Orange you Glad? Areas of rectangles Boxing On Paint It How far is a km? How Much Room?	Three Chairs (Length) Holey Moley (Length) Network Nightmare (Length) Weighty Words (Mass) Wanted (Various Attributes) Rainy Day Delights (Capacity) Hot Spots (Temperature) On Time (Digital to Analogue) Cooking Time Jumping Practice	
• describe angles using the terms acute, right, obtuse, straight, and reflex, comparing them with benchmarks of 90, 180, and 360 degrees	Simple Angles		
• describe the differences in duration between units of time (e.g., days and weeks, months, and years), and solve duration-of-time problems involving 'am' and 'pm' notation	Calibrating Clocks	Taking Time Quench my Thirst	

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Perimeter, Area and Volume			
• visualise, estimate, and calculate: - the perimeter of regular polygons (in m, cm, and mm) - the area of shapes covered with squares or partial squares - the volume of rectangular prisms filled with centicubes, taking note of layers and stacking.	Perplexing Perimeters	Rubber Band Rectangles Fenced In Square Skills Growth Industry Tivaevae Karakara Cuboid Construction	

Geometry

Topic and Outcomes	**Nzmaths units with Tāhurangi links** and moveNproves (TLF)	Figure It Out links	Numeracy Project Teacher Guides
Shapes			
• identify, classify, and describe the attributes of:	Te Whānau Taparau Perspective on Picasso	Shaping Up Getting in Shape Inside Out	

- regular and irregular polygons - prisms, using cross sections, edges, vertices, and angles ● identify and describe parallel and perpendicular lines, including those forming the sides of polygons		Pathway Patterns (Interior angles of polygons) Snail Trails Let's Face It Slice of Life Follow that Thread (Extension)	Teaching Number through Measurement, Geometry, Algebra and Statistics Book 9 Angle Detector (pp. 22-25) Investigating Polygons (pp. 26-29)
Spatial Reasoning			
● visualise 3D shapes and connect them with nets, 2D diagrams, verbal descriptions, and the same shapes drawn from different perspectives		Starting Blocks Different Viewpoints A Chip Off the old Block Boxes of Tricks Roll Over Little Boxes Points of View Tumble Time (Extension to loci) Cutting Corners (Extension to solids of revolution)	
● resize (enlarge or reduce) a 2D shape	Logo Licenses	The Big Picture Growing Changes	
Pathways			
● interpret and create grid maps to plot positions and pathways, using grid references and directional language, including the four main compass points.	Location Location	Room with a View Fun Run	

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Statistics

Topic and Outcomes	**Nzmaths units with Tāhurangi links** and moveNproves (TLF)	Figure It Out links	Numeracy Project Teacher Guides
Enquiry			
Pose ● use multivariate data to investigate summary and comparison situations with categorical and discrete numerical data, by posing an investigative question that can be answered with data	Data Cards Sports Figures		
Plan ● plan how to collect primary data to support answering the investigative question, including: - deciding on the group of interest - deciding on the variable or variables for which data will be collected - taking account of ethical practices in data collection	Planning a Statistical Investigation		
Data ● use a variety of tools to collect the data, check for errors in it, and correct them by re-collecting the data, if possible			

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Analysis • create and describe data visualisations to make meaning from the data, with statements including the names of the variable and group of interest			
Communication • answer the investigative question, comparing findings with initial conjectures or assertions and their existing knowledge of the world			
Statistical Literacy			
• check and, if necessary, improve the statements others make about data, including data from two or more sources.	True or False		

Probability

Topic and Outcomes	Nzmaths units with Tāhurangi links and moveNproves (TLF)	Figure It Out links	Numeracy Project Teacher Guides
Probability Investigations			
• engage in chance-based investigations, including those with not equally likely outcomes, by:	I'm spinning The Coloured Cube Question Counting on Probability	Scratch and Win Superbeans Dicey Differences	

- posing an investigative question - anticipating and then identifying possible outcomes for the investigative question - generating all possible ways to get each outcome (a theoretical approach), or undertaking a probability experiment and recording the occurrences of each outcome - creating data visualisations for possible outcomes - describing what these visualisations show - finding probabilities as fractions - answering the investigative question - reflecting on anticipated outcomes - comparing findings from the probability experiment and associated theoretical probabilities, if the theoretical model exists			
Critical Thinking			
● evaluate others' statements about chance-based investigations, with justification.			