

Numbers Up! Volcanic Panic

Correlation with the
Queensland Studies Authority

Mathematics – Years 1 to 10 Syllabus

Age	Level	QLD Level	Number concepts	Addition and subtraction	Multiplication and division
4-6	1-7	Level 1	<p>NI.1 Students identify, compare and order small whole numbers, and match representations of these numbers.</p> <p>Numeration</p> <ul style="list-style-type: none"> • whole numbers 0 to 10 • number names 0 to 100 • parts of a whole <p>Number sense</p> <ul style="list-style-type: none"> • conservation of number 0 to 10 • position and order of number 0 to 10 • different representations of numbers 	<p>NI.2 Students identify and solve addition and subtraction problems involving small whole numbers.</p> <p>Addition</p> <ul style="list-style-type: none"> • joining (totals to 10) • language of joining • two or more addends <p>Subtraction</p> <ul style="list-style-type: none"> • whole numbers to 10 • take away • cover up <p>Strategies</p> <ul style="list-style-type: none"> • count on 1 and 2 • count back 1 and 2 	<p>NI.3 Students identify and describe equal groups and equal sharing within everyday situations.</p> <p>Multiplication</p> <ul style="list-style-type: none"> • equal groups <p>Division</p> <ul style="list-style-type: none"> • equal sharing

	8-15	Level 2	<p>N2.1 Students identify, order, compare and represent whole numbers to 999, and identify simple fractions of objects and collections, including halves and quarters.</p> <p>Numeration</p> <ul style="list-style-type: none"> • whole numbers to 999 • number names to 999 • place value to hundreds <p>Number sense</p> <ul style="list-style-type: none"> • position and order of numbers • different representations of numbers • subsets of whole numbers – odd and even numbers • part-whole concept – halves and fourths (quarters) 	<p>N2.2 Students identify and solve addition and subtraction problems involving whole numbers, selecting from a range of computation methods, strategies and known number facts.</p> <p>Addition</p> <ul style="list-style-type: none"> • joining totals to 999 • two or more addends <p>Subtraction</p> <ul style="list-style-type: none"> • whole numbers to 999 • models and language – take away, cover up, comparison <p>Connections</p> <ul style="list-style-type: none"> • missing addend • inverse (backtracking) • linking different representations • part-part-total <p>Strategies</p> <ul style="list-style-type: none"> • count on 1 and 2 • count back 1 and 2 • turnarounds • count on 0 and 3 • count back 0 and 3 • doubles and near doubles • extend strategies to larger numbers 	<p>N2.3 Students identify and solve multiplication and division problems involving whole numbers, selecting from a range of computation methods, strategies and known number facts.</p> <p>Multiplication</p> <ul style="list-style-type: none"> • equal groups • repeated addition <p>Division</p> <ul style="list-style-type: none"> • equal sharing – partition (to 100) <p>Strategies</p> <ul style="list-style-type: none"> • skip counting • multiplication facts • 1x, 2x, 5x, 10x • doubles • double doubles • turnarounds (commutativity) • symbols • language
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10-11	16-20	Level 3	<p>N3.1 Students compare, order and represent whole numbers to 9 999 and common and decimal fractions, and calculate cash transactions.</p> <p>Numeration</p> <ul style="list-style-type: none"> • whole numbers to 9 999 • number names to 9 999 • common fractions • decimal fractions to hundredths • unit fraction <p>Number sense</p> <ul style="list-style-type: none"> • conservation of number • position and order of numbers • different representations of numbers • sensible adjustments of numbers • decimal fractions • place value to thousands 	<p>N3.2 Students identify and solve addition and subtraction problems involving whole numbers and decimal fractions in context, selecting from a range of computation methods, strategies and known number facts.</p> <p>Addition</p> <ul style="list-style-type: none"> • whole numbers to 9 999 • decimals to 2 places and same number of places • recall addition facts to $10 + 10$ <p>Subtraction</p> <ul style="list-style-type: none"> • whole numbers to 9 999 • decimals to 2 places and same number of places • recall subtraction facts <p>Connections</p> <ul style="list-style-type: none"> • inverse (backtracking) <ul style="list-style-type: none"> - related (complementary) addition and subtraction facts <p>Strategies</p> <ul style="list-style-type: none"> • counting on and back • doubling and halving • extending strategies to larger numbers • changing operations 	<p>N3.3 Students identify and solve multiplication and division problems involving whole numbers and decimal fractions in context, selecting from a range of computation methods, strategies and known number facts.</p> <p>Multiplication</p> <ul style="list-style-type: none"> • equal groups to 1000 • repeated addition to 1000 • single digit multipliers • multiplication facts to 10×10 <p>Division</p> <ul style="list-style-type: none"> • models and language <ul style="list-style-type: none"> - partition - quotient • single digit whole number operators • division facts <ul style="list-style-type: none"> - $1 \times$, $2 \times$, $5 \times$, $10 \times$
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11-12	21-23	Level 4	<p>N4.1 Students compare and order whole numbers and common and decimal fractions of any size, and make connections between key percentages and fractions.</p> <p>Numeration</p> <ul style="list-style-type: none"> • all whole numbers • decimal fractions • the concept of percentage • relative size of numbers, common fractions, decimals, percentages and equivalences <p>Number sense</p> <ul style="list-style-type: none"> • sensible adjustment of numbers • connections between key percentages (100%, 50%, 25%, 20%, 10%, 1%), unit fractions and decimal fractions • prime, square, composite and triangular numbers • mixed numbers • improper fractions <p>Money</p> <ul style="list-style-type: none"> • discount results in less to pay • simple interest 	<p>N4.2 Students identify and solve addition and subtraction problems involving whole numbers and common and decimal fractions, selecting from a range of computation methods, strategies and known number facts.</p> <p>Addition and subtraction</p> <ul style="list-style-type: none"> • whole numbers • decimal fractions including different numbers of decimal places <p>Connections</p> <ul style="list-style-type: none"> • inverse (backtracking) <p>Strategies</p> <ul style="list-style-type: none"> • exact mental calculations 	<p>N4.3 Students identify and solve simple multiplication and division problems involving whole numbers, fractions, percentages and rates, selecting from a range of computation methods, strategies and known number facts.</p> <p>Multiplication and division</p> <ul style="list-style-type: none"> • equal groups • repeated addition • whole numbers • decimal fractions to hundredths • recall multiplication and division facts to 10x10 <p>Connections</p> <ul style="list-style-type: none"> • relationship between division and fractions <p>Fractions and proportions</p> <p><u>Fractions</u></p> <ul style="list-style-type: none"> • unit fractions as operators e.g. 1/8 of 120 • links between key percentages, unit fractions and decimal fractions <p><u>Rates</u></p> <ul style="list-style-type: none"> • simple everyday rates
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	24-25	Level 5	<p>N5.1 Students compare and order integers, and use and interpret index notation, rates and ratios.</p> <p>Numeration</p> <ul style="list-style-type: none"> • integers • powers with whole number indices • square roots <p>Number sense</p> <ul style="list-style-type: none"> • connections between powers and roots • different forms of the same fractional number 	<p>N5.2 Students identify and solve addition and subtraction problems involving rational numbers and fractions, using a range of computation methods and strategies.</p> <p>Addition and subtraction</p> <ul style="list-style-type: none"> • common fractions with related denominators 	<p>N5.3 Students identify and solve multiplication and division problems involving positive rational numbers, rates, ratios and direct proportions, using a range of computation methods and strategies.</p> <p>Multiplication</p> <ul style="list-style-type: none"> • positive rational numbers: <ul style="list-style-type: none"> - whole numbers - common fractions - decimal fractions - numbers with indices <p>Division</p> <ul style="list-style-type: none"> • positive rational numbers: <ul style="list-style-type: none"> - whole numbers - common fractions - decimal fractions <p>Fractions and proportions</p> <p><u>Fractions</u></p> <ul style="list-style-type: none"> • percentages, common fractions, decimal fractions <p><u>Rates</u></p> <ul style="list-style-type: none"> • calculations involving everyday rates <p><u>Ratios</u></p> <ul style="list-style-type: none"> • simple everyday ratios • ratio symbol : <p><u>Direct Proportion</u></p> <ul style="list-style-type: none"> • calculations with direct proportion
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	25-26	Level 6	<p>N6.1 Students compare and order rational numbers, and interpret and use scientific notation.</p> <p>Numeration</p> <ul style="list-style-type: none"> • scientific notation (positive and negative powers of 10) <p>Number sense</p> <ul style="list-style-type: none"> • connections between scientific notation and other representations of numbers 	<p>N6.2 Students identify and solve addition and subtraction problems involving rational numbers using a range of computation methods and strategies.</p> <p>Addition and subtraction</p> <ul style="list-style-type: none"> • integers • mental strategies for adding and subtracting integers 	<p>N6.3 Students identify and solve multiplication and division problems involving rational numbers, rates, ratios and direct and inverse proportions using a range of computation methods and strategies.</p> <p>Multiplication and division</p> <ul style="list-style-type: none"> • whole numbers • decimal fractions • common fractions • negative numbers <p>Percentage and interest</p> <ul style="list-style-type: none"> • fractional percentages of numbers • simple interest <p>Rates and proportion</p> <ul style="list-style-type: none"> • ratios • indirect proportion
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