



WORKING TOWARD ACHIEVEMENT OF STANDARDS

<p>Level 3: Achievement Standards In Level 3, students increasingly use mathematical terms and symbols to describe computations, measurements and characteristics of objects. Students recognise, model and order numbers to at least 10 000 and place four digit numbers on a number line with regard for scale. They partition and re-arrange to facilitate calculations involving addition and subtraction. Students have facility with single digit addition and related subtraction facts, and recall multiplication and related division facts for twos, threes, fives and tens. They formulate and solve simple multiplication and division problems, estimate answers and use technology to check calculations. Students group money to a specified value in several ways, and calculate change required in simple transactions. They model and represent multiples of unit fractions up to a whole, using arrays on a number line. They write simple rules for number patterns and generate those patterns. Students use metric units of length, mass and capacity to measure, order and compare objects. They associate angle with measure of turn and compare angles in everyday situations. They tell the time in minutes and convert between units of time. They use simple grids in maps and identify symmetry. Students carry out investigations, collect and organise data into categories and use different methods with and without technology to display the data. They conduct experiments involving chance, describe possible outcomes and recognise variability in results.</p>	<p>Level 4: Achievement Standards In Level 4, students extend the number system to simple decimal fractions, and broaden their use of measures and scales. Students model, represent and order numbers to tens of thousands, and extend place value to tenths and hundredths. They investigate odd and even numbers and explore number patterns based on multiples of 3, 4, 6, 7, 8 and 9. Students develop facility with multiplication facts up to 10 x 10 and related division facts. They investigate simple equivalent fractions and count by halves, thirds and quarters, and locate corresponding elements on a number line. Students use simple decimals to solve money problems including total cost and change. They solve simple number sentences and word problems involving all four operations. Students use scaled instruments with metric units to measure and compare length, mass, capacity and temperature. They compare shapes and objects using familiar metric units for area and volume, and compare angles with respect to a right angle. Students use 'am' and 'pm' notations, and solve simple time problems, including conversions between units of time. They construct new shapes by combining or splitting common shapes, and create symmetric patterns, pictures and shapes with and without the use of technology. They interpret and use basic maps with simple scales, directions and legends. Students select and trial different methods for collecting data, including surveys. They construct suitable data displays with and without the use of technology, where there is a many-to-one relationship between elements of graphs and data, and evaluate the effectiveness of different displays. They identify relative likelihood of everyday events, and identify events that are mutually exclusive and events that are independent.</p>
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Links to Capability & Digital Technologies Content Descriptors

<p>Critical and Creative Thinking In Levels 3 and 4, the curriculum focuses on developing the knowledge, skills and understanding to improve and monitor thinking. Students learn and consider the advantages of different thinking techniques. Students learn there are different ways to respond to problems, visualise thinking and think more effectively.</p>	<p>Digital Technologies In Levels 3 and 4, students explore digital systems in terms of their components and peripheral devices such as digital microscopes, cameras and interactive whiteboards. They collect, manipulate and interpret data, developing an understanding of the characteristics of data and their representation. Students further develop their computational thinking skills using the concept of abstraction to analyse simple problems and use techniques such as summarising facts to deduce conclusions. They record simple solutions to problems through text and diagrams and develop their designing skills. They initially follow prepared algorithms, and progress to describing their own that support branching (choice of options) and user input. Their solutions are developed using appropriate software including visual programming languages that use graphical elements rather than text instructions. With teacher guidance, students identify and list the major steps needed to complete a task or project. When sharing ideas and communicating in online environments they develop an understanding of why it is important to consider the feelings of their audiences and apply safe practices and agreed social protocols that demonstrate respectful behaviour. Across the band, students will have had opportunities to create a range of digital solutions, such as interactive adventures that involve user choice, modelling simplified real-world systems and simple guessing games.</p>
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<p>Teaching & Learning Approaches – non-negotiables</p> <ul style="list-style-type: none"> • Gradual Release of Responsibility/Instructional Model • Use of ongoing assessment and data to target teaching • Use of ongoing feedback • Visible learning intentions and success criteria • Individual Learning Plan (ILP) for 12 months above /below /EAL /PSD /Koorie /Discipline • Athletics • Mental Maths 	<p>Special Events/Dates:</p> <p>Week 3 NAPLAN</p>
<p>Performance Outcome/Product of Learning: Students will create a ... about a This will show evidence of:</p> <ul style="list-style-type: none"> • Pre and post-test growth. • Graphing data on computer. 	<p>Vocabulary expectations (Maths specific) Graph, add, multiply, AM, PM.</p>

Tune In	Target Teach	Try Out	Tune Up	Take Off	Tie Together
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Weeks & Dates	Learning Focus	Assessment Charts
<p>1 - 3</p> <p>Addition and Subtraction</p> <p>Location and Transformation</p>	<p>Number and place value</p> <ul style="list-style-type: none"> → Recognise and explain the connection between addition and subtraction (VCMNA132) <ul style="list-style-type: none"> ◆ demonstrating the connection between addition and subtraction using partitioning or by writing equivalent number sentences ◆ solving simple word problems involving addition or subtraction → Explore the connection between addition and subtraction (VCMNA106) <ul style="list-style-type: none"> ◆ becoming fluent with partitioning numbers to understand the connection between addition and subtraction ◆ using counting on to identify the missing element in an additive problem → Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems (VCMNA153) <ul style="list-style-type: none"> ◆ recognising and demonstrating that the place-value pattern is built on the operations of multiplication or division of tens <p>Measurement and Geometry</p> <ul style="list-style-type: none"> → Create and interpret simple grid maps to show position and pathways (VCMMG143) <ul style="list-style-type: none"> ◆ creating a map of the classroom or playground → Use simple scales, legends and directions to interpret information contained in basic maps (VCMMG172) <ul style="list-style-type: none"> ◆ identifying the scale used on maps of cities and rural areas in Australia and a city in Indonesia and describing the difference ◆ using directions to find features on a map 	
<p>4 - 6</p> <p>Multiplication and Division</p>	<p>Number and Place Value</p> <ul style="list-style-type: none"> → Recall multiplication facts of two, three, five and ten and related division facts (VCMNA134) <ul style="list-style-type: none"> ◆ establishing multiplication facts using number sequences ◆ using strategies to recall the multiplication and related division facts for the twos, threes, fives and tens → Develop efficient mental and written strategies and use appropriate digital technologies for multiplication and for division where there is no remainder (VCMNA156) 	

	<ul style="list-style-type: none"> ◆ using known facts and strategies, such as commutativity, doubling and halving for multiplication, and connecting division to multiplication when there is no remainder → Recall multiplication facts up to 10×10 and related division facts (VCMNA155) <ul style="list-style-type: none"> ◆ using known multiplication facts to calculate related division facts ◆ using strategies to recall the multiplication facts ◆ extending multiplication facts (for example 4 by 7 is 28 so 4 by 7 tens is 28 tens) → Investigate number sequences involving multiples of 3, 4, 6, 7, 8, and 9 (VCMNA154) <ul style="list-style-type: none"> ◆ recognising that number sequences can be extended indefinitely, and determining any patterns in the sequences 	
6 - 7 Money & Data Collection Mass	<p>Number and Place Value</p> <ul style="list-style-type: none"> → Solve problems involving purchases and the calculation of change to the nearest five cents with and without digital technologies (VCMNA160) <ul style="list-style-type: none"> ◆ recognising that not all countries use dollars and cents, eg India uses rupees. ◆ carrying out calculations in another currency as well as in dollars and cents, and identifying both as decimal systems → Represent money values in multiple ways and count the change required for simple transactions to the nearest five cents (VCMNA137) <ul style="list-style-type: none"> ◆ recognising the relationship between dollars and cents, and that not all countries use these denominations and divisions. For example, the Japanese Yen → Recognise and explain the connection between addition and subtraction (VCMNA132) <ul style="list-style-type: none"> ◆ demonstrating the connection between addition and subtraction using partitioning or by writing equivalent number sentences ◆ solving simple word problems involving addition or subtraction <p>Measurement and Geometry</p> <ul style="list-style-type: none"> → Measure, order and compare objects using familiar metric units of length, area, mass and capacity (VCMMG140) <ul style="list-style-type: none"> ◆ recognising the importance of using common units of measurement ◆ recognising and using centimetres and metres, square centimetres, grams and kilograms, and millilitres and litres ◆ measuring the area of rectangles (including squares) by counting the number of square centimetres → Use scaled instruments to measure and compare lengths, masses, capacities and temperatures (VCMMG165) <ul style="list-style-type: none"> ◆ reading and interpreting, to the nearest graduation, the graduated scales on a range of measuring instruments 	<p>Essential Assessment</p> <p>General All Pre Test (Reports)</p>
8 - 10 Fractions and Decimals Geometric Reasoning (Angles)	<p>Number and Place Value</p> <ul style="list-style-type: none"> → Recognise and interpret common uses of halves, quarters and eighths of shapes and collections (VCMNA110) <ul style="list-style-type: none"> ◆ recognising that sets of objects can be partitioned in different ways to demonstrate fractions ◆ relating the number of parts to the size of a fraction → Model and represent unit fractions including $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{5}$ and their multiples to a complete whole (VCMNA136) <ul style="list-style-type: none"> ◆ partitioning areas, lengths and collections to create halves, thirds, quarters and fifths, such as folding the same sized sheets of paper to illustrate different unit fractions and comparing the number of parts with their sizes ◆ locating unit fractions on a number line ◆ recognising that in English the term 'one third' is used (order: numerator, denominator) but in other languages, such as Japanese for example, this concept may be expressed as 'three parts, one of them' (order: denominator, numerator) → Count by quarters, halves and thirds, including with mixed numerals. Locate and represent these fractions on a number line (VCMNA158) <ul style="list-style-type: none"> ◆ converting mixed numbers to improper fractions and vice versa ◆ investigating the use of fractions and sharing as a way of managing Country: for example taking no more than half the eggs from a nest to protect future bird populations → Investigate equivalent fractions used in contexts (VCMNA157) <ul style="list-style-type: none"> ◆ exploring the relationship between families of fractions (halves, quarters and eighths or thirds and sixths) by folding a series of paper strips to construct a fraction wall <p>Measurement and Geometry</p> <ul style="list-style-type: none"> → Identify angles as measures of turn and compare angle sizes in everyday situations (VCMMG146) <ul style="list-style-type: none"> ◆ opening doors partially and fully and comparing the size of the angles created ◆ recognising that analogue clocks use the turning of arms to indicate time, and comparing the size of angles between the arms for familiar times → Compare angles and classify them as equal to, greater than or less than a right angle (VCMMG174) <ul style="list-style-type: none"> ◆ creating angles and comparing them to a right angle using digital technologies 	<p>Essential Assessment-Fractions</p>
11:		
Week 11		