Mathletics

The Victorian Curriculum F-10

mapped to the Australian Curriculum
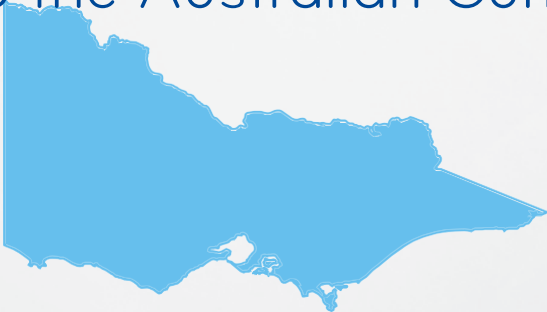
Contents

Mathletics

Preamble

At Mathletics, we are committed to providing students, teachers and schools with high-quality learning resources that align with the most up-to-date curricula.

Now, with the Victorian Curriculum compulsory for Victorian schools from 2017, our Content and Curriculum Team has put together this handy guide that maps the *Victorian Curriculum: Mathematics* to the *Australian Curriculum: Mathematics* and related Mathletics Activities.

As you would know, the *Victorian Curriculum: Mathematics* incorporates the content of the *Australian Curriculum: Mathematics* but with some variations to the content descriptions, some additional content descriptions and different codes.

To help out, we have mapped the *Victorian Curriculum: Mathematics* against the *Australian Curriculum: Mathematics* so that you can easily:
- see any revised or new content descriptions (bold text)
- align the codes of the two curricula
- find the related Mathletics activities.

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Foundation

Substrand	AC Content Description	VC Content Description	📋 Mathletics Activities
Number and place value	ACMNA001 Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point	VCMNA069 Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point	*Teacher directed*
Number and place value	ACMNA002 Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond	VCMNA070 Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond	Count to 5 How Many? Concept of zero Counting Up to 20 Counting Back Within 20 Before, After and Between to 20 Making Teen Numbers Reading Numbers to 30 Counting Backwards Counting Forwards
Number and place value	ACMNA003 Subitise small collections of objects	VCMNA071 Subitise small collections of objects	Dot Display How Many Dots?
Number and place value	ACMNA289 Compare, order and make correspondences between collections, initially to 20, and explain reasoning	VCMNA072 Compare, order and make correspondences between collections, initially to 20, and explain reasoning	Order Numbers to 10 Ordinal Numbers More, Less or the Same to 10 Order Numbers to 20 More, less or the same to 20 1 to 30
Number and place value	ACMNA004 Represent practical situations to model addition and sharing	VCMNA073 Represent practical situations to model addition **and subtraction**	Adding to make 5 and 10 Add and Subtract Using Graphs
		VCMNA074 **Represent practical situations to model sharing**	Share the Treasure Divide Into Equal Groups Fill the Jars
Money and financial mathematics		VCMNA075 **Represent simple, everyday financial situations involving money**	*Under review*
Patterns and algebra	ACMNA005 Sort and classify familiar objects and explain the basis for these classifications. Copy, continue and create patterns with objects and drawings	VCMNA076 Sort and classify familiar objects and explain the basis for these classifications, and copy, continue and create patterns with objects	Sort It Hot or Cold? Simple Patterns Complete the Pattern Missing it! Colour Patterns Pattern Error
Patterns and algebra		VCMNA077 **Follow a short sequence of instructions**	*Under review*
Using units of measurement	ACMMG006 Use direct and indirect comparisons to decide which is longer, heavier or holds more, and explain reasoning in everyday language	VCMMG078 Use direct and indirect comparisons to decide which is longer, heavier or holds more, and explain reasoning in everyday language	Everyday Length Comparing Length How Full? Which Holds More? Filling Fast! Comparing Volume
Using units of measurement	ACMMG007 Compare and order duration of events using everyday language of time	VCMMG079 Compare and order the duration of events using the everyday language of time	Days of the Week Days: After and Before Weekdays and Weekends

Foundation

Substrand	AC Content Description	VC Content Description	▤ Mathletics Activities
Using units of measurement	ACMMG008 Connect days of the week to familiar events and actions	VCMMG080 Connect days of the week to familiar events and actions	Tomorrow and Yesterday (Scaffolded) Tomorrow and Yesterday (without scaffold)
Shape	ACMMG009 Sort, describe and name familiar two-dimensional shapes and three-dimensional objects in the environment	VCMMG081 Sort, describe and name familiar two-dimensional shapes and three-dimensional objects in the environment	Same and Different Match the Solid 1 Collect Simple Shapes
Location and transformation	ACMMG010 Describe position and movement	VCMMG082 Describe position and movement	Where is it? Left or Right?
Data representation and interpretation	ACMSP011 Answer yes/no questions to collect information and make simple inferences	VCMSP083 Answer yes/no questions to collect information	*Teacher directed*
		VCMSP085 Interpret simple data displays about yes/no questions	*Under review*
Data representation and interpretation		VCMSP084 Organise answers to yes/no questions into simple data displays using objects and drawings	*Under review*

Level 1

Substrand	AC Content Description	VC Content Description	Mathletics Activities
Number and place value	ACMNA012 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	VCMNA086 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	Going Up Going Down Before, After & Between to 100
Number and place value	ACMNA013 Recognise, model, read, write and order numbers to at least 100. Locate these numbers on a number line	VCMNA087 Recognise, model, read, write and order numbers to at least 100. Locate these numbers on a number line	Arranging Numbers Number Lines Matching Numbers to 10 Matching Numbers to 20 Compare Numbers to 20 Compare Numbers to 50 Compare Numbers to 100 1st to 31st
Number and place value	ACMNA014 Count collections to 100 by partitioning numbers using place value	VCMNA088 Count collections to 100 by partitioning numbers using place value	Place Value 1 Making Numbers Count Making Big Numbers Count 1 More, 2 Less 1 More, 10 Less Greater or Less to 100 Repartition Two-digit Numbers Nearest Ten?
Number and place value	ACMNA015 Represent and solve simple addition and subtraction problems using a range of strategies including counting on, partitioning and rearranging parts	VCMNA089 Represent and solve simple addition and subtraction problems using a range of strategies including counting on, partitioning and rearranging parts	Model Addition Adding to 5 Adding to Ten Adding In Any Order Commutative Property of Addition Addictive Addition Add 3 Numbers Using Bonds to 10 Add 3 Single Digit Numbers Doubles and Near Doubles Model Subtraction Subtracting From 5 Subtracting from Ten Subtracting from 20 Simple Subtraction All about Ten All about Twenty Doubles and Halves to 10 Doubles and Halves to 20 Adding to 10 Word Problems Add and Subtract Problems Problems: Addition and Subtraction Fact Families: Add and Subtract Related Facts 1 How much Change?
Number and place value		VCMNA090 **Represent practical situations that model sharing**	Divide Into Equal Groups Grouping in Twos Dividing Twos Grouping in Fives Dividing Fives Grouping in Tens Dividing Tens
Fractions and decimals	ACMNA016 Recognise and describe one-half as one of two equal parts of a whole	VCMNA091 Recognise and describe one-half as one of two equal parts of a whole	Halves Is it Half?

Level 1

Substrand	AC Content Description	VC Content Description	≣ Mathletics Activities
Money and financial mathematics	ACMNA017 Recognise, describe and order Australian coins according to their value	VCMNA092 Recognise, describe and order Australian coins according to their value	Everyday Money
Patterns and algebra	ACMNA018 Investigate and describe number patterns formed by skip-counting and patterns with objects	VCMNA093 Investigate and describe number patterns formed by skip-counting and patterns with objects	Simple Patterns Missing it! Colour Patterns Pattern Error Number Line Order Count by 2s, 5s and 10s Counting on a 100 grid
Patterns and algebra		VCMNA094 **Recognise the importance of repetition of a process in solving problems**	*Under review*
Using units of measurement	ACMMG019 Measure and compare the lengths and capacities of pairs of objects using uniform informal units	VCMMG095 Measure and compare the lengths, **masses** and capacities of pairs of objects using uniform informal units	Measuring length with blocks Compare Length How Full? Filling Fast! Comparing Volume Balancing Act Everyday Mass
Using units of measurement	ACMMG020 Tell time to the half-hour	VCMMG096 Tell time to the half-hour	Tell Time to the Hour (UK) Hour Times Tell Time to the Hour Tell Time to the Half Hour (UK) Half Hour Times Tell Time to the Half Hour
Using units of measurement	ACMMG021 Describe duration using months, weeks, days and hours	VCMMG097 Describe duration using months, weeks, days and hours	Days of the Week Days: After and Before Tomorrow and Yesterday (without scaffold) Months of the Year Months After and Before
Shape	ACMMG022 Recognise and classify familiar two-dimensional shapes and three-dimensional objects using obvious features	VCMMG098 Recognise and classify familiar two-dimensional shapes and three-dimensional objects using obvious features	Match the Solid 1 Collect Simple Shapes Collect the Polygons Count Sides and Corners
Location and transformation	ACMMG023 Give and follow directions to familiar locations	VCMMG099 Give and follow directions to familiar locations	Left or Right? Following Directions
Chance	ACMSP024 Identify outcomes of familiar events involving chance and describe them using everyday language such as 'will happen', 'won't happen' or 'might happen'	VCMSP100 Identify outcomes of familiar events involving chance and describe them using everyday language such as 'will happen', 'won't happen' or 'might happen'	Will it Happen? Most Likely and Least Likely
Data representation and interpretation	ACMSP262 Choose simple questions and gather responses and make simple inferences	VCMSP101 Choose simple questions and gather responses	*Under review*
Data representation and interpretation	ACMSP263 Represent data with objects and drawings where one object or drawing represents one data value. Describe the displays	VCMSP102 Represent data with objects and drawings where one object or drawing represents one data value. Describe the displays	Read Graphs Picture Graphs: Who has the Goods? Picture Graphs: More or Less Picture Graphs: single-unit scale

Level 2

Substrand	AC Content Description	VC Content Description	Mathletics Activities
Number and place value	ACMNA026 Investigate number sequences, initially those increasing and decreasing by twos, threes, fives and tens from any starting point, then moving to other sequences	VCMNA103 Investigate number sequences, initially those increasing and decreasing by twos, threes, fives and tens from any starting point, then moving to other sequences	Count by Twos Counting by Twos Count by Fives Counting by Fives Count by Tens Counting by Tens Count by 2s, 5s and 10s Counting on a 100 grid Skip Counting
Number and place value	ACMNA027 Recognise, model, represent and order numbers to at least 1000	VCMNA104 Recognise, model, represent and order numbers to at least 1000	Model Numbers Which is Bigger? Which is Smaller? Nearest Hundred?
Number and place value	ACMNA028 Group, partition and rearrange collections up to 1000 in hundreds, tens and ones to facilitate more efficient counting	VCMNA105 Group, partition and rearrange collections up to 1000 in hundreds, tens and ones to facilitate more efficient counting	Place value 2 Place Value Partitioning Partition and rename 1
Number and place value	ACMNA029 Explore the connection between addition and subtraction	VCMNA106 Explore the connection between addition and subtraction	Fact Families: Add and Subtract Related Facts 1 Balance Numbers to 10 Balance Numbers to 20 Partition Puzzles 1
Number and place value	ACMNA030 Solve simple addition and subtraction problems using a range of efficient mental and written strategies	VCMNA107 Solve simple addition and subtraction problems using a range of efficient mental and written strategies	Commutative Property of Addition Addictive Addition Subtract Tens 10 More, 10 Less Adding to 2-digit numbers Magic Mental Addition Magic Mental Subtraction Repartition to Subtract Partition Puzzles 1 Bar Model Problems 1 Bar Model Problems 2 Simple Subtraction
Number and place value	ACMNA031 Recognise and represent multiplication as repeated addition, groups and arrays	VCMNA108 Recognise and represent multiplication as repeated addition, groups and arrays	Grouping in Twos Grouping in Fives Grouping in Tens Grouping in Threes Grouping in Fours Grouping in Sixes Grouping in Sevens Grouping in Eights Grouping in Nines Multiplication Arrays
Number and place value	ACMNA032 Recognise and represent division as grouping into equal sets and solve simple problems using these representations	VCMNA109 Recognise and represent division as grouping into equal sets and solve simple problems using these representations	Groups Dividing Twos Dividing Fives Dividing Tens Dividing Threes Dividing Fours Dividing Sixes Dividing Sevens Dividing Eights Dividing Nines
Fractions and decimals	ACMNA033 Recognise and interpret common uses of halves, quarters and eighths of shapes and collections	VCMNA110 Recognise and interpret common uses of halves, quarters and eighths of shapes and collections	Is it Half? Halves and Quarters Halves

Level 2

Substrand	AC Content Description	VC Content Description	Mathletics Activities
Money and financial mathematics	ACMNA034 Count and order small collections of Australian coins and notes according to their value	VCMNA111 Count and order small collections of Australian coins and notes according to their value	Skip Counting with Coins
Patterns and algebra	ACMNA035 Describe patterns with numbers and identify missing elements	VCMNA112 Describe patterns with numbers and identify missing elements	Count by Twos Counting by Twos Count by Fives Counting by Fives Count by Tens Counting by Tens
Patterns and algebra	ACMNA036 Solve problems by using number sentences for addition or subtraction	VCMNA113 Solve problems by using number sentences for addition or subtraction	All about Twenty Problems: Addition and Subtraction
Patterns and algebra		VCMNA114 **Apply repetition in arithmetic operations, including multiplication as repeated addition and division as repeated subtraction**	*Under review*
Using units of measurement	ACMMG037 Compare and order several shapes and objects based on length, area, volume and capacity using appropriate uniform informal units	VCMMG115 Compare and order several shapes and objects based on length, area, volume and capacity using appropriate uniform informal units	Measuring Length with Blocks Compare Length Biggest Shape Equal Areas Comparing Volume
Using units of measurement	ACMMG038 Compare masses of objects using balance scales	VCMMG116 Compare masses of objects using balance scales	Balancing Act Everyday Mass
Using units of measurement	ACMMG039 Tell time to the quarter-hour, using the language of 'past' and 'to'	VCMMG117 Tell time to the quarter-hour, using the language of 'past' and 'to'	Tell Time to the Half Hour (UK) Half Hour Times Quarter to and Quarter past Hour Times Tell Time to the Half Hour Tell Time to the Hour Tell Time to the Hour (UK)
Using units of measurement	ACMMG040 Name and order months and seasons	VCMMG118 Name and order months and seasons	Months of the Year Months After and Before Seasons (AU/NZ)
Using units of measurement	ACMMG041 Use a calendar to identify the date and determine the number of days in each month	VCMMG119 Use a calendar to identify the date and determine the number of days in each month	Using a Calendar
Shape	ACMMG042 Describe and draw two-dimensional shapes, with and without digital technologies	VCMMG120 Describe and draw two-dimensional shapes, with and without digital technologies	Collect More Shapes
Shape	ACMMG043 Describe the features of three-dimensional objects	VCMMG121 Describe the features of three-dimensional objects	Faces, Edges, and Vertices 1 Relate Shapes and Solids How many Faces? How many Edges? How many Vertices? Faces, Edges and Vertices
Location and transformation	ACMMG044 Interpret simple maps of familiar locations and identify the relative positions of key features	VCMMG122 Interpret simple maps of familiar locations and identify the relative positions of key features	*Under review*

Level 2

Substrand	AC Content Description	VC Content Description	📋 Mathletics Activities
Location and transformation	ACMMG045 Investigate the effect of one-step slides and flips with and without digital technologies	VCMMG123 Investigate the effect of one-step slides and flips with and without digital technologies	Flip, Slide, Turn
Location and transformation	ACMMG046 Identify and describe half and quarter turns	VCMMG124 Identify and describe half and quarter turns	Flip, Slide, Turn
Chance	ACMSP047 Identify practical activities and everyday events that involve chance. Describe outcomes as 'likely' or 'unlikely' and identify some events as 'certain' or 'impossible'	VCMSP125 Identify practical activities and everyday events that involve chance. Describe outcomes as 'likely' or 'unlikely' and identify some events as 'certain' or 'impossible'	Chance Gauge Most Likely and Least Likely Will it Happen?
Data representation and interpretation	ACMSP048 Identify a question of interest based on one categorical variable. Gather data relevant to the question	VCMSP126 Identify a question of interest based on one categorical variable. Gather data relevant to the question	*Under review*
Data representation and interpretation	ACMSP049 Collect, check and classify data	VCMSP127 Collect, check and classify data	Tallies Sorting Data
Data representation and interpretation	ACMSP050 Create displays of data using lists, table and picture graphs and interpret them	VCMSP128 Create displays of data using lists, table and picture graphs and interpret them	Picture Graphs: More or Less Picture Graphs: single-unit scale

Level 3

Substrand	AC Content Description	VC Content Description	Mathletics Activities
Number and place value	ACMNA051 Investigate the conditions required for a number to be odd or even and identify odd and even numbers	VCMNA129 Investigate the conditions required for a number to be odd or even and identify odd and even numbers	Odd or Even
Number and place value	ACMNA052 Recognise, model, represent and order numbers to at least 10 000	VCMNA130 Recognise, model, represent and order numbers to at least 10 000	Expanding Numbers Place Value - Thousands Place value 3 Partition and Rename 2 Which Is Greater? Which Is Less? Smallest and largest numbers Ascending Order Descending Order Missing Numbers 1 Missing Numbers 2 Greater Than or Less Than? Greater Than or Less Than 1 Nearest Thousand? Nearest Ten? Nearest Hundred? Partition and rename 1 Place Value 2
Number and place value	ACMNA053 Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems	VCMNA131 Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems	Repartition to Subtract Jump Add and Subtract Split Add and Subtract Add Two 2-Digit Numbers Columns that Add Add 3-Digit Numbers Add Two 2-Digit Numbers: Regroup Add 3-Digit Numbers: Regroup Add Multi-Digit Numbers 1 Adding Colossal Columns Subtract Numbers 3-Digit Differences Subtract Numbers: Regroup 2-Digit Differences: Regroup 3-Digit Differences: 1 Regrouping 3-Digit Differences: 2 Regroupings 3-Digit Differences with Zeros Columns that Subtract
Number and place value	ACMNA054 Recognise and explain the connection between addition and subtraction	VCMNA132 Recognise and explain the connection between addition and subtraction	Related Facts 1 Fact Families: Add and Subtract
Number and place value	ACMNA055 Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation	VCMNA133 Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation	Addictive Addition Simple Subtraction Magic Mental Addition Magic Mental Subtraction Add 3 Numbers: Bonds to Multiples of 10 Add 3 Numbers: Bonds to 100 Compensation - Add Compensation - Subtract Magic Symbols 1 Complements to 10, 20, 50 Complements to 50 and 100 Estimate Sums Estimate Differences Commutative Property of Addition

Level 3

Substrand	AC Content Description	VC Content Description	▤ Mathletics Activities
Number and place value	ACMNA056 Recall multiplication facts of two, three, five and ten and related division facts	VCMNA134 Recall multiplication facts of two, three, five and ten and related division facts	Groups of Two Groups of Three Groups of Five Groups of Ten Frog Jump Division Dividing by Two Dividing by Three Dividing by Five
Number and place value	ACMNA057 Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies	VCMNA135 Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies	Multiplication Problems 1 Halve it! Multiplication Arrays Arrays 1 Arrays 2 Frog Jump Multiplication Model Multiplications to 5 x 5
Fractions and decimals	ACMNA058 Model and represent unit fractions including 1/2, 1/4, 1/3, 1/5 and their multiples to a complete whole	VCMNA136 Model and represent unit fractions including 1/2, 1/4, 1/3, 1/5 and their multiples to a complete whole	Shade Fractions Counting with Fractions on a Number Line Fractions of a Collection Fractions of a collection 1 Fractions of a Collection 2 Halves and Quarters
Money and financial mathematics	ACMNA059 Represent money values in multiple ways and count the change required for simple transactions to the nearest five cents	VCMNA137 Represent money values in multiple ways and count the change required for simple transactions to the nearest five cents	Who's got the Money? Money How much Change?
Patterns and algebra	ACMNA060 Describe, continue, and create number patterns resulting from performing addition or subtraction	VCMNA138 Describe, continue, and create number patterns resulting from performing addition or subtraction	Count Forward Patterns Count Backward Patterns Counting up in 4s Counting up in 6s Counting up in 7s Counting up in 8s Increasing Patterns Decreasing Patterns Pick the Next Number
Patterns and algebra		VCMNA139 **Use a function machine and the inverse machine as a model to apply mathematical rules to numbers or shapes**	*Under review*
Using units of measurement	ACMMG061 Measure, order and compare objects using familiar metric units of length, mass and capacity	VCMMG140 Measure, order and compare objects using familiar metric units of length, **area,** mass and capacity	How Long is That? Measuring Length Equal Areas Area of Shapes Comparing Volume Using a Litre Everyday Mass
Using units of measurement	ACMMG062 Tell time to the minute and investigate the relationship between units of time	VCMMG141 Tell time to the minute and investigate the relationship between units of time	Quarter to and Quarter past Five Minute Times What is the Time? Half Hour Time
Shape	ACMMG063 Make models of three-dimensional objects and describe key features	VCMMG142 Make models of three-dimensional objects and describe key features	Match the Object Collect the Objects What Prism am I? What Pyramid am I? Prisms and Pyramids Naming 3D Objects Faces, Edges, and Vertices 1 Faces, Edges and Vertices

Level 3

Substrand	AC Content Description	VC Content Description	Mathletics Activities
Location and transformation	ACMMG065 Create and interpret simple grid maps to show position and pathways	VCMMG143 Create and interpret simple grid maps to show position and pathways	Following Directions Coordinate Meeting Place Map Coordinates
Location and transformation	ACMMG066 Identify symmetry in the environment	VCMMG144 Identify symmetry in the environment	Symmetry Symmetry or Not?
Location and transformation		VCMMG145 **Identify and describe slides and turns found in the natural and built environment**	*Under review*
Geometric reasoning	ACMMG064 Identify angles as measures of turn and compare angle sizes in everyday situations	VCMMG146 Identify angles as measures of turn and compare angle sizes in everyday situations	Equal Angles Comparing Angles
Chance	ACMSP067 Conduct chance experiments, identify and describe possible outcomes and recognise variation in results	VCMSP147 Conduct chance experiments, identify and describe possible outcomes and recognise variation in results	Possible Outcomes Counting Techniques 1 Chance Gauge
Data representation and interpretation	ACMSP068 Identify questions or issues for categorical variables. Identify data sources and plan methods of data collection and recording	VCMSP148 Identify questions or issues for categorical variables. Identify data sources and plan methods of data collection and recording	*Under review*
Data representation and interpretation	ACMSP069 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	VCMSP149 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	*Under review*
Data representation and interpretation	ACMSP070 Interpret and compare data displays	VCMSP150 Interpret and compare data displays	Picture Graphs: More or Less Picture Graphs: single-unit scale Tallies Sorting Data

Level 4

Substrand	AC Content Description	VC Content Description	Mathletics Activities
Number and place value	ACMNA071 Investigate and use the properties of odd and even numbers	VCMNA151 Investigate and use the properties of odd and even numbers	Odd and Even Numbers 1
Number and place value	ACMNA072 Recognise, represent and order numbers to at least tens of thousands	VCMNA152 Recognise, represent and order numbers to at least tens of thousands	Expanded Notation Numbers in Words Partition and Rename 3 Rounding Numbers Missing numbers 1 Partition and rename 2 Place Value 3
Number and place value	ACMNA073 Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems	VCMNA153 Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems	Repartition to Subtract Jump Add and Subtract Split Add and Subtract Add Three 1-Digit Numbers Add Three 2-Digit Numbers Add Three 2-Digit Numbers: Regroup Add 3-Digit Numbers Add Three 3-Digit Numbers: Regroup Add Multi-Digit Numbers 2 3-Digit Differences Subtract Numbers: Regroup 3-Digit Differences: 2 Regroupings 3-Digit Differences with Zeros Subtracting Colossal Columns Add 3-Digit Numbers: Regroup Add Multi-Digit Numbers 1 Add Two 2-Digit Numbers Add Two 2-Digit Numbers: Regroup Adding Colossal Columns Compensation – Add Compensation – Subtract Magic Symbols 1 Estimate Differences Estimate Sums Add 3 Numbers: Bonds to 100 Add 3 Numbers: Bonds to Multiples of 10 2-Digit Differences: Regroup 3-Digit Differences: 1 Regrouping Subtract Numbers
Number and place value	ACMNA074 Investigate number sequences involving multiples of 3, 4, 6, 7, 8, and 9	VCMNA154 Investigate number sequences involving multiples of 3, 4, 6, 7, 8, and 9	Frog Jump Multiplication Counting up in 4s Counting up in 6s Counting up in 8s Counting up in 7s
Number and place value	ACMNA075 Recall multiplication facts up to 10 × 10 and related division facts	VCMNA155 Recall multiplication facts up to 10 × 10 and related division facts	Arrays 2 Model Multiplication to 5 x 5 Arrays 1 Times Tables Multiplication Turnarounds Multiplication Turn-Abouts Related Facts 2 Fact Families: Multiply and Divide Missing Numbers: × and ÷ facts Division Facts 1

Level 4

Substrand	AC Content Description	VC Content Description	Mathletics Activities
Number and place value	ACMNA076 Develop efficient mental and written strategies and use appropriate digital technologies for multiplication and for division where there is no remainder	VCMNA156 Develop efficient mental and written strategies and use appropriate digital technologies for multiplication and for division where there is no remainder	Halve it! Multiply Multiples of 10 Multiply 3 single-digit numbers
Fractions and decimals	ACMNA077 Investigate equivalent fractions used in contexts	VCMNA157 Investigate equivalent fractions used in contexts	Equivalent Fractions on a Number Line 1 Equivalent Fractions on a Number Line 2 Equivalent Fraction Wall 1 Equivalent Fraction Wall 2 The Equivalent Fraction Shading Equivalent Fractions
Fractions and decimals	ACMNA078 Count by quarters halves and thirds, including with mixed numerals. Locate and represent these fractions on a number line	VCMNA158 Count by quarters, halves and thirds, including with mixed numerals. Locate and represent these fractions on a number line	Thirds and Sixths Uneven partitioned shapes 1 Counting with Fractions on a Number Line
Fractions and decimals	ACMNA079 Recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and decimal notation	VCMNA159 Recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and decimal notation	Decimals from Words to Digits 1 Decimal Place Value Decimals on the Number Line Nearest Whole Number Fractions to Decimals
Money and financial mathematics	ACMNA080 Solve problems involving purchases and the calculation of change to the nearest five cents with and without digital technologies	VCMNA160 Solve problems involving purchases and the calculation of change to the nearest five cents with and without digital technologies	Money Problems: Four Operations How much Change?
Patterns and algebra	ACMNA081 Explore and describe number patterns resulting from performing multiplication	VCMNA161 Explore and describe number patterns resulting from performing multiplication	*Under review*
Patterns and algebra	ACMNA082 Solve word problems by using number sentences involving multiplication or division where there is no remainder	VCMNA162 Solve word problems by using number sentences involving multiplication or division where there is no remainder	Problems: Times and Divide Multiply and Divide Problems 1
Patterns and algebra	ACMNA083 Find unknown quantities in number sentences involving addition and subtraction and identify equivalent number sentences involving addition and subtraction	VCMNA163 Use equivalent number sentences involving addition and subtraction to find unknown quantities	Complements to 10, 20, 50 Complements to 50 and 100 Missing Values Missing Numbers Balance Additions to 20
Patterns and algebra		VCMNA164 **Define a simple class of problems and solve them using an effective algorithm that involves a short sequence of steps and decisions**	*Under review*

Level 4

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Using units of measurement	ACMMG084 Use scaled instruments to measure and compare lengths, masses, capacities and temperatures	VCMMG165 Use scaled instruments to measure and compare lengths, masses, capacities and temperatures	Measuring Length Centimetres and Metres Hot or Cold? What's the Temperature (Celsius)? Using a Litre How Heavy? How Heavy is it? Which Measuring Tool?
Using units of measurement	ACMMG290 Compare objects using familiar metric units of area and volume	VCMMG166 Compare objects using familiar metric units of area and volume	Area of Shapes Volume of Solids and Prisms – 1 cm^3 blocks
Using units of measurement	ACMMG085 Convert between units of time	VCMMG167 Convert between units of time	Time Conversions: Whole Numbers 1 Time Conversions: Whole Numbers 2 Time Conversions: Simple Fractions Time Conversions: Simple Decimals
Using units of measurement	ACMMG086 Use 'am' and 'pm' notation and solve simple time problems	VCMMG168 Use 'am' and 'pm' notation and solve simple time problems	What Time Will it Be? Time Mentals
Shape	ACMMG087 Compare the areas of regular and irregular shapes by informal means	VCMMG169 Compare the areas of regular and irregular shapes by informal means	*Under review*
Shape	ACMMG088 Compare and describe two-dimensional shapes that result from combining and splitting common shapes, with and without the use of digital technologies	VCMMG170 Compare and describe two-dimensional shapes that result from combining and splitting common shapes, with and without the use of digital technologies	*Under review*
Shape		VCMMG171 **Explain and compare the geometric properties of two-dimensional shapes and three-dimensional objects**	Faces, Edges, and Vertices Faces, Edges, and Vertices 1 Prisms and Pyramids
Location and transformation	ACMMG090 Use simple scales, legends and directions to interpret information contained in basic maps	VCMMG172 Use simple scales, legends and directions to interpret information contained in basic maps	Using a key What Direction was That? More Directions! Scale
Location and transformation	ACMMG091 Create symmetrical patterns, pictures and shapes with and without digital technologies	VCMMG173 Create symmetrical patterns, pictures and shapes with and without digital technologies	*Under review*
Geometric reasoning	ACMMG089 Compare angles and classify them as equal to, greater than, or less than, a right angle	VCMMG174 Compare angles and classify them as equal to, greater than or less than a right angle	Right Angle Relation What Type of Angle? Classifying Angles
Chance	ACMSP092 Describe possible everyday events and order their chances of occurring	VCMSP175 Describe possible everyday events and order their chances of occurring	What are the Chances?

Level 4

Substrand	AC Content Description	VC Content Description	Mathletics Activities
Chance	ACMSP093 Identify everyday events where one cannot happen if the other happens	VCMSP176 Identify everyday events where one cannot happen if the other happens	*Under review*
Chance	ACMSP094 Identify events where the chance of one will not be affected by the occurrence of the other	VCMSP177 Identify events where the chance of one will not be affected by the occurrence of the other	*Under review*
Data representation and interpretation	ACMSP095 Select and trial methods for data collection, including survey questions and recording sheets	VCMSP178 Select and trial methods for data collection, including survey questions and recording sheets	*Under review*
Data representation and interpretation	ACMSP096 Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs and picture graphs where one picture can represent many data values	VCMSP179 Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs and picture graphs where one picture can represent many data values	Picture Graphs: with scale & half symbols Pictographs Making Picture Graphs: With Scale Column Graphs Reading from a Column Graph
Data representation and interpretation	ACMSP097 Evaluate the effectiveness of different displays in illustrating data features including variability	VCMSP180 Evaluate the effectiveness of different displays in illustrating data features including variability	*Under review*

Level 5

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Number and place value	ACMNA098 Identify and describe factors and multiples of whole numbers and use them to solve problems	VCMNA181 Identify and describe factors and multiples of whole numbers and use them to solve problems	Multiples Lowest Common Multiple Factors Find the Factor Fit the Conditions 1
Number and place value	ACMNA099 Use estimation and rounding to check the reasonableness of answers to calculations	VCMNA182 Use estimation and rounding to check the reasonableness of answers to calculations	Rounding Numbers Estimate Sums Estimate Differences Estimation: Add and Subtract Estimate Products Estimate Quotients Estimation: Multiply and Divide
Number and place value	ACMNA100 Solve problems involving multiplication of large numbers by one- or two-digit numbers using efficient mental, written strategies and appropriate digital technologies	VCMNA183 Solve problems involving multiplication of large numbers by one- or two-digit numbers using efficient mental, written strategies and appropriate digital technologies	Multiply Multiples of 10 Multiply More Multiples of 10 Grid Methods 1 Multiply: 1-Digit Number Single Digit Multipliers Mental Methods Multiplication 1 Grid Methods 2 Grid Methods 3 Multiply 2 Digits Area Model Long Multiplication
Number and place value	ACMNA101 Solve problems involving division by a one-digit number, including those that result in a remainder	VCMNA184 Solve problems involving division by a one-digit number, including those that result in a remainder	Remainders by Arrays Remainders by Tables Mental Methods Division Short Division
Number and place value	ACMNA291 Use efficient mental and written strategies and apply appropriate digital technologies to solve problems	VCMNA185 Use efficient mental and written strategies and apply appropriate digital technologies to solve problems	Multiplying by 10, 100, 1000 Dividing by 10, 100, 1000 Mental Methods Multiplication 2 Mental Methods Division 2
Number and place value		VCMNA186 **Recognise, represent and order numbers to at least hundreds of thousands**	Place Value to Millions Numbers from Words to Digits 1 Numbers from Words to Digits 2 Equal, less or Greater Than? Expanded Notation Numbers in Words Partition and Rename 3
Fractions and decimals	ACMNA102 Compare and order common unit fractions and locate and represent them on a number line	VCMNA187 Compare and order common unit fractions and locate and represent them on a number line	Uneven partitioned shapes 2
Fractions and decimals	ACMNA103 Investigate strategies to solve problems involving addition and subtraction of fractions with the same denominator	VCMNA188 Investigate strategies to solve problems involving addition and subtraction of fractions with the same denominator	Add Subtract Fractions 1 Add: Common Denominator Subtract: Common Denominator One Take Fraction
Fractions and decimals	ACMNA104 Recognise that the place value system can be extended beyond hundredths	ACMNA189 Recognise that the place value system can be extended beyond hundredths	Decimals from Words to Digits 2 Decimals on a Number Line Decimals to Fractions 1
Fractions and decimals	ACMNA105 Compare, order and represent decimals	ACMNA190 Compare, order and represent decimals	Comparing Decimals 1 Comparing Decimals Decimal Order Decimal Order 1

Level 5

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Money and financial mathematics	ACMNA106 Create simple financial plans	VCMNA191 Create simple financial plans	*Under review*
Patterns and algebra	ACMNA107 Describe, continue and create patterns with fractions, decimals and whole numbers resulting from addition and subtraction	VCMNA192 Describe, continue and create patterns with fractions, decimals and whole numbers resulting from addition and subtraction	Pick the Next Number Describing Patterns
Patterns and algebra	ACMNA121 Find unknown quantities in number sentences involving multiplication and division. Identify equivalent number sentences involving multiplication and division	VCMNA193 **Use equivalent number sentences involving multiplication and division to find unknown quantities**	Find the Missing Number 1 I am Thinking of a Number! Equivalent Facts: Multiply
Patterns and algebra		VCMNA194 **Follow a mathematical algorithm involving branching and repetition (iteration)**	*Under review*
Using units of measurement	ACMMG108 Choose appropriate units of measurement for length, area, volume, capacity and mass	VCMNA195 Choose appropriate units of measurement for length, area, volume, capacity and mass	Which Unit of Measurement?
Using units of measurement	ACMMG109 Calculate perimeter and area of rectangles using familiar metric units	VCMNA196 Calculate the perimeter and area of rectangles **and the volume and capacity of prisms** using familiar metric units	Perimeter of Shapes Perimeter: Squares and Rectangles Area of Shapes Calculate Areas of Squares and Rectangles Volume of Solids and Prisms – 1 cm^3 blocks
Using units of measurement	ACMMG110 Compare 12- and 24-hour time systems and convert between them	VCMNA197 Compare 12- and 24-hour time systems and convert between them	24 Hour Time Time Conversions: Whole Numbers 1 Time Conversions: Whole Numbers 2 Time Conversions: Simple Fractions
Shape	ACMMG111 Connect three-dimensional objects with their nets and other two-dimensional representations	VCMMG198 Connect three-dimensional objects with their nets and other two-dimensional representations	*Under review*
Location and transformation	ACMMG113 Use a grid reference system to describe locations. Describe routes using landmarks and directional language	VCMMG199 Use a grid reference system to describe locations. Describe routes using landmarks and directional language	Map Coordinates What Direction was That? More Directions! Using a Key
Location and transformation	ACMMG114 Describe translations, reflections and rotations of two-dimensional shapes. Identify line and rotational symmetries	VCMMG200 Describe translations, reflections and rotations of two-dimensional shapes. Identify line and rotational symmetries	Transformations Symmetry Symmetry or Not? Rotational Symmetry of Shapes Rotational Symmetry

Level 5

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Location and transformation	ACMMG115 Apply the enlargement transformation to familiar two-dimensional shapes and explore the properties of the resulting image compared with the original	VCMMG201 Apply the enlargement transformation to familiar two-dimensional shapes and explore the properties of the resulting image compared with the original	*Under review*
Geometric reasoning	ACMMG112 Estimate, measure and compare angles using degrees. Construct angles using a protractor	VCMMG202 Estimate, measure and compare angles using degrees. Construct angles using a protractor	Measuring Angles Estimating Angles Classifying Angles What Type of Angle?
Chance	ACMSP116 List outcomes of chance experiments involving equally likely outcomes and represent probabilities of those outcomes using fractions	VCMSP203 List outcomes of chance experiments involving equally likely outcomes and represent probabilities of those outcomes using fractions	Introductory Probability
Chance	ACMSP117 Recognise that probabilities range from 0 to 1	VCMSP204 Recognise that probabilities range from 0 to 1	*Under review*
Data representation and interpretation	ACMSP118 Pose questions and collect categorical or numerical data by observation or survey	VCMSP205 Pose questions and collect categorical or numerical data by observation or survey	*Under review*
Data representation and interpretation	ACMSP119 Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies	VCMSP206 Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies	*Under review*
Data representation and interpretation	ACMSP120 Describe and interpret different data sets in context	VCMSP207 Describe and interpret different data sets in context	*Under review*

Level 6

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Number and place value	ACMNA122 Identify and describe properties of prime, composite, square and triangular numbers	VCMNA208 Identify and describe properties of prime, composite, square and triangular numbers	Prime or Composite? Factors Multiples Find the Factor Fit the Conditions 1 Lowest Common Multiple Highest Common Factor
Number and place value	ACMNA123 Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers	VCMNA209 Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers **and make estimates for these computations**	Add 3 Numbers: Bonds to Multiples of 10 Add 3 Numbers: Bonds to 100 Jump Add and Subtract Split Add and Subtract Adding Colossal Columns Subtracting Colossal Columns Multiplying by 10, 100, 1000 Dividing by 10, 100, 1000 Mental Methods Multiplication 2 Mental Methods Division 2 Long Multiplication Short Division Estimation: Add and Subtract Estimate Products Estimate Quotients Estimation: Multiply and Divide Rounding Numbers
Number and place value	ACMNA124 Investigate everyday situations that use integers. Locate and represent these numbers on a number line	VCMNA210 Investigate everyday situations that use integers. Locate and represent these numbers on a number line	Integers on a Number Line Ordering Integers (Number Line)
Fractions and decimals	ACMNA125 Compare fractions with related denominators and locate and represent them on a number line	VCMNA211 Compare fractions with related denominators and locate and represent them on a number line	What Fraction Is Shaded 1 What Mixed Number Is Shaded? Identifying Fractions on a Number Line Identifying Fractions Beyond 1 Mixed and Improper Fractions on a Number Line Compare Fractions 1a Compare Fractions 1b Compare Fractions 2 Comparing Fractions 1 Equivalent Fractions on a Number Line 1 Equivalent Fractions on a Number Line 2
Fractions and decimals	ACMNA126 Solve problems involving addition and subtraction of fractions with the same or related denominators	VCMNA212 Solve problems involving addition and subtraction of fractions with the same or related denominators	Add Subtract Fractions 1 Add: Common Denominator Subtract: Common Denominator One Take Fraction Add: No Common Denominator Subtract: No Common Denominator Common Denominator Add Like Mixed Numbers Subtract Like Mixed Numbers Add Unlike Mixed Numbers Subtract Unlike Mixed Numbers Mixed Numerals

Level 6

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Fractions and decimals	ACMNA127 Find a simple fraction of a quantity where the result is a whole number, with and without digital technologies	VCMNA213 Find a simple fraction of a quantity where the result is a whole number, with and without digital technologies	Unit Fractions Fraction Fruit Sets 1 Fraction Fruit Sets 2 Fraction Wall Labelling 1 Fraction Wall Labelling 2
Fractions and decimals	ACMNA128 Add and subtract decimals, with and without digital technologies, and use estimation and rounding to check the reasonableness of answers	VCMNA214 Add and subtract decimals, with and without digital technologies, and use estimation and rounding to check the reasonableness of answers	Adding Decimals Add Decimals 2 Decimal Complements Subtract Decimals 1 Subtract Decimals 2 Adding and Subtracting Decimals Estimate Decimal Sums 1 Estimate Decimal Differences 1 Magic Symbols 2
Fractions and decimals	ACMNA129 Multiply decimals by whole numbers and perform divisions by non-zero whole numbers where the results are terminating decimals, with and without digital technologies	VCMNA215 Multiply decimals by whole numbers and perform divisions by non-zero whole numbers where the results are terminating decimals, with and without digital technologies	Multiply Decimal by Whole Number Decimal by Whole Number Divide Decimal by Whole Number Estimate Decimal Operations
Fractions and decimals	ACMNA130 Multiply and divide decimals by powers of 10	VCMNA216 Multiply and divide decimals by powers of 10	Multiply Decimals: 10, 100, 1000 Divide Decimals: 10, 100, 1000 Multiply Decimals and Powers of 10 Divide Decimals by Powers of 10 100 1000
Fractions and decimals	ACMNA131 Make connections between equivalent fractions, decimals and percentages	VCMNA217 Make connections between equivalent fractions, decimals and percentages	Equivalent Fraction Wall 1 Equivalent Fraction Wall 2 The Equivalent Fraction Simplify Fractions Improper Fraction to Mixed Numeral Converting Mixed and Improper Convert Decimals to Fractions 2 Modelling Percentages Percentages to Fractions (with and without simplification) Percents to Fractions Percentages to Decimals Fractions to Percentages (Non-Calculator) Decimals to Percentages Percents and Decimals Match Decimals and Percentages
Money and financial mathematics	ACMNA132 Investigate and calculate percentage discounts of 10%, 25% and 50% on sale items, with and without digital technologies	VCMNA218 Investigate and calculate percentage discounts of 10%, 25% and 50% on sale items, with and without digital technologies	Calculating Percentages (Mental) Percent of a Number (Mental)
Patterns and algebra	ACMNA133 Continue and create sequences involving whole numbers, fractions and decimals. Describe the rule used to create the sequence	VCMNA219 Continue and create sequences involving whole numbers, fractions and decimals. Describe the rule used to create the sequence	Pick the Next Number Number Sequences Up to 1 Million Describing Patterns Table of Values

Level 6

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Patterns and algebra	ACMNA134 Explore the use of brackets and order of operations to write number sentences	VCMNA220 Explore the use of brackets and order of operations to write number sentences	Order of Operations 1 (BIDMAS) Word Problems with Letters
Patterns and algebra		VCMNA221 **Design algorithms involving branching and iteration to solve specific classes of mathematical problems**	*Teacher directed*
Using units of measurement	ACMMG135 Connect decimal representations to the metric system	VCMMG222 Connect decimal representations to the metric system	see ACMMG136/VCMMG223
Using units of measurement	ACMMG136 Convert between common metric units of length, mass and capacity	VCMMG223 Convert between common metric units of length, mass and capacity	Centimetres and Metres Converting cm and mm Kilometre Conversions Metres and Kilometres Converting Units of Length Operations with Length Kilogram Conversions Grams and Kilograms Converting Units of Mass Mass Addition Litre Conversions Millilitres and Litres Capacity Addition
Using units of measurement	ACMMG137 Solve problems involving the comparison of lengths and areas using appropriate units	VCMMG224 Solve problems involving the comparison of lengths and areas using appropriate units	Perimeter Detectives 1 Perimeter: Squares and Rectangles Equal Areas Biggest Shape Area of Shapes Calculate Area of Squares and Rectangles
Using units of measurement	ACMMG138 Connect volume and capacity and their units of measurement	VCMMG225 Connect volume and capacity and their units of measurement	*Under review*
Using units of measurement	ACMMG139 Interpret and use timetables	VCMMG226 Interpret and use timetables	Using Timetables
Using units of measurement		VCMMG227 **Measure, calculate and compare elapsed time**	What Time Will it Be? Time Mentals Elapsed Time
Shape	ACMMG140 Construct simple prisms and pyramids	VCMMG228 Construct simple prisms and pyramids	Prisms and Pyramids Naming 3D Objects
Location and transformation	ACMMG142 Investigate combinations of translations, reflections and rotations, with and without the use of digital technologies	VCMMG229 Investigate the effect of **combinations of transformations on simple and composite shapes, including creating tessellations**, with and without the use of digital technologies	Transformations
Location and transformation	ACMMG143 Introduce the Cartesian coordinate system using all four quadrants	VCMMG230 Introduce the Cartesian coordinate system using all four quadrants	Coordinate Graphs: 1st Quadrant Coordinate Graphs

Level 6

Substrand	AC Content Description	VC Content Description	Mathletics Activities
Geometric reasoning	ACMMG141 Investigate, with and without digital technologies, angles on a straight line, angles at a point and vertically opposite angles. Use results to find unknown angles	VCMMG231 Investigate, with and without digital technologies, angles on a straight line, angles at a point and vertically opposite angles. Use results to find unknown angles	Angles of Revolution: Unknown Values Vertically Opposite Angles: Unknown Values Estimating Angles
Chance	ACMSP144 Describe probabilities using fractions, decimals and percentages	VCMSP232 Describe probabilities using fractions, decimals and percentages	Find the Probability Simple Probability Introductory Probability
Chance	ACMSP145 Conduct chance experiments with both small and large numbers of trials using appropriate digital technologies	VCMSP233 Conduct chance experiments with both small and large numbers of trials using appropriate digital technologies	*Teacher directed*
Chance	ACMSP146 Compare observed frequencies across experiments with expected frequencies	VCMSP234 Compare observed frequencies across experiments with expected frequencies	Fair Games
Data representation and interpretation	ACMSP147 Interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables	VCMSP235 **Construct**, interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables	Column Graphs Reading from a Column Graph Line Graphs: Interpretation Interpreting Tables Carroll Diagram
Data representation and interpretation	ACMSP148 Interpret secondary data presented in digital media and elsewhere	VCMSP236 Interpret secondary data presented in digital media and elsewhere	*Teacher directed*
Data representation and interpretation		VCMSP237 **Pose and refine questions to collect categorical or numerical data by observation or survey**	*Teacher directed*

Level 7

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Number and place value	ACMNA149 Investigate index notation and represent whole numbers as products of powers of prime numbers	VCMNA238 Investigate index notation and represent whole numbers as products of powers of prime numbers	Prime or Composite? Exponents Product of Prime Factors Prime Factorising of Whole Numbers Prime Factorisation with Indices Highest Common Factor
Number and place value	ACMNA150 Investigate and use square roots of perfect square numbers	VCMNA239 Investigate and use square roots of perfect square numbers	Square Roots Square Roots 1 Estimating Square Roots
Number and place value	ACMNA151 Apply the associative, commutative and distributive laws to aid mental and written computation	VCMNA240 Apply the associative, commutative and distributive laws to aid mental and written computation **and make estimates for these computations**	Addition Properties Add 3 Numbers: Bonds to Multiples of 10 Add 3 Numbers: Bonds to 100 Multiplication Properties Arithmetic Laws Multiply 3 single-digit numbers Mental Methods Multiplication 1 Mental Methods Multiplication 2 Order of Operations 1 (BIDMAS) Identifying errors in applying the order of operations Nearest 10? Nearest 100? Nearest 1000? Rounding Numbers Estimation: Add and Subtract Estimation: Multiply and Divide
Number and place value	ACMNA280 Compare, order, add and subtract integers	VCMNA241 Compare, order, add and subtract integers	Integers on a Number Line Ordering Integers (Number Line) Comparing Integers Negative or Positive? Integers: Add and Subtract More with Integers Add Integers Integers: Subtraction Adding Integers: Positive, Negative or Zero
Real numbers	ACMNA152 Compare fractions using equivalence. Locate and represent positive and negative fractions and mixed numbers on a number line	VCMNA242 Compare fractions using equivalence. Locate and represent positive and negative fractions and mixed numbers on a number line	Equivalent Fractions on a Number Line 1 Equivalent Fractions on a Number Line 2 Equivalent Fractions Simplifying Fractions Mixed to Improper Improper to Mixed Converting Mixed and Improper Counting with Fractions on a Number Line Comparing Fractions 1 Comparing Fractions 2 Arranging Fractions Comparing Fractions with Signs Shading Equivalent Fractions Equivalent Fraction Wall 1 Equivalent Fraction Wall 2 Identifying Fractions Beyond 1 Identifying Fractions on a Number Line

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Real numbers	ACMNA153 Solve problems involving addition and subtraction of fractions, including those with unrelated denominators	VCMNA243 Solve problems involving addition and subtraction of fractions, including those with unrelated denominators	Add: Common Denominator Add: No Common Denominator Add Like Mixed Numbers Add Unlike Mixed Numbers Subtract: Common Denominator Subtract: No Common Denominator One Take Fraction Subtract Like Mixed Numbers Subtract Unlike Mixed Numbers Mixed Numerals Add Mixed Numbers: Same Sign Subtract Mixed Numbers: Signs Differ
Real numbers	ACMNA154 Multiply and divide fractions and decimals using efficient written strategies and digital technologies	VCMNA244 Multiply and divide fractions and decimals using efficient written strategies and digital technologies	Fraction by Whole Number Multiply Fraction by Fraction Multiply Two Fractions 1 Multiplying Fractions Multiply Mixed Numbers Estimate Products with Fractions Fraction Word Problems More Fraction Problems Using Reciprocals Divide by a Unit Fraction Divide Whole Number by Fraction Divide Fractions Visual Model Divide Fractions by Fractions 1 Dividing Fractions Divide Mixed Numbers Operations with Fractions Divide Mixed Numbers with Signs Divide Decimals: 10, 100, 1000 Multiply Decimals: 10, 100, 1000 Fractions of a Collection Fractions of an Amount Decimal by Whole Number Divide Decimal by Whole Number Decimal by Decimal Divide Decimal by Decimal Unit Fractions
Real numbers	ACMNA155 Express one quantity as a fraction of another, with and without the use of digital technologies	VCMNA245 Express one quantity as a fraction of another, with and without the use of digital technologies	*Under review*
Real numbers	ACMNA156 Round decimals to a specified number of decimal places	VCMNA246 Round decimals to a specified number of decimal places	Rounding Decimals Rounding Decimals 2 Nearest Whole Number

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Real numbers	ACMNA157 Connect fractions, decimals and percentages and carry out simple conversions	VCMNA247 Connect fractions, decimals and percentages and carry out simple conversions	Decimals to Fractions 1 Decimals to Fractions 2 Fractions to Decimals 2 Fraction to Terminating Decimal Percentages to Fractions (with and without simplification) Percentages greater than 100% to Mixed Numerals Percentages to Decimals Common Fractions as Percentages Fractions to Percentages (Non-Calculator) Fractions to Percentages (Calculator) Mixed Numerals to Percentages greater than 100% Decimals to Percentages Decimal to Percentage Mixed decimal, percentage and fraction conversions Match Decimals and Percentages Modelling Percentages
Real numbers	ACMNA158 Find percentages of quantities and express one quantity as a percentage of another, with and without digital technologies	VCMNA248 Find percentages of quantities and express one quantity as a percentage of another, with and without digital technologies	Calculating Percentages (Mental) Percentage of an amount using fractions (<100%) Percentage of an amount using decimals (calculator) Percentage of a Quantity Quantities to Percentages (no units) Quantities to Percentages (with units) Percentage Composition
Real numbers	ACMNA173 Recognise and solve problems involving simple ratios	VCMNA249 Recognise and solve problems involving simple ratios	Simplify Ratios: 2 Whole Numbers Simplify Ratios: 3 Whole Numbers Simplify Ratios: Decimals Simplify Ratios: Fractions Simplify Ratios: Mixed Numbers Equivalent Ratios Ratio Dividing a Quantity in a Ratio Ratio Word Problems Scale Measurement Word Problems: Ratio
Money and financial mathematics	ACMNA174 Investigate and calculate 'best buys', with and without digital technologies	VCMNA250 Investigate and calculate 'best buys', with and without digital technologies	Best Buy
Patterns and algebra	ACMNA175 Introduce the concept of variables as a way of representing numbers using letters	VCMNA251 Introduce the concept of variables as a way of representing numbers using letters	*Under review*
Patterns and algebra	ACMNA176 Create algebraic expressions and evaluate them by substituting a given value for each variable	VCMNA252 Create algebraic expressions and evaluate them by substituting a given value for each variable	Writing Algebraic Expressions Simple Substitution Simple Substitution 2 Simple Substitution 3 Complex Substitution

Level 7

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Patterns and algebra	ACMNA177 Extend and apply the laws and properties of arithmetic to algebraic terms and expressions	VCMNA253 Extend and apply the laws and properties of arithmetic to algebraic terms and expressions	Recognising Like Terms Like Terms: Add, Subtract Like Terms: Add and Subtract Algebraic Multiplication Algebraic Division
Patterns and algebra		VCMNA254 Design and implement mathematical algorithms using a simple general-purpose programming language	Under review
Linear and non-linear relationships	ACMNA178 Given coordinates, plot points on the Cartesian plane, and find coordinates for a given point	VCMNA255 Given coordinates, plot points on the Cartesian plane, and find coordinates for a given point	Coordinate Graphs: 1st Quadrant Number Plane Coordinate Graphs Reading Values from a Line
Linear and non-linear relationships	ACMNA179 Solve simple linear equations	VCMNA256 Solve simple linear equations	Missing Numbers: Variables Solve Equations: Add, Subtract 1 Solve Equations: Multiply, Divide 1 Solve Equations: Multiply, Divide 2 Solving Simple Equations Solve Two-Step Equations Equations with Fractions Write an Equation: Word Problems Table of Values Find the Pattern Rule Pattern Rules and Tables Graphing from a Table of Values Find the Missing Number 1
Linear and non-linear relationships	ACMNA180 Investigate, interpret and analyse graphs from authentic data	VCMNA257 Investigate, interpret and analyse graphs from real life data, **including consideration of domain and range**	Travel Graphs
Using units of measurement	ACMMG159 Establish the formulas for areas of rectangles, triangles and parallelograms, and use these in problem-solving	VCMMG258 Establish the formulas for areas of rectangles, triangles and parallelograms and use these in problem solving	Area of Shapes Biggest Shape Equal Areas Area: Squares and Rectangles Area: Triangles Area: Composite Shapes Area: Parallelograms (Metric)
Using units of measurement	ACMMG160 Calculate volumes of rectangular prisms	VCMMG259 Calculate volumes of rectangular prisms	Volume of Solids and Prisms - 1 cm^3 blocks Volume: Rectangular Prisms 1 Volume: Rectangular Prisms 2
Shape	ACMMG161 Draw different views of prisms and solids formed from combinations of prisms	VCMMG260 Draw different views of prisms and solids formed from combinations of prisms	Naming 3D Solids Properties of Solids
Location and transformation	ACMMG181 Describe translations, reflections in an axis and rotations of multiples of 90° on the Cartesian plane using coordinates. Identify line and rotational symmetries	VCMMG261 Describe translations, reflections in an axis, and rotations of multiples of 90° on the Cartesian plane using coordinates. Identify line and rotational symmetries	Symmetry or Not? Rotational Symmetry Transformations Horizontal and Vertical Change Transformations: Coordinate Plane Rotations: Coordinate Plane

Level 7

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Geometric reasoning	ACMMG163 Identify corresponding, alternate and co-interior angles when two straight lines are crossed by a transversal	VCMMG264 Identify corresponding, alternate and co-interior angles when two straight lines are crossed by a transversal	Introduction to Angles on Parallel Lines 1 Introduction to Angles on Parallel Lines 3 Parallel Lines Angles and Parallel Lines
Geometric reasoning	ACMMG164 Investigate conditions for two lines to be parallel and solve simple numerical problems using reasoning	VCMMG265 Investigate conditions for two lines to be parallel and solve simple numerical problems using reasoning	Are the Lines Parallel?
Geometric reasoning	ACMMG165 Classify triangles according to their side and angle properties and describe quadrilaterals	VCMMG262 Classify triangles according to their side and angle properties and describe quadrilaterals	Triangle Tasters Plane Figure Terms
Geometric reasoning	ACMMG166 Demonstrate that the angle sum of a triangle is 180° and use this to find the angle sum of a quadrilateral	VCMMG263 Demonstrate that the angle sum of a triangle is 180° and use this to find the angle sum of a quadrilateral	Angle Measures in a Triangle Angle Sum of a Triangle Quadrilaterals: Angle Sum with Equations
Chance	ACMSP167 Construct sample spaces for single-step experiments with equally likely outcomes	VCMSP266 Construct sample spaces for single- step experiments with equally likely outcomes	*Under review*
Chance	ACMSP168 Assign probabilities to the outcomes of events and determine probabilities for events	VCMSP267 Assign probabilities to the outcomes of events and determine probabilities for events	Find the Probability Simple Probability Fair Games What are the Chances?
Data representation and interpretation	ACMSP169 Identify and investigate issues involving numerical data collected from primary and secondary sources	VCMSP268 Identify and investigate issues involving numerical data collected from primary and secondary sources	*Under review*
Data representation and interpretation	ACMSP170 Construct and compare a range of data displays including stem-and-leaf plots and dot plots	VCMSP269 Construct and compare a range of data displays including stem-and-leaf plots and dot plots	Reading from a Column Graph Line Graphs: Interpretation Sector Graphs Creating a Sector Graph Divided Bar Graphs Dot Plots Stem and Leaf Plots: Concept Tally Charts
Data representation and interpretation	ACMSP171 Calculate mean, median, mode and range for sets of data. Interpret these statistics in the context of data	VCMSP270 Calculate mean, median, mode and range for sets of data. Interpret these statistics in the context of data	Mean Median Mode Data Extremes and Range
Data representation and interpretation	ACMSP172 Describe and interpret data displays using median, mean and range	VCMSP271 Describe and interpret data displays using median, mean and range	Mode from Stem and Leaf Plot Median from Stem and Leaf Plot Stem and Leaf Plots with Range Mode from Frequency Table Mean from Frequency Table Median from Frequency Table

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Number and place value	ACMNA182 Use index notation with numbers to establish the index laws with positive integral indices and the zero index	VCMNA272 Use index notation with numbers to establish the index laws with positive integral indices and the zero index	Exponents Index Notation Simplifying with Index Laws 1 Properties of Exponents The Zero Index
Number and place value	ACMNA183 Carry out the four operations with rational numbers and integers, using efficient mental and written strategies and appropriate digital technologies	VCMNA273 Carry out the four operations with rational numbers and integers, using efficient mental and written strategies and appropriate digital technologies **and make estimates for these computations**	Simplifying Fractions Add: No Common Denominator Subtract: No Common Denominator Mixed Numerals Multiply Two Fractions 1 Multiply Mixed Numbers Estimate Products with Fractions Fraction of an Amount Divide Fractions by Fractions 1 Divide Mixed Numbers Fraction Word Problems More Fraction Problems Integers: Add and Subtract More with Integers Integers: Subtraction Adding Integers: Positive, Negative or Zero Integers: Multiplication and Division Multiplying and Dividing Integers Powers of Integers Integers: Order of Operations (BIDMAS) Index Form to Numbers Integers: Operations Order Decimal by Decimal Divide Decimal by Decimal
Real numbers	ACMNA184 Investigate terminating and recurring decimals	VCMNA274 Investigate terminating and recurring decimals	*Under review*
Real numbers	ACMNA186 Investigate the concept of irrational numbers, including π	VCMNA275 Investigate the concept of irrational numbers, including π	*Under review*
Real numbers	ACMNA187 Solve problems involving the use of percentages, including percentage increases and decreases, with and without digital technologies	VCMNA276 Solve problems involving the use of percentages, including percentage increases and decreases **and percentage error**, with and without digital technologies	Calculating Percentages (Mental) Percentage of an amount using fractions (<100%) Percentage of an amount using decimals (calculator) Percentage of a Quantity Quantities to Percentages (no units) Quantities to Percentages (with units) Percentage Change: Increase and Decrease Percent Increase and Decrease Solve Percent Equations Percentage Word Problems

Level 8

Substrand	AC Content Description	VC Content Description	Mathletics Activities
Real numbers	ACMNA188 Solve a range of problems involving rates and ratios, with and without digital technologies	VCMNA277 Solve a range of problems involving rates and ratios, **including distance- time problems for travel at a constant speed**, with and without digital technologies	Ratio Dividing a Quantity in a Ratio Ratio Word Problems Scale Measurement Word Problems: Ratio Unitary Method Rates Word Problems Rates Calculations Distance Travelled Average Speed Time Taken Travel Graphs
Money and financial mathematics	ACMNA189 Solve problems involving profit and loss, with and without digital technologies	VCMNA278 Solve problems involving profit and loss, with and without digital technologies	Profit and Loss
Patterns and algebra	ACMNA190 Extend and apply the distributive law to the expansion of algebraic expressions	VCMNA279 Extend and apply the distributive law to the expansion of algebraic expressions	Expanding Brackets Expanding with Negatives
Patterns and algebra	ACMNA191 Factorise algebraic expressions by identifying numerical factors	VCMNA280 Factorise algebraic expressions by identifying numerical factors	Highest Common Factor Factorising
Patterns and algebra	ACMNA192 Simplify algebraic expressions involving the four operations	VCMNA281 Simplify algebraic expressions involving the four operations	Like Terms: Add, Subtract Like Terms: Add and Subtract Algebraic Multiplication Algebraic Division
Patterns and algebra		VCMNA282 **Use algorithms and related testing procedures to identify and correct errors**	*Under review*
Linear and non-linear relationships	ACMNA193 Plot linear relationships on the Cartesian plane with and without the use of digital technologies	VCMNA283 Plot linear relationships on the Cartesian plane with and without the use of digital technologies	Pattern Rules and Tables Graphing from a Table of Values Table of Values Find the Pattern Rule Reading Values from a Line Number Plane Coordinate Graphs
Linear and non-linear relationships	ACMNA194 Solve linear equations using algebraic and graphical techniques. Verify solutions by substitution	VCMNA284 Solve linear equations using algebraic and graphical techniques. Verify solutions by substitution	Solving Simple Equations Solve Two-Step Equations Equations with Fractions Write an Equation: Word Problems Solving More Equations Equations with Grouping Symbols Checking Solutions Find the Mistake Equations to Solve Problems Solve Systems by Graphing Solve Equations: Add, Subtract 1 Solve Equations: Multiply, Divide 1 Solve Equations: Multiply, Divide 2

Level 8

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Linear and non-linear relationships		VCMNA285 **Plot graphs of non-linear real life data with and without the use of digital technologies, and interpret and analyse these graphs**	Parabolas and Rectangles Conversion Graphs
Using units of measurement	ACMMG195 Choose appropriate units of measurement for area and volume and convert from one unit to another	VCMMG286 Choose appropriate units of measurement for area and volume and convert from one unit to another	Converting Units of Area Converting Volume Capacity Word Problems Converting Units of Length Millilitres and Litres Operations with Length
Using units of measurement	ACMMG196 Find perimeters and areas of parallelograms, trapeziums, rhombuses and kites	VCMMG287 Find perimeters and areas of parallelograms, trapeziums, rhombuses and kites	Area: Quadrilaterals Area: Parallelograms (Metric) Area: Squares and Rectangles Perimeter Detectives 1 Perimeter: Squares and Rectangles
Using units of measurement	ACMMG197 Investigate the relationship between features of circles such as circumference, area, radius and diameter. Use formulas to solve problems involving circumference and area	VCMMG288 Investigate the relationship between features of circles such as circumference, area, radius and diameter. Use formulas to solve problems involving **determining radius, diameter, circumference and area from each other**	Labelling Circles Calculate Circumference of Circles Arc Length Perimeter and Circles Area: Circles 1 Area: Sectors (Degrees) Area: Annulus
Using units of measurement	ACMMG198 Develop formulas for volumes of rectangular and triangular prisms and prisms in general. Use formulas to solve problems involving volume	VCMMG289 Develop the formulas for volumes of rectangular and triangular prisms and prisms in general. Use formulas to solve problems involving volume	Volume: Rectangular Prisms 1 Volume of Triangular Prisms Volume: Prisms Volume of Solids and Prisms – 1 cm³ blocks
Using units of measurement	ACMMG199 Solve problems involving duration, including using 12- and 24-hour time within a single time zone	VCMMG290 Solve problems involving duration, including using 12- and 24-hour time within a single time zone	Time Conversions: Simple Fractions Time Conversions: Simple Decimals Hours and Minutes 24 Hour Time Time Mentals Elapsed Time What Time Will it Be? Using Timetables
Geometric reasoning	ACMMG200 Define congruence of plane shapes using transformations	VCMMG291 Define congruence of plane shapes using transformations **and use transformations of congruent shapes to produce regular patterns in the plane including tessellations with and without the use of digital technology**	Congruent Figures (Dot Grid)
Geometric reasoning	ACMMG201 Develop the conditions for congruence of triangles	VCMMG292 Develop the conditions for congruence of triangles	Congruent Triangles Congruent Figures: Find Values Triangles – Congruent or not?

Level 8

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Geometric reasoning	ACMMG202 Establish properties of quadrilaterals using congruent triangles and angle properties, and solve related numerical problems using reasoning	VCMMG293 Establish properties of quadrilaterals using congruent triangles and angle properties, and solve related numerical problems using reasoning	Plane Figure Theorems Properties of Quadrilaterals
Chance	ACMSP204 Identify complementary events and use the sum of probabilities to solve problems	VCMSP294 Identify complementary events and use the sum of probabilities to solve problems	Complementary Events
Chance	ACMSP205 Describe events using language of 'at least', exclusive 'or' (A or B but not both), inclusive 'or' (A or B or both) and 'and'	VCMSP295 Describe events using language of 'at least', exclusive 'or' (A or B but not both), inclusive 'or' (A or B or both) and 'and'	Probability - 'And' and 'Or'
Chance	ACMSP292 Represent events in two-way tables and Venn diagrams and solve related problems	VCMSP296 Represent events in two-way tables and Venn diagrams and solve related problems	Carroll Diagram Venn Diagram 1 Venn Diagrams Probability Tables
Data representation and interpretation	ACMSP284 Investigate techniques for collecting data, including census, sampling and observation	VCMSP297 **Distinguish between a population and a sample** and investigate techniques for collecting data, including census, sampling and observation	*Under review*
Data representation and interpretation	ACMSP206 Explore the practicalities and implications of obtaining data through sampling using a variety of investigative processes	VCMSP298 Explore the practicalities and implications of obtaining data through sampling using a variety of investigative processes	*Under review*
Data representation and interpretation	ACMSP293 Explore the variation of means and proportions of random samples drawn from the same population	VCMSP299 Explore the variation of means and proportions of random samples drawn from the same population	*Under review*
Data representation and interpretation	ACMSP207 Investigate the effect of individual data values, including outliers, on the mean and median	VCMSP300 Investigate the effect of individual data values including outliers, on the range, mean and median	Which Measure of Central Tendency?

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Real numbers	ACMNA208 Solve problems involving direct proportion. Explore the relationship between graphs and equations corresponding to simple rate problems	VCMNA301 Solve problems involving direct proportion. Explore the relationship between graphs and equations corresponding to simple rate problems	Direct Linear Variation Conversion Graphs
Real numbers	ACMNA209 Apply index laws to numerical expressions with integer indices	VCMNA302 Apply index laws to numerical expressions with integer indices	Properties of Exponents Simplifying with Index Laws 1 The Zero Index Integer Exponents Negative Indices
Real numbers	ACMNA210 Express numbers in scientific notation	VCMNA303 Express numbers in scientific notation	Scientific notation to decimal Scientific Notation Scientific Notation 1 Scientific Notation 2 Ordering Scientific Notation
Money and financial mathematics	ACMNA211 Solve problems involving simple interest	VCMNA304 Solve problems involving simple interest	Simple Interest Purchase Options
Patterns and algebra	ACMNA212 Extend and apply the index laws to variables, using positive integer indices and the zero index	VCMNA305 Extend and apply the index laws to variables, using positive integer indices and the zero index	Index Notation and Algebra Multiplication with Indices Index Laws and Algebra Index Laws with Brackets Multiplication and Division with Indices Zero Index and Algebra Exponents Index Notation
Patterns and algebra	ACMNA213 Apply the distributive law to the expansion of algebraic expressions, including binomials, and collect like terms where appropriate	VCMNA306 Apply the distributive law to the expansion of algebraic expressions, including binomials, and collect like terms where appropriate	Expanding Brackets Expanding with Negatives Expand then Simplify
Patterns and algebra		VCMNA307 **Apply set structures to solve real-world problems**	*Under review*
Linear and non-linear relationships	ACMNA214 Find the distance between two points located on the Cartesian plane using a range of strategies, including graphing software	VCMNA308 Find the distance between two points located on a Cartesian plane using a range of strategies, including graphing software	Distance Between Two Points
Linear and non-linear relationships	ACMNA294 Find the midpoint and gradient of a line segment (interval) on the Cartesian plane using a range of strategies, including graphing software	VCMNA309 Find the midpoint and gradient of a line segment (interval) on the Cartesian plane using a range of strategies, including graphing software	Midpoint by Formula Slope of a Line Gradient
Linear and non-linear relationships	ACMNA215 Sketch linear graphs using the coordinates of two points and solve linear equations	VCMNA310 Sketch linear graphs using the coordinates of two points and solve linear equations	Graphing from a Table of Values Find the Pattern Rule Intercepts Horizontal and Vertical Lines Equation of a Line 1 Which Straight Line? Equation from Point and Gradient Determining a Rule for a Line Coordinate Graphs

Level 9

Substrand	AC Content Description	VC Content Description	Mathletics Activities
Linear and non-linear relationships	ACMNA296 Graph simple non-linear relations with and without the use of digital technologies and solve simple related equations	VCMNA311 Graph simple non-linear relations with and without the use of digital technologies and solve simple related equations	Simple Quadratic Equations - How Many Solutions? Equations: Simple Quadratics Parabolas and Rectangles Parabolas and Marbles
Using units of measurement	ACMMG216 Calculate areas of composite shapes	VCMMG312 Calculate the areas of composite shapes	Area: Composite Shapes Area: Annulus
Using units of measurement	ACMMG217 Calculate the surface area and volume of cylinders and solve related problems	VCMMG313 Calculate the surface area and volume of cylinders and solve related problems	Surface Area: Cylinders Volume: Cylinders
Using units of measurement	ACMMG218 Solve problems involving the surface area and volume of right prisms	VCMMG314 Solve problems involving the surface area and volume of right prisms	Nets Surface Area: Rectangular Prisms Surface Area: Triangular Prisms 1 Surface Area: Triangular Prisms Volume: Prisms Converting Units of Area Volume of Triangular Prisms
Using units of measurement	ACMMG219 Investigate very small and very large time scales and intervals	VCMMG315 Investigate very small and very large time scales and intervals	Scientific notation to decimal Scientific Notation Scientific Notation 1 Scientific Notation 2 Ordering Scientific Notation Significant Figures Rounding Significant Figures
Geometric reasoning	ACMMG220 Use the enlargement transformation to explain similarity and develop the conditions for triangles to be similar	VCMMG316 Use the enlargement transformation to explain similarity and develop the conditions for triangles to be similar	Similar Figures 1 Similar Figures Using Similar Triangles 1 Similar Triangles Congruent Triangles Triangles – Congruent or not?
Geometric reasoning	ACMMG221 Solve problems using ratio and scale factors in similar figures	VCMMG317 Solve problems using ratio and scale factors in similar figures	Scale Factor Scale Measurement Similar Areas and Volumes
Pythagoras and trigonometry	ACMMG222 Investigate Pythagoras' Theorem and its application to solving simple problems involving right angled triangles	VCMMG318 Investigate Pythagoras' Theorem and its application to solving simple problems involving right angled triangles	Hypotenuse of a Right Triangle Pythagoras: Find a Short Side (integers only) Pythagoras: Find a Short Side (rounding needed) Pythagoras: Find a Short Side (decimal values) Pythagorean Theorem Pythagorean Triads Pythagoras and Perimeter
Pythagoras and trigonometry	ACMMG223 Use similarity to investigate the constancy of the sine, cosine and tangent ratios for a given angle in right-angled triangles	VCMMG319 Use similarity to investigate the constancy of the sine, cosine and tangent ratios for a given angle in right-angled triangles	Hypotenuse, Adjacent, Opposite Sin A Cos A Tan A
Pythagoras and trigonometry	ACMMG224 Apply trigonometry to solve right-angled triangle problems	VCMMG320 Apply trigonometry to solve right-angled triangle problems	Find Unknown Sides Find Unknown Angles Elevation and Depression Bearings

Level 9

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Chance	ACMSP225 List all outcomes for two-step chance experiments, both with and without replacement using tree diagrams or arrays. Assign probabilities to outcomes and determine probabilities for events	VCMSP321 List all outcomes for two-step chance experiments, both with and without replacement using tree diagrams or arrays. Assign probabilities to outcomes and determine probabilities for events	Dice and Coins Probability With Replacement Probability Without Replacement Find the Probability Simple Probability
Chance	ACMSP226 Calculate relative frequencies from given or collected data to estimate probabilities of events involving 'and' or 'or'	VCMSP322 Calculate relative frequencies from given or collected data to estimate probabilities of events involving 'and' or 'or'	Relative Frequency Probability Tables Probability – 'And' and 'Or'
Chance	ACMSP227 Investigate reports of surveys in digital media and elsewhere for information on how data were obtained to estimate population means and medians	VCMSP323 Investigate reports of surveys in digital media and elsewhere for information on how data were obtained to estimate population means and medians	*Under review*
Data representation and interpretation	ACMSP228 Identify everyday questions and issues involving at least one numerical and at least one categorical variable, and collect data directly and from secondary sources	VCMSP324 Identify everyday questions and issues involving at least one numerical and at least one categorical variable, and collect data directly from secondary sources	*Under review*
Data representation and interpretation	ACMSP282 Construct back-to- back stem-and-leaf plots and histograms and describe data, using terms including 'skewed', 'symmetric' and 'bi modal'	VCMSP325 Construct back-to- back stem-and-leaf plots and histograms and describe data, using terms including 'skewed', 'symmetric' and 'bi modal'	Double Stem and Leaf Plots Stem and Leaf Plots with Range
Data representation and interpretation	ACMSP283 Compare data displays using mean, median and range to describe and interpret numerical data sets in terms of location (centre) and spread	VCMSP326 Compare data displays using mean, median and range to describe and interpret numerical data sets in terms of location (centre) and spread	Frequency Histograms Data Extremes and Range

Level 10

Substrand	AC Content Description	VC Content Description	📋 Mathletics Activities
Real numbers		VCMNA327 **Solve simple problems involving inverse proportion**	*Under review*
Money and financial mathematics	ACMNA229 Connect the compound interest formula to repeated applications of simple interest using appropriate digital technologies	VCMNA328 Connect the compound interest formula to repeated applications of simple interest using appropriate digital technologies	Compound Interest Compound Interest by Formula Simple Interest
Patterns and algebra	ACMNA230 Factorise algebraic expressions by taking out a common algebraic factor	VCMNA329 Factorise algebraic expressions by taking out a common algebraic factor	Highest Common Algebraic Factor Factorising Expressions Factorising with Negatives Factorising Factorising with Indices
Patterns and algebra	ACMNA231 Simplify algebraic products and quotients using index laws	VCMNA330 Simplify algebraic products and quotients using index laws	Multiplication with Indices Index Laws with Brackets Zero Index and Algebra Multiplication and Division with Indices Index Laws and Algebra
Patterns and algebra	ACMNA232 Apply the four operations to simple algebraic fractions with numerical denominators	VCMNA331 Apply the four operations to simple algebraic fractions with numerical denominators	Algebraic Fractions 1 Algebraic Fractions 2
Patterns and algebra	ACMNA233 Expand binomial products and factorise monic quadratic expressions using a variety of strategies	VCMNA332 Expand binomial products and factorise monic quadratic expressions using a variety of strategies	Expanding Binomial Products Special Binomial Products Factorising Quadratics 1 Expand then Simplify Using the Distributive Property
Patterns and algebra	ACMNA234 Substitute values into formulas to determine an unknown	VCMNA333 Substitute values into formulas to determine an unknown **and re-arrange formulas to solve for a particular term**	Substitution in Formulae Real Formulae More Substitution in Formulae Rearranging the Equation Changing the Subject Checking Solutions
Patterns and algebra		VCMNA334 **Implement algorithms using data structures in a general-purpose programming language**	*Under review*
Linear and non-linear relationships	ACMNA235 Solve problems involving linear equations, including those derived from formulas	VCMNA335 Solve problems involving linear equations, including those derived from formulas	Equations to Solve Problems Equations with Grouping Symbols Find the Mistake Equations: Variables, Both Sides Writing Equations
Linear and non-linear relationships	ACMNA236 Solve linear inequalities and graph their solutions on a number line	VCMNA336 Solve linear inequalities and graph their solutions on a number line	Inequalities on a Number Line: Basics Inequalities on a Number Line: Mixed Basics Solve One-Step Inequalities 1 Solve One-Step Inequalities 2 Graphing Inequalities on a Number Line

Level 10

Substrand	AC Content Description	VC Content Description	📋 Mathletics Activities
Linear and non-linear relationships	ACMNA237 Solve linear simultaneous equations, using algebraic and graphical techniques, including using digital technology	VCMNA337 Solve simultaneous linear equations, using algebraic and graphical techniques including using digital technology	Solve Systems by Graphing Simultaneous Linear Equations Simultaneous Equations 1 Simultaneous Equations 2
Linear and non-linear relationships	ACMNA238 Solve problems involving parallel and perpendicular lines	VCMNA338 Solve problems involving **gradients of** parallel and perpendicular lines	Are they Parallel? Are they Perpendicular? Perpendicular and Parallel Lines Equation of a Line 3
Linear and non-linear relationships	ACMNA239 Explore the connection between algebraic and graphical representations of relations such as simple quadratics, circles and exponentials using digital technology as appropriate	VCMNA339 Explore the connection between algebraic and graphical representations of relations such as simple quadratic, **reciprocal**, circle and exponential, using digital technology as appropriate	Parabolas and Rectangles Parabolas and Marbles Vertex of a Parabola Graphing Parabolas Graphing Exponentials Graphing Circles Centre and Radius 1 Graphing Hyperbolas Graphing Cubics Identifying Graphs Non Linear Graphs
Linear and non-linear relationships	ACMNA240 Solve linear equations involving simple algebraic fractions	VCMNA340 Solve linear equations involving simple algebraic fractions	Equations with Fractions
Linear and non-linear relationships	ACMNA241 Solve simple quadratic equations using a range of strategies	VCMNA341 Solve simple quadratic equations using a range of strategies	Simple Quadratic Equations - How Many Solutions? Equations: Simple Quadratics Monic Quadratic Trinomial Equations Monic Quadratic Equations by Factorising Quadratic Formula Checking Quadratic Solutions
Linear and non-linear relationships		VCMNA342 Solve equations using systematic guess-check-and-refine with digital technology	*Under review*
Using units of measurement	ACMMG242 Solve problems involving surface area and volume for a range of prisms, cylinders and composite solids	VCMMG343 Solve problems involving surface area and volume for a range of prisms, cylinders and composite solids	Volume of Triangular Prisms Volume: Prisms Volume: Cylinders Nets Converting Units of Area Converting Volume Surface Area: Cylinders Surface Area: Triangular Prisms Surface Area: Triangular Prisms 1 Surface Area: Rectangular Prisms
Geometric reasoning	ACMMG243 Formulate proofs involving congruent triangles and angle properties	VCMMG344 Formulate proofs involving congruent triangles and angle properties	Congruent Triangles Similar Triangles

Level 10

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Geometric reasoning	ACMMG244 Apply logical reasoning, including the use of congruence and similarity, to proofs and numerical exercises involving plane shapes	VCMMG345 Apply logical reasoning, including the use of congruence and similarity, to proofs and numerical exercises involving plane shapes	Congruent Figures: Find Values Scale Factor Similar Areas and Volumes Similar Figures Similar Figures 1 Using Similar Triangles 1 Similarity Proofs Triangles – Congruent or not?
Pythagoras and trigonometry	ACMMG245 Solve right-angled triangle problems including those involving direction and angles of elevation and depression	VCMMG346 Solve right-angled triangle problems including those involving direction and angles of elevation and depression	Find Unknown Sides Find Unknown Angles Elevation and Depression True and Compass Bearings Bearings Trigonometry Problems 1 Trigonometry Problems 2 Pythagoras and Perimeter Pythagoras: Find a Short Side (decimal values) Hypotenuse of a Right Triangle Pythagoras: Find a Short Side (integers only) Pythagoras: Find a Short Side (rounding needed) Pythagorean Theorem Hypotenuse, Adjacent, Opposite Sin A Cos A Tan A
Chance	ACMSP246 Describe the results of two- and three-step chance experiments, both with and without replacements, assign probabilities to outcomes and determine probabilities of events. Investigate the concept of independence	VCMSP347 Describe the results of two- and three-step chance experiments, both with and without replacements, assign probabilities to outcomes and determine probabilities of events. Investigate the concept of independence	Probability With Replacement Probability Without Replacement
Chance	ACMSP247 Use the language of 'if ... then', given', 'of', 'knowing that' to investigate conditional statements and identify common mistakes in interpreting such language	VCMSP348 Use the language of 'if ... then', 'given', 'of', 'knowing that' to investigate conditional statements and identify common mistakes in interpreting such language	Conditional probability
Data representation and interpretation	ACMSP248 Determine quartiles and interquartile range	VCMSP349 Determine quartiles and interquartile range **and investigate the effect of individual data values, including outliers on the interquartile range**	Calculating Interquartile Range
Data representation and interpretation	ACMSP249 Construct and interpret box plots and use them to compare data sets	VCMSP350 Construct and interpret box plots and use them to compare data sets	Box-and-Whisker Plots 1 Box-and-Whisker Plots 2

Level 10

Substrand	AC Content Description	VC Content Description	☰ Mathletics Activities
Data representation and interpretation	ACMSP250 Compare shapes of box plots to corresponding histograms and dot plots	VCMSP351 Compare shapes of box plots to corresponding histograms and dot plots **and discuss the distribution of data**	Skewness of Data
Data representation and interpretation	ACMSP251 Use scatter plots to investigate and comment on relationships between two numerical variables	VCMSP352 Use scatter plots to investigate and comment on relationships between two numerical variables	Scatter Plots Correlation Dot Plots
Data representation and interpretation	ACMSP252 Investigate and describe bivariate numerical data where the independent variable is time	VCMSP353 Investigate and describe bivariate numerical data, **including** where the independent variable is time	Line Graphs: Interpretation
Data representation and interpretation	ACMSP253 Evaluate statistical reports in the media and other places by linking claims to displays, statistics and representative data	VCMSP354 Evaluate statistical reports in the media and other places by linking claims to displays, statistics and representative data	*Under review*

Level 10A

Substrand	AC Content Description	VC Content Description	Mathletics Activities
Real numbers	ACMNA264 Define rational and irrational numbers and perform operations with surds and fractional indices	VCMNA355 Define rational and irrational numbers and perform operations with surds and fractional indices	Simplifying Surds Adding and Subtracting Surds Multiplying Surds Dividing Surds Expanding Surd Expressions Expanding Binomial Surds Rationalising the Denominator Fractional Indices Surd Form to Index Form
Real numbers	ACMNA265 Use the definition of a logarithm to establish and apply the laws of logarithms	VCMNA356 Use the definition of a logarithm to establish and apply the laws of logarithms **and investigate logarithmic scales in measurement**	Log Laws Equations with Logs
Patterns and algebra	ACMNA266 Investigate the concept of a polynomial and apply the factor and remainder theorems to solve problems	VCMNA357 Investigate the concept of a polynomial and apply the factor and remainder theorems to solve problems	Polynomial Long Division Polynomial Factor Theorem
Patterns and algebra		VCMNA358 **Devise and use algorithms and simulations to solve mathematical problems**	*Under review*
Linear and non-linear relationships	ACMNA267 Describe, interpret and sketch parabolas, hyperbolas, circles and exponential functions and their transformations	VCMNA359 Describe, interpret and sketch parabolas, hyperbolas, circles and exponential functions and their transformations	Parabolas and Marbles Parabolas and Rectangles Graphing Cubics Graphing Hyperbolas Graphing Parabolas Identifying Graphs Non Linear Graphs Vertex of a Parabola
Linear and non-linear relationships	ACMNA270 Solve simple exponential equations	VCMNA360 Solve simple exponential equations	Exponential Equations Graphing Exponentials
Linear and non-linear relationships	ACMNA268 Apply understanding of polynomials to sketch a range of curves and describe the features of these curves from their equation	VCMNA361 Apply understanding of polynomials to sketch a range of curves and describe the features of these curves from their equation	*Under review*
Linear and non-linear relationships	ACMNA269 Factorise monic and non-monic quadratic expressions and solve a wide range of quadratic equations derived from a variety of contexts	VCMNA362 Factorise monic and non-monic quadratic expressions and solve a wide range of quadratic equations derived from a variety of contexts	Grouping in Pairs Factorising Quadratics 2 Completing the Square Quadratic Equations 2 Quadratic Equations 1 Constructing Formulae Simple Quadratic Equations – How Many Solutions? Checking Quadratic Solutions Monic Quadratic Equations by Factorising Monic Quadratic Trinomial Equations Quadratic Formula Equations: Simple Quadratics

Level 10A

Substrand	AC Content Description	VC Content Description	Mathletics Activities
Linear and non-linear relationships		VCMNA363 **Use function notation to describe the relationship between dependent and independent variables in modelling contexts**	Function Notation 1 Function Notation 2
Linear and non-linear relationships		VCMNA364 **Solve simultaneous equations using systematic guess- check-and-refine with digital technology**	*Under review*
Using units of measurement	ACMMG271 Solve problems involving surface area and volume of right pyramids, right cones, spheres and related composite solids	VCMMG365 Solve problems involving surface area and volume of right pyramids, right cones, spheres and related composite solids	Surface Area: Square Pyramids Surface Area: Rectangular Pyramids Surface Area: Cones Surface Area: Spheres Surface Area: Rearrange Formula Volume: Pyramids Volume: Cones Volume: Spheres Volume: Composite Figures Volume: Rearrange Formula Volume: Prisms Volume: Cylinders Converting Volume Volume of Triangular Prisms
Geometric reasoning	ACMMG272 Prove and apply angle and chord properties of circles	VCMMG366 Prove and apply angle and chord properties of circles	Similar Areas and Volumes Circle Terms Circle Theorems
Pythagoras and trigonometry	ACMMG273 Establish the sine, cosine and area rules for any triangle and solve related problems	VCMMG367 Establish the sine, cosine and area rules for any triangle and solve related problems	Sine Rule: Sides & Acute Angles Sine Rule: Obtuse Angle Cosine Rule: Find Unknown Side Cosine Rule: Find Unknown Angle Area Rule 1 Area Problems
Pythagoras and trigonometry	ACMMG274 Use the unit circle to define trigonometric functions, and graph them with and without the use of digital technologies	VCMMG368 Use the unit circle to define trigonometric functions as functions of a real variable, and graph them with and without the use of digital technologies	*Under review*
Pythagoras and trigonometry	ACMMG275 Solve simple trigonometric equations	VCMMG369 Solve simple trigonometric equations	*Under review*
Pythagoras and trigonometry	ACMMG276 Apply Pythagoras' Theorem and trigonometry to solving three-dimensional problems in right- angled triangles	VCMMG370 Apply Pythagoras' theorem and trigonometry to solving three-dimensional problems in right- angled triangles	Cone and Pyramid Dimensions
Chance	ACMSP277 Investigate reports of studies in digital media and elsewhere for information on their planning and implementation	VCMSP371 Investigate reports of studies in digital media and elsewhere for information on their planning and implementation	Under review

Level 10A

Substrand	AC Content Description	VC Content Description	Mathletics Activities
Data representation and interpretation	ACMSP278 Calculate and interpret the mean and standard deviation of data and use these to compare data sets	VCMSP372 Calculate and interpret the mean and standard deviation of data and use these to compare data sets. **Investigate the effect of individual data values including outliers, on the standard deviation**	Mean Calculating Standard Deviation Interpreting Standard Deviation
Data representation and interpretation	ACMSP279 Use information technologies to investigate bivariate numerical data sets. Where appropriate use a straight line to describe the relationship allowing for variation	VCMSP373 Use **digital technology** to investigate bivariate numerical data sets. Where appropriate use a straight line to describe the relationship allowing for variation, **make predictions based on this straight line and discuss limitations**	Data Analysis: Scatter Plots Data analysis: line of best fit

Mathletics

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