

# Introducing the Victorian Curriculum: Mathematics F–6

Dianna Chapman  
Mathematics Curriculum Manager F-10

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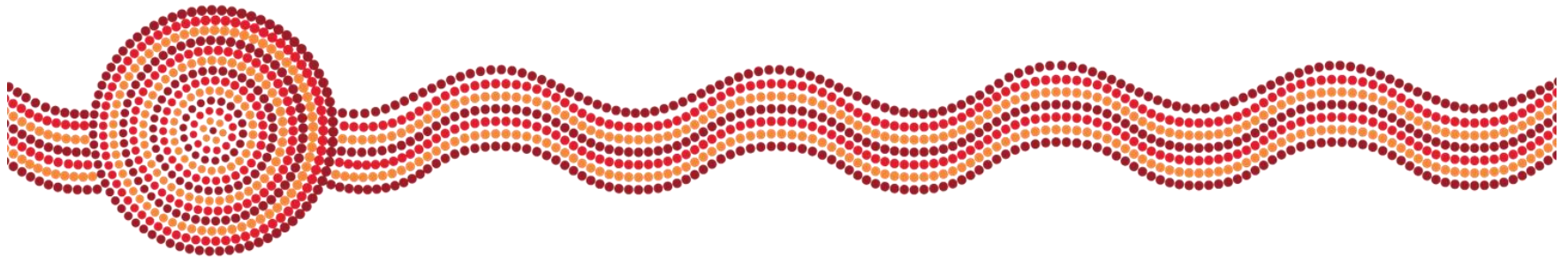
# Acknowledgment of Country

*I would like to acknowledge the traditional custodians of the many lands across Victoria on which each of you are living, learning and working from today.*

*For myself and those of us in the Melbourne metropolitan area, we acknowledge the traditional custodians of the Kulin Nations.*

*When acknowledging country, we recognise Aboriginal and Torres Strait Islander peoples' spiritual and cultural connection to country and acknowledge their continued care of the lands and waterways over generations, while celebrating the continuation of a living culture that has a unique role in this region.*

*I would like to pay my respects to Elders past, present and emerging, for they hold the memories, traditions, culture and hopes of all Aboriginal and Torres Strait Islander peoples across the nation, and hope they will walk with us on our journey.*



# Purpose

- **Introduction to the Victorian Mathematics Curriculum F-6**

# Victorian Curriculum F-10

- Provides a stable foundation for the development and implementation of whole-school teaching and learning programs
- The Victorian Curriculum F–10 incorporates the Australian Curriculum and reflects Victorian priorities and standards

<http://victoriantcurriculum.vcaa.vic.edu.au/>

**Victorian Curriculum**  
Foundation-10

VICTORIAN CURRICULUM  
AND ASSESSMENT AUTHORITY

Home Overview Curriculum Levels Download

## The Victorian Curriculum F-10

The Victorian Curriculum Foundation-10 (F-10) sets out what every student should learn during their first eleven years of schooling. The curriculum is the common set of knowledge and skills required by students for life-long learning, social development and active and informed citizenship.

The Victorian Curriculum F-10 incorporates the Australian Curriculum and reflects Victorian priorities and standards.

### Curriculum planning

The Curriculum Planning Resource offers schools a range of resources to support planning and documenting a comprehensive whole-school teaching and learning program based on the curriculum.

LEARNING AREAS	CAPABILITIES
<b>The Arts</b> <ul style="list-style-type: none"><li>• Dance</li><li>• Drama</li><li>• Media Arts</li><li>• Music</li><li>• Visual Arts</li><li>• Visual Communication Design</li></ul>	Critical and Creative Thinking Ethical Intercultural Personal and Social
<b>English</b> <b>Health and Physical Education</b> <b>The Humanities</b> <ul style="list-style-type: none"><li>• Civics and Citizenship</li><li>• Economics and Business</li><li>• Geography</li><li>• History</li></ul>	
<b>Languages</b> <b>Mathematics</b> <b>Science</b> <b>Technologies</b> <ul style="list-style-type: none"><li>• Design and Technologies</li><li>• Digital Technologies</li></ul>	

# Victorian Mathematics Curriculum F-10

The Mathematics curriculum aims to ensure that students:

- develop useful mathematical and numeracy skills for everyday life, work and as active and critical citizens in a technological world
- see connections and apply mathematical concepts, skills and processes to pose and solve problems in mathematics and in other disciplines and contexts
- acquire specialist knowledge and skills in mathematics that provide for further study in the discipline
- appreciate mathematics as a discipline – its history, ideas, problems and applications, aesthetics and philosophy.

# The VCAA

- The VCAA is a statutory authority primarily accountable to the Minister for Education, serving both government and non-government schools.
- The vision of the Victorian Curriculum and Assessment Authority (VCAA) is to be a global education leader.
- The VCAA's mission is to provide high quality curricula, assessment and reporting to enable learning for life.

# Mathematics Curriculum Structure

- **Strands and Sub strands**

Number and Algebra	Measurement and Geometry	Statistics and Probability
Number and place value	Using units of measurement	Chance
Fractions and decimals	Shape	Data representation and interpretation
Real numbers	Geometric reasoning	
Money and financial mathematics	Location and transformation	
Patterns and algebra	Pythagoras and trigonometry	
Linear and non-linear relationships		

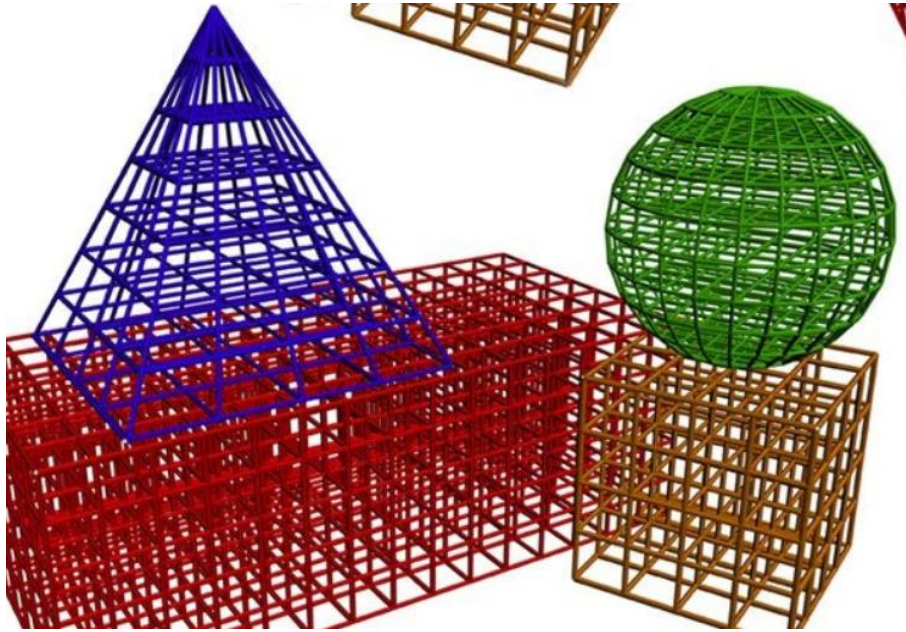
# Number and Algebra



- **Number and Place Value**
- **Fractions and Decimals**
- **Real Numbers**
- **Money and Financial mathematics**
- **Patterns and Algebra**
- **Linear and Non Linear relationships**



# Measurement and Geometry



- Using units of measurement
- Geometric reasoning
- Location and transformation
- Pythagoras and Trigonometry

# Statistics and Probability



- **Chance**
- **Data representation and interpretation**

# Level Descriptions

## Mathematics

Introduction Curriculum

Filter

View    Show  Level descriptions  Content descriptions  Achievement standards

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**Foundation Level** **Level 1** **Level 2**

### Foundation Level Description

In Foundation level, students play with objects and draw pictures to develop links between their immediate environment, everyday language and mathematical activity.

Students classify and sort objects into sets and form simple correspondences between them. They decide when two sets are of equal size, or one is smaller or bigger than another. They develop an understanding of the concepts of number and numeral, count, order, add and share using small sets of objects. They create and continue simple patterns.

Students compare common objects with respect to length, mass and capacity, and order events and compare their duration. They make rough estimates and simple measurements with respect to informal units. Students name, sort and describe familiar everyday shapes and objects, and describe position and movement in their immediate environment.

Students investigate situations requiring data collection and presentation in simple displays, and recognise unpredictability and uncertainty in some events.

[Show less](#)

### Level 1 Description

In Level 1, students use mathematical symbols and language as well as materials and drawings in their mathematical explorations of daily life.

Students recognise, represent and order numbers to at least 100 using materials, diagrams, words, numerals and a number line, and apply this with respect to the value of Australian coins. They group and skip count by twos, fives and tens, and count to 100 by partitioning and using place value. Students solve simple addition problems, and share into two equal groups or parts to model one-half.

Students use uniform informal units to measure and compare length and capacity. They tell time to the half-hour and use time and calendar terms such as hours, days, weeks and months to describe duration. Students use terms such as corner, edge and face to classify familiar shapes and objects, and are able to give and follow directions to familiar locations.

Students use one-to-one correspondences to display categorical data obtained from a simple investigation. They identify chance events in familiar contexts and use everyday language such as 'will happen', 'won't happen' or 'might happen' in relation to these.

### Level 2 Description

In Level 2, students use group arrangement to apply place value range of numbers they use an

Students recognise, model an

[Show more](#)

**Level 2 Content Descriptive**

# Content Descriptions

## Mathematics

Introduction **Curriculum**

Filter Showing all levels Showing all strands **Apply filters** Clear filter

View Show  Level descriptions  Content descriptions  Achievement standards **Print this**

← Previous A B C D F 1 2 3 4 5 6 7 8 9 10 10A N

**Foundation Level** **Level 1** **Level 2**

### Foundation Level Description

In Foundation level, students play with objects and draw pictures to develop links between their immediate environment, everyday language and mathematical activity.

Students classify and sort objects...

[Show more](#)

### Foundation Level Content Descriptions

#### Number and Algebra

##### Number and place value

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)

### Level 1 Description

In Level 1, students use mathematical symbols and language as well as materials and drawings in their mathematical explorations of daily life.

Students recognise, represent and order numbers to at...

[Show more](#)

### Level 1 Content Descriptions

#### Number and Algebra

##### Number and place value

Develop confidence with number sequences to and from 100 by ones from any starting point. Skip count by twos, fives and tens starting from zero (VCMNA066)

### Level 2 Description

In Level 2, students use grouping partitioning and arrangement to apply place value and extend the range of numbers they use and apply to thousand.

Students recognise, model and order numbers...

[Show more](#)

### Level 2 Content Descriptions


#### Number and Algebra

##### Number and place value

Investigate number sequences, initially those increasing and decreasing by twos, threes, fives, ten from any starting point, then moving to other sequences (VCMNA103)

## Mathematics / Level 1 / Number and Algebra / Number and place value

Content description	Elaborations
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	<ul style="list-style-type: none"><li>using the popular Korean counting game sam-yuk-gu for skip counting</li><li>developing fluency with forwards and backwards counting in meaningful contexts such as circle games</li></ul>

Code	ScOT catalogue terms	Curriculum resources and support
<a href="#">VCMNA066</a>	<a href="#">Natural numbers</a> ; <a href="#">Skip counting</a>	 Find related teaching and learning resources in <a href="#">FUSE*</a>  <a href="#">VICTORIAN CURRICULUM AND ASSESSMENT AUTHORITY</a> Find related curriculum resources on the <a href="#">VCAA resources site</a>
* <a href="#">Disclaimer</a> about use of these sites		

# Achievement Standards

- Achievement Standard statement is what we are requiring students to achieve, and what we report against.
- The Content Descriptions are developed, as ‘stepping stones’ to reach the Achievement Standard at a given level

The screenshot displays the VCAA Mathematics website interface. At the top, the 'Mathematics' subject is selected, with 'Introduction' and 'Curriculum' tabs. A filter section shows 'Showing all levels' and 'Showing all strands'. Below this, there are options to view content descriptions and achievement standards, with the latter being selected. A navigation bar includes 'Previous' and 'Print' buttons, along with a sequence of level tabs from 'A' to '10A'. The main content area is divided into three columns for 'Foundation Level', 'Level 1', and 'Level 2'. Each column lists 'Number and Algebra', 'Measurement and Geometry', and 'Statistics and Probability' standards with brief descriptions.

Foundation Level Achievement Standard	Level 1 Achievement Standard	Level 2 Achievement Standard
<b>Number and Algebra</b> Students connect number names and numerals with sets of up to 20 elements, estimate the size of these sets, and use counting strategies to solve problems that involve comparing, combining and separating these sets. They match individual objects with counting sequences up to and back from 20. Students order the first 10 elements of a set. They represent, continue and create simple patterns.	<b>Number and Algebra</b> Students count to and from 100 and locate these numbers on a number line. They partition numbers using place value and carry out simple additions and subtractions, using counting strategies. Students recognise Australian coins according to their value. They identify representations of one half. Students describe number sequences resulting from skip counting by 2s, 5s and 10s. They continue simple patterns involving numbers and objects with and without the use of digital technology.	<b>Number and Algebra</b> Students count to and from, and order numbers up to 1000. They perform simple addition and subtraction calculations, using a range of strategies. The total value of simple collections of Australian coins. Students represent multiplication and grouping into sets and divide collections into halves, quarters and eighths. They recognise increasing and decreasing number sequences involving 2s, 3s, 5s and 10s, identify the missing element in a number sequence, and use digital technology to produce sequences by constant difference.
<b>Measurement and Geometry</b> Students identify measurement attributes in practical situations and compare lengths, masses and capacities of familiar objects. They order events, explain their duration, and match days of the week to familiar events. Students identify simple shapes in their environment and sort shapes by their common and distinctive features. They use simple statements and gestures to describe location.	<b>Measurement and Geometry</b> Students use informal units of measurement to order objects based on length, mass and capacity. They tell time to the half-hour and explain time durations. Students describe two-dimensional shapes and three-dimensional objects. They use the language of distance and direction to move from place to place.	<b>Measurement and Geometry</b> Students order shapes and objects, using units for a range of measures. They tell time quarter hour and use a calendar to identify 1 days, weeks and months included in seasonal events. Students draw two-dimensional figures and explain the effects of transformations. They recognise the features of three-dimensional objects. They interpret simple maps of familiar locations.
<b>Statistics and Probability</b> Students sort familiar categorical data into sets and use these to answer yes/no questions and make simple true/false statements about the data.	<b>Statistics and Probability</b> Students describe data displays. They ask questions to collect data and draw simple data displays. Students classify outcomes of simple familiar events.	<b>Statistics and Probability</b> Students describe data displays. They ask questions to collect data and draw simple data displays. Students classify outcomes of simple familiar events.

# Proficiencies

- **Understanding**
- **Fluency**
- **Problem Solving**
- **Reasoning**

# Scope and Sequence

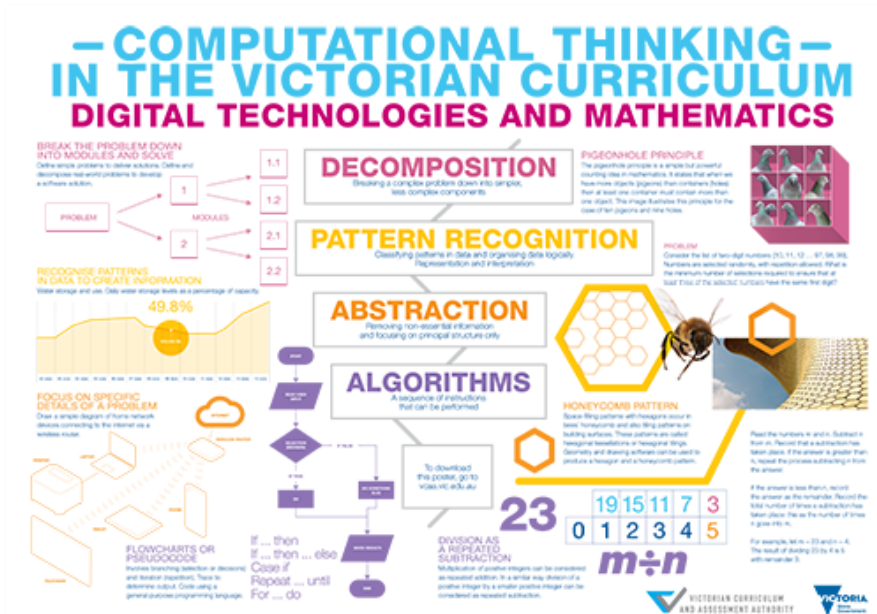
Foundation Level	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
<b>Number and Algebra</b>						
<b>Number and place value</b>						
Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point.	Develop confidence with number sequences to and from 100 by ones from any starting point. Skip count by twos, fives and tens starting from zero	Investigate number sequences, initially those increasing and decreasing by twos, threes, <b>fives</b> and ten from any starting point, then moving to other sequences	Investigate the conditions required for a number to be odd or even and identify odd and even numbers	Investigate and use the properties of odd and even numbers	Identify and describe factors and multiples of whole numbers and use them to solve problems	Identify and describe properties of prime, composite, square and triangular numbers
Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond	<b>Recognise</b> , model, read, write and order numbers to at least 100. Locate these numbers on a number line	<b>Recognise</b> , model, represent and order numbers to at least 1000	<b>Recognise</b> , model, represent and order numbers to at least 10 000	<b>Recognise</b> , represent and order numbers to at least tens of thousands	Use estimation and rounding to check the reasonableness of answers to calculations	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
<b>Subitise</b> small collections of objects	Count collections to 100 by partitioning numbers using place value	Group, partition and rearrange collections up to 1000 in hundreds, tens and ones to facilitate more efficient counting	Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems	Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems	Solve problems involving multiplication of large numbers by one- or two-digit numbers using efficient mental, written strategies and appropriate digital technologies	Investigate everyday situations that use integers. Locate and represent these numbers on a number line
Compare, order and make correspondences between collections, initially to 20, and explain reasoning	Represent and solve simple addition and subtraction problems using a range of strategies including counting on, partitioning and rearranging parts	Explore the connection between addition and subtraction	<b>Recognise</b> and explain the connection between addition and subtraction	Investigate number sequences involving multiples of 3, 4, 6, 7, 8, and 9	Solve problems involving division by a one digit number, including those that result in a remainder	
Represent practical situations to model addition and subtraction	Represent practical situations that model sharing	Solve simple addition and subtraction problems using a range of efficient mental and written strategies	Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation	Recall multiplication facts up to $10 \times 10$ and related division facts	Use efficient mental and written strategies and apply appropriate digital technologies to solve problems	
Represent practical situations to model sharing		<b>Recognise</b> and represent multiplication as repeated addition, groups and arrays	Recall multiplication facts of two, three, five and ten and related division facts	Develop efficient mental and written strategies and use appropriate digital technologies for multiplication and for division where there is no remainder	Recognise, represent and order numbers to at least hundreds of thousands	
		<b>Recognise</b> and represent division as grouping into equal sets and solve simple problems using these representations	Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies			

# Numeracy

- **Victorian Curriculum F-10 Mathematics**
- **Numeracy**
- The '[Numeracy across the Victorian Curriculum](#)'  
**resources**



# Computational Thinking



- **Decomposition**
  - Break down the problem into simpler, less complex components
- **Pattern Recognition**
  - Classify patterns in data and organizing data logically
  - Representation and interpretation
- **Abstraction**
  - Removing non essential information and focusing on principal structure only
- **Algorithms**
  - A sequence of instructions that can be performed

# Frequently Asked Questions

- We have a [FAQ webpage](#)
- Do you have any mathematics curriculum questions?

# Resources

Planning	Teaching	Assessing
<a href="https://vcaa.vic.edu.au">Pages - Curriculum mapping templates (vcaa.vic.edu.au)</a>	<a href="https://vcaa.vic.edu.au">Pages - Help me find a teaching resource (vcaa.vic.edu.au)</a>	<a href="https://vcaa.vic.edu.au">Pages - Annotated work samples (vcaa.vic.edu.au)</a>
<a href="https://vcaa.vic.edu.au">Pages - Scope and sequence (vcaa.vic.edu.au)</a>		<a href="https://vcaa.vic.edu.au">Pages - Mathematics - Indicative progress (vcaa.vic.edu.au)</a>
<a href="https://vcaa.vic.edu.au">Home   Victorian Curriculum Planning (vcaa.vic.edu.au)</a>		<a href="https://vcaa.vic.edu.au">Pages - Formative Assessment (vcaa.vic.edu.au)</a>

# Contacts

Dianna Chapman

Curriculum Manager: Mathematics F–10

Phone: 5194 4130

(Tuesdays and Fridays)

Email: [dianna.chapman@education.vic.gov.au](mailto:dianna.chapman@education.vic.gov.au) or [vcaa.f10.curriculum@education.vic.gov.au](mailto:vcaa.f10.curriculum@education.vic.gov.au)

**For further advice about the implementation of the F–10 curriculum in Victorian schools, including developments, resources and professional learning opportunities, please subscribe to the F–10 Curriculum Update:**

<https://www.vision6.com.au/em/forms/subscribe.php?db=399327&s=112201&a=18689&k=799b5d6>