

Victorian Curriculum Mathematics F–10 Frequently Asked Questions

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F-10

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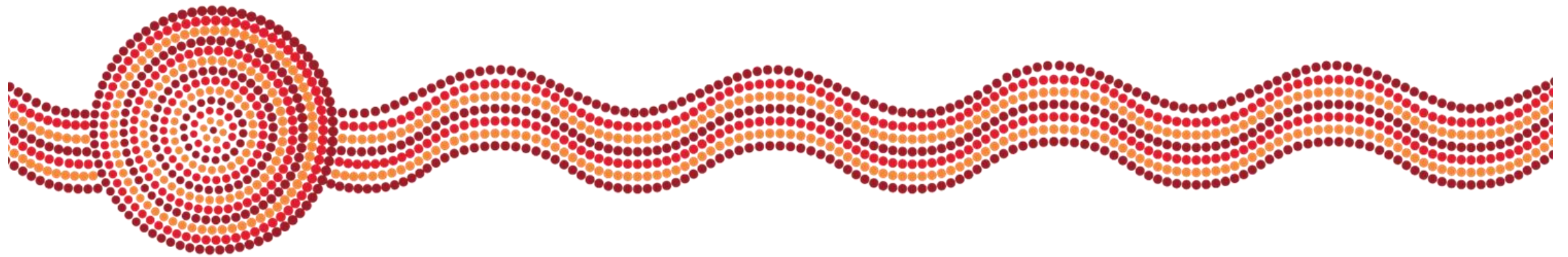
Acknowledgment of Country

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

- **To review frequently asked questions that the Mathematics Curriculum team receive**

FAQs

- **What is the role of the VCAA?**
- **Where do I find the Maths Curriculum?**
- **How do I navigate the Curriculum website?**
- **What are the proficiencies?**
- **How do I plan and Implement the Maths Curriculum?**
- **Where is the Numeracy Curriculum?**
- **What language or software do I use for the algorithms and coding content descriptions?**
- **What is 10A?**
- **Where can I find good teaching resources?**

What is the role of 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.

Where do I find the Victorian Curriculum F-10: Mathematics?

- The Mathematics Curriculum is hosted within the Victorian curriculum Website

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

- 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

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

How do I navigate the curriculum website?

Level Descriptions	Content Description	Elaborations	Achievement Standards
Overview	Specific and Discrete	Advisory Examples	Statement of what students are required to achieve, and what we report against

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

What are the Proficiencies?

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

How do I plan and implement the Maths Curriculum?

- **Scope and Sequence**
- [Pages - Scope and sequence \(vcaa.vic.edu.au\)](https://vcaa.vic.edu.au)
- **Curriculum Mapping Templates**
- [Pages - Curriculum mapping templates \(vcaa.vic.edu.au\)](https://vcaa.vic.edu.au)
- **Mathematics Sample Programs**
- [Pages - Help me find a teaching resource \(vcaa.vic.edu.au\)](https://vcaa.vic.edu.au)

Scope and Sequence

Foundation Level	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
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	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, fives 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	Recognise, model, read, write and order numbers to at least 100. Locate these numbers on a number line	Recognise, model, represent and order numbers to at least 1000	Recognise, model, represent and order numbers to at least 10 000	Recognise, 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
Subitise 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	Recognise 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 10×10 and related division facts	Use efficient mental and written strategies and apply appropriate digital technologies to solve problems	
Represent practical situations to model sharing		Recognise 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	
		Recognise 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			

[Pages - Scope and sequence \(vcaa.vic.edu.au\)](http://vcaa.vic.edu.au)

Curriculum Mapping Templates

- [Pages - Curriculum mapping templates \(vcaa.vic.edu.au\)](#)

Victorian Curriculum Foundation-10

Curriculum Mapping Template: Critical and Creative Thinking – 7 and 8

Instruction: Let the title of the unit of work in the first column and then tick the check box of the content descriptor's addressed by it, which can be done electronically. Once completed, fill out the Assessment Task table. For detailed notes regarding the purpose of this template and further instructions for completion, visit [vcaa](#).

Strand	Questions and Possibilities				Reasoning				Meta-Cognition								
	Consider how to approach and use questions that have different elements including facts, temporal and conceptual elements (VCOCCT902)	Suspend judgements temporarily and consider how preconceptions may limit ideas and alternatives (VCOCCT903)	Synthesise information from multiple sources and use lateral thinking techniques to draw parallels between known and new solutions and ideas when testing original proposals and elements (VCOCCT904)	Examine common reasoning errors including circular arguments and cause and effect fallacies (VCOCCT905)	Investigate the difference between a description, an explanation and a correlation and speculate about cause and effect (VCOCCT906)	Investigate when counter examples might be used in expressing a point of view (VCOCCT907)	Consider how to settle matters of fact and matters of value and the degree of confidence in the conclusions (VCOCCT908)	Examine how to select appropriate criteria and how criteria are used in defining and justifying thinking processes to others (VCOCCT909)	Consider a range of strategies to represent ideas and explain and justify thinking processes to others (VCOCCT910)	Examine a range of learning strategies and how to select strategies that best meet the requirements of a task (VCOCCT911)	Consider how problems can be segmented into discrete stages, new knowledge synthesised during problem-solving and criteria used to assess emerging ideas and proposals (VCOCCT912)						
Content Description	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC	CC
Debates	English	1 / 7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3, 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interactions	Science	2 / 7	<input type="checkbox"/>	<input type="checkbox"/>	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ancient Rome	History	2 / 8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Levels 5 and 6 Achievement Standard	Levels 7 and 8 Achievement Standard - separated by line number in brackets, eg (3), can be used as an identifier in various areas of the template.	Levels 9 and 10 Achievement Standard
By the end of Level 6 <ul style="list-style-type: none"> Students apply questioning as a tool to focus or expand thinking. They use appropriate techniques to copy, borrow and compare aspects of existing solutions in order to identify relationships and apply these to new situations. Students distinguish between valid and sound arguments and between deductive and inductive reasoning. They explain how reasons and evidence can be evaluated. They explain and apply basic techniques to construct valid arguments and test the strength of arguments. Students represent thinking processes using visual models and language. They practice and apply learning strategies, including constructing analogies, visualising ideas, summarising and paraphrasing information. Students disaggregate ideas and problems into smaller elements or ideas, develop criteria to assess and test thinking, and identify and seek out new relevant information as required. 	By the end of Level 8 <ul style="list-style-type: none"> Students prioritise the elements of a question and justify their selection. (1) Students demonstrate flexibility in thinking by using a range of techniques in order to re-purpose existing ideas or solutions to meet needs in new contexts. (2) Students explain different ways to settle matters of fact and matters of value and issues concerned with these. (3) They explain and apply a range of techniques to test the strength of arguments. (4) Students use a range of strategies to represent ideas and explain and justify thinking processes to others. (5) They evaluate the effectiveness of a range of learning strategies and select strategies that best meet the requirements of a task. (6) Students independently segment problems into discrete stages, synthesise new knowledge at intermediate stages during problem-solving and develop and apply criteria to assess ideas, proposals and emerging thinking. (7) 	By the end of Level 10 <ul style="list-style-type: none"> Students construct and evaluate questions, including their own, for their effectiveness. They demonstrate a willingness to shift their perspective when generating ideas, resulting in new ways of perceiving solutions. Students structure complex valid arguments. They explain and apply a range of techniques to test validity within and between arguments. Students identify, articulate, analyse and reflect on their own and others thinking processes. They use, monitor, evaluate and redirect as necessary a range of learning strategies. Students develop, justify and refine criteria to evaluate the quality of ideas, proposals and thinking processes.

Assessment Tasks					
Unit (Title)	Assessment Task	Achievement Standard/s	Unit (Title)	Assessment Task	Achievement Standard/s
Debates	Live debate	4			
Interactions	Assignment	2			
Ancient Rome	Test	3, 4			

Mathematics Sample Programs

- [Maths Sample Program Annotated \(vcaa.vic.edu.au\)](https://vcaa.vic.edu.au)
- [Pages - Help me find a teaching resource \(vcaa.vic.edu.au\)](https://vcaa.vic.edu.au)

Topics, suggested time allocations and sequencing

Week*	Semester 1	Semester 2
1	6.1.1 Types of Numbers (prime, composite, square triangular and negative)	6.2.1 Operating with Fractions Strand: Number and Algebra Sub-strand: Fractions and Decimals; Patterns and Algebra
2	Strand: Number and Algebra Sub-strand: Number and Place Value	
3	6.1.2 Operating with decimal numbers Strand: Number and Algebra	
4	Sub-strand: Number and Place Value	
5	6.1.3 Operations - The Four Operations Strand: Number and Algebra	6.2.2 Connecting Fractions, Decimals and Percent

Content descriptions coverage within each topic

Level 6 content descriptions	Topic/s
Strand: Number and Algebra	
Sub-strand: Number and Place Value	
Identify and describe properties of prime, composite, square and triangular numbers (VCMNA208)	6.1.1
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 (VCMNA209)	6.1.3
Investigate everyday situations that use integers. Locate and represent these numbers on a number line (VCMNA210)	6.1.1

Where is the Numeracy Curriculum?

- **Victorian Curriculum F-10 Mathematics**
- **Numeracy does not have a curriculum**
- **The ‘[Numeracy across the Victorian Curriculum](#)’ resources**

What language or software do I use for the algorithms and coding content descriptions?

- There is no specified approach, platform or language that is expected to be used
- Various approaches can be used and implemented
- Sample activities have been produced by the VCAA relating to the content descriptions for algorithms and coding
- [Pages - Frequently asked questions \(vcaa.vic.edu.au\)](https://vcaa.vic.edu.au)

What is 10A?

- Schools use a variety of teaching and learning strategies and organisational structures, suited to their context, to ensure that students have relevant mathematical background from the Victorian Curriculum Mathematics that enables them to pursue various pathways of post-secondary study.
- Level 10A provides optional, additional content for students to be extended in their mathematical studies.
- Relevant content from 10A for subsequent study of Mathematical Methods Units 1 and 2 is covered in the content descriptions:
VCMNA355, VCMNA356, VCMNA358, VCMNA359, VCMNA360, VCMNA362, VCMNA363, VCMNA364, VCMNA368.

Where can I find good teaching resources?

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

Where can I find good teaching resources?



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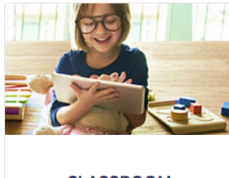
Learning Activities Years Prep to 9

RESOURCES > LEARNING ACTIVITIES YEARS PREP TO 9

These pages provide links to support and resources for teachers and parents.

Copyright guidelines for teaching and use of copyright resources is available here, please check to ensure you use resources appropriately.

<https://www.copyright.com.au/licences-permission/educational-licences/online-teaching/>



Document Listing

Undergraduate and first year teachers

Primary resources

VCE Resources

Maths Treats from Vinculum



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Victorian Curriculum F-10

Number and Algebra

Number and place value

Fractions and decimals

Real numbers

Money and financial mathematics

Patterns and algebra

Levels

Foundation

Level 2

Level 4

Level 6

Level 8

Level 10

A to D

Level 1

Level 3

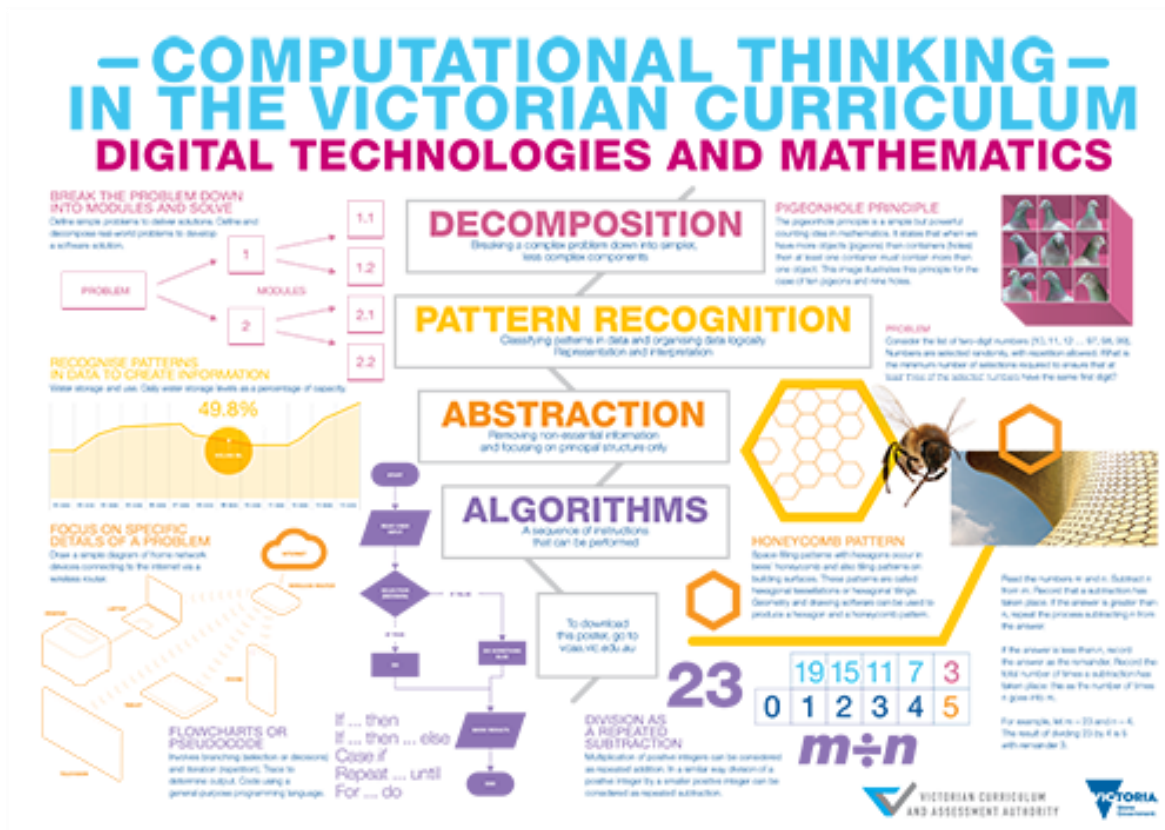
Level 5

Level 7

Level 9

Level 10A

What is 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

Contacts

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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>