

Critical and Creative Thinking

Navigating the Curriculum

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Critical and Creative Thinking

Learning Areas	Capabilities
The Arts English Health and Physical Education The Humanities Languages Mathematics Science Technologies	Critical and Creative Thinking Ethical Intercultural Personal and Social

Critical and Creative Thinking

Introduction

Curriculum

Rationale and Aims

Structure

Learning in Critical and
Creative Thinking

Scope and Sequence

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Glossary

These charts are designed to be printed in A3 format.

- [Critical and Creative Thinking Levels A-D plus Foundation-2.docx \(105 KB\)](#)
- [Critical and Creative Thinking Levels A-D plus Foundation-2.pdf \(27 KB\)](#)
- [Critical and Creative Thinking Foundation-Level 10.docx \(108 KB\)](#)
- [Critical and Creative Thinking Foundation-Level 10.pdf \(150 KB\)](#)

Foundation to Level 2
Levels 3 and 4
Levels 5 and 6
Levels 7 and 8
Levels 9 and 10

Questions and Possibilities	Levels 3 and 4	Levels 5 and 6	Levels 7 and 8	Levels 9 and 10
Identify, describe and use different kinds of question stems to gather information and ideas	Construct and use open and closed questions for different purposes	Examine how different kinds of questions can be used to identify and clarify information, ideas and possibilities	Consider how to approach and use questions that have different elements, including factual, temporal and conceptual elements	Investigate the characteristics of effective questions in different contexts to examine information and test possibilities
Consider personal reactions to situations or problems and how these reactions may influence thinking	Explore reactions to a given situation or problem and consider the effect of pre-established preferences	Experiment with alternative ideas and actions by setting preconceptions to one side	Suspend judgements temporarily and consider how preconceptions may limit ideas and alternatives	Suspend judgements to allow new possibilities to emerge and investigate how this can broaden ideas and solutions
Make simple modifications to known ideas and routine solutions to generate some different ideas and possibilities	Investigate different techniques to sort facts and extend known ideas to generate novel and imaginative ideas	Identify and form links and patterns from multiple information sources to generate non-routine ideas and possibilities	Synthesise information from multiple sources and use lateral thinking techniques to draw parallels between known and new solutions and ideas when creating original proposals and artefacts	Challenge previously held assumptions and create new links, proposals and artefacts by investigating ideas that provoke shifts in perspectives and cross boundaries to generate ideas and solutions
Reasoning				
Examine words that show reasons and words that show conclusions	Examine and use the structure of a basic argument, with an aim, reasons and conclusion to present a point of view	Investigate common reasoning errors including contradiction and inconsistency, and the influence of context	Examine common reasoning errors including circular arguments and cause and effect fallacies	Examine a range of rhetorical devices and reasoning errors, including false dichotomies and begging the question
Compare and contrast information and ideas in own and others reasoning	Distinguish between main and peripheral ideas in own and others information and points of view	Consider the importance of giving reasons and evidence and how the strength of these can be evaluated	Investigate the difference between a description, an explanation and a correlation and scepticism about cause and effect	Examine how to identify and analyse suppressed premises and assumptions
Consider how reasons and examples are used to support a point of view and illustrate meaning	Investigate why and when the consequences of a point of view should be considered	Consider when analogies might be used in expressing a point of view and how they should be expressed and evaluated	Investigate when counter examples might be used in expressing a point of view	Investigate the nature and use of counter examples structured as arguments
	Identify and use 'if, then...' and 'what if...' reasoning	Examine the difference between valid and sound arguments and between inductive and deductive reasoning, and their degrees of certainty	Consider how to settle matters of fact and matters of value and the degree of confidence in the conclusions	Consider ambiguity and equivocation and how they affect the strength of arguments
	Explore distinctions when organising and sorting information and ideas from a range of sources	Explore what a criterion is, different kinds of criteria, and how to select appropriate criteria for the purposes of filtering information and ideas	Examine how to select appropriate criteria and how criteria are used in clarifying and challenging arguments and ideas	Investigate use of additional or refined criteria when application of original criteria does not produce a clear conclusion
Meta-Cognition				
Consider ways to express and describe thinking activity, including the expression of feelings about learning, both to others and self	Consider concrete and pictorial models to facilitate thinking, including a range of visualisation strategies	Investigate thinking processes using visual models and language strategies	Consider a range of strategies to represent ideas and explain and justify thinking processes to others	Critically examine their own and others thinking processes and discuss factors that influence thinking, including cognitive biases
Explore some learning strategies, including planning, repetition, rewording, memorisation, and use of mnemonics	Examine an increased range of learning strategies, including visualisation, note-taking, peer instruction and incubation, and reflect on how these can be applied to different tasks to reach a goal	Examine learning strategies, including constructing analogies, visualising ideas, summarising and paraphrasing information and reflect on the application of these strategies in different situations	Examine a range of learning strategies and how to select strategies that best meet the requirements of a task	Investigate how the use of a range of learning strategies can be monitored, evaluated and re-directed as necessary
Investigate ways to problem-solve, using egocentric and experiential language	Investigate a range of problem-solving strategies, including brainstorming, identifying, comparing and selecting options, and developing and testing hypotheses	Investigate how ideas and problems can be disaggregated into smaller elements or ideas, how criteria can be used to identify gaps in existing knowledge, and assess and test ideas	Consider how problems can be segmented into discrete stages, new knowledge synthesised during problem-solving and criteria used to assess emerging ideas and proposals	Investigate the kind of criteria that can be used to rationally evaluate the quality of ideas and proposals, including the qualities of viability and workability
Achievement Standard				
By the end of Level 2, students use and give examples of different kinds of questions. Students generate ideas that are new to them and make choices after considering personal preferences. Students identify words that indicate components of a point of view. They use reasons and examples for different purposes. Students express and describe thinking activity. They practice some learning strategies. Students demonstrate and articulate some problem-solving approaches.	By the end of Level 4, students explain how to construct open and closed questions and use them for different purposes. Students select and apply techniques to generate a range of ideas that extend how problems are solved. Students describe and structure arguments with clearly identified aims, premises and conclusions. They use and explain a range of strategies to develop their arguments. They identify the need to make distinctions and apply strategies to make these. Students use concrete and pictorial models to facilitate thinking, including a range of visualisation strategies. They practice and apply an increased range of learning strategies, including visualisation, note-taking, peer instruction and incubation. Students select and apply a range of problem-solving strategies.	By the end of Level 6, 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, students prioritise the elements of a question and justify their selection. Students demonstrate flexibility in thinking by using a range of techniques in order to repurpose existing ideas or solutions to meet needs in new contexts. Students explain different ways to settle matters of fact and matters of value and issues concerned with these. They explain and apply a range of techniques to test the strength of arguments. Students use a range of strategies to represent ideas and explain and justify thinking processes to others. They evaluate the effectiveness of a range of learning strategies and select strategies that best meet the requirements of a task. 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.	By the end of Level 10, 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.

Critical and Creative Thinking

Introduction

Curriculum

Filter

Showing all levels



Showing all strands



View



Show



Level descriptions



Content descriptions



Achievement standards

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Critical and Creative Thinking

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View



Levels 5 and 6

Levels 5 and 6 Content Descriptions

Questions and Possibilities

Examine how different kinds of questions can be used to identify and clarify information, ideas and possibilities (VCCCTQ021)

Experiment with alternative ideas and actions by

Reasoning

Investigate common reasoning errors including contradiction and inconsistency, and the influence of context (VCCCTR024)

Consider the importance of giving reasons and

Meta-Cognition

Investigate thinking processes using visual models and language strategies (VCCCTM029)

Examine learning strategies, including constructing analogies, visualising ideas, summarising and

Levels 5 and 6 Achievement Standard

By the end of Level 6, 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.

Critical and Creative Thinking

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◀ Previous

A B C D F-2 3-4 5-6 7-8 9-10

Next ▶

Level D (Towards Foundation)

Level D Content Descriptions

Questions and Possibilities

Pose questions to gather information (VCCCTQ081)

Investigate how past experience influences thinking and reactions to situations and problems (VCCCTQ082)

Foundation to Level 2

Foundation to Level 2 Content Descriptions

Questions and Possibilities

Identify, describe and use different kinds of question stems to gather information and ideas (VCCCTQ001)

Consider personal reactions to situations or problems and how these reactions may influence thinking (VCCCTQ002)

Levels 3 and 4

Levels 3 and 4 Content Descriptions

Questions and Possibilities

Construct and use open and closed questions for different purposes (VCCCTQ010)

Explore reactions to a given situation or problem and consider the effect of pre-established preferences (VCCCTQ011)

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Levels 7 and 8

Levels 7 and 8 Content Descriptions

Questions and Possibilities

Consider how to approach and use questions that have different elements, including factual, temporal and conceptual elements (VCCCTQ032)

- identifying whether questions about a prequel or main film or written text should be answered first and explaining why
- discussing the importance of defining key terms in a question, identifying them and explaining which should be defined first, for example when investigating daily lives of people in Ancient Greece
- using the purpose of an inquiry to consider choices that can be made when constructing questions about it, for example, sustainable food production techniques in Australia

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Rationale and Aims

Rationale

Achievement Standards

They articulate the progression of learning and are the basis for determining and reporting **student** achievement.

Purpose:

→ **Planning** To describe what **students** are able to understand and do at various levels.

Indicative Progress

Achievement Standards - Meta-Cognition - Part 2

Indicative progress towards Level 6 achievement standard may be when

Critical and Creative Thinking Level 4 Achievement Standard	Example of Indicative Progress toward Level 6 Achievement Standard	Critical and Creative Thinking Level 6 Achievement Standard
Students use concrete and pictorial models to facilitate thinking, including a range of visualisation strategies.	<ul style="list-style-type: none">• <i>Students are able to annotate provided visuals to represent the thinking that the visual enables.</i>	Students represent thinking processes using visual models and language.
They practice and apply an increased range of learning strategies, including visualisation, note-taking, peer instruction and incubation.	<ul style="list-style-type: none">• <i>Students are able to create their own visuals to represent their thinking and annotate to clarify their thinking for an audience.</i>	They practice and apply learning strategies, including constructing analogies, visualising ideas, summarising and paraphrasing information.
Students select and apply a range of problem-solving strategies.		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.

Content Descriptors

They provide specific and discrete information identifying what **teachers** are expected to teach to help students progress towards the achievement standards.

Purpose:

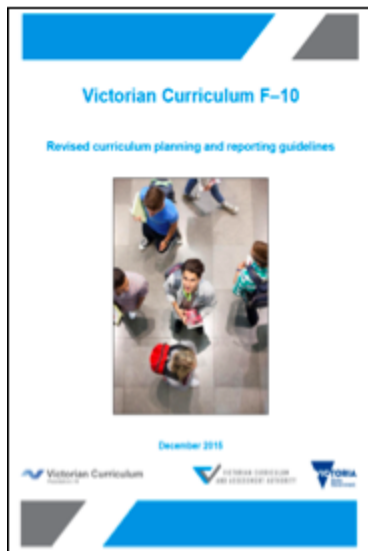
→ **Teaching** To describe what **teachers** are expected to teach.

Elaborations

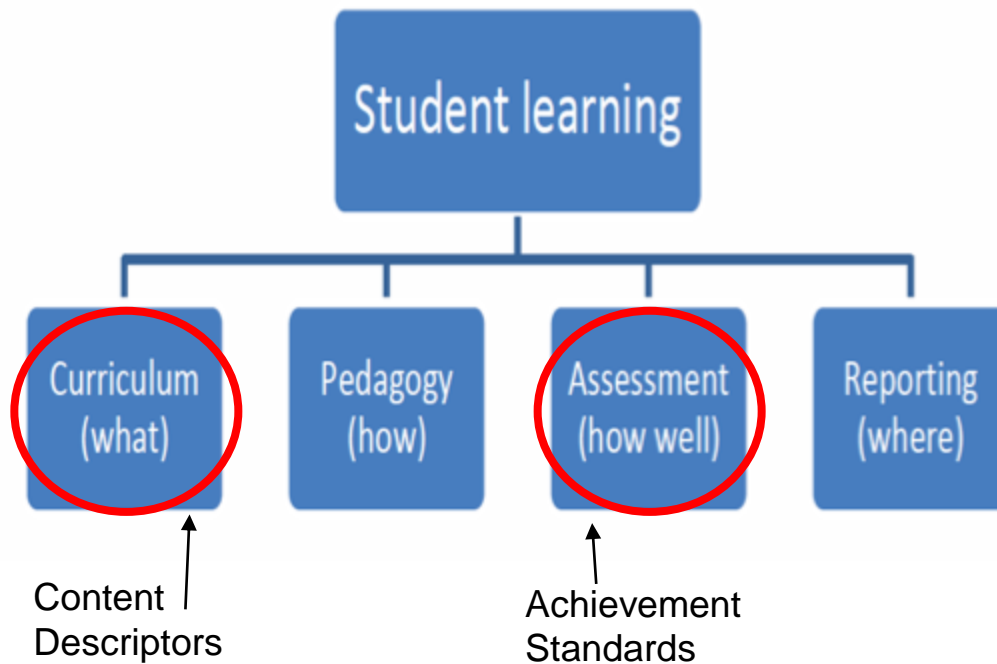
The provide **teachers** with advisory examples for guidance on how the curriculum may be transformed into a classroom activity or learning opportunity.

Purpose:

→ **Clarification** To conceptualise how **teachers** might connect the curriculum in the classroom.



Curriculum Planning





Education
and Training

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Student reporting requirements

Guidelines and requirements for reporting student achievement.

Victorian Curriculum F-10

Revised curriculum planning and reporting guidelines



December 2015

 Victorian Curriculum
Foundation-10

 VICTORIAN CURRICULUM
AND ASSESSMENT AUTHORITY





Know the content and how to teach it ✓

Recommended Actions

For further exploration of how to navigate the curriculum we recommend:

- You read through the Critical and Creative Thinking achievement standards from F-2 to 9-10 with a focus on understanding progression of learning in this area.
- You reflect on the questions: How have I been navigating the curriculum? How might I ‘tweak’ my interactions with it for more effective planning, assessment and teaching?
- Engage with indicative progress by articulating what progression might look like between levels of the Critical and Creative Thinking achievement standards (for example, between levels 7-8 and 9-10).