Government of **Western Australia**
School Curriculum and Standards Authority

General Capabilities

Critical and creative thinking

Acknowledgement of Country

Kaya.
The School Curriculum and Standards Authority (the Authority) acknowledges that our offices are on Whadjuk Noongar boodjar and that we deliver our services on the country of many traditional custodians and language groups throughout Western Australia. The Authority acknowledges the traditional custodians throughout Western Australia and their continuing connection to land, waters and community.
We offer our respect to Elders past and present.

Contents

Critical and creative thinking

Image adapted from: Halfpoint, 2022

What is Critical and creative thinking?

Critical and creative thinking represents two important ways of thinking that work together to help students inquire into the world around them.

Critical thinking involves students analysing and assessing possibilities against criteria for judgement. They construct and evaluate arguments and use information, evidence and logic to draw reasoned conclusions and to solve problems.

Creative thinking involves students learning to generate and apply new ideas, and see existing situations in new ways. They identify alternative explanations and possibilities, and create new links to generate successful outcomes.

Dispositions such as inquisitiveness, reasonableness, intellectual flexibility, open- and fair-mindedness, and a readiness to try new ways of doing things are enhanced by critical and creative thinking. Students consider alternatives and develop persistence throughout the learning continuum.

Creative thinking involves students learning to generate and apply new ideas, and see existing situations in new ways.

Structure

The Critical and creative thinking learning continuum is organised into four elements, as shown in Figure 1:

- Inquiring
- Generating
- Analysing
- Reflecting.

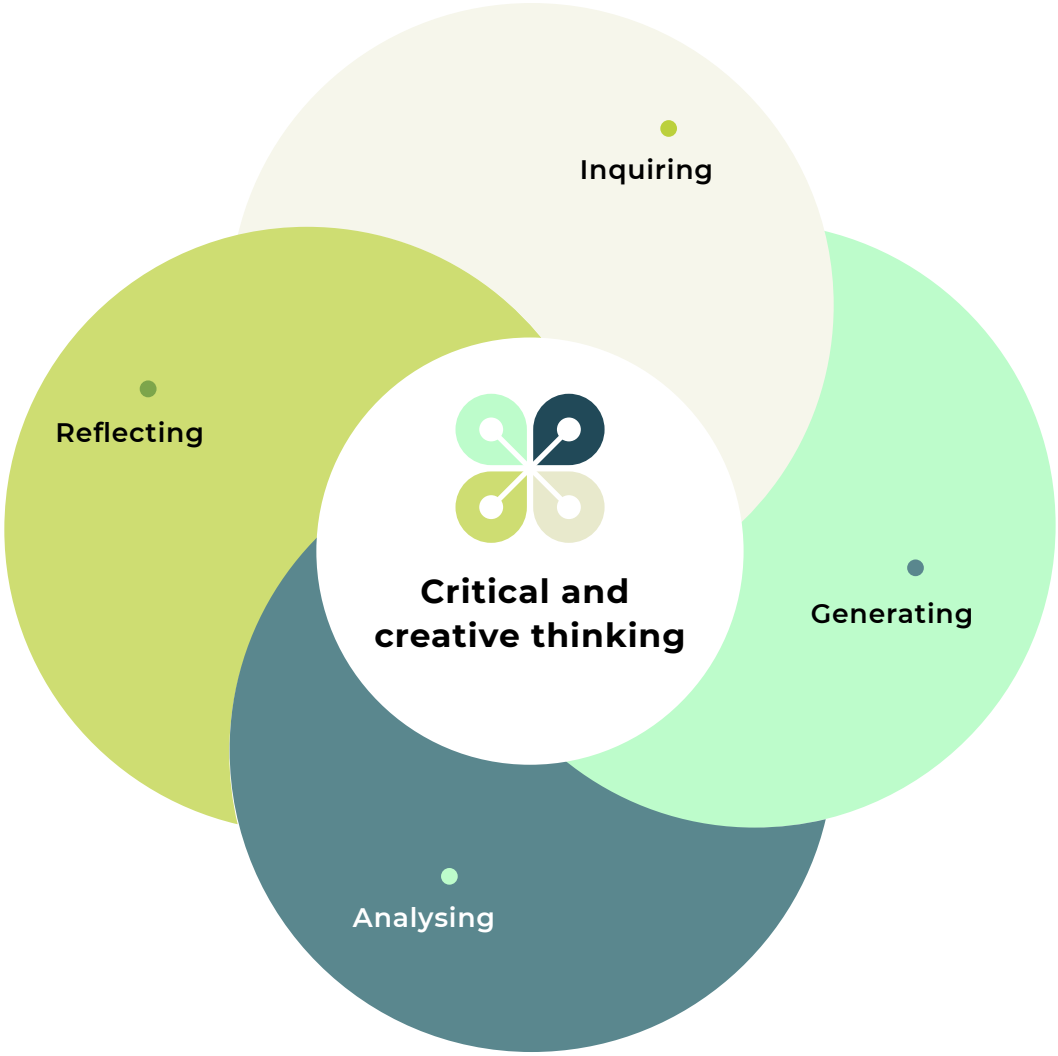

Figure 1:
Critical and creative thinking elements

Inquiring

This element is organised into two sub-elements:

- **Develop questions** – students narrow or expand the focus of their thinking and explore ideas and concepts critically and creatively. When they develop different kinds of questions, students can further their inquiry. They can find more information about a topic and form a better understanding of how something works or why something is the way it is.
- **Identify, process and evaluate information** – students seek information from a range of sources, make decisions about expert or personal opinion and understand which sources are trustworthy, relevant and useful.

Generating

This element is organised into three sub-elements:

- **Create possibilities** – students explore and combine ideas to create innovative solutions, and adapt and present ideas in new ways, as they engage with learning area content.
- **Consider alternatives** – students examine different and creative ways to approach tasks and make recommendations on preferred options and actions.
- **Put ideas into action** – students experiment with ideas, modify and adapt approaches, and evaluate options and actions in a range of situations.

Analysing

This element is organised into three sub-elements:

- **Interpret concepts and problems** – students interpret concepts, ideas, theories and problems, and deconstruct them into their component parts, to gain a deeper understanding of the context or situation.
- **Draw conclusions and provide reasons** – students reach a conclusion or make a choice for action by connecting to learning area knowledge and understanding. The act of justifying a conclusion also requires the provision of a reason or the development of an argument in support of the conclusion or action.
- **Evaluate actions and outcomes** – students consider the choices they make when they solve problems or attempt learning area tasks and evaluate solutions and outcomes to help plan for future action.

Reflecting

This element is organised into two sub-elements:

- **Think about thinking (metacognition)** – students identify, describe and evaluate the thinking and learning strategies that they use to complete activities. They reflect on the ways that their thinking, and the approaches they take, may be influenced by external contributions or viewpoints.
- **Transfer knowledge** – students make connections between their current knowledge and skills, and new contexts where they can adapt and use what they already know and can do. Both critical and creative thinking are involved, and new contexts can include other learning areas of the curriculum.

The Critical and creative thinking learning continuum is set out in Tables 1–4.

learning continuum

Table 1

Student levels	Inquiring: Sub-elements: Develop questions	Inquiring: Sub-elements: Identify, process and evaluate information
L1	Develop questions to explore a familiar idea or topic that reflects their curiosity about the world	Identify and explore relevant points in information provided on a topic Prioritise the information that is most relevant to the topic of study
L2	Develop questions to explore a familiar idea or topic that is fit for the purpose of the investigation	Identify and explore relevant information from a range of sources, including visual information and digital sources Identify and explain similarities and differences in selected information
L3	Develop questions to examine unfamiliar ideas and topics that support the process of improving knowledge and understanding about a topic or investigation	Identify and examine relevant information and opinions from a range of sources, including visual information and digital sources Condense and combine selected information related to the topic of study
L4	Develop questions to examine unfamiliar ideas and topics that focus on improving understanding about a topic and clarifying information about processes or procedures	Identify and examine relevant information and opinions from a range of sources, including visual information and digital sources Compare information and opinions that can be verified against claims based on personal preference
L5	Develop questions to investigate complex issues and topics that assist in forming an understanding of why phenomena or issues arise	Identify and clarify significant information and opinions from a range of sources, including visual information and digital sources Evaluate the accuracy, validity and relevance of the information and opinions to the topic of study
L6	Develop questions to investigate complex issues and topics that facilitate increasing understanding of abstract ideas and concepts	Identify and clarify significant information and opinions from a range of sources, including visual information and digital sources Evaluate the information selected to determine bias and reliability

Table 2

Student levels	Generating: Create possibilities	Generating: Consider alternatives	Generating: Put ideas into action
	Sub-elements		
L1	Use imagination to create possibilities by exploring and connecting ideas in ways that are new to them	Consider alternatives by suggesting a different way to approach a given task or problem	Put ideas into action through trial-and-error experiences
L2	Create possibilities by connecting or creatively expanding on ideas in ways that are new to them	Consider alternatives and explore different or creative ways to approach a task or problem	Put ideas into action by experimenting with options and predicting possible results
L3	Create possibilities by connecting or creatively expanding on new and known ideas in a variety of ways	Consider alternatives by comparing different or creative ways to approach a task, issue or problem, and recommend a preferred option	Put ideas into action by predicting an outcome, trialling options and assessing their effectiveness
L4	Create possibilities by changing, combining or elaborating on new and known ideas in a variety of creative ways	Consider alternatives by challenging or creatively adjusting existing ideas in situations where current approaches do not work, and recommend a preferred option	Put ideas into action by predicting potential or future outcomes and systematically testing a range of options
L5	Create possibilities by adapting, combining or elaborating on new and known ideas, and proposing a range of different or creative combinations	Consider alternatives by creatively adapting ideas when information is limited or conflicting, and recommend a preferred option	Put ideas into action by making predictions, testing and evaluating options, and reconsidering approaches in complex or unfamiliar situations
L6	Create possibilities by connecting or adapting complex ideas and proposing innovative and detailed variations or combinations	Consider alternatives by creatively revising and modifying ideas and recommendations when circumstances change	Put ideas into action by making predictions, testing and evaluating options, proposing modifications and adapting approaches in complex or unfamiliar situations

Table 3

Student levels	Analysing		
	Sub-elements		
	Interpret concepts and problems	Draw conclusions and provide reasons	Evaluate actions and outcomes
L1	Identify the main parts of a concept or problem	Draw conclusions and make choices when completing tasks and identify the reasons for their choices	Evaluate whether they are satisfied with the outcome of tasks or actions
L2	Identify the main parts of a concept or problem and describe how these relate to each other	Draw conclusions and make choices when completing tasks and explain the reasons for their choices	Evaluate whether they have accomplished what they set out to achieve, including using a given set of criteria to support decisions
L3	Identify and prioritise significant elements and relationships within a concept or problem	Draw conclusions and make choices when completing tasks, using observation and prior knowledge to provide reasons and construct arguments for their choices	Evaluate the outcome of a task by explaining ideas, conclusions and actions, including using a given set of criteria to support decisions
L4	Identify the relevant and significant aspects of a concept or problem, understanding that approaches may change depending on the subject or learning area	Draw conclusions and make choices when completing tasks, using discipline knowledge to provide reasons and evaluate arguments for their choices	Evaluate the effectiveness of a course of action or the outcome of a task, including using a given or co-developed set of criteria to support decisions
L5	Identify the relevant aspects of a concept or problem, recognising gaps or missing elements necessary for understanding by using approaches and strategies suitable for the context	Draw conclusions and make choices when completing tasks by connecting evidence from within and across discipline areas to provide reasons and evaluate arguments for their choices	Evaluate the effectiveness of a course of action or the outcome of a task, and account for expected and unexpected results, including using a given or co-developed set of criteria to support decisions
L6	Identify the objective and subjective aspects of a complex concept or problem, with sensitivity to context	Draw conclusions and make choices when completing tasks, using analysis of complex evidence and arguments before making recommendations	Evaluate the effectiveness of a course of action to achieve desired outcomes and suggest improvements, including using a personally developed set of criteria to support judgements and decisions

Table 4

Reflecting

Sub-elements

Student levels	Think about thinking (metacognition)	Transfer knowledge
L1	Identify thinking and learning strategies they have used when completing activities and drawing conclusions	Connect ideas and information between familiar learning experiences
L2	Identify and describe thinking and learning strategies they have used when completing activities and drawing conclusions	Use ideas and information from a previous experience to inform similar learning experiences
L3	Select, describe and reflect on the thinking and learning strategies and processes used when completing activities and drawing conclusions	Use aspects of knowledge and skills gained in one setting to inform learning in a new setting or context
L4	Identify and reflect on thinking and assumptions when completing activities or drawing conclusions Invite alternative perspectives or feedback in order to improve future outcomes	Apply aspects of knowledge and skills gained in one context to a new or unrelated context to achieve a specific purpose
L5	Reflect on the thinking and processes used when completing activities or drawing conclusions Invite alternative perspectives and feedback, and consider reasonable criticism, to adjust thinking and approaches	Transfer knowledge and skills gained in previous experiences to both similar and different contexts, and explain reasons for decisions and choices made
L6	Reflect on the thinking and processes used when completing activities and drawing conclusions Identify possible limitations in their own positions by considering opposing viewpoints, reasonable criticism and feedback	Identify, plan and justify opportunities to transfer knowledge into new contexts

Glossary

A

abstract

Relating to or involving general ideas or qualities rather than specific people, objects or actions.

argument

A claim justified with reference to evidence.

B

bias

Presentation of one perspective or favouring one side in an argument or discussion, often accompanied by a refusal to consider possible merits of alternative perspectives.

C

concept

An idea, theory, view, issue or subject that may be presented in a variety of formats including images, charts, diagrams, texts, objects and performances.

conclusion

A judgement based on evidence.

context

The situation or setting of an event, problem or application, whether real or constructed.

criteria

Measures or standards upon which a judgement or decision may be based.

D

discipline areas

Learning areas or subjects within the Western Australian Curriculum.

O

objective aspects

Ways of looking at something that are based on facts.

P

prediction

An informed presumption made about something that might happen.

R

relationship

A connection or association between ideas or between components of systems and structures.

reliability

The quality or measure of being able to be trusted or believed; likely to be true or correct.

S

subjective aspects

Ways of looking at something that are based on personal opinions and feelings.

T

thinking and learning strategies

Methods of study including interpreting, analysing, evaluating, explaining, sequencing, reasoning, comparing, questioning, inferring, hypothesising, appraising, testing and generalising.

V

validity

The measure of being logically or factually sound.

visual information

Media that are seen, such as still photography, motion picture photography, video recording, graphic arts, visual aids, models, displays and visual presentation services.

Acknowledgements

Adapted from: Halfpoint. (2022). *Science Students Doing Chemical Experiment in the Laboratory at University. Stock Photo*. Retrieved December, 2025, from https://www.istockphoto.com/photo/science-students-doing-chemical-experiment-in-the-laboratory-at-university-gm1419015317-465520730

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