

## **(no-code)**

**analyse how people in design and technologies occupations consider ethical and sustainability factors to design and produce , and**

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### **Elaborations**

- researching current information on animal welfare when designing an animal shelter or researching intellectual property or the significance of offshore manufacturing in a country in when designing a 3D printed
- investigating traditional and contemporary design and technologies, including from countries across , and predicting how they might change or be sustained in the future in response to technological, environmental or economic change, for example the production of contemporary textile designs using traditional batik techniques and modern dyes in Indonesia
- comparing the design and production of , and in Australia and a country in by identifying needs and new opportunities for design and enterprise, for example design, promotion and marketing of a Western Australian wheat variety especially bred and grown for the making of udon noodles in Japan
- researching the rights and responsibilities of those working in design and technologies occupations, for example taking into account First Nations Australian protocols and Indigenous cultural and intellectual property rights
- analysing the ethical and social requirements when designing solutions for cultural groups including their involvement and consultation, for example designing a solution with community members from other cultural backgrounds or those who usually communicate in a language other than English

Students learn to:

**analyse how people in design and technologies occupations consider ethical and sustainability factors to design and produce products, services and environments**

(AC9TDE8K01)

### **General capabilities and cross-curriculum priorities**

This content description connects to the following general capabilities and cross-curriculum priorities.

#### **Responding to ethical issues**

- Explore ethical issues
- Making and reflecting on ethical decisions

#### **Understanding ethical concepts and perspectives**

- Explore ethical concepts

#### **Design**

- Sustainable design requires an awareness of place, past practices, research and technological developments, and balanced judgements based on projected environmental, social and economic impacts.

### **Elaborations**

Content elaborations provide suggestions of ways to teach the content description and connect it to general capabilities and cross-curriculum priorities. Content elaborations are optional .

#### **Inquiring**

- Identify, process and evaluate information

#### **Understanding Asia's global significance**

- The peoples of Asia shape human endeavour through aesthetic, creative, political, sporting, economic, technological and scientific domains.

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- Identify, process and evaluate information

#### **Understanding Asia's global significance**

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#### **Inquiring**

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#### **Understanding Asia's global significance**

- The peoples of Asia shape human endeavour through aesthetic, creative, political, sporting, economic, technological and scientific domains.

### **Understanding ethical concepts and perspectives**

- Examine values, rights and responsibilities and ethical norms

### **Navigating intercultural contexts**

- Adapt in intercultural exchanges

### **Culture**

- First Nations Australian societies are diverse and have distinct cultural expressions such as language, customs and beliefs. As First Nations Peoples of Australia, they have the right to maintain, control, protect and develop their cultural expressions, while also maintaining the right to control, protect and develop culture as Indigenous Cultural and Intellectual Property.

### **Inquiring**

- Identify, process and evaluate information

### **Understanding ethical concepts and perspectives**

- Examine values, rights and responsibilities and ethical norms

### **Resources**

### **Work Samples**

## **WS01 - Design project: Desktop lamp**

### **Snapshot – Explore ethical issues**

#### **Ethical Understanding: Responding to ethical issues: Explore ethical issues**

#### **Content description**

AC9TDE8K01

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- describe how ethical perspectives or approaches to ethical issues may vary in different situations
- analyse the relationships between values, ethical perspectives and ethical frameworks when responding to ethical issues
- apply knowledge of ethical concepts, values, perspectives and frameworks when responding to ethical issues

### **Snapshot – Making and reflecting on ethical decisions**

#### **Ethical Understanding: Responding to ethical issues: Making and reflecting on ethical decisions**

#### **Content description**

AC9TDE8K01

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- consider alternative ethical responses to an issue when making and reflecting on ethical decisions
- consider how values and beliefs influence approaches to ethical issues, and analyse how these affect outcomes
- analyse biases when applying ethical concepts, values and ethical frameworks, in order to explore and evaluate ethical decisions

### **Snapshot – Explore ethical concepts**

#### **Ethical Understanding: Understanding ethical concepts and perspectives: Explore ethical concepts**

#### **Content description**

AC9TDE8K01

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and describe ethical concepts, such as truth and justice, and explain how perspectives may vary according to the situation or context
- analyse the similarities and differences between ethical concepts, such as integrity, loyalty and equality, in a range of situations and contexts
- evaluate the consistency in meaning of ethical concepts, such as trust, freedom and rights and responsibilities, in a range of situations and contexts

### **Snapshot – Identify, process and evaluate information**

## **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

### **Content description**

AC9TDE8K01

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual information and digital sources
- compare information and opinion that can be verified against claims based on personal preference
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the accuracy, validity and relevance of the information and opinion to the topic of study
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

### **Snapshot – Identify, process and evaluate information**

## **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

### **Content description**

AC9TDE8K01

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

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- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

### **Snapshot – Identify, process and evaluate information**

## **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

### **Content description**

AC9TDE8K01

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual information and digital sources
- compare information and opinion that can be verified against claims based on personal preference
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the accuracy, validity and relevance of the information and opinion to the topic of study
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

### **Snapshot – Examine values, rights and responsibilities and ethical norms**

## **Ethical Understanding: Understanding ethical concepts and perspectives: Examine responsibilities and ethical norms**

### **Content description**

AC9TDE8K01

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- describe how the relationships between values, rights and responsibilities, and ethical norms influence responses and decisions related to ethical issues

- describe the relationship between the role of individual and community values, rights and responsibilities, and ethical norms when responding to ethical issues
- describe the importance of values, rights and responsibilities when reaching a position on an ethical issue, and evaluate their role in challenging and defending ethical norms

### **Snapshot – Adapt in intercultural exchanges**

#### **Intercultural Understanding: Navigating intercultural contexts: Adapt in intercultural**

##### **Content description**

AC9TDE8K01

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- modify interactions in unfamiliar intercultural exchanges, demonstrating respect for, and understanding of, cultural diversity
- modify responses to unfamiliar intercultural exchanges to negotiate and sustain interactions that develop mutual understanding
- apply learning to the challenges and benefits of interacting in a culturally diverse society, adapting thinking and behaviour to develop mutual understanding

### **Snapshot – Identify, process and evaluate information**

#### **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

##### **Content description**

AC9TDE8K01

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual information and digital sources
- compare information and opinion that can be verified against claims based on personal preference
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the accuracy, validity and relevance of the information and opinion to the topic of study
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

### **Snapshot – Examine values, rights and responsibilities and ethical norms**

#### **Ethical Understanding: Understanding ethical concepts and perspectives: Examine values, rights and responsibilities and ethical norms**

##### **Content description**

AC9TDE8K01

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- describe how the relationships between values, rights and responsibilities, and ethical norms influence responses and decisions related to ethical issues
- describe the relationship between the role of individual and community values, rights and responsibilities, and ethical norms when responding to ethical issues
- describe the importance of values, rights and responsibilities when reaching a position on an ethical issue, and evaluate their role in challenging and defending ethical norms

### **Resource – WS01 - Design project: Desktop lamp**

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## AC9TDE8K02

**analyse the impact of innovation and the development of technologies on for global**

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### **Elaborations**

- analysing competing factors, including social and ethical factors, that influence the design of for First Nations Australian communities in areas classified as remote, for example a natural disaster warning system for the Koeiyuway and Moegibuway Peoples of Saibai Island, who are vulnerable to flooding and rising sea levels
- investigating techniques used by land managers for managing and reducing bushfires in forests, for example techniques used by local First Nations Australians or smart technologies such as Internet of Things (IoT) sensors, artificial intelligence, cameras and drones
- investigating traditional, contemporary and emerging design and technologies, including from a country in , and the need for more sustainable patterns of living, and predicting how they might change in the future in response to social, technological, environmental or economic change, for example the diversity of house design or waste management practices
- investigating influences impacting on manufactured and processes such as historical developments, societal change, new materials, accessibility guidelines, control systems or , for example researching the development of Velcro, which was inspired by burrs, or researching contemporary designers who use new materials to design and produce innovative
- considering factors that impact on innovation, for example developing novel ideas, responding quickly to change, creating a point of differentiation, adding value for society, reducing costs and improving efficiency

Students learn to:

**analyse the impact of innovation and the development of technologies on designed global preferred futures**

(AC9TDE8K02)

### **General capabilities and cross-curriculum priorities**

This content description connects to the following general capabilities and cross-curriculum priorities.

#### **Responding to ethical issues**

- Explore ethical issues
- Making and reflecting on ethical decisions

#### **Understanding ethical concepts and perspectives**

- Recognise influences on ethical behaviour and perspectives

#### **Design**

- Creative and innovative design is integral to the identification of new ways of sustainable living.
- Sustainable design requires an awareness of place, past practices, research and technological developments, and balanced judgements based on projected environmental, social and economic impacts.

### **Elaborations**

Content elaborations provide suggestions of ways to teach the content description and connect it to general capabilities and cross-curriculum priorities. Content elaborations are optional .

#### **Responding to ethical issues**

- Explore ethical issues
- Making and reflecting on ethical decisions

#### **Understanding ethical concepts and perspectives**

- Recognise influences on ethical behaviour and perspectives

#### **People**

- The significant and ongoing contributions of First Nations Australians and their histories and cultures are acknowledged locally, nationally and globally.

#### **World views**

- World views that recognise the interdependence of Earth's systems, and value diversity, equity and social justice, are essential for achieving sustainability.

### **Inquiring**

- Identify, process and evaluate information

### **Knowing Asia and its diversity**

- The interrelationships between people and the diverse environments and systems across the Asia region have global implications.

### **Analysing**

- Draw conclusions and provide reasons

### **Inquiring**

- Identify, process and evaluate information

### **Analysing**

- Draw conclusions and provide reasons

### **Inquiring**

- Identify, process and evaluate information

### **Resources**

### **Work Samples**

## **WS01 - Design project: Desktop lamp**

### **Snapshot – Explore ethical issues**

#### **Ethical Understanding: Responding to ethical issues: Explore ethical issues**

##### **Content description**

AC9TDE8K02

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- describe how ethical perspectives or approaches to ethical issues may vary in different situations
- analyse the relationships between values, ethical perspectives and ethical frameworks when responding to ethical issues
- apply knowledge of ethical concepts, values, perspectives and frameworks when responding to ethical issues

### **Snapshot – Making and reflecting on ethical decisions**

#### **Ethical Understanding: Responding to ethical issues: Making and reflecting on ethical decisions**

##### **Content description**

AC9TDE8K02

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- consider alternative ethical responses to an issue when making and reflecting on ethical decisions
- consider how values and beliefs influence approaches to ethical issues, and analyse how these affect outcomes
- analyse biases when applying ethical concepts, values and ethical frameworks, in order to explore and evaluate ethical decisions

### **Snapshot – Recognise influences on ethical behaviour and perspectives**

#### **Ethical Understanding: Understanding ethical concepts and perspectives: Recognise influences on ethical behaviour and perspectives**

##### **Content description**

AC9TDE8K02

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- explain how habits and behaviour shape character and examine how they inform ethical perspectives
- explain how different traits, such as honesty, trust, courage and selfishness interact with responsibilities or duties to determine ethically appropriate responses
- explore and analyse examples of the tensions between conflicting positions on issues of personal, social and global importance

## **Snapshot – Explore ethical issues**

### **Ethical Understanding: Responding to ethical issues: Explore ethical issues**

#### **Content description**

AC9TDE8K02

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- describe how ethical perspectives or approaches to ethical issues may vary in different situations
- analyse the relationships between values, ethical perspectives and ethical frameworks when responding to ethical issues
- apply knowledge of ethical concepts, values, perspectives and frameworks when responding to ethical issues

## **Snapshot – Making and reflecting on ethical decisions**

### **Ethical Understanding: Responding to ethical issues: Making and reflecting on ethical decisions**

#### **Content description**

AC9TDE8K02

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- consider alternative ethical responses to an issue when making and reflecting on ethical decisions
- consider how values and beliefs influence approaches to ethical issues, and analyse how these affect outcomes
- analyse biases when applying ethical concepts, values and ethical frameworks, in order to explore and evaluate ethical decisions

## **Snapshot – Recognise influences on ethical behaviour and perspectives**

### **Ethical Understanding: Understanding ethical concepts and perspectives: Recognise influences on ethical behaviour and perspectives**

#### **Content description**

AC9TDE8K02

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- explain how habits and behaviour shape character and examine how they inform ethical perspectives
- explain how different traits, such as honesty, trust, courage and selfishness interact with responsibilities or duties to determine ethically appropriate responses
- explore and analyse examples of the tensions between conflicting positions on issues of personal, social and global importance

## **Snapshot – Identify, process and evaluate information**

### **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

#### **Content description**

AC9TDE8K02

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual information and digital sources
- compare information and opinion that can be verified against claims based on personal preference
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the accuracy, validity and relevance of the information and opinion to the topic of study
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

## **Snapshot – Draw conclusions and provide reasons**

### **Critical and Creative Thinking: Analysing: Draw conclusions and provide reasons**

#### **Content description**

AC9TDE8K02

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- draw conclusions and make choices when completing tasks, using discipline knowledge to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks by connecting evidence from within and across discipline areas to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks, using analysis of complex evidence and arguments before making recommendations

### **Snapshot – Identify, process and evaluate information**

#### **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

### **Content description**

AC9TDE8K02

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual information and digital sources
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- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

### **Snapshot – Draw conclusions and provide reasons**

#### **Critical and Creative Thinking: Analysing: Draw conclusions and provide reasons**

### **Content description**

AC9TDE8K02

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- draw conclusions and make choices when completing tasks, using discipline knowledge to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks by connecting evidence from within and across discipline areas to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks, using analysis of complex evidence and arguments before making recommendations

### **Snapshot – Identify, process and evaluate information**

#### **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

### **Content description**

AC9TDE8K02

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual information and digital sources
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- evaluate the information selected to determine bias and reliability

### **AC9TDE8K03**

**analyse how force, motion and energy are used to manipulate and control engineered systems**



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## **Elaborations**

- analysing how wind turbines harness the motion of propellers to transform wind energy into electricity, and how this energy is used to sustainably power communities classified as remote, such as on Waiben (Thursday Island) in the Torres Strait Islands and in Gawa on Elcho Island near the northern Arnhem Land coast
- investigating the technologies in a control system for an identified need or opportunity and user, for example the Corriong or Millowl (Phillip Island) penguin weighbridge that enables collection of about penguin weight and foraging duration
- experimenting to select the most appropriate principles and systems on which to base design ideas, for example testing structural components for strength
- testing of an idea by producing prototypes and , including the use of tools such as 3D printers
- calculating an engineered system's outputs, for example speed, brightness of light, volume of sound to determine when the system might fail
- experimenting with control systems to understand motion, for example programming a microcontroller or an object-based programming application to control a system such as a remote-controlled car or robotic arm
- investigating components, tools and equipment in terms of force, motion or energy, for example testing the durability of batteries or determining the effective range of wireless devices

Students learn to:

**analyse how force, motion and energy are used to manipulate and control engineering**

(AC9TDE8K03)

## **General capabilities and cross-curriculum priorities**

This content description connects to the following general capabilities and cross-curriculum priorities.

### **Analysing**

- Draw conclusions and provide reasons

### **Inquiring**

- Identify, process and evaluate information

### **Reading and viewing**

- Understanding texts

## **Elaborations**

Content elaborations provide suggestions of ways to teach the content description and connect it to general capabilities and cross-curriculum priorities. Content elaborations are optional .

### **People**

- The significant and ongoing contributions of First Nations Australians and their histories and cultures are acknowledged locally, nationally and globally.

### **Generating**

- Put ideas into action

### **Inquiring**

- Identify, process and evaluate information

### **Managing and operating**

- Select and operate tools

### **Generating**

- Put ideas into action

### **Generating**

- Consider alternatives

### **Managing and operating**

- Select and operate tools

### **Number sense and algebra**

- Number patterns and algebraic thinking

### **Generating**

- Put ideas into action

### **Managing and operating**

- Select and operate tools

## **Generating**

- Put ideas into action

## **Related content**

This content description can be taught with the following content descriptions from other learning areas.

AC9S7U04

AC9S8U05

## **Snapshot – Draw conclusions and provide reasons**

### **Critical and Creative Thinking: Analysing: Draw conclusions and provide reasons**

#### **Content description**

AC9TDE8K03

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- draw conclusions and make choices when completing tasks, using discipline knowledge to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks by connecting evidence from within and across discipline areas to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks, using analysis of complex evidence and arguments before making recommendations

## **Snapshot – Identify, process and evaluate information**

### **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

#### **Content description**

AC9TDE8K03

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual information and digital sources
- compare information and opinion that can be verified against claims based on personal preference
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the accuracy, validity and relevance of the information and opinion to the topic of study
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

## **Snapshot – Understanding texts**

### **Literacy: Reading and viewing: Understanding texts**

#### **Content description**

AC9TDE8K03

#### **Learning progression extract**

The following learning progression extract shows the alignment of the learning progression with this content.

#### **Comprehension**

- reads and views complex texts (see Text complexity)
- identifies the main themes or concepts in complex texts by synthesising key ideas or information
- summarises the text, identifying key details only
- draws inferences, synthesising clues and evidence across a text
- builds meaning by actively linking ideas from a number of texts or a range of digital sources
- distils information from a number of texts according to task and purpose (e.g. uses graphic organisers)
- identifies different interpretations of the text citing evidence from a text
- evaluates language features for relevance to purpose and audience
- analyses texts that have more than one purpose and explains how parts of the text support a particular purpose

- analyses the use of language appropriate to different types of texts (e.g. compare the use of pun in imaginative and persuasive texts)
- identifies techniques used to obscure author's purpose (e.g. inclusion or omission of content)

### **Processes**

- uses processes such as predicting, confirming predictions, monitoring, and connecting relevant elements of the text to build or repair meaning
- uses knowledge of a broader range of cohesive devices to track meaning (e.g. word associations) (see Grammar)
- selects reading or viewing strategies appropriate to reading purpose (e.g. scans text for evidence)
- judiciously selects texts for learning area tasks and purposes

### **Vocabulary**

- identifies language used to create tone or atmosphere
- analyses language and visual features in texts using metalanguage (e.g. cohesion, interpretation, figurative)
- applies knowledge of base words and word origins to understand the meaning of unfamiliar, discipline-specific words
- uses a range of context and grammatical cues to understand unfamiliar words
- interprets complex figurative language (e.g. euphemisms, hyperbole)

### **Comprehension**

- reads and views complex or some highly complex texts (see Text complexity)
- interprets abstract concepts integrating complex ideas
- analyses how language features are used to support the point of view in a text (e.g. the strategic use of images such as a cartoon in an editorial)
- draws inferences using evidence from the text and discounting possible inferences that are not supported by the text
- applies and articulates criteria to evaluate the language structures and features for relevance to purpose and audience
- evaluates the reasoning and evidence in a persuasive text
- explains how context (e.g. time, place, situation) influences interpretations of a text
- analyses the author's perspectives in complex or some highly complex texts
- analyses the techniques authors use to position readers
- recognises when ideas or evidence have been omitted from a text to position the reader

### **Processes**

- automatically integrates a range of processes such as predicting, confirming predictions, monitoring and connecting relevant elements of the text, to build meaning
- describes how sophisticated cohesive devices establish patterns of meaning (e.g. "class" – "subclass")
- navigates extended texts including complex digital texts

### **Vocabulary**

- demonstrates an understanding of nuances and subtleties in words of similar meaning (e.g. "frustrated", "discouraged", "baffled")
- verifies interpretations of unfamiliar words using grammatical and contextual cues

### **Comprehension**

- reads and views highly complex texts (see Text complexity)
- interprets symbolism in texts, providing evidence to justify interpretation
- judiciously selects and synthesises evidence from multiple texts to support ideas and arguments
- analyses the credibility and validity of primary and secondary sources
- evaluates the use of devices such as analogy, irony, rhetoric and satire, and how they contribute to an author's individual style
- analyses the cumulative impact of use of language features and vocabulary across texts
- explains assumptions, beliefs and implicit values in texts (e.g. "economic growth is always desirable")
- evaluates the social, moral and ethical positions taken in texts

### **Processes**

- strategically adjusts the processes of reading and viewing to build meaning according to the

demands of tasks and texts

- identifies subtle contradictions and inconsistencies in texts

### **Vocabulary**

- interprets complex, formal and impersonal language in academic texts
- uses lexical cues to interpret unfamiliar vocabulary
- demonstrates self-reliance in exploration and application of word learning strategies

## **Snapshot – Put ideas into action**

### **Critical and Creative Thinking: Generating: Put ideas into action**

#### **Content description**

AC9TDE8K03

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- put ideas into action by predicting potential or future outcomes and systematically testing a range of options
- put ideas into action by making predictions, testing and evaluating options, and reconsidering approaches in complex or unfamiliar situations
- put ideas into action by making predictions, testing and evaluating options, proposing modifications and adapting approaches in complex or unfamiliar situations

## **Snapshot – Identify, process and evaluate information**

### **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

#### **Content description**

AC9TDE8K03

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual information and digital sources
- compare information and opinion that can be verified against claims based on personal preference
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the accuracy, validity and relevance of the information and opinion to the topic of study
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

## **Snapshot – Select and operate tools**

### **Digital Literacy: Managing and operating: Select and operate tools**

#### **Content description**

AC9TDE8K03

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- select and use the core features of digital tools to efficiently complete tasks
- troubleshoot basic problems and identify repetitive tasks to automate
- select and use the advanced or unfamiliar features of digital tools to efficiently complete tasks
- troubleshoot common problems and automate repetitive tasks
- select and operate advanced and emerging digital tools confidently
- troubleshoot common problems systematically and seek to improve efficiency by developing new skills

## **Snapshot – Put ideas into action**

### **Critical and Creative Thinking: Generating: Put ideas into action**

#### **Content description**

AC9TDE8K03

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- put ideas into action by predicting potential or future outcomes and systematically testing a

range of options

- put ideas into action by making predictions, testing and evaluating options, and reconsidering approaches in complex or unfamiliar situations
- put ideas into action by making predictions, testing and evaluating options, proposing modifications and adapting approaches in complex or unfamiliar situations

### **Snapshot – Consider alternatives**

## **Critical and Creative Thinking: Generating: Consider alternatives**

### **Content description**

AC9TDE8K03

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- consider alternatives by challenging or creatively adjusting existing ideas in situations where current approaches do not work and recommend a preferred option
- consider alternatives by creatively adapting ideas when information is limited or conflicting and recommend a preferred option
- consider alternatives by creatively revising and modifying ideas and recommendations when circumstances change

### **Snapshot – Select and operate tools**

## **Digital Literacy: Managing and operating: Select and operate tools**

### **Content description**

AC9TDE8K03

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- select and use the core features of digital tools to efficiently complete tasks
- troubleshoot basic problems and identify repetitive tasks to automate
- select and use the advanced or unfamiliar features of digital tools to efficiently complete tasks
- troubleshoot common problems and automate repetitive tasks
- select and operate advanced and emerging digital tools confidently
- troubleshoot common problems systematically and seek to improve efficiency by developing new skills

### **Snapshot – Number patterns and algebraic thinking**

## **Numeracy: Number sense and algebra: Number patterns and algebraic thinking**

### **Content description**

AC9TDE8K03

### **Learning progression extract**

The following learning progression extract shows the alignment of the learning progression with this content.

### **Algebraic expressions**

- creates and identifies algebraic equations from word problems involving one or more operations (e.g. if a taxi charges \$ 5 call out fee then a flat rate of \$ 2.30 per km travelled, represents this algebraically as  $C = 5 + 2.3d$  where  $d$  is the distance travelled in km and  $C$  is the total cost of the trip)
- identifies and justifies equivalent algebraic expressions
- interprets a table of values in order to plot points on a graph

### **Algebraic relationships**

- interprets and uses formulas and algebraic equations that describe relationships in various contexts (e.g. uses  $A = \pi r^2$  to calculate the area of a circular space; uses  $A = P(1 + \frac{r}{n})^n$  when working with compound interest; uses  $v = u + at$  to calculate the velocity of an object)
- plots relationships on a graph using a table of values representing authentic data (e.g. uses data recorded in a spreadsheet to plot results of a science experiment)

### **Linear and non-linear relationships**

- identifies the difference between linear and non-linear relationships in everyday contexts (e.g.

explains that in a linear relationship, the rate of change is constant such as the cost of babysitting by the hour, whereas in a non-linear relationship the rate of change will vary and it could grow multiplicatively or exponentially such as a social media post going viral)

- describes and interprets the graphical features of linear and non-linear growth in authentic problems (e.g. compares simple and compound interest graphs; describes the relationship between scientific data plotted on a graph; analyses a graph to identify the inverse relationship between price and quantity demanded or the relationship between Human Development Index (HDI) and standards of living)

### **Snapshot – Put ideas into action**

#### **Critical and Creative Thinking: Generating: Put ideas into action**

##### **Content description**

AC9TDE8K03

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- put ideas into action by predicting potential or future outcomes and systematically testing a range of options
- put ideas into action by making predictions, testing and evaluating options, and reconsidering approaches in complex or unfamiliar situations
- put ideas into action by making predictions, testing and evaluating options, proposing modifications and adapting approaches in complex or unfamiliar situations

### **Snapshot – Select and operate tools**

#### **Digital Literacy: Managing and operating: Select and operate tools**

##### **Content description**

AC9TDE8K03

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- select and use the core features of digital tools to efficiently complete tasks
- troubleshoot basic problems and identify repetitive tasks to automate
- select and use the advanced or unfamiliar features of digital tools to efficiently complete tasks
- troubleshoot common problems and automate repetitive tasks
- select and operate advanced and emerging digital tools confidently
- troubleshoot common problems systematically and seek to improve efficiency by developing new skills

### **Snapshot – Put ideas into action**

#### **Critical and Creative Thinking: Generating: Put ideas into action**

##### **Content description**

AC9TDE8K03

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- put ideas into action by predicting potential or future outcomes and systematically testing a range of options
- put ideas into action by making predictions, testing and evaluating options, and reconsidering approaches in complex or unfamiliar situations
- put ideas into action by making predictions, testing and evaluating options, proposing modifications and adapting approaches in complex or unfamiliar situations

### **AC9TDE8K04**

**analyse how food and are produced in and how these can become sustainable**

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- 

##### **Elaborations**

- analysing traditional First Nations Australians' food and sources for potential species that offer benefits in sustainability, such as conserving water use and needed for processing
- comparing land and water management methods in contemporary Australian with a country in , for

example comparing the use of robotics, drones, global positioning system (GPS) technologies, , water-efficient irrigation and smart farm monitoring and controlling systems for increasing efficiency of farm operations and crop protection, and the impact of cash crops versus staples on social sustainability

- investigating how animal and plant crops are grown and the ethical and sustainable techniques used to increase food production, for example comparing the use of herbicides or medicines when producing food and and recognising the need to increase food production using cost-efficient, ethical and sustainable production techniques
- outlining physical and chemical of soil and their effects on plant growth when producing food and , for example comparing the effect on soil of different farming practices
- investigating different animal nutrition strategies such as grazing and supplementary feeding, and their effects on quality when producing food and , for example meat tenderness, wool-fibre diameter (micron), milk fat and protein content
- recognising the importance of to Australia's food security and economy, including exports and imports to and from countries across , for example exports of Tasmanian Candy Abalone (wild-caught dried abalone)

Students learn to:

**analyse how food and fibre are produced in managed environments and how these**

(AC9TDE8K04)

### **General capabilities and cross-curriculum priorities**

This content description connects to the following general capabilities and cross-curriculum priorities.

#### **Analysing**

- Draw conclusions and provide reasons

#### **Inquiring**

- Identify, process and evaluate information

#### **Design**

- Sustainable design requires an awareness of place, past practices, research and technological developments, and balanced judgements based on projected environmental, social and economic impacts.

#### **Elaborations**

Content elaborations provide suggestions of ways to teach the content description and connect it to general capabilities and cross-curriculum priorities. Content elaborations are optional .

#### **People**

- The significant and ongoing contributions of First Nations Australians and their histories and cultures are acknowledged locally, nationally and globally.

#### **Knowing Asia and its diversity**

- The interrelationships between people and the diverse environments and systems across the Asia region have global implications.

#### **Design**

- Sustainably designed products, environments and services aim to minimise the impact on or restore the quality and diversity of environmental, social and economic systems.

#### **Understanding ethical concepts and perspectives**

- Explore ethical concepts
- Examine values, rights and responsibilities and ethical norms
- Recognise influences on ethical behaviour and perspectives

#### **Design**

- Sustainable design requires an awareness of place, past practices, research and technological developments, and balanced judgements based on projected environmental, social and economic impacts.

#### **Analysing**

- Interpret concepts and problems
- Draw conclusions and provide reasons

#### **Analysing**

- Interpret concepts and problems
- Draw conclusions and provide reasons

#### **Inquiring**

- Identify, process and evaluate information

### **Analysing**

- Interpret concepts and problems

### **Inquiring**

- Identify, process and evaluate information

### **Knowing Asia and its diversity**

- The interrelationships between people and the diverse environments and systems across the Asia region have global implications.

### **Related content**

This content description can be taught with the following content descriptions from other learning areas.

AC9HG7K02

AC9S7U02

### **Snapshot – Draw conclusions and provide reasons**

#### **Critical and Creative Thinking: Analysing: Draw conclusions and provide reasons**

#### **Content description**

AC9TDE8K04

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- draw conclusions and make choices when completing tasks, using discipline knowledge to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks by connecting evidence from within and across discipline areas to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks, using analysis of complex evidence and arguments before making recommendations

### **Snapshot – Identify, process and evaluate information**

#### **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

#### **Content description**

AC9TDE8K04

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual information and digital sources
- compare information and opinion that can be verified against claims based on personal preference
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the accuracy, validity and relevance of the information and opinion to the topic of study
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

### **Snapshot – Explore ethical concepts**

#### **Ethical Understanding: Understanding ethical concepts and perspectives: Explore ethical concepts**

#### **Content description**

AC9TDE8K04

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and describe ethical concepts, such as truth and justice, and explain how perspectives may vary according to the situation or context
- analyse the similarities and differences between ethical concepts, such as integrity, loyalty and equality, in a range of situations and contexts
- evaluate the consistency in meaning of ethical concepts, such as trust, freedom and rights and responsibilities, in a range of situations and contexts

### **Snapshot – Examine values, rights and responsibilities and ethical norms**



## **Ethical Understanding: Understanding ethical concepts and perspectives: Examining responsibilities and ethical norms**

### **Content description**

AC9TDE8K04

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- describe how the relationships between values, rights and responsibilities, and ethical norms influence responses and decisions related to ethical issues
- describe the relationship between the role of individual and community values, rights and responsibilities, and ethical norms when responding to ethical issues
- describe the importance of values, rights and responsibilities when reaching a position on an ethical issue, and evaluate their role in challenging and defending ethical norms

### **Snapshot – Recognise influences on ethical behaviour and perspectives**

## **Ethical Understanding: Understanding ethical concepts and perspectives: Recognising ethical behaviour and perspectives**

### **Content description**

AC9TDE8K04

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- explain how habits and behaviour shape character and examine how they inform ethical perspectives
- explain how different traits, such as honesty, trust, courage and selfishness interact with responsibilities or duties to determine ethically appropriate responses
- explore and analyse examples of the tensions between conflicting positions on issues of personal, social and global importance

### **Snapshot – Interpret concepts and problems**

## **Critical and Creative Thinking: Analysing: Interpret concepts and problems**

### **Content description**

AC9TDE8K04

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify the relevant and significant aspects of a concept or problem, understanding that approaches may change depending on the subject or learning area
- 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
- identify the objective and subjective aspects of a complex concept or problem, with sensitivity to context

### **Snapshot – Draw conclusions and provide reasons**

## **Critical and Creative Thinking: Analysing: Draw conclusions and provide reasons**

### **Content description**

AC9TDE8K04

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- draw conclusions and make choices when completing tasks, using discipline knowledge to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks by connecting evidence from within and across discipline areas to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks, using analysis of complex evidence and arguments before making recommendations

### **Snapshot – Interpret concepts and problems**

## **Critical and Creative Thinking: Analysing: Interpret concepts and problems**

### **Content description**

AC9TDE8K04

## **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify the relevant and significant aspects of a concept or problem, understanding that approaches may change depending on the subject or learning area
- 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
- identify the objective and subjective aspects of a complex concept or problem, with sensitivity to context

### **Snapshot – Draw conclusions and provide reasons**

#### **Critical and Creative Thinking: Analysing: Draw conclusions and provide reasons**

##### **Content description**

AC9TDE8K04

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- draw conclusions and make choices when completing tasks, using discipline knowledge to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks by connecting evidence from within and across discipline areas to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks, using analysis of complex evidence and arguments before making recommendations

### **Snapshot – Identify, process and evaluate information**

#### **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

##### **Content description**

AC9TDE8K04

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual information and digital sources
- compare information and opinion that can be verified against claims based on personal preference
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the accuracy, validity and relevance of the information and opinion to the topic of study
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

### **Snapshot – Interpret concepts and problems**

#### **Critical and Creative Thinking: Analysing: Interpret concepts and problems**

##### **Content description**

AC9TDE8K04

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify the relevant and significant aspects of a concept or problem, understanding that approaches may change depending on the subject or learning area
- 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
- identify the objective and subjective aspects of a complex concept or problem, with sensitivity to context

### **Snapshot – Identify, process and evaluate information**

#### **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

##### **Content description**

AC9TDE8K04

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual information and digital sources
- compare information and opinion that can be verified against claims based on personal preference
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the accuracy, validity and relevance of the information and opinion to the topic of study
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

## AC9TDE8K05

**analyse how of foods determine preparation and presentation techniques when designing solutions for healthy eating**

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### Elaborations

- analysing how First Nations Australians prepare foods for healthy eating, for example using cooking methods that improve edibility, such as removing bitterness to make yams more palatable, roasting bunya nuts to improve texture and flavour, and on many occasions, carefully selecting wood for roasting and smoking to complement the flavour of foods
- explaining how food preparation techniques impact on the , such as flavour, appearance, texture and aroma of food, for example the browning of cut fruit, the absorption of water when cooking rice, and the selection of timbers when smoking foods
- investigating the relationship between food preparation techniques and the impact on nutrient value including how a recipe can be modified to enhance health benefits, for example stir-frying, steaming vegetables, leaving skin on vegetables or removing skin from chicken
- analysing food preparation techniques used in different cultures including those from countries across and the impact of these on nutrient retention, , taste and palatability, for example stir-frying, steaming, poaching and using a wide variety of vegetables

Students learn to:

**analyse how properties of foods determine preparation and presentation techniques solutions for healthy eating**

(AC9TDE8K05)

### General capabilities and cross-curriculum priorities

This content description connects to the following general capabilities and cross-curriculum priorities.

#### Analysing

- Draw conclusions and provide reasons

#### Generating

- Consider alternatives

#### Inquiring

- Identify, process and evaluate information

#### Reading and viewing

- Understanding texts

#### Elaborations

Content elaborations provide suggestions of ways to teach the content description and connect it to general capabilities and cross-curriculum priorities. Content elaborations are optional .

#### People

- The significant and ongoing contributions of First Nations Australians and their histories and cultures are acknowledged locally, nationally and globally.

#### Analysing

- Interpret concepts and problems
- Draw conclusions and provide reasons

#### Inquiring

- Identify, process and evaluate information

## **Analysing**

- Draw conclusions and provide reasons

### **Knowing Asia and its diversity**

- The interrelationships between people and the diverse environments and systems across the Asia region have global implications.

### **Related content**

This content description can be taught with the following content descriptions from other learning areas.

AC9HP8P09

AC9HP8P10

### **Snapshot – Draw conclusions and provide reasons**

#### **Critical and Creative Thinking: Analysing: Draw conclusions and provide reasons**

##### **Content description**

AC9TDE8K05

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- draw conclusions and make choices when completing tasks, using discipline knowledge to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks by connecting evidence from within and across discipline areas to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks, using analysis of complex evidence and arguments before making recommendations

### **Snapshot – Consider alternatives**

#### **Critical and Creative Thinking: Generating: Consider alternatives**

##### **Content description**

AC9TDE8K05

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- consider alternatives by challenging or creatively adjusting existing ideas in situations where current approaches do not work and recommend a preferred option
- consider alternatives by creatively adapting ideas when information is limited or conflicting and recommend a preferred option
- consider alternatives by creatively revising and modifying ideas and recommendations when circumstances change

### **Snapshot – Identify, process and evaluate information**

#### **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

##### **Content description**

AC9TDE8K05

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual information and digital sources
- compare information and opinion that can be verified against claims based on personal preference
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the accuracy, validity and relevance of the information and opinion to the topic of study
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

### **Snapshot – Understanding texts**

#### **Literacy: Reading and viewing: Understanding texts**

##### **Content description**

AC9TDE8K05

## Learning progression extract

The following learning progression extract shows the alignment of the learning progression with this content.

### Comprehension

- reads and views complex texts (see Text complexity)
- identifies the main themes or concepts in complex texts by synthesising key ideas or information
- summarises the text, identifying key details only
- draws inferences, synthesising clues and evidence across a text
- builds meaning by actively linking ideas from a number of texts or a range of digital sources
- distils information from a number of texts according to task and purpose (e.g. uses graphic organisers)
- identifies different interpretations of the text citing evidence from a text
- evaluates language features for relevance to purpose and audience
- analyses texts that have more than one purpose and explains how parts of the text support a particular purpose
- analyses the use of language appropriate to different types of texts (e.g. compare the use of pun in imaginative and persuasive texts)
- identifies techniques used to obscure author's purpose (e.g. inclusion or omission of content)

### Processes

- uses processes such as predicting, confirming predictions, monitoring, and connecting relevant elements of the text to build or repair meaning
- uses knowledge of a broader range of cohesive devices to track meaning (e.g. word associations) (see Grammar)
- selects reading or viewing strategies appropriate to reading purpose (e.g. scans text for evidence)
- judiciously selects texts for learning area tasks and purposes

### Vocabulary

- identifies language used to create tone or atmosphere
- analyses language and visual features in texts using metalanguage (e.g. cohesion, interpretation, figurative)
- applies knowledge of base words and word origins to understand the meaning of unfamiliar, discipline-specific words
- uses a range of context and grammatical cues to understand unfamiliar words
- interprets complex figurative language (e.g. euphemisms, hyperbole)

### Comprehension

- reads and views complex or some highly complex texts (see Text complexity)
- interprets abstract concepts integrating complex ideas
- analyses how language features are used to support the point of view in a text (e.g. the strategic use of images such as a cartoon in an editorial)
- draws inferences using evidence from the text and discounting possible inferences that are not supported by the text
- applies and articulates criteria to evaluate the language structures and features for relevance to purpose and audience
- evaluates the reasoning and evidence in a persuasive text
- explains how context (e.g. time, place, situation) influences interpretations of a text
- analyses the author's perspectives in complex or some highly complex texts
- analyses the techniques authors use to position readers
- recognises when ideas or evidence have been omitted from a text to position the reader

### Processes

- automatically integrates a range of processes such as predicting, confirming predictions, monitoring and connecting relevant elements of the text, to build meaning
- describes how sophisticated cohesive devices establish patterns of meaning (e.g. "class" – "subclass")
- navigates extended texts including complex digital texts

### Vocabulary

- demonstrates an understanding of nuances and subtleties in words of similar meaning (e.g.

"frustrated", "discouraged", "baffled")

- verifies interpretations of unfamiliar words using grammatical and contextual cues

### **Comprehension**

- reads and views highly complex texts (see Text complexity)
- interprets symbolism in texts, providing evidence to justify interpretation
- judiciously selects and synthesises evidence from multiple texts to support ideas and arguments
- analyses the credibility and validity of primary and secondary sources
- evaluates the use of devices such as analogy, irony, rhetoric and satire, and how they contribute to an author's individual style
- analyses the cumulative impact of use of language features and vocabulary across texts
- explains assumptions, beliefs and implicit values in texts (e.g. "economic growth is always desirable")
- evaluates the social, moral and ethical positions taken in texts

### **Processes**

- strategically adjusts the processes of reading and viewing to build meaning according to the demands of tasks and texts
- identifies subtle contradictions and inconsistencies in texts

### **Vocabulary**

- interprets complex, formal and impersonal language in academic texts
- uses lexical cues to interpret unfamiliar vocabulary
- demonstrates self-reliance in exploration and application of word learning strategies

## **Snapshot – Interpret concepts and problems**

### **Critical and Creative Thinking: Analysing: Interpret concepts and problems**

#### **Content description**

AC9TDE8K05

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify the relevant and significant aspects of a concept or problem, understanding that approaches may change depending on the subject or learning area
- 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
- identify the objective and subjective aspects of a complex concept or problem, with sensitivity to context

## **Snapshot – Draw conclusions and provide reasons**

### **Critical and Creative Thinking: Analysing: Draw conclusions and provide reasons**

#### **Content description**

AC9TDE8K05

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- draw conclusions and make choices when completing tasks, using discipline knowledge to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks by connecting evidence from within and across discipline areas to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks, using analysis of complex evidence and arguments before making recommendations

## **Snapshot – Identify, process and evaluate information**

### **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

#### **Content description**

AC9TDE8K05

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual information and digital sources
- compare information and opinion that can be verified against claims based on personal preference

- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the accuracy, validity and relevance of the information and opinion to the topic of study
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

### **Snapshot – Draw conclusions and provide reasons**

## **Critical and Creative Thinking: Analysing: Draw conclusions and provide reasons**

### **Content description**

AC9TDE8K05

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- draw conclusions and make choices when completing tasks, using discipline knowledge to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks by connecting evidence from within and across discipline areas to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks, using analysis of complex evidence and arguments before making recommendations

### **AC9TDE8K06**

**analyse how and of materials, systems, components, tools and equipment can be combined to create**

- 
- 

### **Elaborations**

- investigating the significance of hafting in First Nations Australians' traditional toolkit, including how the and of materials are combined to create a designed solution, for example modern hatchets have seen little innovation since the hafted stone hatchet that combines the benefits of a lever and a wedge to create durable tools that reduce effort
- investigating aspects of technologies specialisations, for example in architecture, critiquing the design of an existing building to identify of or, in fashion, evaluating the sustainability of different
- investigating a broad range of technologies – tools, equipment, processes, materials, systems and components – when designing for a range of , for example analysing the benefits and disadvantages of building an animal shelter such as a dog kennel with wood, metal and synthetic fabric in terms of function, tools and equipment needed to produce it and expected durability
- considering the ways in which the and of technologies will impact on , for example the choice of building materials and housing design in Australia and a country in ; the of textile and fabrics that determine end use in a range of settings such as architecture, medicine, sport and automotive
- explaining safe work practices for using specific equipment or materials, for example producing a safety information video that details risk management practices for using tools or equipment including considering how the of some materials suit certain designs and may cause harm if manipulated in an unsafe way in the classroom or within a community such as ventilation when sanding timber
- testing and selecting the most appropriate hand tools, equipment, processes and materials to produce a , for example a stool or smartphone stand that can be assembled from bending and interlocking cardboard pieces or from wood using a laser cutter or other
- investigating carbon (reinforced polymers) and graphite which are strong, stiff, lightweight material used in specialised high-performance , for example on the design of sporting equipment

Students learn to:

**analyse how characteristics and properties of materials, systems, components, tools and equipment can be combined to create designed solutions**

(AC9TDE8K06)

### **General capabilities and cross-curriculum priorities**

This content description connects to the following general capabilities and cross-curriculum priorities.

## **Analysing**

- Draw conclusions and provide reasons

## **Generating**

- Consider alternatives

## **Inquiring**

- Identify, process and evaluate information

## **Reading and viewing**

- Understanding texts

## **Elaborations**

Content elaborations provide suggestions of ways to teach the content description and connect it to general capabilities and cross-curriculum priorities. Content elaborations are optional .

## **People**

- The significant and ongoing contributions of First Nations Australians and their histories and cultures are acknowledged locally, nationally and globally.

## **Analysing**

- Interpret concepts and problems
- Draw conclusions and provide reasons

## **Inquiring**

- Identify, process and evaluate information

## **Generating**

- Consider alternatives

## **Inquiring**

- Identify, process and evaluate information

## **Knowing Asia and its diversity**

- The interrelationships between people and the diverse environments and systems across the Asia region have global implications.

## **Analysing**

- Draw conclusions and provide reasons

## **Creating and exchanging**

- Create, communicate and collaborate

## **Generating**

- Put ideas into action

## **Inquiring**

- Identify, process and evaluate information

## **Related content**

This content description can be taught with the following content descriptions from other learning areas.

AC9S7U05

## **Snapshot – Draw conclusions and provide reasons**

### **Critical and Creative Thinking: Analysing: Draw conclusions and provide reasons**

#### **Content description**

AC9TDE8K06

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- draw conclusions and make choices when completing tasks, using discipline knowledge to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks by connecting evidence from within and across discipline areas to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks, using analysis of complex evidence and arguments before making recommendations

## **Snapshot – Consider alternatives**

### **Critical and Creative Thinking: Generating: Consider alternatives**

#### **Content description**



AC9TDE8K06

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- consider alternatives by challenging or creatively adjusting existing ideas in situations where current approaches do not work and recommend a preferred option
- consider alternatives by creatively adapting ideas when information is limited or conflicting and recommend a preferred option
- consider alternatives by creatively revising and modifying ideas and recommendations when circumstances change

### **Snapshot – Identify, process and evaluate information**

#### **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

### **Content description**

AC9TDE8K06

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual information and digital sources
- compare information and opinion that can be verified against claims based on personal preference
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the accuracy, validity and relevance of the information and opinion to the topic of study
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

### **Snapshot – Understanding texts**

#### **Literacy: Reading and viewing: Understanding texts**

### **Content description**

AC9TDE8K06

### **Learning progression extract**

The following learning progression extract shows the alignment of the learning progression with this content.

### **Comprehension**

- reads and views complex texts (see Text complexity)
- identifies the main themes or concepts in complex texts by synthesising key ideas or information
- summarises the text, identifying key details only
- draws inferences, synthesising clues and evidence across a text
- builds meaning by actively linking ideas from a number of texts or a range of digital sources
- distils information from a number of texts according to task and purpose (e.g. uses graphic organisers)
- identifies different interpretations of the text citing evidence from a text
- evaluates language features for relevance to purpose and audience
- analyses texts that have more than one purpose and explains how parts of the text support a particular purpose
- analyses the use of language appropriate to different types of texts (e.g. compare the use of pun in imaginative and persuasive texts)
- identifies techniques used to obscure author's purpose (e.g. inclusion or omission of content)

### **Processes**

- uses processes such as predicting, confirming predictions, monitoring, and connecting relevant elements of the text to build or repair meaning
- uses knowledge of a broader range of cohesive devices to track meaning (e.g. word associations) (see Grammar)
- selects reading or viewing strategies appropriate to reading purpose (e.g. scans text for evidence)
- judiciously selects texts for learning area tasks and purposes

### **Vocabulary**

- identifies language used to create tone or atmosphere
- analyses language and visual features in texts using metalanguage (e.g. cohesion, interpretation, figurative)
- applies knowledge of base words and word origins to understand the meaning of unfamiliar, discipline-specific words
- uses a range of context and grammatical cues to understand unfamiliar words
- interprets complex figurative language (e.g. euphemisms, hyperbole)

### **Comprehension**

- reads and views complex or some highly complex texts (see Text complexity)
- interprets abstract concepts integrating complex ideas
- analyses how language features are used to support the point of view in a text (e.g. the strategic use of images such as a cartoon in an editorial)
- draws inferences using evidence from the text and discounting possible inferences that are not supported by the text
- applies and articulates criteria to evaluate the language structures and features for relevance to purpose and audience
- evaluates the reasoning and evidence in a persuasive text
- explains how context (e.g. time, place, situation) influences interpretations of a text
- analyses the author's perspectives in complex or some highly complex texts
- analyses the techniques authors use to position readers
- recognises when ideas or evidence have been omitted from a text to position the reader

### **Processes**

- automatically integrates a range of processes such as predicting, confirming predictions, monitoring and connecting relevant elements of the text, to build meaning
- describes how sophisticated cohesive devices establish patterns of meaning (e.g. "class" – "subclass")
- navigates extended texts including complex digital texts

### **Vocabulary**

- demonstrates an understanding of nuances and subtleties in words of similar meaning (e.g. "frustrated", "discouraged", "baffled")
- verifies interpretations of unfamiliar words using grammatical and contextual cues

### **Comprehension**

- reads and views highly complex texts (see Text complexity)
- interprets symbolism in texts, providing evidence to justify interpretation
- judiciously selects and synthesises evidence from multiple texts to support ideas and arguments
- analyses the credibility and validity of primary and secondary sources
- evaluates the use of devices such as analogy, irony, rhetoric and satire, and how they contribute to an author's individual style
- analyses the cumulative impact of use of language features and vocabulary across texts
- explains assumptions, beliefs and implicit values in texts (e.g. "economic growth is always desirable")
- evaluates the social, moral and ethical positions taken in texts

### **Processes**

- strategically adjusts the processes of reading and viewing to build meaning according to the demands of tasks and texts
- identifies subtle contradictions and inconsistencies in texts

### **Vocabulary**

- interprets complex, formal and impersonal language in academic texts
- uses lexical cues to interpret unfamiliar vocabulary
- demonstrates self-reliance in exploration and application of word learning strategies

## **Snapshot – Interpret concepts and problems**

### **Critical and Creative Thinking: Analysing: Interpret concepts and problems**

#### **Content description**

AC9TDE8K06

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify the relevant and significant aspects of a concept or problem, understanding that approaches may change depending on the subject or learning area
- 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
- identify the objective and subjective aspects of a complex concept or problem, with sensitivity to context

### **Snapshot – Draw conclusions and provide reasons**

#### **Critical and Creative Thinking: Analysing: Draw conclusions and provide reasons**

##### **Content description**

AC9TDE8K06

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- draw conclusions and make choices when completing tasks, using discipline knowledge to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks by connecting evidence from within and across discipline areas to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks, using analysis of complex evidence and arguments before making recommendations

### **Snapshot – Identify, process and evaluate information**

#### **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

##### **Content description**

AC9TDE8K06

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual information and digital sources
- compare information and opinion that can be verified against claims based on personal preference
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the accuracy, validity and relevance of the information and opinion to the topic of study
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

### **Snapshot – Consider alternatives**

#### **Critical and Creative Thinking: Generating: Consider alternatives**

##### **Content description**

AC9TDE8K06

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- consider alternatives by challenging or creatively adjusting existing ideas in situations where current approaches do not work and recommend a preferred option
- consider alternatives by creatively adapting ideas when information is limited or conflicting and recommend a preferred option
- consider alternatives by creatively revising and modifying ideas and recommendations when circumstances change

### **Snapshot – Identify, process and evaluate information**

#### **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

##### **Content description**

AC9TDE8K06

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual

information and digital sources

- compare information and opinion that can be verified against claims based on personal preference
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the accuracy, validity and relevance of the information and opinion to the topic of study
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

### **Snapshot – Draw conclusions and provide reasons**

#### **Critical and Creative Thinking: Analysing: Draw conclusions and provide reasons**

##### **Content description**

AC9TDE8K06

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- draw conclusions and make choices when completing tasks, using discipline knowledge to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks by connecting evidence from within and across discipline areas to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks, using analysis of complex evidence and arguments before making recommendations

### **Snapshot – Create, communicate and collaborate**

#### **Digital Literacy: Creating and exchanging: Create, communicate and collaborate**

##### **Content description**

AC9TDE8K06

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- select and control a variety of features in appropriate digital tools to create content and communicate and collaborate with trusted groups
- select and control advanced features of appropriate digital tools to independently create content and effectively communicate and collaborate with wider groups
- select and control the features of digital tools to purposefully create content and effectively communicate and collaborate, inclusive of diverse groups

### **Snapshot – Put ideas into action**

#### **Critical and Creative Thinking: Generating: Put ideas into action**

##### **Content description**

AC9TDE8K06

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- put ideas into action by predicting potential or future outcomes and systematically testing a range of options
- put ideas into action by making predictions, testing and evaluating options, and reconsidering approaches in complex or unfamiliar situations
- put ideas into action by making predictions, testing and evaluating options, proposing modifications and adapting approaches in complex or unfamiliar situations

### **Snapshot – Identify, process and evaluate information**

#### **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

##### **Content description**

AC9TDE8K06

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual information and digital sources
- compare information and opinion that can be verified against claims based on personal preference

- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the accuracy, validity and relevance of the information and opinion to the topic of study
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

## **AC9TDE8K01**

**analyse how people in design and technologies occupations consider ethical and sustainability factors to design and produce , and**

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### **Elaborations**

- researching current information on animal welfare when designing an animal shelter or researching intellectual property or the significance of offshore manufacturing in a country in when designing a 3D printed
- investigating traditional and contemporary design and technologies, including from countries across , and predicting how they might change or be sustained in the future in response to technological, environmental or economic change, for example the production of contemporary textile designs using traditional batik techniques and modern dyes in Indonesia
- comparing the design and production of , and in Australia and a country in by identifying needs and new opportunities for design and enterprise, for example design, promotion and marketing of a Western Australian wheat variety especially bred and grown for the making of udon noodles in Japan
- researching the rights and responsibilities of those working in design and technologies occupations, for example taking into account First Nations Australian protocols and Indigenous cultural and intellectual property rights
- analysing the ethical and social requirements when designing solutions for cultural groups including their involvement and consultation, for example designing a solution with community members from other cultural backgrounds or those who usually communicate in a language other than English

Students learn to:

**analyse how people in design and technologies occupations consider ethical and s factors to design and produce products, services and environments**

(AC9TDE8K01)

### **General capabilities and cross-curriculum priorities**

This content description connects to the following general capabilities and cross-curriculum priorities.

#### **Responding to ethical issues**

- Explore ethical issues
- Making and reflecting on ethical decisions

#### **Understanding ethical concepts and perspectives**

- Explore ethical concepts

#### **Design**

- Sustainable design requires an awareness of place, past practices, research and technological developments, and balanced judgements based on projected environmental, social and economic impacts.

### **Elaborations**

Content elaborations provide suggestions of ways to teach the content description and connect it to general capabilities and cross-curriculum priorities. Content elaborations are optional .

#### **Inquiring**

- Identify, process and evaluate information

#### **Understanding Asia's global significance**

- The peoples of Asia shape human endeavour through aesthetic, creative, political, sporting, economic, technological and scientific domains.

#### **Inquiring**

- Identify, process and evaluate information

## **Understanding Asia's global significance**

- The peoples of Asia shape human endeavour through aesthetic, creative, political, sporting, economic, technological and scientific domains.

### **Inquiring**

- Identify, process and evaluate information

## **Understanding Asia's global significance**

- The peoples of Asia shape human endeavour through aesthetic, creative, political, sporting, economic, technological and scientific domains.

## **Understanding ethical concepts and perspectives**

- Examine values, rights and responsibilities and ethical norms

## **Navigating intercultural contexts**

- Adapt in intercultural exchanges

## **Culture**

- First Nations Australian societies are diverse and have distinct cultural expressions such as language, customs and beliefs. As First Nations Peoples of Australia, they have the right to maintain, control, protect and develop their cultural expressions, while also maintaining the right to control, protect and develop culture as Indigenous Cultural and Intellectual Property.

### **Inquiring**

- Identify, process and evaluate information

## **Understanding ethical concepts and perspectives**

- Examine values, rights and responsibilities and ethical norms

## **Resources**

## **Work Samples**

### **WS01 - Design project: Desktop lamp**

#### **AC9TDE8P01**

**analyse needs or opportunities for designing, and investigate and select materials, components, tools, equipment and processes to create**

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### **Elaborations**

- considering First Nations Australian community needs when identifying opportunities for designing, for example considering the needs of local groups when designing energy supply or community housing solutions in areas classified as remote
- considering community needs when identifying opportunities for designing, for example gardens for a community centre, cost-effective food service for a sport club
- experimenting with traditional and contemporary technologies when developing designs, and discovering the advantages and disadvantages of each approach, for example comparing a hand-sewn with one produced using a sewing machine
- investigating emerging technologies and their potential impact on design decisions, for example flame-retardant fabrics, self-healing materials, virtual reality or aquaponics
- examining, testing and selecting a variety of suitable materials, components, tools and equipment for each design project, for example the durability differences between natural and plantation softwood timbers, which determine their suitability for interior or exterior use
- analysing the viability of using different techniques and materials in areas considered remote, isolated areas or less developed countries and selecting appropriate materials to acknowledge sustainability needs by using
- creating a survey to determine students' food choices and developing a range of healthy food items such as snacks, juices, breakfast or nourish bowls such as a Buddha bowl which could be sold at the school canteen

Students learn to:

**analyse needs or opportunities for designing, and investigate and select materials, tools, equipment and processes to create designed solutions**

(AC9TDE8P01)

## **General capabilities and cross-curriculum priorities**

This content description connects to the following general capabilities and cross-curriculum

priorities.

### **Generating**

- Create possibilities
- Consider alternatives
- Put ideas into action

### **Elaborations**

Content elaborations provide suggestions of ways to teach the content description and connect it to general capabilities and cross-curriculum priorities. Content elaborations are optional .

### **Engaging with cultural and linguistic diversity**

- Develop empathy

### **People**

- The significant and ongoing contributions of First Nations Australians and their histories and cultures are acknowledged locally, nationally and globally.

### **Generating**

- Consider alternatives

### **Generating**

- Put ideas into action

### **Analysing**

- Interpret concepts and problems

### **Inquiring**

- Identify, process and evaluate information

### **Generating**

- Put ideas into action

### **Analysing**

- Interpret concepts and problems

### **Inquiring**

- Develop questions

### **Snapshot – Create possibilities**

#### **Critical and Creative Thinking: Generating: Create possibilities**

##### **Content description**

AC9TDE8P01

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- create possibilities by changing, combining, or elaborating on new and known ideas in a variety of creative ways
- create possibilities by adapting, combining or elaborating on new and known ideas, and proposing a range of different or creative combinations
- create possibilities by connecting or adapting complex ideas and proposing innovative and detailed variations or combinations

### **Snapshot – Consider alternatives**

#### **Critical and Creative Thinking: Generating: Consider alternatives**

##### **Content description**

AC9TDE8P01

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- consider alternatives by challenging or creatively adjusting existing ideas in situations where current approaches do not work and recommend a preferred option
- consider alternatives by creatively adapting ideas when information is limited or conflicting and recommend a preferred option
- consider alternatives by creatively revising and modifying ideas and recommendations when circumstances change

### **Snapshot – Put ideas into action**

#### **Critical and Creative Thinking: Generating: Put ideas into action**

## **Content description**

AC9TDE8P01

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- put ideas into action by predicting potential or future outcomes and systematically testing a range of options
- put ideas into action by making predictions, testing and evaluating options, and reconsidering approaches in complex or unfamiliar situations
- put ideas into action by making predictions, testing and evaluating options, proposing modifications and adapting approaches in complex or unfamiliar situations

## **Snapshot – Develop empathy**

### **Intercultural Understanding: Engaging with cultural and linguistic diversity: Deve**

## **Content description**

AC9TDE8P01

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- examine how showing empathy during intercultural experiences supports relationship-building and sustains respectful interactions
- use perspective-taking, mutual understanding and respect to sustain interactions in diverse intercultural experiences
- analyse diverse experiences of intercultural contexts, understanding how these contexts influence their own and others' feelings, motivations and actions

## **Snapshot – Consider alternatives**

### **Critical and Creative Thinking: Generating: Consider alternatives**

## **Content description**

AC9TDE8P01

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- consider alternatives by challenging or creatively adjusting existing ideas in situations where current approaches do not work and recommend a preferred option
- consider alternatives by creatively adapting ideas when information is limited or conflicting and recommend a preferred option
- consider alternatives by creatively revising and modifying ideas and recommendations when circumstances change

## **Snapshot – Put ideas into action**

### **Critical and Creative Thinking: Generating: Put ideas into action**

## **Content description**

AC9TDE8P01

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- put ideas into action by predicting potential or future outcomes and systematically testing a range of options
- put ideas into action by making predictions, testing and evaluating options, and reconsidering approaches in complex or unfamiliar situations
- put ideas into action by making predictions, testing and evaluating options, proposing modifications and adapting approaches in complex or unfamiliar situations

## **Snapshot – Interpret concepts and problems**

### **Critical and Creative Thinking: Analysing: Interpret concepts and problems**

## **Content description**

AC9TDE8P01

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify the relevant and significant aspects of a concept or problem, understanding that



approaches may change depending on the subject or learning area

- 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
- identify the objective and subjective aspects of a complex concept or problem, with sensitivity to context

### **Snapshot – Identify, process and evaluate information**

#### **Critical and Creative Thinking: Inquiring: Identify, process and evaluate information**

##### **Content description**

AC9TDE8P01

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify and examine relevant information and opinion from a range of sources, including visual information and digital sources
- compare information and opinion that can be verified against claims based on personal preference
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the accuracy, validity and relevance of the information and opinion to the topic of study
- identify and clarify significant information and opinion from a range of sources, including visual information and digital sources
- evaluate the information selected to determine bias and reliability

### **Snapshot – Put ideas into action**

#### **Critical and Creative Thinking: Generating: Put ideas into action**

##### **Content description**

AC9TDE8P01

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- put ideas into action by predicting potential or future outcomes and systematically testing a range of options
- put ideas into action by making predictions, testing and evaluating options, and reconsidering approaches in complex or unfamiliar situations
- put ideas into action by making predictions, testing and evaluating options, proposing modifications and adapting approaches in complex or unfamiliar situations

### **Snapshot – Interpret concepts and problems**

#### **Critical and Creative Thinking: Analysing: Interpret concepts and problems**

##### **Content description**

AC9TDE8P01

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- identify the relevant and significant aspects of a concept or problem, understanding that approaches may change depending on the subject or learning area
- 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
- identify the objective and subjective aspects of a complex concept or problem, with sensitivity to context

### **Snapshot – Develop questions**

#### **Critical and Creative Thinking: Inquiring: Develop questions**

##### **Content description**

AC9TDE8P01

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- develop questions to examine unfamiliar ideas and topics
- questions developed focus on improving understanding about a topic and clarifying information about processes or procedures

- develop questions to investigate complex issues and topics
- questions developed assist in forming an understanding of why phenomena or issues arise
- develop questions to investigate complex issues and topics
- questions developed facilitate increasing understanding of abstract ideas and concepts

## **AC9TDE8P02**

**generate, test, iterate and communicate design ideas, processes and solutions using technical terms and , including using**

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### **Elaborations**

- using a variety of strategies such as brainstorming, sketching, 3D and experimenting to generate innovative design ideas to present to others
- considering which ideas to further explore and investigating the benefits and drawbacks of ideas including identifying factors that may hinder or enhance project development, for example using digital polling to capture the views of different groups in the community to inform the production of a solution designed with intercultural understanding
- developing , prototypes or samples using a range of materials, tools and equipment to test the of ideas
- producing annotated concept sketches and drawings, using technical terms, scale, symbols, to draw ; , , ; patterns and templates to explain design ideas
- documenting and communicating the generation and development and selection of design ideas for an intended audience, for example developing a digital portfolio with images and text which clearly communicate each step of a

Students learn to:

**generate, test, iterate and communicate design ideas, processes and solutions using and graphical representation techniques, including using digital tools**

(AC9TDE8P02)

### **General capabilities and cross-curriculum priorities**

This content description connects to the following general capabilities and cross-curriculum priorities.

#### **Generating**

- Create possibilities
- Consider alternatives
- Put ideas into action

#### **Creating and exchanging**

- Plan
- Create, communicate and collaborate

### **Elaborations**

Content elaborations provide suggestions of ways to teach the content description and connect it to general capabilities and cross-curriculum priorities. Content elaborations are optional .

#### **Generating**

- Create possibilities

#### **Measurement and geometry**

- Understanding geometric properties

#### **Generating**

- Create possibilities
- Consider alternatives

#### **Creating and exchanging**

- Plan

#### **Generating**

- Put ideas into action

#### **Generating**

- Create possibilities

#### **Measurement and geometry**

- Positioning and locating
- Understanding geometric properties

### **Creating and exchanging**

- Create, communicate and collaborate

### **Related content**

This content description can be taught with the following content descriptions from other learning areas.

AC9M7SP01

AC9M8M06

AC9M8SP01

AC9M8SP02

AC9M8SP03

### **Resources**

### **Work Samples**

## **WS01 - Design project: Desktop lamp**

### **Snapshot – Create possibilities**

#### **Critical and Creative Thinking: Generating: Create possibilities**

##### **Content description**

AC9TDE8P02

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- create possibilities by changing, combining, or elaborating on new and known ideas in a variety of creative ways
- create possibilities by adapting, combining or elaborating on new and known ideas, and proposing a range of different or creative combinations
- create possibilities by connecting or adapting complex ideas and proposing innovative and detailed variations or combinations

### **Snapshot – Consider alternatives**

#### **Critical and Creative Thinking: Generating: Consider alternatives**

##### **Content description**

AC9TDE8P02

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- consider alternatives by challenging or creatively adjusting existing ideas in situations where current approaches do not work and recommend a preferred option
- consider alternatives by creatively adapting ideas when information is limited or conflicting and recommend a preferred option
- consider alternatives by creatively revising and modifying ideas and recommendations when circumstances change

### **Snapshot – Put ideas into action**

#### **Critical and Creative Thinking: Generating: Put ideas into action**

##### **Content description**

AC9TDE8P02

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- put ideas into action by predicting potential or future outcomes and systematically testing a range of options
- put ideas into action by making predictions, testing and evaluating options, and reconsidering approaches in complex or unfamiliar situations
- put ideas into action by making predictions, testing and evaluating options, proposing modifications and adapting approaches in complex or unfamiliar situations

### **Snapshot – Plan**

#### **Digital Literacy: Creating and exchanging: Plan**

## **Content description**

AC9TDE8P02

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- select and use digital tools to develop and follow a plan to complete individual tasks and group projects
- use simple planning tools to develop and follow a plan to complete individual and collaborative projects
- use project management tools to develop and track a plan to complete individual and collaborative projects

## **Snapshot – Create, communicate and collaborate**

### **Digital Literacy: Creating and exchanging: Create, communicate and collaborate**

## **Content description**

AC9TDE8P02

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- select and control a variety of features in appropriate digital tools to create content and communicate and collaborate with trusted groups
- select and control advanced features of appropriate digital tools to independently create content and effectively communicate and collaborate with wider groups
- select and control the features of digital tools to purposefully create content and effectively communicate and collaborate, inclusive of diverse groups

## **Snapshot – Create possibilities**

### **Critical and Creative Thinking: Generating: Create possibilities**

## **Content description**

AC9TDE8P02

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- create possibilities by changing, combining, or elaborating on new and known ideas in a variety of creative ways
- create possibilities by adapting, combining or elaborating on new and known ideas, and proposing a range of different or creative combinations
- create possibilities by connecting or adapting complex ideas and proposing innovative and detailed variations or combinations

## **Snapshot – Understanding geometric properties**

### **Numeracy: Measurement and geometry: Understanding geometric properties**

## **Content description**

AC9TDE8P02

### **Learning progression extract**

The following learning progression extract shows the alignment of the learning progression with this content.

#### **Properties of shapes and objects**

- classifies three-dimensional objects according to their properties (e.g. describes the difference between a triangular prism and a triangular pyramid)
- creates two-dimensional nets for pyramids and prisms

#### **Transformations**

- uses combinations of reflecting, translating and rotating shapes to describe and create patterns and solve problems
- identifies tessellations used in the environment and explains why some combinations of shapes will tessellate while others will not (e.g. tiling a wall using a combination of different shaped tiles; exploring regular and semi-regular tessellations in architectural design)
- explains the result of changing critical and non-critical properties of shapes (e.g. "if I enlarge a square, it's still a square, or if I rotate a square, it remains a square, but if I change the

length of one of its sides, it's no longer a square")

### **Angles**

- identifies supplementary and complementary angles and uses them to solve problems
- identifies that angles at a point add to 360° and that vertically opposite angles are equal and reasons to solve problems

### **Properties of shapes and objects**

- investigates and uses reasoning to explain the properties of a triangle (e.g. explains why the longest side is always opposite the largest angle in a triangle; recognises that the combined length of 2 sides of a triangle must always be greater than the length of the third side)
- uses relevant properties of common geometrical shapes to determine unknown lengths and angles

### **Transformations**

- enlarges and reduces shapes according to a given scale factor and explains what features change and what stay the same (e.g. says 'when I double the dimensions of the rectangle, all of the lengths are twice as long as they were, but the size of the angles stay the same')
- applies angle properties to solve problems that involve the transformation of shapes and objects and how they are used in practice (e.g. determines which shapes tessellate)

### **Angles**

- uses angle properties to identify perpendicular and parallel lines (e.g. develops a computer-aided design drawing involving the creation of parallel and perpendicular lines)
- demonstrates that the angle sum of a triangle is 180° and uses this to solve problems
- identifies interior angles in shapes to calculate angle sum
- uses angle properties to identify and calculate unknown angles in familiar two-dimensional shapes

### **Geometric properties**

- uses Pythagoras' theorem to solve right-angled triangle problems
- determines the conditions for triangles to be similar
- determines the conditions for triangles to be congruent

### **Transformations**

- uses the enlargement transformation to explain similarity and develop the conditions for triangles to be similar
- solves problems using ratio and scale factors in similar figures

### **Angles**

- uses angle properties to reason geometrically, in order to solve spatial problems (e.g. applies an understanding of the relationship between the base angles of an isosceles triangle to determine the size of a similar shape in order to solve a problem)
- uses trigonometry to calculate the unknown angles and unknown distances in authentic problems (e.g. measures the height of a tree using a clinometer to measure the angle of inclination and trigonometry to approximate the vertical height; calculates the angle of inclination for a ramp)

## **Snapshot – Create possibilities**

### **Critical and Creative Thinking: Generating: Create possibilities**

#### **Content description**

AC9TDE8P02

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- create possibilities by changing, combining, or elaborating on new and known ideas in a variety of creative ways
- create possibilities by adapting, combining or elaborating on new and known ideas, and proposing a range of different or creative combinations
- create possibilities by connecting or adapting complex ideas and proposing innovative and detailed variations or combinations

## **Snapshot – Consider alternatives**

### **Critical and Creative Thinking: Generating: Consider alternatives**

#### **Content description**

AC9TDE8P02

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- consider alternatives by challenging or creatively adjusting existing ideas in situations where current approaches do not work and recommend a preferred option
- consider alternatives by creatively adapting ideas when information is limited or conflicting and recommend a preferred option
- consider alternatives by creatively revising and modifying ideas and recommendations when circumstances change

### **Snapshot – Plan**

## **Digital Literacy: Creating and exchanging: Plan**

### **Content description**

AC9TDE8P02

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- select and use digital tools to develop and follow a plan to complete individual tasks and group projects
- use simple planning tools to develop and follow a plan to complete individual and collaborative projects
- use project management tools to develop and track a plan to complete individual and collaborative projects

### **Snapshot – Put ideas into action**

## **Critical and Creative Thinking: Generating: Put ideas into action**

### **Content description**

AC9TDE8P02

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- put ideas into action by predicting potential or future outcomes and systematically testing a range of options
- put ideas into action by making predictions, testing and evaluating options, and reconsidering approaches in complex or unfamiliar situations
- put ideas into action by making predictions, testing and evaluating options, proposing modifications and adapting approaches in complex or unfamiliar situations

### **Snapshot – Create possibilities**

## **Critical and Creative Thinking: Generating: Create possibilities**

### **Content description**

AC9TDE8P02

### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- create possibilities by changing, combining, or elaborating on new and known ideas in a variety of creative ways
- create possibilities by adapting, combining or elaborating on new and known ideas, and proposing a range of different or creative combinations
- create possibilities by connecting or adapting complex ideas and proposing innovative and detailed variations or combinations

### **Snapshot – Positioning and locating**

## **Numeracy: Measurement and geometry: Positioning and locating**

### **Content description**

AC9TDE8P02

### **Learning progression extract**

The following learning progression extract shows the alignment of the learning progression with this content.

### **Using formal maps and plans**

- locates position on maps using grid references (e.g. locates the school in cell E5; uses grid references to identify specific locations on a stage and when creating a stage plan, lighting design

or prompt script)

- describes routes using landmarks and directional language including reference to quarter, half, three-quarter turns; turns to the left and right; clockwise and anticlockwise turns (e.g. communicates strategic plays in relation to coaching a team game or sport)
- interprets keys, simple scales and compass directions contained within a map to locate features (e.g. uses a map and compass directions when bush walking or orienteering)

### **Using proportional thinking for scaling**

- interprets the scale used to create plans, drawings or maps (e.g. interprets scale to determine the approximate distance between two locations when orienteering)
- interprets and uses plans and maps involving scale (e.g. creates and interprets scale drawings when designing and making set pieces for a production)
- describes and interprets maps to determine the geographical location and positioning of states and territories within Australia and of countries relative to Australia
- interprets and uses more formal directional language such as compass bearings, degrees of turn, coordinates and distances to locate position or the distance from one location to another (e.g. identifies coordinates using GPS technologies)

## **Snapshot – Understanding geometric properties**

### **Numeracy: Measurement and geometry: Understanding geometric properties**

#### **Content description**

AC9TDE8P02

#### **Learning progression extract**

The following learning progression extract shows the alignment of the learning progression with this content.

#### **Properties of shapes and objects**

- classifies three-dimensional objects according to their properties (e.g. describes the difference between a triangular prism and a triangular pyramid)
- creates two-dimensional nets for pyramids and prisms

#### **Transformations**

- uses combinations of reflecting, translating and rotating shapes to describe and create patterns and solve problems
- identifies tessellations used in the environment and explains why some combinations of shapes will tessellate while others will not (e.g. tiling a wall using a combination of different shaped tiles; exploring regular and semi-regular tessellations in architectural design)
- explains the result of changing critical and non-critical properties of shapes (e.g. "if I enlarge a square, it's still a square, or if I rotate a square, it remains a square, but if I change the length of one of its sides, it's no longer a square")

#### **Angles**

- identifies supplementary and complementary angles and uses them to solve problems
- identifies that angles at a point add to 360° and that vertically opposite angles are equal and reasons to solve problems

#### **Properties of shapes and objects**

- investigates and uses reasoning to explain the properties of a triangle (e.g. explains why the longest side is always opposite the largest angle in a triangle; recognises that the combined length of 2 sides of a triangle must always be greater than the length of the third side)
- uses relevant properties of common geometrical shapes to determine unknown lengths and angles

#### **Transformations**

- enlarges and reduces shapes according to a given scale factor and explains what features change and what stay the same (e.g. says 'when I double the dimensions of the rectangle, all of the lengths are twice as long as they were, but the size of the angles stay the same')
- applies angle properties to solve problems that involve the transformation of shapes and objects and how they are used in practice (e.g. determines which shapes tessellate)

#### **Angles**

- uses angle properties to identify perpendicular and parallel lines (e.g. develops a computer-aided design drawing involving the creation of parallel and perpendicular lines)
- demonstrates that the angle sum of a triangle is 180° and uses this to solve problems

- identifies interior angles in shapes to calculate angle sum
- uses angle properties to identify and calculate unknown angles in familiar two-dimensional shapes

### **Geometric properties**

- uses Pythagoras' theorem to solve right-angled triangle problems
- determines the conditions for triangles to be similar
- determines the conditions for triangles to be congruent

### **Transformations**

- uses the enlargement transformation to explain similarity and develop the conditions for triangles to be similar
- solves problems using ratio and scale factors in similar figures

### **Angles**

- uses angle properties to reason geometrically, in order to solve spatial problems (e.g. applies an understanding of the relationship between the base angles of an isosceles triangle to determine the size of a similar shape in order to solve a problem)
- uses trigonometry to calculate the unknown angles and unknown distances in authentic problems (e.g. measures the height of a tree using a clinometer to measure the angle of inclination and trigonometry to approximate the vertical height; calculates the angle of inclination for a ramp)

## **Snapshot – Create, communicate and collaborate**

### **Digital Literacy: Creating and exchanging: Create, communicate and collaborate**

#### **Content description**

AC9TDE8P02

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- select and control a variety of features in appropriate digital tools to create content and communicate and collaborate with trusted groups
- select and control advanced features of appropriate digital tools to independently create content and effectively communicate and collaborate with wider groups
- select and control the features of digital tools to purposefully create content and effectively communicate and collaborate, inclusive of diverse groups

## **Resource – WS01 - Design project: Desktop lamp**

## **Page not found**

We can't find this page. Sorry for the inconvenience.

Please use search to find another page or browse from the home page .

## **AC9TDE8P03**

### **select, justify and use suitable materials, components, tools, equipment, skills and processes to safely make**

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#### **Elaborations**

- developing innovative ways of manipulating technologies by comparing and choosing the most appropriate options to design a solution using traditional or contemporary materials, components, tools, equipment and techniques and considering alternatives including emerging technologies that could be substituted to reduce waste or time
- practising techniques to improve expertise, for example handling animals, cutting and joining materials such as metal, textiles, timber
- developing technical production skills (techniques) and safe independent inclusive working practices to produce quality solutions designed for sustainability
- identifying and managing risks in the development of various projects, for example working safely,



responsibly, cooperatively and ethically on design projects; assessing and responding to uncertainty and risk in relation to long-term health and environmental impacts, for example ensuring appropriate ( ) is worn or that ventilation is appropriate where solvents, glues or 3D printers are used

- considering how to improve technical expertise required to use tools or equipment needed to design a solution, for example using an online tutorial to learn to use software for design or production

Students learn to:

**select, justify and use suitable materials, components, tools, equipment, skills and safely make designed solutions**

(AC9TDE8P03)

### **General capabilities and cross-curriculum priorities**

This content description connects to the following general capabilities and cross-curriculum priorities.

#### **Analysing**

- Draw conclusions and provide reasons

#### **Generating**

- Put ideas into action

#### **Self-management**

- Perseverance and adaptability

#### **Elaborations**

Content elaborations provide suggestions of ways to teach the content description and connect it to general capabilities and cross-curriculum priorities. Content elaborations are optional .

#### **Analysing**

- Draw conclusions and provide reasons

#### **Generating**

- Create possibilities

#### **Self-management**

- Perseverance and adaptability

#### **Managing and operating**

- Select and operate tools

#### **Self-management**

- Goal setting

### **Snapshot – Draw conclusions and provide reasons**

**Critical and Creative Thinking: Analysing: Draw conclusions and provide reasons**

#### **Content description**

AC9TDE8P03

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- draw conclusions and make choices when completing tasks, using discipline knowledge to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks by connecting evidence from within and across discipline areas to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks, using analysis of complex evidence and arguments before making recommendations

### **Snapshot – Put ideas into action**

**Critical and Creative Thinking: Generating: Put ideas into action**

#### **Content description**

AC9TDE8P03

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- put ideas into action by predicting potential or future outcomes and systematically testing a range of options
- put ideas into action by making predictions, testing and evaluating options, and reconsidering approaches in complex or unfamiliar situations

- put ideas into action by making predictions, testing and evaluating options, proposing modifications and adapting approaches in complex or unfamiliar situations

### **Snapshot – Perseverance and adaptability**

#### **Personal and Social capability: Self-management: Perseverance and adaptability**

##### **Content description**

AC9TDE8P03

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- adapt approaches to tasks to support perseverance when faced with challenging or unfamiliar tasks
- select, apply and refine strategies to persevere when faced with unexpected or challenging contexts
- devise, evaluate and adapt strategies to engage with unexpected or challenging situations

### **Snapshot – Draw conclusions and provide reasons**

#### **Critical and Creative Thinking: Analysing: Draw conclusions and provide reasons**

##### **Content description**

AC9TDE8P03

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- draw conclusions and make choices when completing tasks, using discipline knowledge to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks by connecting evidence from within and across discipline areas to provide reasons and evaluate arguments for choices made
- draw conclusions and make choices when completing tasks, using analysis of complex evidence and arguments before making recommendations

### **Snapshot – Create possibilities**

#### **Critical and Creative Thinking: Generating: Create possibilities**

##### **Content description**

AC9TDE8P03

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- create possibilities by changing, combining, or elaborating on new and known ideas in a variety of creative ways
- create possibilities by adapting, combining or elaborating on new and known ideas, and proposing a range of different or creative combinations
- create possibilities by connecting or adapting complex ideas and proposing innovative and detailed variations or combinations

### **Snapshot – Perseverance and adaptability**

#### **Personal and Social capability: Self-management: Perseverance and adaptability**

##### **Content description**

AC9TDE8P03

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- adapt approaches to tasks to support perseverance when faced with challenging or unfamiliar tasks
- select, apply and refine strategies to persevere when faced with unexpected or challenging contexts
- devise, evaluate and adapt strategies to engage with unexpected or challenging situations

### **Snapshot – Select and operate tools**

#### **Digital Literacy: Managing and operating: Select and operate tools**

##### **Content description**

AC9TDE8P03

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- select and use the core features of digital tools to efficiently complete tasks
- troubleshoot basic problems and identify repetitive tasks to automate
- select and use the advanced or unfamiliar features of digital tools to efficiently complete tasks
- troubleshoot common problems and automate repetitive tasks
- select and operate advanced and emerging digital tools confidently
- troubleshoot common problems systematically and seek to improve efficiency by developing new skills

## **Snapshot – Goal setting**

### **Personal and Social capability: Self-management: Goal setting**

#### **Content description**

AC9TDE8P03

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- select and use strategies to monitor own learning and refine goals to plan for further improvement
- use and refine strategies that contribute to regulating behaviour and achieving learning goals
- adapt goals and plans, and apply strategies, evaluating their suitability and effectiveness

## **AC9TDE8P04**

### **develop collaboratively including sustainability to evaluate design ideas, processes and solutions**

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#### **Elaborations**

- developing collaboratively to evaluate in terms of accessibility, , and sustainability, for example recording design goals from people interviewed as prospective users of the finished , service or or including life cycle assessment criteria
- developing including Safety by Design principles, for example do the ideas promote safety through prevention, protection and proactive change
- re-evaluating, iterating and modifying to improve efficiency and increase production, for example when mass producing a for an enterprise or improving sustainability
- evaluating and processes and transferring new knowledge and skills to future design projects, for example considering project planning skills learnt in producing an engineered and using them in future projects

Students learn to:

### **develop design criteria collaboratively including sustainability to evaluate design ideas and solutions**

(AC9TDE8P04)

#### **General capabilities and cross-curriculum priorities**

This content description connects to the following general capabilities and cross-curriculum priorities.

#### **Analysing**

- Evaluate actions and outcomes

#### **Design**

- Sustainable design requires an awareness of place, past practices, research and technological developments, and balanced judgements based on projected environmental, social and economic impacts.

#### **Elaborations**

Content elaborations provide suggestions of ways to teach the content description and connect it to general capabilities and cross-curriculum priorities. Content elaborations are optional .

#### **Analysing**

- Evaluate actions and outcomes

#### **Analysing**

- Evaluate actions and outcomes

#### **Analysing**

- Evaluate actions and outcomes

#### **Generating**

- Consider alternatives

- Put ideas into action

## **Design**

- Sustainably designed products, environments and services aim to minimise the impact on or restore the quality and diversity of environmental, social and economic systems.

## **Analysing**

- Evaluate actions and outcomes

## **Reflecting**

- Transfer knowledge

## **Resources**

## **Work Samples**

### **WS01 - Design project: Desktop lamp**

#### **Snapshot – Evaluate actions and outcomes**

#### **Critical and Creative Thinking: Analysing: Evaluate actions and outcomes**

##### **Content description**

AC9TDE8P04

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- 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
- 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
- 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

#### **Snapshot – Evaluate actions and outcomes**

#### **Critical and Creative Thinking: Analysing: Evaluate actions and outcomes**

##### **Content description**

AC9TDE8P04

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- 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
- 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
- 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

#### **Snapshot – Evaluate actions and outcomes**

#### **Critical and Creative Thinking: Analysing: Evaluate actions and outcomes**

##### **Content description**

AC9TDE8P04

##### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

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- 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

#### **Snapshot – Evaluate actions and outcomes**

#### **Critical and Creative Thinking: Analysing: Evaluate actions and outcomes**

## **Content description**

AC9TDE8P04

### **Continuum extract**

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- 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

## **Snapshot – Consider alternatives**

### **Critical and Creative Thinking: Generating: Consider alternatives**

#### **Content description**

AC9TDE8P04

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- consider alternatives by challenging or creatively adjusting existing ideas in situations where current approaches do not work and recommend a preferred option
- consider alternatives by creatively adapting ideas when information is limited or conflicting and recommend a preferred option
- consider alternatives by creatively revising and modifying ideas and recommendations when circumstances change

## **Snapshot – Put ideas into action**

### **Critical and Creative Thinking: Generating: Put ideas into action**

#### **Content description**

AC9TDE8P04

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- put ideas into action by predicting potential or future outcomes and systematically testing a range of options
- put ideas into action by making predictions, testing and evaluating options, and reconsidering approaches in complex or unfamiliar situations
- put ideas into action by making predictions, testing and evaluating options, proposing modifications and adapting approaches in complex or unfamiliar situations

## **Snapshot – Evaluate actions and outcomes**

### **Critical and Creative Thinking: Analysing: Evaluate actions and outcomes**

#### **Content description**

AC9TDE8P04

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- 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
- 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
- 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

## **Snapshot – Transfer knowledge**

### **Critical and Creative Thinking: Reflecting: Transfer knowledge**

#### **Content description**

AC9TDE8P04

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- apply aspects of knowledge and skills gained in one context to a new or unrelated context to achieve a specific purpose
- transfer knowledge and skills gained in previous experiences to both similar and different contexts, and explain reasons for decisions and choices made
- identify, plan and justify opportunities to transfer knowledge into new contexts

## **AC9TDE8P05**

**develop project plans to individually and collaboratively manage time, cost and production of**

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### **Elaborations**

- interpreting drawings to plan and production steps needed to produce , or for specific purposes, for example identifying requirements from specifications on a labelled drawing and collaboratively developing a detailed procedure
- identifying risks and how to minimise them, organising time, evaluating decisions and managing to ensure successful project completion, for example using to keep track of tasks, , expenses and deadlines
- investigating the time needed for each step of production, for example estimating time allocations on a planning template for the different stages of the needed to produce a clock, acoustic speaker or desk lamp using prior knowledge, research and testing

Students learn to:

**develop project plans to individually and collaboratively manage time, cost and production of designed solutions**

(AC9TDE8P05)

### **General capabilities and cross-curriculum priorities**

This content description connects to the following general capabilities and cross-curriculum priorities.

#### **Social management**

- Collaboration

#### **Writing**

- Creating texts

#### **Elaborations**

Content elaborations provide suggestions of ways to teach the content description and connect it to general capabilities and cross-curriculum priorities. Content elaborations are optional .

#### **Generating**

- Create possibilities

#### **Managing and operating**

- Select and operate tools

#### **Self-management**

- Perseverance and adaptability

#### **Measurement and geometry**

- Measuring time

#### **Snapshot – Collaboration**

**Personal and Social capability: Social management: Collaboration**

#### **Content description**

AC9TDE8P05

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- coordinate contributions of group members, suggesting improvements to ways of working and collaborative outputs
- appreciate diverse perspectives in a range of collaborative contexts, and demonstrate negotiation skills to improve ways of working and outputs
- devise strategies for collaborative work and outputs in a range of contexts, building on the perspectives, experiences and capabilities of group members

## **Snapshot – Creating texts**

### **Literacy: Writing: Creating texts**

#### **Content description**

AC9TDE8P05

#### **Learning progression extract**

The following learning progression extract shows the alignment of the learning progression with this content.

##### **Crafting ideas**

- creates informative texts for a broader range of learning area purposes (e.g. explains a life cycle of a butterfly, recounts a process, describes an artwork)
- includes structural features appropriate to the type of text and task such as opening statements to define the topic and at least 2 body paragraphs
- includes ideas which are relevant to the topic and purpose of the text
- organises information into paragraphs to support the reader
- includes a relevant graphic to support the reader (e.g. diagram or photo)

##### **Text forms and features**

- uses cohesive devices to signpost sections of text (e.g. uses text connectives such as "finally", "as a result", "in addition")
- uses present or timeless present tense consistently throughout text (e.g. "bears hibernate in winter") (see Grammar)
- selects visual and audio features to expand ideas in written texts (e.g. diagrams, tables, images)
- uses adjectives to create more accurate description (e.g. "the warm-blooded mammal") (see Grammar)

##### **Vocabulary**

- uses a range of technical and subject specific words to add detail and authority to information (e.g. "hibernate" instead of "sleep")

##### **Crafting ideas**

- creates informative texts that describe, explain and document (e.g. describe an artwork, document the materials and explain why it was created)
- selects structural elements to comprehensively and accurately represent the information (e.g. a fact sheet includes an opening statement, labelled diagrams and text boxes)
- orients the reader to the topic or concept using a definition or classification
- develops ideas with details and examples
- uses ideas derived from research
- uses written and visual supporting evidence

##### **Text forms and features**

- uses cohesive devices to link concepts across texts (e.g. uses lexical cohesion such as word associations and synonyms)
- uses cohesive devices to express cause and effect (e.g. uses text connectives such as "therefore", "subsequently")
- includes salient visual and audio features to expand on written information (e.g. creates graphs and other technical diagrams from authentic data)
- uses language to compare (e.g. "alternatively", "whereas")
- uses formatting appropriately to reference and label graphics

##### **Vocabulary**

- uses a range of learnt, technical and discipline-specific terms (e.g. "adapt", "survive")
- uses more sophisticated words to express cause and effect (e.g. "therefore", "subsequently")

##### **Crafting ideas**

- creates informative texts to explain and analyse (e.g. analyses how artists use visual conventions in artworks)
- creates texts to compare and contrast phenomena (e.g. identify the similarities and differences between species of animals)
- orients the reader clearly to the topic or concept (e.g. using a definition or classification in the opening paragraph)
- intentionally selects structural elements for effect (e.g. includes an effective conclusion that synthesises complex ideas)

- uses evidence and research including digital resources to expand upon information and elaborate concepts

### **Text forms and features**

- varies sentence structure for effect (see Grammar)
- judiciously uses language, visual and audio features to emotionally or intellectually affect the reader
- uses more elaborate noun groups/phrases that include classifying adjectives and specific nouns (e.g. "mineral component of sedimentary rocks")
- creates cohesive flow by condensing previous information into a summarising noun (e.g. "A series of tumultuous events culminated in the outbreak of WWI - modern history's turning point.")
- uses passive voice and nominalisation to write succinctly (e.g. "the results were analysed") (see Grammar)

### **Vocabulary**

- uses discipline-specific terminology to provide accurate and explicit information (e.g. "discipline metalanguage")
- uses a range of synonyms for frequently occurring words, in a longer text (e.g. "repair", "fix", "remedy")
- uses vocabulary to indicate and describe relationships (e.g. "additionally", "similarly")

## **Snapshot – Create possibilities**

### **Critical and Creative Thinking: Generating: Create possibilities**

#### **Content description**

AC9TDE8P05

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- create possibilities by changing, combining, or elaborating on new and known ideas in a variety of creative ways
- create possibilities by adapting, combining or elaborating on new and known ideas, and proposing a range of different or creative combinations
- create possibilities by connecting or adapting complex ideas and proposing innovative and detailed variations or combinations

## **Snapshot – Select and operate tools**

### **Digital Literacy: Managing and operating: Select and operate tools**

#### **Content description**

AC9TDE8P05

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- select and use the core features of digital tools to efficiently complete tasks
- troubleshoot basic problems and identify repetitive tasks to automate
- select and use the advanced or unfamiliar features of digital tools to efficiently complete tasks
- troubleshoot common problems and automate repetitive tasks
- select and operate advanced and emerging digital tools confidently
- troubleshoot common problems systematically and seek to improve efficiency by developing new skills

## **Snapshot – Perseverance and adaptability**

### **Personal and Social capability: Self-management: Perseverance and adaptability**

#### **Content description**

AC9TDE8P05

#### **Continuum extract**

The following continuum extract shows the alignment of the continuum with this content.

- adapt approaches to tasks to support perseverance when faced with challenging or unfamiliar tasks
- select, apply and refine strategies to persevere when faced with unexpected or challenging contexts
- devise, evaluate and adapt strategies to engage with unexpected or challenging situations

## **Snapshot – Measuring time**



# **Numeracy: Measurement and geometry: Measuring time**

## **Content description**

AC9TDE8P05

## **Learning progression extract**

The following learning progression extract shows the alignment of the learning progression with this content.

### **Converting between units of time**

- interprets and converts between 12 12 1 2 -hour and 24 24 2 4 -hour digital time, and analog and digital representations of time to solve duration problems
- converts between units of time, using appropriate conversion rates, to solve problems involving time (e.g. uses that there are 60 60 6 0 seconds in a minute to calculate the percentage improvement a 1500 1500 1 5 0 0 m runner made to their personal best time)
- uses rates involving time to solve problems (e.g. "travelling at 60 60 6 0 km/h, how far will I travel in 30 30 3 0 minutes?"; adjusts cooking or baking times based on weight or the size of the container)

### **Measuring time with large and small timescales**

- uses appropriate metric prefixes to measure both large and small durations of time (e.g. millennia, nanoseconds)
- constructs timelines using an appropriate scale (e.g. chronologically sequences historical events)

### **Measuring how things change over time**

- investigates, describes and interprets data collected over time (e.g. uses a travel graph to describe a journey; interprets data collected over a period of time using a graphical representation and makes a prediction for the future behaviour of the data)