# (no-code)

investigate the physical conditions of a and analyse how the growth and survival of living things is affected by changing physical conditions

•

#### **Elaborations**

- identifying the physical conditions in an aquatic or terrestrial and how they change over time
- investigating how changes to physical conditions such as salinity, soil type, sunlight or temperature affect plant growth
- examining how changes in physical conditions such as temperature, light availability and rainfall affect animals, such as corals, honey bees or flying foxes, and predict impacts of these changes
- investigating changes in physical conditions that are the result of human activity and exploring the impact of these on living things, such as the impact of urban lighting on nocturnal and migratory animals
- investigating the effect of physical conditions on the growth of bread mould colonies in sealed plastic bags
- recognising that environmental conditions can affect stages of life, such as ponds drying up, seeds requiring water to germinate, or temperatures being too hot or cold for eggs to hatch
- investigating First Nations Australians' knowledges and understandings of the physical conditions necessary for the survival of certain plants and animals Students learn to:

# investigate the physical conditions of a habitat and analyse how the growth and sur things is affected by changing physical conditions

(AC9S6U01)

# General capabilities and cross-curriculum priorities

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

#### Generating

Create possibilities

## Inquiring

Identify, process and evaluate information

#### **Systems**

• All life forms, including human life, are connected through Earth's systems (geosphere, biosphere, hydrosphere and atmosphere) on which they depend for their wellbeing and survival.

#### **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

#### **Systems**

• All life forms, including human life, are connected through Earth's systems (geosphere, biosphere, hydrosphere and atmosphere) on which they depend for their wellbeing and survival.

#### Inquiring

• Identify, process and evaluate information

#### **Systems**

• All life forms, including human life, are connected through Earth's systems (geosphere, biosphere, hydrosphere and atmosphere) on which they depend for their wellbeing and survival.

## **Analysing**

· Draw conclusions and provide reasons

#### Inquiring

• Identify, process and evaluate information

#### Systems

• All life forms, including human life, are connected through Earth's systems (geosphere, biosphere, hydrosphere and atmosphere) on which they depend for their wellbeing and survival.

#### **Analysing**

Interpret concepts and problems

#### Inquiring

• Identify, process and evaluate information

#### **Systems**

- All life forms, including human life, are connected through Earth's systems (geosphere, biosphere, hydrosphere and atmosphere) on which they depend for their wellbeing and survival.
- Social, economic and political systems influence the sustainability of Earth's systems.

#### Inquiring

• Identify, process and evaluate information

#### **Systems**

• All life forms, including human life, are connected through Earth's systems (geosphere, biosphere, hydrosphere and atmosphere) on which they depend for their wellbeing and survival.

#### Inquiring

• Identify, process and evaluate information

#### **Systems**

• All life forms, including human life, are connected through Earth's systems (geosphere, biosphere, hydrosphere and atmosphere) on which they depend for their wellbeing and survival.

#### Country/Place

• First Nations communities of Australia maintain a deep connection to, and responsibility for, Country/Place and have holistic values and belief systems that are connected to the land, sea, sky and waterways.

#### **Systems**

• All life forms, including human life, are connected through Earth's systems (geosphere, biosphere, hydrosphere and atmosphere) on which they depend for their wellbeing and survival.

#### Related content

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

AC9TDE6K03

## Resources

#### **Work Samples**

# WS01 - Mouldy bread

#### Snapshot – Create possibilities

# Critical and Creative Thinking: Generating: Create possibilities

## **Content description**

AC9S6U01

#### **Continuum extract**

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

- create possibilities by connecting or creatively expanding on new and known ideas in a variety of ways
- 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

# Snapshot – Identify, process and evaluate information

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

#### Content description

AC9S6U01

#### 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
- condense and combine selected information related to the topic of study

- 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

# Snapshot – Identify, process and evaluate information

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

# **Content description**

AC9S6U01

#### 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 accuracy, validity and relevance of the information and opinion to the topic of study

# Snapshot - Identify, process and evaluate information

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

# **Content description**

AC9S6U01

#### **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
- condense and combine selected information related to the topic of study
- 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 accuracy, validity and relevance of the information and opinion to the topic of study

### Snapshot – Draw conclusions and provide reasons

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

# **Content description**

AC9S6U01

#### **Continuum extract**

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

- draw conclusions and make choices when completing tasks, using observation and prior knowledge to provide reasons and construct arguments for choices made
- 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

### Snapshot – Identify, process and evaluate information

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

# **Content description**

AC9S6U01

# **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 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 accuracy, validity and relevance of the information and opinion to the topic of study

# Snapshot – Interpret concepts and problems

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

# **Content description**

AC9S6U01

#### Continuum extract

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

- identify and prioritise significant elements and relationships within a concept or problem
- 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

# Snapshot - Identify, process and evaluate information

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

# **Content description**

AC9S6U01

#### **Continuum extract**

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

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

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

# **Content description**

AC9S6U01

#### Continuum extract

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# Snapshot - Identify, process and evaluate information

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

# **Content description**

AC9S6U01

# **Continuum extract**

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

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# Resource - WS01 - Mouldy bread

By the end of Year 6 students explain how changes in physical conditions affect living things. They model the relationship between the sun and planets of the solar system and explain how the relative positions of Earth and the sun relate to observed phenomena on Earth. They identify the role of circuit components in the transfer and transformation of electrical energy. They classify and compare reversible and irreversible changes to substances. They explain why science is often collaborative and describe different individuals' contributions to scientific knowledge. They describe how individuals and communities use scientific knowledge.

Students plan safe, repeatable investigations to identify patterns and test relationships and make reasoned predictions. They describe risks associated with investigations and key intercultural considerations when planning field work. They identify variables to be changed, measured and controlled. They use equipment to generate and record data with appropriate precision. They construct representations to organise and process data and information and describe patterns, trends and relationships. They identify possible sources of error in their own and others' methods and findings, pose questions for further investigation and select evidence to support reasoned conclusions. They select and use language features effectively for their purpose and audience when communicating their ideas and findings.

# AC9S6U01

investigate the physical conditions of a habitat and analyse how the growth and survival of living things is affected by changing physical conditions

#### AC9S6H02

investigate how scientific knowledge is used by individuals and communities to identify problems, consider responses and make decisions

#### AC9S6101

pose investigable questions to identify patterns and test relationships and make reasoned predictions

# AC9S6102

plan and conduct repeatable investigations to answer questions including, as appropriate, deciding the variables to be changed, measured and controlled in fair tests; describing potential risks; planning for the safe use of equipment and materials; and identifying required permissions to conduct investigations on Country/Place

#### AC9S6I03

use equipment to observe, measure and record data with reasonable precision, using digital tools as appropriate

# AC9S6104

construct and use appropriate representations, including tables, graphs and visual or physical

models, to organise and process data and information and describe patterns, trends and relationships AC9S6106

write and create texts to communicate ideas and findings for specific purposes and audiences, including selection of language features, using digital tools as appropriate

# AC9S6U02

describe the movement of Earth and other planets relative to the sun and how Earth's tilt, rotation on its axis and revolution around the sun relate to cyclic phenomena, including day and night length

#### **Elaborations**

- exploring of the solar such as a pocket solar to appreciate the distances and between the sun and planets
- recognising the role of gravity in keeping the planets in orbit around the sun
- using 3-dimensional or role-play to how Earth's rotation on its axis causes day and night
- using virtual or real-time views of Earth from space to explore why different regions on Earth, such as the South Pole, experience long periods of sunlight or darkness over the cycle of one revolution of Earth around the sun
- using 3-dimensional to explore how the tilt of Earth points one hemisphere towards the sun and the other away at different times of the year, and predicting how this affects the amount of sunlight on the surface of different regions on Earth
- researching First Nations Australians' understandings of the night sky and its use for timekeeping purposes as evidenced in oral cultural records, rock paintings, paintings and stone arrangements Students learn to:

describe the movement of Earth and other planets relative to the sun and model how rotation on its axis and revolution around the sun relate to cyclic observable pheno variable day and night length

(AC9S6U02)

# General capabilities and cross-curriculum priorities

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

#### Generating

Create possibilities

## Inquiring

Identify, process and evaluate information

#### Measurement and geometry

- Understanding geometric properties
- Understanding units of measurement

# **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

#### Number sense and algebra

Number and place value

#### Inquiring

• Identify, process and evaluate information

# Inquiring

• Identify, process and evaluate information

### Speaking and listening

Speaking

#### Reading and viewing

Understanding texts

#### Analysing

· Interpret concepts and problems

#### Inquiring

• Identify, process and evaluate information

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

Develop multiple perspectives

#### Culture

• First Nations Australians' ways of life reflect unique ways of being, knowing, thinking and doing.

#### Country/Place

• First Nations communities of Australia maintain a deep connection to, and responsibility for, Country/Place and have holistic values and belief systems that are connected to the land, sea, sky and waterways.

#### Related content

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

AC9M6M04

# Snapshot - Create possibilities

# Critical and Creative Thinking: Generating: Create possibilities

# **Content description**

AC9S6U02

### **Continuum extract**

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

- create possibilities by connecting or creatively expanding on new and known ideas in a variety of ways
- 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

# Snapshot – Identify, process and evaluate information

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

#### **Content description**

AC9S6U02

#### 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
- condense and combine selected information related to the topic of study
- 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

#### **Snapshot – Understanding geometric properties**

# Numeracy: Measurement and geometry: Understanding geometric properties

# **Content description**

AC9S6U02

#### **Learning progression extract**

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

#### Properties of shapes and object

- identifies, names and classifies two-dimensional shapes according to their side and angle properties (e.g. describes a square as a regular rectangle)
- identifies key features of shapes (e.g. explains that quadrilaterals have 2 2 2 diagonals however they are not always equal in length)
- aligns three-dimensional objects to their two-dimensional nets
- identifies the relationship between the number of faces, edges and the number of vertices of a three-dimensional object (e.g. uses a table to list the number of faces, edges and vertices of common three-dimensional objects and identifies the relationships in the data)

#### **Transformations**

- identifies that shapes can have rotational symmetry (e.g. "this drawing of a flower is symmetrical as I can spin it around both ways and it always looks exactly the same")
- creates symmetrical designs using a range of shapes and identifies the type of symmetry as appropriate (e.g. uses symmetry as a stimulus for choreographing a dance; analyses the symmetrical qualities, shapes and lines in examples of Islamic art)
- creates tessellating patterns with common shapes, deciding which will tessellate and which will not by referring to their sides and angles

#### **Angles**

- estimates, compares and constructs angles (e.g. uses a ruler and protractor to construct a 45 angle; compares the size of angles in the environment and estimates their size)
- describes angles in the environment according to their size as acute, obtuse, right, straight, reflex or a revolution and identifies them in shapes and objects (e.g. identifies slope as angles in the environment such as the ramp outside of the school block)

#### 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 tesselate 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 360 360 3 6 0 ° 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 2 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 computeraided design drawing involving the creation of parallel and perpendicular lines)
- demonstrates that the angle sum of a triangle is 180 180 1 8 0 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

# **Snapshot – Understanding units of measurement**

# Numeracy: Measurement and geometry: Understanding units of measurement

# **Content description**

AC9S6U02

# Learning progression extract

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

#### Using metric units

- calculates perimeter using properties of two-dimensional shapes to determine unknown lengths
- measures and calculates the area of different shapes using metric units and a range of strategies

# Angles as measures of turn

• estimates and measures angles in degrees up to one revolution (e.g. uses a protractor to measure the size of an angle; estimates angles, such as those formed at the elbows when releasing an object; determines the effect of angles on the trajectory, height and distance of flight during jumps and throws in athletics)

#### **Converting units**

- converts between metric units of measurement of the same attribute (e.g. converts centimetres into millimetres by multiplying by 10 10 1 0; uses the consistent naming of metric prefixes to convert between adjacent units)
- describes and uses the relationship between metric units of measurement and the base- 10 10 1 0 place value system to accurately measure and record measurements using decimals

#### Using metric units and formulas

• establishes and uses formulas and metric units for calculating the area of rectangles and triangles

#### Angles as measures of turn

• measures and uses key angles ( 45 45 4 5 ■, 90 90 9 0 ■, 180 180 1 8 0 ■, 360 360 3 6 0 ■) to define other angles according to their size (e.g. measures a right angle to be 90■ and uses this to determine if 2 2 2 lengths are perpendicular)

#### Using metric units and formulas

- establishes and uses formulas for calculating the area of parallelograms, trapeziums, rhombuses and kites
- establishes and uses formulas for calculating the volume and surface area of a range of right prisms

#### Circle measurements

- informally estimates the circumference of a circle using the radius or diameter
- establishes the relationship between the circumference and the diameter of a circle as the constant  $\pi$  \pi  $\pi$
- calculates the circumference and the area of a circle using  $\pi \setminus pi \pi$  and a known diameter or radius

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

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

# **Content description**

AC9S6U02

#### **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
- condense and combine selected information related to the topic of study
- 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

#### Snapshot – Number and place value

# Numeracy: Number sense and algebra: Number and place value

# **Content description**

AC9S6U02

# **Learning progression extract**

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

## Numeral recognition and identification

• identifies, reads, writes and interprets numerals beyond 1000 1000 1 0 0 0 applying knowledge of place value, including numerals that contain a zero (e.g. reads 1345 1345 1 3 4 5 as one thousand, 3 3 hundred and 45 45 4 5; reads one thousand and 15 15 1 5 and writes as 1015 1015 1 0 1 5; compares the size of populations of schools, suburbs, cities and ecosystems or the cost of items in shopping catalogues)

#### Place value

- represents, flexibly partitions and renames four-digit numbers into standard and non-standard place value partitions (e.g. uses grid paper to show the size of each digit in 2202 2202 2 2 0 2; renames 5645 5645 5 6 4 5 as 3645 3645 3 6 4 5 and 2000 2000 2 0 0 0 in order to subtract 1998 1998 1 9 9 8)
- estimates and rounds natural numbers to the nearest 10 10 1 0 or nearest 100 100 1 0 0 (e.g. pencils come in a pack of 10 10 1 0, so estimates the number of packs required for 127 127 1 2 7 Year 6 6 6 students; to check the reasonableness of their solution to the computation 212 + 195 212 + 195 2 1 2 + 1 9 5, rounds both numbers to 200 200 2 0 0)
- represents and names tenths as one out of 10 10 10 equal parts of a whole (e.g. uses a bar model to represent the whole and its parts; uses a straw that has been cut into 10 10 1 0 equal pieces to demonstrate that one piece is one-tenth of a whole straw and 2 2 2 pieces are two-tenths of the whole straw)
- represents and names one-tenth as its decimal equivalent (e.g. 0.1 0.1 0 . 1, zero point one)
- extends the place value system to tenths

#### Numeral recognition and identification

- identifies, reads and writes numerals, beyond 4 4 4 digits in length, with spacing after every 3 3 3 digits (e.g. 10 10 1 0 204 204 2 0 4, 25 25 2 5 000 000 0 0 0 000 000 0 0; 12 12 1 2 230.25 230.25 2 3 0 . 2 5; reads 152 152 1 5 2 450 450 4 5 0 as "one hundred and 52 52 5 2 thousand 4 4 4 hundred and 50 50 5 0 "; compares the size of populations for different countries or the cost of expensive items with an advertised selling price in the millions)
- identifies, reads and writes decimals to one and 2 2 2 decimal places (e.g. reads  $4.75\ 4.75\ 4.75$  5 as "four point seven five" or 4 4 4 and 75 75 7 5 hundredths; writes 4 4 4 dollars and 5 5 5 cents as  $4.05\$ 4.05 4.05

#### Place value

- estimates and rounds natural numbers to the nearest 10 thousand, thousand etc. recognising the multiplicative relationships between the place value of the digits (e.g. estimates the crowd numbers at a football match; says that the \$ 9863 \\$9863 \$ 9 8 6 3 raised at a charity event was close to \$ 10 \\$10 \$ 1 0 000 000 0 0 0 ; recognises that 200 years is 10 times as large as 20 years, and applies this to environmental change)
- explains that the place value names for decimal numbers relate to the ones place value
- explains and demonstrates that the place value system extends beyond tenths to hundredths, thousandths ... (e.g. uses decimals to represent part units of measurement for length, mass, capacity and temperature)
- represents, compares, orders and interprets decimals up to 2 2 2 decimal places (e.g. constructs a number line to include decimal values between zero and one, when asked "which is greater 0.19 0.19 0 . 1 9 or 0.2 0.2 0 . 2 ?", responds " 0.2 0.2 0 . 2 "; interprets and compares measurements such as the temperature on different days or the change in height of a growing plant observed and recorded during science investigations)
- rounds decimals to the nearest natural number in order to estimate answers (e.g. estimates the length of material needed by rounding up the measurement to the nearest natural number)

## Numeral recognition and identification

• identifies, reads, writes and interprets decimal numbers applying knowledge of the place value periods of tenths, hundredths and thousandths and beyond

#### Place value

- compares the size of decimals to other numbers including natural numbers and decimals expressed to different numbers of places (e.g. selects 0.35 0.35 0 . 3 5 as the greatest number from the set 0.2 , 0.125 , 0.35 0.2, 0.125, 0.35 0 . 2 , 0 . 1 2 5 , 0 . 3 5 ; explains that 2 2 2 is greater than 1.845 1.845 1 . 8 4 5 )
- $\bullet$  describes the multiplicative relationship between the adjacent positions in place value for decimals (e.g. understands that 0.2 0.2 0 . 2 is 10 10 1 0 times as great as 0.02 0.02 0 . 0 2 and that 100 100 1 0 0 times 0.005 0.005 0 . 0 0 5 is 0.5 0.5 0 . 5 )
- compares and orders decimals greater than one including those expressed to an unequal number of places (e.g. compares the heights of students in the class that are expressed in metres such as 1.6 1.6 1.6 m is taller than 1.52 1.52 1.5 2 m; correctly orders the numbers 1.4 1.4 1.4, 1.375 1.375 1.375 and 2.15 2.15 2.15 2.15 from least to greatest)
- rounds decimals to one and 2 decimal places for a purpose

# Snapshot - Identify, process and evaluate information

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

# **Content description**

AC9S6U02

#### **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
- condense and combine selected information related to the topic of study
- 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

# Snapshot - Identify, process and evaluate information

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

AC9S6U02

#### Continuum extract

**Content description** 

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 accuracy, validity and relevance of the information and opinion to the topic of study

#### Snapshot – Speaking

# Literacy: Speaking and listening: Speaking

## **Content description**

AC9S6U02

#### Learning progression extract

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

#### **Crafting ideas**

- creates spoken texts for a range of purposes across learning areas (e.g. explains how the mathematics problem was solved)
- uses complex sentence constructions including relative clauses (e.g. "The boy who drew the picture

got a prize.") (see Grammar)

- adjusts register according to purpose and audience
- elaborates on ideas using a short sequence of sentences
- incorporates learnt content into spoken text
- sequences ideas and events appropriately
- uses mainly correct grammatical constructions (e.g. pronoun references; noun-verb agreement)
- varies volume and intonation to suit purpose and audience
- plans and delivers spoken presentations using appropriate structure and language
- includes video and audio enhancements to spoken texts, where appropriate (e.g. includes slides or pictures in a spoken presentation)

#### Vocabulary

- experiments with vocabulary drawn from a variety of sources
- uses adverbials to give more precise meaning to verbs (e.g. talking loudly) (see Grammar)
- uses a range of vocabulary to indicate connections (e.g. consequences)
- uses conditional vocabulary to expand upon ideas (e.g. "If Goldilocks ate all the porridge the bears would be hungry.")

#### **Crafting ideas**

- creates detailed spoken texts on a broad range of learning area topics
- includes details and elaborations to expand ideas
- uses connectives to signal a change in relationship (e.g. "however", "although", "on the other hand") or to show causal relationships (e.g. "due to", "since") (see Grammar)
- uses a range of expressions to introduce an alternative point of view (e.g. "in my opinion", "he did not agree with")
- rehearses spoken text to accommodate time and technology
- controls tone, volume, pitch and pace to suit content and audience
- uses technologies or audio and visual features to enhance spoken text (e.g. videos a spoken presentation with music, sound effect enhancements)

#### Vocabulary

- uses a broader range of more complex noun groups/phrases to expand description (e.g. "protective, outer covering")
- selects more specific and precise words to replace general words (e.g. uses "difficult" or "challenging" for "hard")
- uses some rhetorical devices (e.g. "don't you agree?")

#### Crafting ideas

- creates spoken texts responsive to audience and a broad range of learning area topics, clearly articulating words and ideas
- organises more complex ideas or concepts logically, selecting details to accentuate key points
- speaks audibly and coherently to a less familiar audience for a sustained period
- shows increasing awareness of audience by moderating length, content and delivery of spoken texts
- adjusts register according to purpose and audience
- does research to prepare spoken texts
- uses a range of technology, and audio and visual resources to engage audience and enhance content

#### Vocabulary

- varies vocabulary to add interest and to describe with greater precision (e.g. uses topic-specific noun groups/phrases such as "exploitation of resources") (see Grammar)
- uses language creatively (e.g. "the moon shines bravely")
- uses sensory vocabulary to engage the audience (e.g. "a gasp of dismay")
- uses technical vocabulary to demonstrate topic knowledge (e.g. "deforestation")
- consistently uses a range of synonyms to add variety and precision to spoken text
- uses abstractions (e.g. "freedom", "fairness")

#### Snapshot – Understanding texts

# Literacy: Reading and viewing: Understanding texts

# **Content description**

AC9S6U02

#### **Learning progression extract**

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

#### Comprehension

- reads and views elementary texts (see Text complexity)
- locates information or details embedded in the text
- identifies the main idea in an elementary text
- identifies the purpose of a broad range of informative, imaginative and persuasive texts (e.g. advertisements, diary entry)
- draws inferences and identifies supporting evidence in the text
- monitors the development of ideas using language and visual features (e.g. topic sentences, key verbs, graphs)
- recognises that texts can present different points of view
- distinguishes between fact and opinion in texts
- compares and contrasts texts on the same topic to identify how authors represent the same ideas differently

#### **Processes**

- integrates phonic knowledge, word recognition skills, grammatical and contextual knowledge to read elementary texts (see Phonic knowledge and word recognition and Fluency)
- identifies language features that signal purpose in an elementary text (e.g. diagrams, dialogue)
- uses strategies to predict and confirm meaning (e.g. uses sentence structure to predict how ideas will be developed)
- navigates texts using common signposting devices such as headings, subheadings, paragraphs, navigation bars and links

#### Vocabulary

- interprets creative use of figurative language (e.g. metaphor, simile, onomatopoeia)
- interprets unfamiliar words using grammatical knowledge, morphological knowledge and etymological knowledge
- describes the language and visual features of texts using metalanguage (e.g. grammatical terms such as "cohesion", "tense", "noun groups/phrases")
- recognises how synonyms are used to enhance a text (e.g. "transport", "carry", "transfer")
- draws on knowledge of word origin to work out meaning of discipline-specific terms (e.g. "universe")
- recognises how evaluative and modal words are used to influence the reader (e.g. "important", "should", "dirty")

#### Comprehension

- reads and views some moderately complex texts (see Text complexity)
- accurately retells a text including most relevant details
- identifies main idea and related or supporting ideas in moderately complex texts (see Text complexity)
- evaluates the accuracy within and across texts on the same topic
- explains how authors use evidence and supporting detail to build and verify ideas
- draws inferences and verifies using textual evidence

#### **Processes**

- monitors reading for meaning using grammatical and contextual knowledge (see Fluency)
- explains how textual features support the text's purpose
- identifies and explains techniques used to present perspective (e.g. emotive or descriptive language, order in which ideas are presented)
- predicts the development of ideas based on a partial read (e.g. predicts the final chapter of a narrative, drawing on understanding of the textual features in the previous chapters)
- uses prior knowledge and context to read unknown words (e.g. uses morphemic knowledge of "explosion" to decode "explosive" and uses context and knowledge of metaphorical use of language to understand "explosive outburst")
- uses knowledge of cohesive devices to track meaning throughout a text (e.g. connectives such as "however", "on the other hand") (see Grammar)
- uses knowledge of the features and conventions of the type of text to build meaning (e.g. recognises that the beginning of a persuasive text may introduce the topic and the line of argument)

- identifies language features used to present opinions or points of view
- skims and scans texts for key words to track the development of ideas
- uses sophisticated punctuation to support meaning (e.g. commas to separate clauses in complex sentences)

#### Vocabulary

- uses knowledge of prefixes and suffixes to read and interpret unfamiliar words
- identifies how technical and discipline-specific words develop meaning in texts
- analyses the effect of antonyms, synonyms and idiomatic language
- understands precise meaning of words with similar connotations (e.g. "generous", "kind-hearted", "charitable")

# 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)

### Snapshot – Interpret concepts and problems

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

# **Content description**

AC9S6U02

#### Continuum extract

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

- identify and prioritise significant elements and relationships within a concept or problem
- 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

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

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

#### AC9S6U02

#### **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
- condense and combine selected information related to the topic of study
- 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

# **Snapshot – Develop multiple perspectives**

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

# **Content description**

AC9S6U02

#### **Continuum extract**

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

- discuss different perspectives on familiar topics and intercultural experiences, describing how people's thinking and behaviour may be influenced by a range of factors
- examine how cultural beliefs or practices influence their own perspectives, and those of others, when discussing unfamiliar topics
- consider multiple perspectives held on unfamiliar topics, identifying commonality and difference, and describe how perspectives may be influenced by cultural beliefs and practices

# AC9S6U03

# investigate the transfer and transformation of energy in electrical circuits, including the role of circuit components, and

# **Elaborations**

- identifying necessary components for an electric circuit such as a source of electrical energy and conducting such as metal wires
- constructing a real or virtual circuit to examine requirements to allow the flow of electricity, including exploring the construction and role of switches
- constructing of electrical circuits and their components using accepted conventions
- examining the purpose of different components such as switches and bulbs and exploring use of ammeters to measure current
- investigating different electrical and and examining why they may be used
- exploring how electricity is used in the home and identifying electrical hazards and safety measures used to mitigate these hazards

Students learn to:

# investigate the transfer and transformation of energy in electrical circuits, including circuit components, insulators and conductors

(AC9S6U03)

# General capabilities and cross-curriculum priorities

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

## Generating

Create possibilities

#### Inquiring

• Identify, process and evaluate information

# **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

#### Inquiring

• Identify, process and evaluate information

# Creating and exchanging

• Plan

#### Managing and operating

Select and operate tools

#### Inquiring

• Identify, process and evaluate information

#### Inquiring

Identify, process and evaluate information

#### Inquiring

• Identify, process and evaluate information

# Reflecting

Transfer knowledge

#### Related content

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

AC9TDE6K02

AC9TDI6K04

# Snapshot - Create possibilities

# Critical and Creative Thinking: Generating: Create possibilities

# **Content description**

AC9S6U03

#### Continuum extract

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

- create possibilities by connecting or creatively expanding on new and known ideas in a variety of ways
- 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

# Snapshot – Identify, process and evaluate information

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

# **Content description**

AC9S6U03

#### 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
- condense and combine selected information related to the topic of study
- 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

# Snapshot - Identify, process and evaluate information

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

AC9S6U03

#### **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
- condense and combine selected information related to the topic of study
- 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

# Snapshot - Identify, process and evaluate information

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

# **Content description**

AC9S6U03

#### 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
- condense and combine selected information related to the topic of study
- 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

# Snapshot - Plan

# Digital Literacy: Creating and exchanging: Plan

### **Content description**

AC9S6U03

#### **Continuum extract**

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

- use familiar digital tools to develop and follow a basic plan to complete a task
- 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

## Snapshot – Select and operate tools

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

## **Content description**

AC9S6U03

#### Continuum extract

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

- select and use a range of digital tools to complete tasks
- attempt to solve a problem individually and with peers before seeking help
- 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

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

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

AC9S6U03

#### 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
- condense and combine selected information related to the topic of study
- 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

# Snapshot – Identify, process and evaluate information

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

# **Content description**

AC9S6U03

#### 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
- condense and combine selected information related to the topic of study
- 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

### Snapshot – Identify, process and evaluate information

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

# **Content description**

AC9S6U03

#### 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
- condense and combine selected information related to the topic of study
- 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

# Snapshot – Transfer knowledge

# Critical and Creative Thinking: Reflecting: Transfer knowledge

#### **Content description**

AC9S6U03

#### **Continuum extract**

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

- use aspects of knowledge and skills gained in one setting to inform learning in a new setting or context
- 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

#### AC9S6U04

compare reversible changes, including dissolving and changes of state, and irreversible changes, including cooking and rusting that produce new substances

**Elaborations** 

- discussing what makes a change reversible or irreversible, using everyday examples
- examining the substances produced in cooking and rusting and comparing them with the original substances
- comparing how the amount of heat energy added affects whether a change in state or an irreversible change occurs
- describing how dissolved substances are reclaimed from solutions
- exploring how reversible changes can be used to recycle
- investigating First Nations Australians' knowledges of reversible processes such as the application of adhesives and of irreversible processes such as the use of fuels for torches Students learn to:

# compare reversible changes, including dissolving and changes of state, and irrever including cooking and rusting that produce new substances

(AC9S6U04)

# General capabilities and cross-curriculum priorities

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

#### Inquiring

Identify, process and evaluate information

#### Reflecting

Transfer knowledge

#### **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

# Inquiring

Identify, process and evaluate information

#### Inquiring

• Identify, process and evaluate information

#### Inquiring

Identify, process and evaluate information

#### Inquiring

• Identify, process and evaluate information

#### Reflecting

Transfer knowledge

#### 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.

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

• Develop multiple perspectives

#### Culture

• First Nations Australians' ways of life reflect unique ways of being, knowing, thinking and doing.

#### Related content

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

AC9TDE6K04

# Snapshot – Identify, process and evaluate information

Critical and Creative Thinking: Inquiring: Identify, process and evaluate informatic Content description

#### AC9S6U04

#### **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
- condense and combine selected information related to the topic of study
- 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

# Snapshot – Transfer knowledge

# Critical and Creative Thinking: Reflecting: Transfer knowledge

# **Content description**

AC9S6U04

#### Continuum extract

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

- use aspects of knowledge and skills gained in one setting to inform learning in a new setting or context
- 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

# Snapshot – Identify, process and evaluate information

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

# Content description

AC9S6U04

#### 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
- condense and combine selected information related to the topic of study
- 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

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

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

# **Content description**

AC9S6U04

#### 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
- condense and combine selected information related to the topic of study
- 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

# Snapshot - Identify, process and evaluate information

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

# **Content description**

AC9S6U04

#### 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
- condense and combine selected information related to the topic of study
- 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

# Snapshot - Identify, process and evaluate information

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

# **Content description**

AC9S6U04

#### 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
- condense and combine selected information related to the topic of study
- 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

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

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

#### **Content description**

AC9S6U04

#### 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
- condense and combine selected information related to the topic of study
- 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

#### Snapshot – Transfer knowledge

# Critical and Creative Thinking: Reflecting: Transfer knowledge

# **Content description**

AC9S6U04

## **Continuum extract**

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

 use aspects of knowledge and skills gained in one setting to inform learning in a new setting or context

- 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

# **Snapshot – Develop multiple perspectives**

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

# **Content description**

AC9S6U04

#### Continuum extract

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

- discuss different perspectives on familiar topics and intercultural experiences, describing how people's thinking and behaviour may be influenced by a range of factors
- examine how cultural beliefs or practices influence their own perspectives, and those of others, when discussing unfamiliar topics
- consider multiple perspectives held on unfamiliar topics, identifying commonality and difference, and describe how perspectives may be influenced by cultural beliefs and practices

# AC9S6H01

# examine why advances in science are often the result of collaboration or build on the work of others

•

#### **Elaborations**

- investigating how contemporary restorative ecology adapts and builds on the traditional ecological knowledges of First Nations Australians
- exploring how international scientific collaboration can answer complex questions about the factors that affect the growth and survival of living things in Antarctica
- examining why ecologists collaborate with engineers and computer scientists to develop remote sensing techniques, identify in change and make predictions
- constructing a timeline to show how contributions and collaboration of scientists, mathematicians and astronomers from many countries have advanced our ideas about space and the solar through development of , gathering of and, more recently, space exploration
- investigating how astronauts and scientists from many different countries have collaborated in the International Space Station program
- investigating why scientists changed the phosphate levels in detergents to prevent algal blooms Students learn to:

# examine why advances in science are often the result of collaboration or build on the

(AC9S6H01)

# General capabilities and cross-curriculum priorities

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

#### Generating

Create possibilities

#### 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.

#### Culture

• First Nations Australians' ways of life reflect unique ways of being, knowing, thinking and doing.

### 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.

#### Inquiring

• Identify, process and evaluate information

#### Reading and viewing

Understanding texts

#### Inquiring

Identify, process and evaluate information

### Measurement and geometry

Measuring time

#### Inquiring

• Identify, process and evaluate information

#### Measurement and geometry

Measuring time

#### Inquiring

• Identify, process and evaluate information

# Reading and viewing

Understanding texts

#### Reading and viewing

Understanding texts

#### 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.

#### **Systems**

• Social, economic and political systems influence the sustainability of Earth's systems.

#### Snapshot – Create possibilities

# Critical and Creative Thinking: Generating: Create possibilities

# **Content description**

AC9S6H01

#### **Continuum extract**

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

- create possibilities by connecting or creatively expanding on new and known ideas in a variety of ways
- 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

# Snapshot – Identify, process and evaluate information

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

#### **Content description**

AC9S6H01

#### 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
- condense and combine selected information related to the topic of study
- 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

#### **Snapshot – Understanding texts**

# Literacy: Reading and viewing: Understanding texts

# **Content description**

#### AC9S6H01

# **Learning progression extract**

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

## Comprehension

- reads and views elementary texts (see Text complexity)
- · locates information or details embedded in the text
- identifies the main idea in an elementary text
- identifies the purpose of a broad range of informative, imaginative and persuasive texts (e.g. advertisements, diary entry)
- draws inferences and identifies supporting evidence in the text
- monitors the development of ideas using language and visual features (e.g. topic sentences, key verbs, graphs)
- recognises that texts can present different points of view
- distinguishes between fact and opinion in texts
- compares and contrasts texts on the same topic to identify how authors represent the same ideas differently

#### **Processes**

- integrates phonic knowledge, word recognition skills, grammatical and contextual knowledge to read elementary texts (see Phonic knowledge and word recognition and Fluency)
- identifies language features that signal purpose in an elementary text (e.g. diagrams, dialogue)
- uses strategies to predict and confirm meaning (e.g. uses sentence structure to predict how ideas will be developed)
- navigates texts using common signposting devices such as headings, subheadings, paragraphs, navigation bars and links

#### Vocabulary

- interprets creative use of figurative language (e.g. metaphor, simile, onomatopoeia)
- interprets unfamiliar words using grammatical knowledge, morphological knowledge and etymological knowledge
- describes the language and visual features of texts using metalanguage (e.g. grammatical terms such as "cohesion", "tense", "noun groups/phrases")
- recognises how synonyms are used to enhance a text (e.g. "transport", "carry", "transfer")
- draws on knowledge of word origin to work out meaning of discipline-specific terms (e.g. "universe")
- recognises how evaluative and modal words are used to influence the reader (e.g. "important", "should", "dirty")

#### Comprehension

- reads and views some moderately complex texts (see Text complexity)
- · accurately retells a text including most relevant details
- identifies main idea and related or supporting ideas in moderately complex texts (see Text complexity)
- evaluates the accuracy within and across texts on the same topic
- explains how authors use evidence and supporting detail to build and verify ideas
- draws inferences and verifies using textual evidence

#### **Processes**

- monitors reading for meaning using grammatical and contextual knowledge (see Fluency)
- explains how textual features support the text's purpose
- identifies and explains techniques used to present perspective (e.g. emotive or descriptive language, order in which ideas are presented)
- predicts the development of ideas based on a partial read (e.g. predicts the final chapter of a narrative, drawing on understanding of the textual features in the previous chapters)
- uses prior knowledge and context to read unknown words (e.g. uses morphemic knowledge of "explosion" to decode "explosive" and uses context and knowledge of metaphorical use of language to understand "explosive outburst")
- uses knowledge of cohesive devices to track meaning throughout a text (e.g. connectives such as "however", "on the other hand") (see Grammar)

- uses knowledge of the features and conventions of the type of text to build meaning (e.g. recognises that the beginning of a persuasive text may introduce the topic and the line of argument)
- identifies language features used to present opinions or points of view
- skims and scans texts for key words to track the development of ideas
- uses sophisticated punctuation to support meaning (e.g. commas to separate clauses in complex sentences)

#### Vocabulary

- uses knowledge of prefixes and suffixes to read and interpret unfamiliar words
- identifies how technical and discipline-specific words develop meaning in texts
- analyses the effect of antonyms, synonyms and idiomatic language
- understands precise meaning of words with similar connotations (e.g. "generous", "kind-hearted", "charitable")

# 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)

### Snapshot – Identify, process and evaluate information

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

#### Content description

AC9S6H01

#### **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
- condense and combine selected information related to the topic of study
- 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

# **Snapshot – Understanding texts**

# Literacy: Reading and viewing: Understanding texts

# **Content description**

AC9S6H01

# Learning progression extract

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

# Comprehension

- reads and views elementary texts (see Text complexity)
- locates information or details embedded in the text
- identifies the main idea in an elementary text
- identifies the purpose of a broad range of informative, imaginative and persuasive texts (e.g. advertisements, diary entry)
- draws inferences and identifies supporting evidence in the text
- monitors the development of ideas using language and visual features (e.g. topic sentences, key verbs, graphs)
- recognises that texts can present different points of view
- · distinguishes between fact and opinion in texts
- compares and contrasts texts on the same topic to identify how authors represent the same ideas differently

#### **Processes**

- integrates phonic knowledge, word recognition skills, grammatical and contextual knowledge to read elementary texts (see Phonic knowledge and word recognition and Fluency)
- identifies language features that signal purpose in an elementary text (e.g. diagrams, dialogue)
- uses strategies to predict and confirm meaning (e.g. uses sentence structure to predict how ideas will be developed)
- navigates texts using common signposting devices such as headings, subheadings, paragraphs, navigation bars and links

#### Vocabulary

- interprets creative use of figurative language (e.g. metaphor, simile, onomatopoeia)
- interprets unfamiliar words using grammatical knowledge, morphological knowledge and etymological knowledge
- describes the language and visual features of texts using metalanguage (e.g. grammatical terms such as "cohesion", "tense", "noun groups/phrases")
- recognises how synonyms are used to enhance a text (e.g. "transport", "carry", "transfer")
- draws on knowledge of word origin to work out meaning of discipline-specific terms (e.g. "universe")
- recognises how evaluative and modal words are used to influence the reader (e.g. "important", "should", "dirty")

#### Comprehension

- reads and views some moderately complex texts (see Text complexity)
- accurately retells a text including most relevant details
- identifies main idea and related or supporting ideas in moderately complex texts (see Text complexity)
- evaluates the accuracy within and across texts on the same topic
- explains how authors use evidence and supporting detail to build and verify ideas
- draws inferences and verifies using textual evidence

#### **Processes**

- monitors reading for meaning using grammatical and contextual knowledge (see Fluency)
- explains how textual features support the text's purpose
- identifies and explains techniques used to present perspective (e.g. emotive or descriptive language, order in which ideas are presented)
- predicts the development of ideas based on a partial read (e.g. predicts the final chapter of a

narrative, drawing on understanding of the textual features in the previous chapters)

- uses prior knowledge and context to read unknown words (e.g. uses morphemic knowledge of "explosion" to decode "explosive" and uses context and knowledge of metaphorical use of language to understand "explosive outburst")
- uses knowledge of cohesive devices to track meaning throughout a text (e.g. connectives such as "however", "on the other hand") (see Grammar)
- uses knowledge of the features and conventions of the type of text to build meaning (e.g. recognises that the beginning of a persuasive text may introduce the topic and the line of argument)
- identifies language features used to present opinions or points of view
- skims and scans texts for key words to track the development of ideas
- uses sophisticated punctuation to support meaning (e.g. commas to separate clauses in complex sentences)

#### Vocabulary

- uses knowledge of prefixes and suffixes to read and interpret unfamiliar words
- identifies how technical and discipline-specific words develop meaning in texts
- analyses the effect of antonyms, synonyms and idiomatic language
- understands precise meaning of words with similar connotations (e.g. "generous", "kind-hearted", "charitable")

## 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)

### Snapshot – Identify, process and evaluate information

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

# **Content description**

AC9S6H01

#### **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

- condense and combine selected information related to the topic of study
- 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

# **Snapshot – Measuring time**

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

# **Content description**

AC9S6H01

# 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)

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

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

### **Content description**

AC9S6H01

#### **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
- condense and combine selected information related to the topic of study
- 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

#### **Snapshot – Measuring time**

# Numeracy: Measurement and geometry: Measuring time

### **Content description**

AC9S6H01

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

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#### 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)

# Snapshot - Identify, process and evaluate information

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

# **Content description**

AC9S6H01

#### 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
- condense and combine selected information related to the topic of study
- 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

# **Snapshot – Understanding texts**

# Literacy: Reading and viewing: Understanding texts

### **Content description**

AC9S6H01

# **Learning progression extract**

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

#### Comprehension

- reads and views elementary texts (see Text complexity)
- locates information or details embedded in the text
- identifies the main idea in an elementary text
- identifies the purpose of a broad range of informative, imaginative and persuasive texts (e.g. advertisements, diary entry)
- draws inferences and identifies supporting evidence in the text
- monitors the development of ideas using language and visual features (e.g. topic sentences, key verbs, graphs)
- recognises that texts can present different points of view
- distinguishes between fact and opinion in texts
- compares and contrasts texts on the same topic to identify how authors represent the same ideas differently

#### **Processes**

• integrates phonic knowledge, word recognition skills, grammatical and contextual knowledge to read

elementary texts (see Phonic knowledge and word recognition and Fluency)

- identifies language features that signal purpose in an elementary text (e.g. diagrams, dialogue)
- uses strategies to predict and confirm meaning (e.g. uses sentence structure to predict how ideas will be developed)
- navigates texts using common signposting devices such as headings, subheadings, paragraphs, navigation bars and links

#### Vocabulary

- interprets creative use of figurative language (e.g. metaphor, simile, onomatopoeia)
- interprets unfamiliar words using grammatical knowledge, morphological knowledge and etymological knowledge
- describes the language and visual features of texts using metalanguage (e.g. grammatical terms such as "cohesion", "tense", "noun groups/phrases")
- recognises how synonyms are used to enhance a text (e.g. "transport", "carry", "transfer")
- draws on knowledge of word origin to work out meaning of discipline-specific terms (e.g. "universe")
- recognises how evaluative and modal words are used to influence the reader (e.g. "important", "should", "dirty")

#### Comprehension

- reads and views some moderately complex texts (see Text complexity)
- accurately retells a text including most relevant details
- identifies main idea and related or supporting ideas in moderately complex texts (see Text complexity)
- evaluates the accuracy within and across texts on the same topic
- explains how authors use evidence and supporting detail to build and verify ideas
- draws inferences and verifies using textual evidence

#### **Processes**

- monitors reading for meaning using grammatical and contextual knowledge (see Fluency)
- explains how textual features support the text's purpose
- identifies and explains techniques used to present perspective (e.g. emotive or descriptive language, order in which ideas are presented)
- predicts the development of ideas based on a partial read (e.g. predicts the final chapter of a narrative, drawing on understanding of the textual features in the previous chapters)
- uses prior knowledge and context to read unknown words (e.g. uses morphemic knowledge of "explosion" to decode "explosive" and uses context and knowledge of metaphorical use of language to understand "explosive outburst")
- uses knowledge of cohesive devices to track meaning throughout a text (e.g. connectives such as "however", "on the other hand") (see Grammar)
- uses knowledge of the features and conventions of the type of text to build meaning (e.g. recognises that the beginning of a persuasive text may introduce the topic and the line of argument)
- identifies language features used to present opinions or points of view
- skims and scans texts for key words to track the development of ideas
- uses sophisticated punctuation to support meaning (e.g. commas to separate clauses in complex sentences)

#### Vocabulary

- uses knowledge of prefixes and suffixes to read and interpret unfamiliar words
- identifies how technical and discipline-specific words develop meaning in texts
- analyses the effect of antonyms, synonyms and idiomatic language
- understands precise meaning of words with similar connotations (e.g. "generous", "kind-hearted", "charitable")

#### 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)

# **Snapshot – Understanding texts**

# Literacy: Reading and viewing: Understanding texts

# **Content description**

AC9S6H01

#### **Learning progression extract**

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

#### Comprehension

- reads and views elementary texts (see Text complexity)
- locates information or details embedded in the text
- identifies the main idea in an elementary text
- identifies the purpose of a broad range of informative, imaginative and persuasive texts (e.g. advertisements, diary entry)
- draws inferences and identifies supporting evidence in the text
- monitors the development of ideas using language and visual features (e.g. topic sentences, key verbs, graphs)
- recognises that texts can present different points of view
- distinguishes between fact and opinion in texts
- compares and contrasts texts on the same topic to identify how authors represent the same ideas differently

#### **Processes**

- integrates phonic knowledge, word recognition skills, grammatical and contextual knowledge to read elementary texts (see Phonic knowledge and word recognition and Fluency)
- identifies language features that signal purpose in an elementary text (e.g. diagrams, dialogue)
- uses strategies to predict and confirm meaning (e.g. uses sentence structure to predict how ideas will be developed)
- navigates texts using common signposting devices such as headings, subheadings, paragraphs, navigation bars and links

#### Vocabulary

- interprets creative use of figurative language (e.g. metaphor, simile, onomatopoeia)
- interprets unfamiliar words using grammatical knowledge, morphological knowledge and etymological

#### knowledge

- describes the language and visual features of texts using metalanguage (e.g. grammatical terms such as "cohesion", "tense", "noun groups/phrases")
- recognises how synonyms are used to enhance a text (e.g. "transport", "carry", "transfer")
- draws on knowledge of word origin to work out meaning of discipline-specific terms (e.g. "universe")
- recognises how evaluative and modal words are used to influence the reader (e.g. "important", "should", "dirty")

#### Comprehension

- reads and views some moderately complex texts (see Text complexity)
- accurately retells a text including most relevant details
- identifies main idea and related or supporting ideas in moderately complex texts (see Text complexity)
- evaluates the accuracy within and across texts on the same topic
- explains how authors use evidence and supporting detail to build and verify ideas
- draws inferences and verifies using textual evidence

#### **Processes**

- monitors reading for meaning using grammatical and contextual knowledge (see Fluency)
- explains how textual features support the text's purpose
- identifies and explains techniques used to present perspective (e.g. emotive or descriptive language, order in which ideas are presented)
- predicts the development of ideas based on a partial read (e.g. predicts the final chapter of a narrative, drawing on understanding of the textual features in the previous chapters)
- uses prior knowledge and context to read unknown words (e.g. uses morphemic knowledge of "explosion" to decode "explosive" and uses context and knowledge of metaphorical use of language to understand "explosive outburst")
- uses knowledge of cohesive devices to track meaning throughout a text (e.g. connectives such as "however", "on the other hand") (see Grammar)
- uses knowledge of the features and conventions of the type of text to build meaning (e.g. recognises that the beginning of a persuasive text may introduce the topic and the line of argument)
- identifies language features used to present opinions or points of view
- skims and scans texts for key words to track the development of ideas
- uses sophisticated punctuation to support meaning (e.g. commas to separate clauses in complex sentences)

#### **Vocabulary**

- uses knowledge of prefixes and suffixes to read and interpret unfamiliar words
- identifies how technical and discipline-specific words develop meaning in texts
- analyses the effect of antonyms, synonyms and idiomatic language
- understands precise meaning of words with similar connotations (e.g. "generous", "kind-hearted", "charitable")

#### 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)

# AC9S6H02

investigate how scientific knowledge is used by individuals and communities to identify problems, consider responses and make decisions

#### •

#### **Elaborations**

- exploring how communities consider the impact of aquatic noise pollution when designing guidelines for water sports
- investigating how people use knowledge of conditions that reduce mould or bacterial growth when considering food packaging and storage
- considering how people use electrical device guidelines to help ensure safety of children
- investigating why underground power cables were developed and how local government authorities use scientific knowledge about power safety when considering converting to underground power Students learn to:

# investigate how scientific knowledge is used by individuals and communities to ide consider responses and make decisions

(AC9S6H02)

## General capabilities and cross-curriculum priorities

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

#### Inquiring

• Identify, process and evaluate information

#### Social awareness

Community awareness

#### Social management

Decision-making

#### **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.

### Reading and viewing

Understanding texts

#### **Futures**

 Sustainable futures are achieved through informed individual, community, business and political action that values local, national and global equity and fairness across generations into the future.

#### **Systems**

Social, economic and political systems influence the sustainability of Earth's systems.

#### Reflecting

Transfer knowledge

#### Social awareness

· Community awareness

#### Social management

Decision-making

## Reading and viewing

Understanding texts

#### Social awareness

Community awareness

## Social management

Decision-making

#### Inquiring

• Identify, process and evaluate information

#### Social awareness

Community awareness

#### Social management

Decision-making

#### Resources

# **Work Samples**

# WS01 - Mouldy bread

# Snapshot – Identify, process and evaluate information

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

# **Content description**

AC9S6H02

#### 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
- condense and combine selected information related to the topic of study
- 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

#### Snapshot – Community awareness

# Personal and Social capability: Social awareness: Community awareness

## **Content description**

AC9S6H02

#### **Continuum extract**

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

- describe the various communities beyond their own and what they can do to support them
- explain the way their actions and the actions of others influence communities
- analyse roles and responsibilities of citizens within communities

#### Snapshot – Decision-making

# Personal and Social capability: Social management: Decision-making

#### Content description

AC9S6H02

# **Continuum extract**

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

- describe factors that influence decision-making and predict outcomes of individual and group decisions
- explain factors that influence individual and group decision-making and consider the usefulness of

these factors when making decisions

devise and analyse individual and group decision-making processes

# **Snapshot – Understanding texts**

# Literacy: Reading and viewing: Understanding texts

# **Content description**

AC9S6H02

# Learning progression extract

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

# Comprehension

- reads and views elementary texts (see Text complexity)
- locates information or details embedded in the text
- identifies the main idea in an elementary text
- identifies the purpose of a broad range of informative, imaginative and persuasive texts (e.g. advertisements, diary entry)
- draws inferences and identifies supporting evidence in the text
- monitors the development of ideas using language and visual features (e.g. topic sentences, key verbs, graphs)
- recognises that texts can present different points of view
- · distinguishes between fact and opinion in texts
- compares and contrasts texts on the same topic to identify how authors represent the same ideas differently

#### **Processes**

- integrates phonic knowledge, word recognition skills, grammatical and contextual knowledge to read elementary texts (see Phonic knowledge and word recognition and Fluency)
- identifies language features that signal purpose in an elementary text (e.g. diagrams, dialogue)
- uses strategies to predict and confirm meaning (e.g. uses sentence structure to predict how ideas will be developed)
- navigates texts using common signposting devices such as headings, subheadings, paragraphs, navigation bars and links

#### Vocabulary

- interprets creative use of figurative language (e.g. metaphor, simile, onomatopoeia)
- interprets unfamiliar words using grammatical knowledge, morphological knowledge and etymological knowledge
- describes the language and visual features of texts using metalanguage (e.g. grammatical terms such as "cohesion", "tense", "noun groups/phrases")
- recognises how synonyms are used to enhance a text (e.g. "transport", "carry", "transfer")
- draws on knowledge of word origin to work out meaning of discipline-specific terms (e.g. "universe")
- recognises how evaluative and modal words are used to influence the reader (e.g. "important", "should", "dirty")

#### Comprehension

- reads and views some moderately complex texts (see Text complexity)
- accurately retells a text including most relevant details
- identifies main idea and related or supporting ideas in moderately complex texts (see Text complexity)
- evaluates the accuracy within and across texts on the same topic
- explains how authors use evidence and supporting detail to build and verify ideas
- draws inferences and verifies using textual evidence

## **Processes**

- monitors reading for meaning using grammatical and contextual knowledge (see Fluency)
- explains how textual features support the text's purpose
- identifies and explains techniques used to present perspective (e.g. emotive or descriptive language, order in which ideas are presented)
- predicts the development of ideas based on a partial read (e.g. predicts the final chapter of a

narrative, drawing on understanding of the textual features in the previous chapters)

- uses prior knowledge and context to read unknown words (e.g. uses morphemic knowledge of "explosion" to decode "explosive" and uses context and knowledge of metaphorical use of language to understand "explosive outburst")
- uses knowledge of cohesive devices to track meaning throughout a text (e.g. connectives such as "however", "on the other hand") (see Grammar)
- uses knowledge of the features and conventions of the type of text to build meaning (e.g. recognises that the beginning of a persuasive text may introduce the topic and the line of argument)
- identifies language features used to present opinions or points of view
- skims and scans texts for key words to track the development of ideas
- uses sophisticated punctuation to support meaning (e.g. commas to separate clauses in complex sentences)

#### Vocabulary

- uses knowledge of prefixes and suffixes to read and interpret unfamiliar words
- identifies how technical and discipline-specific words develop meaning in texts
- analyses the effect of antonyms, synonyms and idiomatic language
- understands precise meaning of words with similar connotations (e.g. "generous", "kind-hearted", "charitable")

## 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)

# **Snapshot – Transfer knowledge**

# Critical and Creative Thinking: Reflecting: Transfer knowledge

# **Content description**

AC9S6H02

#### **Continuum extract**

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

• use aspects of knowledge and skills gained in one setting to inform learning in a new setting or

context

- 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

# **Snapshot – Community awareness**

# Personal and Social capability: Social awareness: Community awareness

#### **Content description**

AC9S6H02

#### **Continuum extract**

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

- describe the various communities beyond their own and what they can do to support them
- explain the way their actions and the actions of others influence communities
- analyse roles and responsibilities of citizens within communities

# **Snapshot – Decision-making**

# Personal and Social capability: Social management: Decision-making

## **Content description**

AC9S6H02

#### Continuum extract

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

- describe factors that influence decision-making and predict outcomes of individual and group decisions
- explain factors that influence individual and group decision-making and consider the usefulness of these factors when making decisions
- devise and analyse individual and group decision-making processes

#### Snapshot - Understanding texts

# Literacy: Reading and viewing: Understanding texts

# **Content description**

AC9S6H02

#### **Learning progression extract**

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

#### Comprehension

- reads and views elementary texts (see Text complexity)
- locates information or details embedded in the text
- identifies the main idea in an elementary text
- identifies the purpose of a broad range of informative, imaginative and persuasive texts (e.g. advertisements, diary entry)
- draws inferences and identifies supporting evidence in the text
- monitors the development of ideas using language and visual features (e.g. topic sentences, key verbs, graphs)
- recognises that texts can present different points of view
- · distinguishes between fact and opinion in texts
- compares and contrasts texts on the same topic to identify how authors represent the same ideas differently

#### **Processes**

- integrates phonic knowledge, word recognition skills, grammatical and contextual knowledge to read elementary texts (see Phonic knowledge and word recognition and Fluency)
- identifies language features that signal purpose in an elementary text (e.g. diagrams, dialogue)
- uses strategies to predict and confirm meaning (e.g. uses sentence structure to predict how ideas will be developed)
- navigates texts using common signposting devices such as headings, subheadings, paragraphs, navigation bars and links

#### Vocabulary

- interprets creative use of figurative language (e.g. metaphor, simile, onomatopoeia)
- interprets unfamiliar words using grammatical knowledge, morphological knowledge and etymological knowledge
- describes the language and visual features of texts using metalanguage (e.g. grammatical terms such as "cohesion", "tense", "noun groups/phrases")
- recognises how synonyms are used to enhance a text (e.g. "transport", "carry", "transfer")
- draws on knowledge of word origin to work out meaning of discipline-specific terms (e.g. "universe")
- recognises how evaluative and modal words are used to influence the reader (e.g. "important", "should", "dirty")

#### Comprehension

- reads and views some moderately complex texts (see Text complexity)
- accurately retells a text including most relevant details
- identifies main idea and related or supporting ideas in moderately complex texts (see Text complexity)
- evaluates the accuracy within and across texts on the same topic
- explains how authors use evidence and supporting detail to build and verify ideas
- draws inferences and verifies using textual evidence

#### **Processes**

- monitors reading for meaning using grammatical and contextual knowledge (see Fluency)
- explains how textual features support the text's purpose
- identifies and explains techniques used to present perspective (e.g. emotive or descriptive language, order in which ideas are presented)
- predicts the development of ideas based on a partial read (e.g. predicts the final chapter of a narrative, drawing on understanding of the textual features in the previous chapters)
- uses prior knowledge and context to read unknown words (e.g. uses morphemic knowledge of "explosion" to decode "explosive" and uses context and knowledge of metaphorical use of language to understand "explosive outburst")
- uses knowledge of cohesive devices to track meaning throughout a text (e.g. connectives such as "however", "on the other hand") (see Grammar)
- uses knowledge of the features and conventions of the type of text to build meaning (e.g. recognises that the beginning of a persuasive text may introduce the topic and the line of argument)
- identifies language features used to present opinions or points of view
- skims and scans texts for key words to track the development of ideas
- uses sophisticated punctuation to support meaning (e.g. commas to separate clauses in complex sentences)

#### Vocabulary

- uses knowledge of prefixes and suffixes to read and interpret unfamiliar words
- identifies how technical and discipline-specific words develop meaning in texts
- analyses the effect of antonyms, synonyms and idiomatic language
- understands precise meaning of words with similar connotations (e.g. "generous", "kind-hearted", "charitable")

#### 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)

#### **Snapshot – Community awareness**

# Personal and Social capability: Social awareness: Community awareness

## **Content description**

AC9S6H02

## **Continuum extract**

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

- describe the various communities beyond their own and what they can do to support them
- explain the way their actions and the actions of others influence communities
- analyse roles and responsibilities of citizens within communities

### **Snapshot – Decision-making**

# Personal and Social capability: Social management: Decision-making

## **Content description**

AC9S6H02

#### Continuum extract

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

- describe factors that influence decision-making and predict outcomes of individual and group decisions
- explain factors that influence individual and group decision-making and consider the usefulness of these factors when making decisions
- devise and analyse individual and group decision-making processes

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

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

# **Content description**

AC9S6H02

#### **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
- condense and combine selected information related to the topic of study
- 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

# **Snapshot – Community awareness**

# Personal and Social capability: Social awareness: Community awareness

### **Content description**

AC9S6H02

#### **Continuum extract**

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

- describe the various communities beyond their own and what they can do to support them
- explain the way their actions and the actions of others influence communities
- analyse roles and responsibilities of citizens within communities

#### Snapshot – Decision-making

# Personal and Social capability: Social management: Decision-making

#### **Content description**

AC9S6H02

#### Continuum extract

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

- describe factors that influence decision-making and predict outcomes of individual and group decisions
- explain factors that influence individual and group decision-making and consider the usefulness of these factors when making decisions
- devise and analyse individual and group decision-making processes

#### Resource - WS01 - Mouldy bread

By the end of Year 6 students explain how changes in physical conditions affect living things. They model the relationship between the sun and planets of the solar system and explain how the relative positions of Earth and the sun relate to observed phenomena on Earth. They identify the role of circuit components in the transfer and transformation of electrical energy. They classify and compare reversible and irreversible changes to substances. They explain why science is often collaborative and describe different individuals' contributions to scientific knowledge. They describe how individuals and communities use scientific knowledge.

Students plan safe, repeatable investigations to identify patterns and test relationships and make reasoned predictions. They describe risks associated with investigations and key intercultural considerations when planning field work. They identify variables to be changed, measured and controlled. They use equipment to generate and record data with appropriate precision. They construct representations to organise and process data and information and describe patterns, trends and relationships. They identify possible sources of error in their own and others' methods and findings, pose questions for further investigation and select evidence to support reasoned conclusions. They select and use language features effectively for their purpose and audience when communicating their ideas and findings.

#### AC9S6U01

investigate the physical conditions of a habitat and analyse how the growth and survival of living things is affected by changing physical conditions

## AC9S6H02

investigate how scientific knowledge is used by individuals and communities to identify problems, consider responses and make decisions

#### AC9S6101

pose investigable questions to identify patterns and test relationships and make reasoned predictions

#### AC9S6102

plan and conduct repeatable investigations to answer questions including, as appropriate, deciding the variables to be changed, measured and controlled in fair tests; describing potential risks; planning for the safe use of equipment and materials; and identifying required permissions to conduct investigations on Country/Place

# AC9S6103

use equipment to observe, measure and record data with reasonable precision, using digital tools as appropriate

## AC9S6I04

construct and use appropriate representations, including tables, graphs and visual or physical models, to organise and process data and information and describe patterns, trends and relationships **AC9S6I06** 

write and create texts to communicate ideas and findings for specific purposes and audiences, including selection of language features, using digital tools as appropriate

#### AC9S6101

## pose investigable questions to identify and test and make reasoned predictions

•

#### **Elaborations**

- posing investigable questions to identify, such as: 'What type of is the best conductor and what is the best insulator?'
- posing investigable questions to test, such as: 'Will more salt dissolve in warm water than in cold water?'
- discussing and refining questions to enable scientific
- making reasoned predictions about the physical conditions that will result in the largest mould colonies growing on bread
- making reasoned predictions about electrical circuit function based on a picture or diagram of a circuit

Students learn to:

# pose investigable questions to identify patterns and test relationships and make reappredictions

(AC9S6I01)

#### General capabilities and cross-curriculum priorities

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

#### Generating

Put ideas into action

#### Inquiring

Develop questions

# Speaking and listening

Interacting

#### **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

Develop questions

#### Inquiring

Develop questions

#### Generating

Put ideas into action

#### Speaking and listening

Interacting

## Generating

• Put ideas into action

## Speaking and listening

Interacting

#### Generating

Put ideas into action

#### Speaking and listening

Speaking

Resources

# **Work Samples**

# WS01 - Mouldy bread

# Snapshot – Put ideas into action

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

# **Content description**

AC9S6I01

#### Continuum extract

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

- put ideas into action by predicting an outcome, trialling options and assessing their effectiveness
- 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

## **Snapshot – Develop questions**

# Critical and Creative Thinking: Inquiring: Develop questions

# **Content description**

AC9S6I01

#### **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 support the process of improving knowledge and understanding about a topic or investigation
- 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

#### Snapshot – Interacting

# Literacy: Speaking and listening: Interacting

# **Content description**

AC9S6I01

#### Learning progression extract

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

- interacts to extend and elaborate ideas in a discussion (e.g. provides an additional example)
- presents simple ideas clearly in group situations
- actively encourages or supports other speakers
- shows awareness of discussion conventions (e.g. uses appropriate language to express agreement and disagreement in class discussions)
- uses language to initiate interactions in a small group situation (e.g. "I have an idea")
- critically evaluate ideas and claims made by a speaker
- explains new learning from interacting with others
- appropriately presents an alternative point to the previous speaker
- initiates interactions confidently in group and whole-class discussions
- poses pertinent questions to make connections between a range of ideas
- uses open questions to prompt a speaker to provide more information

- · clarifies task goals and negotiates roles in group learning
- monitors discussion to manage digression from the topic
- identifies and articulates the perspective of a speaker, to move a conversation forward
- interacts within school context or the broader community, adjusting language and responses to suit purpose and audience
- synthesises ideas from group discussion into a common theme or hypothesis
- poses problems, hypothesises and formulates questions about abstract ideas in group situations
- restates different views and makes suggestions to negotiate agreement
- poses questions to clarify assumptions made by the speaker
- questions others to evaluate accuracy of thinking or problem-solving processes
- uses language to align the listener with personal position (e.g. "of course", "as you can imagine", "obviously")

#### **Snapshot – Develop questions**

# Critical and Creative Thinking: Inquiring: Develop questions

# **Content description**

AC9S6I01

#### **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 support the process of improving knowledge and understanding about a topic or investigation
- 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

#### **Snapshot – Develop questions**

# Critical and Creative Thinking: Inquiring: Develop questions

# **Content description**

AC9S6I01

#### **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 support the process of improving knowledge and understanding about a topic or investigation
- 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

#### Snapshot – Put ideas into action

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

#### **Content description**

AC9S6I01

#### Continuum extract

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

- put ideas into action by predicting an outcome, trialling options and assessing their effectiveness
- 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

#### Snapshot – Interacting

# Literacy: Speaking and listening: Interacting

### **Content description**

AC9S6I01

#### **Learning progression extract**

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

- interacts to extend and elaborate ideas in a discussion (e.g. provides an additional example)
- presents simple ideas clearly in group situations
- actively encourages or supports other speakers
- shows awareness of discussion conventions (e.g. uses appropriate language to express agreement and disagreement in class discussions)
- uses language to initiate interactions in a small group situation (e.g. "I have an idea")
- critically evaluate ideas and claims made by a speaker
- explains new learning from interacting with others
- appropriately presents an alternative point to the previous speaker
- initiates interactions confidently in group and whole-class discussions
- poses pertinent questions to make connections between a range of ideas
- uses open questions to prompt a speaker to provide more information
- clarifies task goals and negotiates roles in group learning
- monitors discussion to manage digression from the topic
- identifies and articulates the perspective of a speaker, to move a conversation forward
- interacts within school context or the broader community, adjusting language and responses to suit purpose and audience
- synthesises ideas from group discussion into a common theme or hypothesis
- poses problems, hypothesises and formulates questions about abstract ideas in group situations
- restates different views and makes suggestions to negotiate agreement
- poses questions to clarify assumptions made by the speaker
- questions others to evaluate accuracy of thinking or problem-solving processes
- uses language to align the listener with personal position (e.g. "of course", "as you can imagine", "obviously")

## Snapshot - Put ideas into action

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

#### **Content description**

AC9S6I01

#### Continuum extract

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

- put ideas into action by predicting an outcome, trialling options and assessing their effectiveness
- 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

#### Snapshot - Interacting

# Literacy: Speaking and listening: Interacting

## **Content description**

AC9S6I01

#### **Learning progression extract**

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

- interacts to extend and elaborate ideas in a discussion (e.g. provides an additional example)
- presents simple ideas clearly in group situations
- actively encourages or supports other speakers
- shows awareness of discussion conventions (e.g. uses appropriate language to express agreement and disagreement in class discussions)
- uses language to initiate interactions in a small group situation (e.g. "I have an idea")
- critically evaluate ideas and claims made by a speaker

- explains new learning from interacting with others
- appropriately presents an alternative point to the previous speaker
- initiates interactions confidently in group and whole-class discussions
- poses pertinent questions to make connections between a range of ideas
- uses open questions to prompt a speaker to provide more information
- clarifies task goals and negotiates roles in group learning
- monitors discussion to manage digression from the topic
- identifies and articulates the perspective of a speaker, to move a conversation forward
- interacts within school context or the broader community, adjusting language and responses to suit purpose and audience
- synthesises ideas from group discussion into a common theme or hypothesis
- poses problems, hypothesises and formulates questions about abstract ideas in group situations
- restates different views and makes suggestions to negotiate agreement
- poses questions to clarify assumptions made by the speaker
- questions others to evaluate accuracy of thinking or problem-solving processes
- uses language to align the listener with personal position (e.g. "of course", "as you can imagine", "obviously")

## Snapshot - Put ideas into action

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

## **Content description**

AC9S6I01

#### **Continuum extract**

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

- put ideas into action by predicting an outcome, trialling options and assessing their effectiveness
- 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

#### Snapshot – Speaking

# Literacy: Speaking and listening: Speaking

## **Content description**

AC9S6I01

#### Learning progression extract

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

#### Crafting ideas

- creates spoken texts for a range of purposes across learning areas (e.g. explains how the mathematics problem was solved)
- uses complex sentence constructions including relative clauses (e.g. "The boy who drew the picture got a prize.") (see Grammar)
- adjusts register according to purpose and audience
- elaborates on ideas using a short sequence of sentences
- incorporates learnt content into spoken text
- sequences ideas and events appropriately
- uses mainly correct grammatical constructions (e.g. pronoun references; noun-verb agreement)
- varies volume and intonation to suit purpose and audience
- plans and delivers spoken presentations using appropriate structure and language
- includes video and audio enhancements to spoken texts, where appropriate (e.g. includes slides or pictures in a spoken presentation)

#### Vocabulary

- experiments with vocabulary drawn from a variety of sources
- uses adverbials to give more precise meaning to verbs (e.g. talking loudly) (see Grammar)
- uses a range of vocabulary to indicate connections (e.g. consequences)
- uses conditional vocabulary to expand upon ideas (e.g. "If Goldilocks ate all the porridge the

bears would be hungry.")

#### Crafting ideas

- creates detailed spoken texts on a broad range of learning area topics
- includes details and elaborations to expand ideas
- uses connectives to signal a change in relationship (e.g. "however", "although", "on the other hand") or to show causal relationships (e.g. "due to", "since") (see Grammar)
- uses a range of expressions to introduce an alternative point of view (e.g. "in my opinion", "he did not agree with")
- rehearses spoken text to accommodate time and technology
- controls tone, volume, pitch and pace to suit content and audience
- uses technologies or audio and visual features to enhance spoken text (e.g. videos a spoken presentation with music, sound effect enhancements)

#### Vocabulary

- uses a broader range of more complex noun groups/phrases to expand description (e.g. "protective, outer covering")
- selects more specific and precise words to replace general words (e.g. uses "difficult" or "challenging" for "hard")
- uses some rhetorical devices (e.g. "don't you agree?")

#### **Crafting ideas**

- creates spoken texts responsive to audience and a broad range of learning area topics, clearly articulating words and ideas
- organises more complex ideas or concepts logically, selecting details to accentuate key points
- speaks audibly and coherently to a less familiar audience for a sustained period
- shows increasing awareness of audience by moderating length, content and delivery of spoken texts
- adjusts register according to purpose and audience
- does research to prepare spoken texts
- uses a range of technology, and audio and visual resources to engage audience and enhance content **Vocabulary**
- varies vocabulary to add interest and to describe with greater precision (e.g. uses topic-specific noun groups/phrases such as "exploitation of resources") (see Grammar)
- uses language creatively (e.g. "the moon shines bravely")
- uses sensory vocabulary to engage the audience (e.g. "a gasp of dismay")
- uses technical vocabulary to demonstrate topic knowledge (e.g. "deforestation")
- consistently uses a range of synonyms to add variety and precision to spoken text
- uses abstractions (e.g. "freedom", "fairness")

#### Resource – WS01 - Mouldy bread

By the end of Year 6 students explain how changes in physical conditions affect living things. They model the relationship between the sun and planets of the solar system and explain how the relative positions of Earth and the sun relate to observed phenomena on Earth. They identify the role of circuit components in the transfer and transformation of electrical energy. They classify and compare reversible and irreversible changes to substances. They explain why science is often collaborative and describe different individuals' contributions to scientific knowledge. They describe how individuals and communities use scientific knowledge.

Students plan safe, repeatable investigations to identify patterns and test relationships and make reasoned predictions. They describe risks associated with investigations and key intercultural considerations when planning field work. They identify variables to be changed, measured and controlled. They use equipment to generate and record data with appropriate precision. They construct representations to organise and process data and information and describe patterns, trends and relationships. They identify possible sources of error in their own and others' methods and findings, pose questions for further investigation and select evidence to support reasoned conclusions. They select and use language features effectively for their purpose and audience when communicating their ideas and findings.

investigate the physical conditions of a habitat and analyse how the growth and survival of living things is affected by changing physical conditions

#### AC9S6H02

investigate how scientific knowledge is used by individuals and communities to identify problems, consider responses and make decisions

#### AC9S6101

pose investigable questions to identify patterns and test relationships and make reasoned predictions

#### AC9S6102

plan and conduct repeatable investigations to answer questions including, as appropriate, deciding the variables to be changed, measured and controlled in fair tests; describing potential risks; planning for the safe use of equipment and materials; and identifying required permissions to conduct investigations on Country/Place

#### AC9S6103

use equipment to observe, measure and record data with reasonable precision, using digital tools as appropriate

# AC9S6104

construct and use appropriate representations, including tables, graphs and visual or physical models, to organise and process data and information and describe patterns, trends and relationships **AC9S6I06** 

write and create texts to communicate ideas and findings for specific purposes and audiences, including selection of language features, using digital tools as appropriate

#### AC9S6102

plan and conduct to answer questions including, as appropriate, deciding the to be changed, measured and controlled in; describing potential risks; planning for the safe use of equipment and; and identifying required permissions to conduct on

#### **Elaborations**

- considering different ways to approach including researching, using trial and error, experimental testing, field, accessing to collect and manage and using virtual
- determining which is the being tested and which is being measured, and which other might affect their and need to be kept the same
- identifying potential risks to themselves or others when conducting an and explaining rules for safe processes and use of equipment and
- consulting with First Nations Australians land councils in seeking permissions to conduct scientific on traditional Lands and seeking guidance regarding culturally sensitive locations during field work

Students learn to:

plan and conduct repeatable investigations to answer questions including, as approached the variables to be changed, measured and controlled in fair tests; describing poter planning for the safe use of equipment and materials; and identifying required permoduct investigations on Country/Place

(AC9S6I02)

# 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

#### Culture

First Nations Australians' ways of life reflect unique ways of being, knowing, thinking and doing.

#### **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 .

#### Investigating

• Acquire and collate data

#### Speaking and listening

Interacting

#### Generating

Put ideas into action

#### Speaking and listening

Interacting

## Generating

Put ideas into action

#### Responding to ethical issues

· Explore ethical issues

#### Culture

First Nations Australians' ways of life reflect unique ways of being, knowing, thinking and doing.

#### Related content

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

AC9M6ST03

#### Resources

#### Work Samples

# WS01 - Mouldy bread

#### Snapshot – Explore ethical issues

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

## Content description

AC9S6I02

#### **Continuum extract**

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

- use examples to describe how people may have different values and perspectives that they apply to an ethical issue
- 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

#### Snapshot – Acquire and collate data

# Digital Literacy: Investigating: Acquire and collate data

#### Content description

AC9S6I02

#### **Continuum extract**

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

- collect and access data using a range of digital tools and methods in response to a defined question
- collect and access data using a range of digital tools and methods in response to a defined question or problem
- collect and access data from a range of sources, using specialised digital tools in response to problems, and evaluate it for relevance

#### Snapshot – Interacting

# Literacy: Speaking and listening: Interacting

### **Content description**

AC9S6I02

#### **Learning progression extract**

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

- interacts to extend and elaborate ideas in a discussion (e.g. provides an additional example)
- presents simple ideas clearly in group situations
- actively encourages or supports other speakers
- shows awareness of discussion conventions (e.g. uses appropriate language to express agreement and disagreement in class discussions)
- uses language to initiate interactions in a small group situation (e.g. "I have an idea")
- critically evaluate ideas and claims made by a speaker
- explains new learning from interacting with others
- appropriately presents an alternative point to the previous speaker
- initiates interactions confidently in group and whole-class discussions
- poses pertinent questions to make connections between a range of ideas
- uses open questions to prompt a speaker to provide more information
- clarifies task goals and negotiates roles in group learning
- monitors discussion to manage digression from the topic
- identifies and articulates the perspective of a speaker, to move a conversation forward
- interacts within school context or the broader community, adjusting language and responses to suit purpose and audience
- synthesises ideas from group discussion into a common theme or hypothesis
- poses problems, hypothesises and formulates questions about abstract ideas in group situations
- restates different views and makes suggestions to negotiate agreement
- poses questions to clarify assumptions made by the speaker
- questions others to evaluate accuracy of thinking or problem-solving processes
- uses language to align the listener with personal position (e.g. "of course", "as you can imagine", "obviously")

## Snapshot - Put ideas into action

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

#### **Content description**

AC9S6I02

#### Continuum extract

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

- put ideas into action by predicting an outcome, trialling options and assessing their effectiveness
- 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

#### Snapshot - Interacting

# Literacy: Speaking and listening: Interacting

## **Content description**

AC9S6I02

#### **Learning progression extract**

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

- interacts to extend and elaborate ideas in a discussion (e.g. provides an additional example)
- presents simple ideas clearly in group situations
- actively encourages or supports other speakers
- shows awareness of discussion conventions (e.g. uses appropriate language to express agreement and disagreement in class discussions)
- uses language to initiate interactions in a small group situation (e.g. "I have an idea")
- critically evaluate ideas and claims made by a speaker

- explains new learning from interacting with others
- appropriately presents an alternative point to the previous speaker
- initiates interactions confidently in group and whole-class discussions
- poses pertinent questions to make connections between a range of ideas
- uses open questions to prompt a speaker to provide more information
- · clarifies task goals and negotiates roles in group learning
- monitors discussion to manage digression from the topic
- identifies and articulates the perspective of a speaker, to move a conversation forward
- interacts within school context or the broader community, adjusting language and responses to suit purpose and audience
- synthesises ideas from group discussion into a common theme or hypothesis
- poses problems, hypothesises and formulates questions about abstract ideas in group situations
- restates different views and makes suggestions to negotiate agreement
- poses questions to clarify assumptions made by the speaker
- questions others to evaluate accuracy of thinking or problem-solving processes
- uses language to align the listener with personal position (e.g. "of course", "as you can imagine", "obviously")

## Snapshot - Put ideas into action

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

## **Content description**

AC9S6I02

#### **Continuum extract**

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

- put ideas into action by predicting an outcome, trialling options and assessing their effectiveness
- 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

#### Snapshot – Explore ethical issues

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

# **Content description**

AC9S6I02

## **Continuum extract**

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

- use examples to describe how people may have different values and perspectives that they apply to an ethical issue
- 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

#### AC9S6103

#### use equipment to observe, measure and record with reasonable, using as appropriate

#### **Elaborations**

- selecting and using instruments with the correct scale for measuring with appropriate , such as a multimeter
- recording in tables and diagrams or electronically as digital images and spreadsheets
- discussing why is important in measurement, and the possible effect of low on findings
- recording using standard units, such as volt, ampere, gram, second and metre, and developing the use of standard prefixes for metric units such as kilo- and milli-
- using such as digital thermometers or soil moisture probes to collect over time and record in spreadsheets

Students learn to:

# use equipment to observe, measure and record data with reasonable precision, using appropriate

(AC9S6I03)

#### General capabilities and cross-curriculum priorities

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

#### Investigating

Acquire and collate data

#### Measurement and geometry

Understanding units of measurement

#### Number sense and algebra

Number and place value

#### Statistics and probability

· Interpreting and representing data

#### **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

Put ideas into action

## Statistics and probability

Interpreting and representing data

#### Investigating

Acquire and collate data

#### Generating

• Put ideas into action

#### Generating

Put ideas into action

#### Measurement and geometry

Understanding units of measurement

#### Investigating

Acquire and collate data

#### Statistics and probability

Interpreting and representing data

#### Related content

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

#### Resources

#### **Work Samples**

## WS01 - Mouldy bread

#### Snapshot - Acquire and collate data

# Digital Literacy: Investigating: Acquire and collate data

## **Content description**

AC9S6I03

#### **Continuum extract**

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

- collect and access data using a range of digital tools and methods in response to a defined question
- collect and access data using a range of digital tools and methods in response to a defined question or problem
- collect and access data from a range of sources, using specialised digital tools in response to problems, and evaluate it for relevance

## Snapshot - Understanding units of measurement

# Numeracy: Measurement and geometry: Understanding units of measurement

# **Content description**

AC9S6I03

# **Learning progression extract**

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

#### Using metric units

- calculates perimeter using properties of two-dimensional shapes to determine unknown lengths
- measures and calculates the area of different shapes using metric units and a range of strategies

#### Angles as measures of turn

• estimates and measures angles in degrees up to one revolution (e.g. uses a protractor to measure the size of an angle; estimates angles, such as those formed at the elbows when releasing an object; determines the effect of angles on the trajectory, height and distance of flight during jumps and throws in athletics)

#### **Converting units**

- converts between metric units of measurement of the same attribute (e.g. converts centimetres into millimetres by multiplying by 10 10 1 0; uses the consistent naming of metric prefixes to convert between adjacent units)
- describes and uses the relationship between metric units of measurement and the base- 10 10 1 0 place value system to accurately measure and record measurements using decimals

#### Using metric units and formulas

 establishes and uses formulas and metric units for calculating the area of rectangles and triangles

#### Angles as measures of turn

• measures and uses key angles ( 45 45 4 5 ■, 90 90 9 0 ■, 180 180 1 8 0 ■, 360 360 3 6 0 ■) to define other angles according to their size (e.g. measures a right angle to be 90■ and uses this to determine if 2 2 2 lengths are perpendicular)

#### Using metric units and formulas

- establishes and uses formulas for calculating the area of parallelograms, trapeziums, rhombuses and kites
- establishes and uses formulas for calculating the volume and surface area of a range of right prisms

#### **Circle measurements**

- informally estimates the circumference of a circle using the radius or diameter
- establishes the relationship between the circumference and the diameter of a circle as the constant  $\pi$  \pi  $\pi$
- calculates the circumference and the area of a circle using  $\pi \neq \pi$  and a known diameter or radius

#### Snapshot – Number and place value

# Numeracy: Number sense and algebra: Number and place value

# Content description

AC9S6I03

#### **Learning progression extract**

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

#### Numeral recognition and identification

• identifies, reads, writes and interprets decimal numbers applying knowledge of the place value periods of tenths, hundredths and thousandths and beyond

#### Place value

- compares the size of decimals to other numbers including natural numbers and decimals expressed to different numbers of places (e.g. selects 0.35 0.35 0 . 3 5 as the greatest number from the set 0.2 , 0.125 , 0.35 0.2, 0.125, 0.35 0 . 2 , 0 . 1 2 5 , 0 . 3 5 ; explains that 2 2 2 is greater than 1.845 1.845 1 . 8 4 5 )
- describes the multiplicative relationship between the adjacent positions in place value for decimals (e.g. understands that 0.2 0.2 0 . 2 is 10 10 1 0 times as great as 0.02 0.02 0 . 0 2 and

that 100 100 1 0 0 times 0.005 0.005 0 . 0 0 5 is 0.5 0.5 0 . 5 )

- compares and orders decimals greater than one including those expressed to an unequal number of places (e.g. compares the heights of students in the class that are expressed in metres such as 1.6 1.6 1.6 m is taller than 1.52 1.52 1.52 m; correctly orders the numbers 1.4 1.4 1.4, 1.375 1.375 1.375 and 2.15 2.15 2.15 from least to greatest)
- rounds decimals to one and 2 decimal places for a purpose

#### Numeral recognition and identification

• reads, represents, interprets and uses negative numbers in computation (e.g. explains that the temperature – 10 10 1 0 °C is colder than the temperature – 2.5 2.5 2 . 5 °C; recognises that negative numbers are less than zero; locates – 12 12 1 2 on a number line)

#### Place value

- identifies that negative numbers are integers that represent both size and direction (e.g. uses a number line to represent position and order negative numbers; uses negative numbers in financial contexts such as to model an overdrawn account)
- understands that multiplying and dividing numbers by 10 , 100 , 1000 10, 100, 1000 1 0 , 1 0 0 , 1 0 0 0 changes the positional value of the digits (e.g. explains that 100 100 1 0 0 times 0.125 0.125 0 . 1 2 5 is 12.5 12.5 12.5 because each digit value in 0.125 0.125 0 . 1 2 5 is multiplied by 100 100 1 0 0 , so  $100 \times 0.1 100 \times 0.02 100 \times$
- rounds decimals to a specified number of decimal places for a purpose (e.g. the mean distance thrown in a school javelin competition was rounded to 2 2 2 decimal places; if the percentage profit was calculated as 12.467921 12.467921 1 2 . 4 6 7 9 2 1 %, rounds the calculation to 12.5 12.5 1 2 . 5 %)

## Numeral recognition and identification

• identifies, reads and interprets very large numbers and very small numbers (e.g. reads that the world population is estimated to be seven billion and interprets this to mean 7 7 7 000 000 0 0 0 000 000 000 000 0 0 0 or 7  $\times$  1 0 9 7 \times 10^9 7  $\times$  1 0 9; interprets the approximate mass of protons and neutrons as 1.67  $\times$  1 0 – 24 1.67 \times10^{-24} 1 . 6 7  $\times$  1 0 – 2 4 g; identifies and interprets the value of national government debt)

#### Place value

- compares and orders very large numbers and very small numbers (e.g. understands the relative size of very large time scales such as a millennium)
- relates place value parts to exponents (e.g.  $1000\ 1000\ 1\ 0\ 0$  is  $100\ 100\ 1\ 0\ 0$  times greater than  $10\ 10\ 1\ 0$ , and that is why  $10\ x\ 1\ 0\ 2=1\ 0\ 3\ 10\ \text{times}$   $10^2\ 1\ 0\ 1\$
- expresses numbers in scientific notation (e.g. when calculating the distance of the Earth from the sun uses  $1.5 \times 1081.5$  times  $10^81.5 \times 108$  as an approximation; a nanometre has an order of magnitude of -999 and is represented as  $10-910^{-9}10-9$

#### **Snapshot – Interpreting and representing data**

# Numeracy: Statistics and probability: Interpreting and representing data

# **Content description**

AC9S6I03

#### **Learning progression extract**

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

#### Collecting, displaying and interpreting numerical data

- collects and records discrete numerical data using an appropriate method for recording (e.g. uses a frequency table to record the experimental results for rolling a dice; records sample measurements taken during a science investigation)
- constructs graphical representations of numerical data and explains the difference between continuous and discrete data (e.g. explains that measurements such as length, mass and temperature are continuous data whereas a count such as the number of people in a queue is discrete)
- explains how data displays can be misleading (e.g. whether a scale should start at zero; not using

uniform intervals on the axes)

• interprets visual representations of data displayed using a multi-unit scale, reading values between the marked units and describing any variation and trends in the data

#### Collecting, displaying, interpreting and analysing numerical data

- poses questions based on variations in continuous numerical data and chooses the appropriate method to collect and record data (e.g. collects information on the heights of buildings or daily temperatures, tabulates the results and represents these graphically; uses a survey to collect primary data or secondary data extracted from census data)
- uses numerical and graphical representations relevant to the purpose of the collection of the data and explains their reasoning (e.g. "I can't use a frequency histogram for categorical data because there is no numerical connection between the categories"; converts their data to percentages in order to compare the girls' results to those of the boys, as the total number of boys and girls who participated in the survey was different)
- determines and calculates the most appropriate statistic to describe the spread of data (e.g. when creating an infographic, uses the mean of the data to describe household income and the median of the data for house prices)
- calculates simple descriptive statistics such as mode, mean or median as measures to represent typical values of a distribution (e.g. describes the mean kilojoule intake and median hours of exercise of a sample population when investigating community health and wellbeing; describes central tendency when analysing road safety statistics)
- compares the usefulness of different representations of the same data (e.g. chooses to use a line graph to illustrate trends, a bar graph to compare the living standards of different economies and a histogram to show income distribution)
- describes the spread of a data distribution in terms of the range, clusters, skewness and symmetry of the graphical display, and determines and makes connections to the mode, median and mean of the data

#### Interpreting graphical representations

- uses features of graphical representations to make predictions (e.g. predicts audience numbers based on historical data; interprets a range of graphs to identify possible trends and make predictions such as economic growth, stock prices, interest rates, population growth)
- summarises data using fractions, percentages and decimals (e.g. 2 3 \frac23 3 2 of a class live in the same suburb; represents road safety and sun safety statistics as a percentage of the Australian population)
- explains that continuous variables depicting growth or change often vary over time (e.g. creates growth charts to illustrate impacts of financial decisions; describes patterns in inflation rates, employment rates, migration rates over time; represents changes to fitness levels following the implementation of a personal fitness plan; interprets temperature charts)
- interprets graphs depicting motion such as distance—time and velocity—time graphs
- interprets and describes patterns in graphical representations of data from real-life situations such as the motion of a rollercoaster, flight trajectory of a basketball shot and the spread of disease
- investigates the association of 2 2 2 numerical variables through the representation and interpretation of bivariate data (e.g. uses scatter plots to represent bivariate data when investigating the relationship between 2 2 2 variables, such as income per capita, population density and life expectancy for different socio-economic groups)
- investigates, represents and interprets time series data (e.g. interrogates a time series graph showing the change in costs over time; uses a maximum daily temperature chart to determine the average temperature for the month)
- interprets the impact of changes to data (e.g. recognises the impact of outliers on a data set such as the income of a world-class professional athlete on the average income of players at the state/territory level; uses digital tools to enhance the quality of data in a science investigation)

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

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

**Content description** 

AC9S6I03

**Continuum extract** 

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

- put ideas into action by predicting an outcome, trialling options and assessing their effectiveness
- 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

#### Snapshot – Interpreting and representing data

# Numeracy: Statistics and probability: Interpreting and representing data

# **Content description**

AC9S6I03

## **Learning progression extract**

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

#### Collecting, displaying and interpreting numerical data

- collects and records discrete numerical data using an appropriate method for recording (e.g. uses a frequency table to record the experimental results for rolling a dice; records sample measurements taken during a science investigation)
- constructs graphical representations of numerical data and explains the difference between continuous and discrete data (e.g. explains that measurements such as length, mass and temperature are continuous data whereas a count such as the number of people in a queue is discrete)
- explains how data displays can be misleading (e.g. whether a scale should start at zero; not using uniform intervals on the axes)
- interprets visual representations of data displayed using a multi-unit scale, reading values between the marked units and describing any variation and trends in the data

#### Collecting, displaying, interpreting and analysing numerical data

- poses questions based on variations in continuous numerical data and chooses the appropriate method to collect and record data (e.g. collects information on the heights of buildings or daily temperatures, tabulates the results and represents these graphically; uses a survey to collect primary data or secondary data extracted from census data)
- uses numerical and graphical representations relevant to the purpose of the collection of the data and explains their reasoning (e.g. "I can't use a frequency histogram for categorical data because there is no numerical connection between the categories"; converts their data to percentages in order to compare the girls' results to those of the boys, as the total number of boys and girls who participated in the survey was different)
- determines and calculates the most appropriate statistic to describe the spread of data (e.g. when creating an infographic, uses the mean of the data to describe household income and the median of the data for house prices)
- calculates simple descriptive statistics such as mode, mean or median as measures to represent typical values of a distribution (e.g. describes the mean kilojoule intake and median hours of exercise of a sample population when investigating community health and wellbeing; describes central tendency when analysing road safety statistics)
- compares the usefulness of different representations of the same data (e.g. chooses to use a line graph to illustrate trends, a bar graph to compare the living standards of different economies and a histogram to show income distribution)
- describes the spread of a data distribution in terms of the range, clusters, skewness and symmetry
  of the graphical display, and determines and makes connections to the mode, median and mean of the
  data

#### Interpreting graphical representations

- uses features of graphical representations to make predictions (e.g. predicts audience numbers based on historical data; interprets a range of graphs to identify possible trends and make predictions such as economic growth, stock prices, interest rates, population growth)
- summarises data using fractions, percentages and decimals (e.g. 2 3 \frac23 3 2 of a class live in the same suburb; represents road safety and sun safety statistics as a percentage of the Australian population)
- explains that continuous variables depicting growth or change often vary over time (e.g. creates

growth charts to illustrate impacts of financial decisions; describes patterns in inflation rates, employment rates, migration rates over time; represents changes to fitness levels following the implementation of a personal fitness plan; interprets temperature charts)

- interprets graphs depicting motion such as distance-time and velocity-time graphs
- interprets and describes patterns in graphical representations of data from real-life situations such as the motion of a rollercoaster, flight trajectory of a basketball shot and the spread of disease
- investigates the association of 2 2 2 numerical variables through the representation and interpretation of bivariate data (e.g. uses scatter plots to represent bivariate data when investigating the relationship between 2 2 2 variables, such as income per capita, population density and life expectancy for different socio-economic groups)
- investigates, represents and interprets time series data (e.g. interrogates a time series graph showing the change in costs over time; uses a maximum daily temperature chart to determine the average temperature for the month)
- interprets the impact of changes to data (e.g. recognises the impact of outliers on a data set such as the income of a world-class professional athlete on the average income of players at the state/territory level; uses digital tools to enhance the quality of data in a science investigation)

# Snapshot - Acquire and collate data

# Digital Literacy: Investigating: Acquire and collate data

## **Content description**

AC9S6I03

#### **Continuum extract**

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

- collect and access data using a range of digital tools and methods in response to a defined question
- collect and access data using a range of digital tools and methods in response to a defined question or problem
- collect and access data from a range of sources, using specialised digital tools in response to problems, and evaluate it for relevance

#### Snapshot – Put ideas into action

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

#### Content description

AC9S6I03

#### Continuum extract

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

- put ideas into action by predicting an outcome, trialling options and assessing their effectiveness
- 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

## Snapshot – Put ideas into action

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

# **Content description**

AC9S6I03

#### Continuum extract

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

- put ideas into action by predicting an outcome, trialling options and assessing their effectiveness
- 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

#### **Snapshot – Understanding units of measurement**

# Numeracy: Measurement and geometry: Understanding units of measurement

#### **Content description**

AC9S6I03

# **Learning progression extract**

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

#### Using metric units

- calculates perimeter using properties of two-dimensional shapes to determine unknown lengths
- measures and calculates the area of different shapes using metric units and a range of strategies

#### Angles as measures of turn

• estimates and measures angles in degrees up to one revolution (e.g. uses a protractor to measure the size of an angle; estimates angles, such as those formed at the elbows when releasing an object; determines the effect of angles on the trajectory, height and distance of flight during jumps and throws in athletics)

#### Converting units

- converts between metric units of measurement of the same attribute (e.g. converts centimetres into millimetres by multiplying by 10 10 1 0; uses the consistent naming of metric prefixes to convert between adjacent units)
- describes and uses the relationship between metric units of measurement and the base- 10 10 1 0 place value system to accurately measure and record measurements using decimals

#### Using metric units and formulas

• establishes and uses formulas and metric units for calculating the area of rectangles and triangles

#### Angles as measures of turn

• measures and uses key angles ( 45 45 €, 90 90 9 0 €, 180 180 1 8 0 €, 360 360 3 6 0 €) to define other angles according to their size (e.g. measures a right angle to be 90 € and uses this to determine if 2 2 2 lengths are perpendicular)

#### Using metric units and formulas

- establishes and uses formulas for calculating the area of parallelograms, trapeziums, rhombuses and kites
- establishes and uses formulas for calculating the volume and surface area of a range of right prisms

#### **Circle measurements**

- informally estimates the circumference of a circle using the radius or diameter
- establishes the relationship between the circumference and the diameter of a circle as the constant  $\pi \setminus pi \ \pi$
- calculates the circumference and the area of a circle using  $\pi \neq \pi$  and a known diameter or radius

#### Snapshot – Acquire and collate data

# Digital Literacy: Investigating: Acquire and collate data

## **Content description**

AC9S6I03

#### **Continuum extract**

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

- collect and access data using a range of digital tools and methods in response to a defined question
- collect and access data using a range of digital tools and methods in response to a defined question or problem
- collect and access data from a range of sources, using specialised digital tools in response to problems, and evaluate it for relevance

## Snapshot - Interpreting and representing data

# Numeracy: Statistics and probability: Interpreting and representing data

#### **Content description**

AC9S6I03

#### **Learning progression extract**

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

#### Collecting, displaying and interpreting numerical data

- collects and records discrete numerical data using an appropriate method for recording (e.g. uses a frequency table to record the experimental results for rolling a dice; records sample measurements taken during a science investigation)
- constructs graphical representations of numerical data and explains the difference between continuous and discrete data (e.g. explains that measurements such as length, mass and temperature are continuous data whereas a count such as the number of people in a queue is discrete)
- explains how data displays can be misleading (e.g. whether a scale should start at zero; not using uniform intervals on the axes)
- interprets visual representations of data displayed using a multi-unit scale, reading values between the marked units and describing any variation and trends in the data

#### Collecting, displaying, interpreting and analysing numerical data

- poses questions based on variations in continuous numerical data and chooses the appropriate method to collect and record data (e.g. collects information on the heights of buildings or daily temperatures, tabulates the results and represents these graphically; uses a survey to collect primary data or secondary data extracted from census data)
- uses numerical and graphical representations relevant to the purpose of the collection of the data and explains their reasoning (e.g. "I can't use a frequency histogram for categorical data because there is no numerical connection between the categories"; converts their data to percentages in order to compare the girls' results to those of the boys, as the total number of boys and girls who participated in the survey was different)
- determines and calculates the most appropriate statistic to describe the spread of data (e.g. when creating an infographic, uses the mean of the data to describe household income and the median of the data for house prices)
- calculates simple descriptive statistics such as mode, mean or median as measures to represent typical values of a distribution (e.g. describes the mean kilojoule intake and median hours of exercise of a sample population when investigating community health and wellbeing; describes central tendency when analysing road safety statistics)
- compares the usefulness of different representations of the same data (e.g. chooses to use a line graph to illustrate trends, a bar graph to compare the living standards of different economies and a histogram to show income distribution)
- describes the spread of a data distribution in terms of the range, clusters, skewness and symmetry of the graphical display, and determines and makes connections to the mode, median and mean of the data

## Interpreting graphical representations

- uses features of graphical representations to make predictions (e.g. predicts audience numbers based on historical data; interprets a range of graphs to identify possible trends and make predictions such as economic growth, stock prices, interest rates, population growth)
- summarises data using fractions, percentages and decimals (e.g. 2 3 \frac23 3 2 of a class live in the same suburb; represents road safety and sun safety statistics as a percentage of the Australian population)
- explains that continuous variables depicting growth or change often vary over time (e.g. creates growth charts to illustrate impacts of financial decisions; describes patterns in inflation rates, employment rates, migration rates over time; represents changes to fitness levels following the implementation of a personal fitness plan; interprets temperature charts)
- interprets graphs depicting motion such as distance-time and velocity-time graphs
- interprets and describes patterns in graphical representations of data from real-life situations such as the motion of a rollercoaster, flight trajectory of a basketball shot and the spread of disease
- investigates the association of 2 2 2 numerical variables through the representation and interpretation of bivariate data (e.g. uses scatter plots to represent bivariate data when investigating the relationship between 2 2 2 variables, such as income per capita, population density and life expectancy for different socio-economic groups)
- investigates, represents and interprets time series data (e.g. interrogates a time series graph showing the change in costs over time; uses a maximum daily temperature chart to determine the

average temperature for the month)

• interprets the impact of changes to data (e.g. recognises the impact of outliers on a data set such as the income of a world-class professional athlete on the average income of players at the state/territory level; uses digital tools to enhance the quality of data in a science investigation)

#### AC9S6104

construct and use appropriate, including tables, and visual or physical, to organise and process and information and describe, and

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#### **Elaborations**

- exploring how different can be used to show different aspects of , processes and
- representing circuits using virtual or circuit diagrams and indicating the direction of electricity flow
- using line to show changes in growth over time under different physical conditions
- developing a physical of the sun and Earth using objects or role-play to describe their relative positions when a place on Earth is in day or night
- organising information in graphic organisers to describe and Students learn to:

construct and use appropriate representations, including tables, graphs and visual models, to organise and process data and information and describe patterns, trends

(AC9S6I04)

# General capabilities and cross-curriculum priorities

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

#### **Analysing**

· Interpret concepts and problems

#### Inquiring

• Identify, process and evaluate information

#### Statistics and probability

Interpreting and representing data

#### **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**

· Interpret concepts and problems

#### Inquiring

• Identify, process and evaluate information

#### Statistics and probability

Interpreting and representing data

## Inquiring

• Identify, process and evaluate information

#### Creating and exchanging

• Create, communicate and collaborate

#### Managing and operating

Select and operate tools

#### Statistics and probability

Interpreting and representing data

#### Analysing

• Interpret concepts and problems

#### **Analysing**

Interpret concepts and problems

#### Inquiring

• Identify, process and evaluate information

#### Related content

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

AC9HS6S02

AC9M6ST01

AC9M6ST03

#### Resources

## Work Samples

# WS01 - Mouldy bread

# Snapshot - Interpret concepts and problems

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

#### **Content description**

AC9S6I04

#### **Continuum extract**

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

- identify and prioritise significant elements and relationships within a concept or problem
- 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

# Snapshot - Identify, process and evaluate information

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

# **Content description**

AC9S6I04

#### 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
- condense and combine selected information related to the topic of study
- 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

#### Snapshot – Interpreting and representing data

# Numeracy: Statistics and probability: Interpreting and representing data

#### **Content description**

AC9S6I04

## Learning progression extract

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

#### Collecting, displaying and interpreting numerical data

- collects and records discrete numerical data using an appropriate method for recording (e.g. uses a frequency table to record the experimental results for rolling a dice; records sample measurements taken during a science investigation)
- constructs graphical representations of numerical data and explains the difference between continuous and discrete data (e.g. explains that measurements such as length, mass and temperature are continuous data whereas a count such as the number of people in a queue is discrete)
- explains how data displays can be misleading (e.g. whether a scale should start at zero; not using uniform intervals on the axes)
- interprets visual representations of data displayed using a multi-unit scale, reading values between the marked units and describing any variation and trends in the data

#### Collecting, displaying, interpreting and analysing numerical data

- poses questions based on variations in continuous numerical data and chooses the appropriate method to collect and record data (e.g. collects information on the heights of buildings or daily temperatures, tabulates the results and represents these graphically; uses a survey to collect primary data or secondary data extracted from census data)
- uses numerical and graphical representations relevant to the purpose of the collection of the data and explains their reasoning (e.g. "I can't use a frequency histogram for categorical data because there is no numerical connection between the categories"; converts their data to percentages in order to compare the girls' results to those of the boys, as the total number of boys and girls who participated in the survey was different)
- determines and calculates the most appropriate statistic to describe the spread of data (e.g. when creating an infographic, uses the mean of the data to describe household income and the median of the data for house prices)
- calculates simple descriptive statistics such as mode, mean or median as measures to represent typical values of a distribution (e.g. describes the mean kilojoule intake and median hours of exercise of a sample population when investigating community health and wellbeing; describes central tendency when analysing road safety statistics)
- compares the usefulness of different representations of the same data (e.g. chooses to use a line graph to illustrate trends, a bar graph to compare the living standards of different economies and a histogram to show income distribution)
- describes the spread of a data distribution in terms of the range, clusters, skewness and symmetry of the graphical display, and determines and makes connections to the mode, median and mean of the data

#### Interpreting graphical representations

- uses features of graphical representations to make predictions (e.g. predicts audience numbers based on historical data; interprets a range of graphs to identify possible trends and make predictions such as economic growth, stock prices, interest rates, population growth)
- summarises data using fractions, percentages and decimals (e.g. 2 3 \frac23 3 2 of a class live in the same suburb; represents road safety and sun safety statistics as a percentage of the Australian population)
- explains that continuous variables depicting growth or change often vary over time (e.g. creates growth charts to illustrate impacts of financial decisions; describes patterns in inflation rates, employment rates, migration rates over time; represents changes to fitness levels following the implementation of a personal fitness plan; interprets temperature charts)
- interprets graphs depicting motion such as distance—time and velocity—time graphs
- interprets and describes patterns in graphical representations of data from real-life situations such as the motion of a rollercoaster, flight trajectory of a basketball shot and the spread of disease
- investigates the association of 2 2 2 numerical variables through the representation and interpretation of bivariate data (e.g. uses scatter plots to represent bivariate data when investigating the relationship between 2 2 2 variables, such as income per capita, population density and life expectancy for different socio-economic groups)
- investigates, represents and interprets time series data (e.g. interrogates a time series graph showing the change in costs over time; uses a maximum daily temperature chart to determine the average temperature for the month)
- interprets the impact of changes to data (e.g. recognises the impact of outliers on a data set such as the income of a world-class professional athlete on the average income of players at the state/territory level; uses digital tools to enhance the quality of data in a science investigation)

#### Snapshot – Interpret concepts and problems

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

#### **Content description**

AC9S6I04

#### Continuum extract

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

- identify and prioritise significant elements and relationships within a concept or problem
- 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

# Snapshot - Identify, process and evaluate information

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

# **Content description**

AC9S6I04

#### **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
- condense and combine selected information related to the topic of study
- 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

# Snapshot – Interpreting and representing data

# Numeracy: Statistics and probability: Interpreting and representing data

# **Content description**

AC9S6I04

#### Learning progression extract

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

## Collecting, displaying and interpreting numerical data

- collects and records discrete numerical data using an appropriate method for recording (e.g. uses a frequency table to record the experimental results for rolling a dice; records sample measurements taken during a science investigation)
- constructs graphical representations of numerical data and explains the difference between continuous and discrete data (e.g. explains that measurements such as length, mass and temperature are continuous data whereas a count such as the number of people in a queue is discrete)
- explains how data displays can be misleading (e.g. whether a scale should start at zero; not using uniform intervals on the axes)
- interprets visual representations of data displayed using a multi-unit scale, reading values between the marked units and describing any variation and trends in the data

#### Collecting, displaying, interpreting and analysing numerical data

- poses questions based on variations in continuous numerical data and chooses the appropriate method to collect and record data (e.g. collects information on the heights of buildings or daily temperatures, tabulates the results and represents these graphically; uses a survey to collect primary data or secondary data extracted from census data)
- uses numerical and graphical representations relevant to the purpose of the collection of the data and explains their reasoning (e.g. "I can't use a frequency histogram for categorical data because there is no numerical connection between the categories"; converts their data to percentages in order to compare the girls' results to those of the boys, as the total number of boys and girls who participated in the survey was different)
- determines and calculates the most appropriate statistic to describe the spread of data (e.g. when creating an infographic, uses the mean of the data to describe household income and the median of the data for house prices)
- calculates simple descriptive statistics such as mode, mean or median as measures to represent typical values of a distribution (e.g. describes the mean kilojoule intake and median hours of exercise of a sample population when investigating community health and wellbeing; describes central tendency when analysing road safety statistics)
- compares the usefulness of different representations of the same data (e.g. chooses to use a line graph to illustrate trends, a bar graph to compare the living standards of different economies and a histogram to show income distribution)

• describes the spread of a data distribution in terms of the range, clusters, skewness and symmetry of the graphical display, and determines and makes connections to the mode, median and mean of the data

#### Interpreting graphical representations

- uses features of graphical representations to make predictions (e.g. predicts audience numbers based on historical data; interprets a range of graphs to identify possible trends and make predictions such as economic growth, stock prices, interest rates, population growth)
- summarises data using fractions, percentages and decimals (e.g. 2 3 \frac23 3 2 of a class live in the same suburb; represents road safety and sun safety statistics as a percentage of the Australian population)
- explains that continuous variables depicting growth or change often vary over time (e.g. creates growth charts to illustrate impacts of financial decisions; describes patterns in inflation rates, employment rates, migration rates over time; represents changes to fitness levels following the implementation of a personal fitness plan; interprets temperature charts)
- interprets graphs depicting motion such as distance—time and velocity—time graphs
- interprets and describes patterns in graphical representations of data from real-life situations such as the motion of a rollercoaster, flight trajectory of a basketball shot and the spread of disease
- investigates the association of 2 2 2 numerical variables through the representation and interpretation of bivariate data (e.g. uses scatter plots to represent bivariate data when investigating the relationship between 2 2 2 variables, such as income per capita, population density and life expectancy for different socio-economic groups)
- investigates, represents and interprets time series data (e.g. interrogates a time series graph showing the change in costs over time; uses a maximum daily temperature chart to determine the average temperature for the month)
- interprets the impact of changes to data (e.g. recognises the impact of outliers on a data set such as the income of a world-class professional athlete on the average income of players at the state/territory level; uses digital tools to enhance the quality of data in a science investigation)

# Snapshot – Identify, process and evaluate information

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

#### **Content description**

AC9S6I04

#### **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
- condense and combine selected information related to the topic of study
- 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

#### Snapshot – Create, communicate and collaborate

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

## **Content description**

AC9S6I04

#### Continuum extract

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

- use the core features of a range of digital tools to create content and communicate and collaborate with peers and trusted adults
- 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

### Snapshot - Select and operate tools

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

# **Content description**

AC9S6I04

#### Continuum extract

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

- select and use a range of digital tools to complete tasks
- attempt to solve a problem individually and with peers before seeking help
- 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

# Snapshot - Interpreting and representing data

# Numeracy: Statistics and probability: Interpreting and representing data

## **Content description**

AC9S6I04

#### Learning progression extract

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

#### Collecting, displaying and interpreting numerical data

- collects and records discrete numerical data using an appropriate method for recording (e.g. uses a frequency table to record the experimental results for rolling a dice; records sample measurements taken during a science investigation)
- constructs graphical representations of numerical data and explains the difference between continuous and discrete data (e.g. explains that measurements such as length, mass and temperature are continuous data whereas a count such as the number of people in a queue is discrete)
- explains how data displays can be misleading (e.g. whether a scale should start at zero; not using uniform intervals on the axes)
- interprets visual representations of data displayed using a multi-unit scale, reading values between the marked units and describing any variation and trends in the data

#### Collecting, displaying, interpreting and analysing numerical data

- poses questions based on variations in continuous numerical data and chooses the appropriate method to collect and record data (e.g. collects information on the heights of buildings or daily temperatures, tabulates the results and represents these graphically; uses a survey to collect primary data or secondary data extracted from census data)
- uses numerical and graphical representations relevant to the purpose of the collection of the data and explains their reasoning (e.g. "I can't use a frequency histogram for categorical data because there is no numerical connection between the categories"; converts their data to percentages in order to compare the girls' results to those of the boys, as the total number of boys and girls who participated in the survey was different)
- determines and calculates the most appropriate statistic to describe the spread of data (e.g. when creating an infographic, uses the mean of the data to describe household income and the median of the data for house prices)
- calculates simple descriptive statistics such as mode, mean or median as measures to represent typical values of a distribution (e.g. describes the mean kilojoule intake and median hours of exercise of a sample population when investigating community health and wellbeing; describes central tendency when analysing road safety statistics)
- compares the usefulness of different representations of the same data (e.g. chooses to use a line graph to illustrate trends, a bar graph to compare the living standards of different economies and a histogram to show income distribution)
- describes the spread of a data distribution in terms of the range, clusters, skewness and symmetry of the graphical display, and determines and makes connections to the mode, median and mean of the data

#### Interpreting graphical representations

• uses features of graphical representations to make predictions (e.g. predicts audience numbers

based on historical data; interprets a range of graphs to identify possible trends and make predictions such as economic growth, stock prices, interest rates, population growth)

- summarises data using fractions, percentages and decimals (e.g. 2 3 \frac23 3 2 of a class live in the same suburb; represents road safety and sun safety statistics as a percentage of the Australian population)
- explains that continuous variables depicting growth or change often vary over time (e.g. creates growth charts to illustrate impacts of financial decisions; describes patterns in inflation rates, employment rates, migration rates over time; represents changes to fitness levels following the implementation of a personal fitness plan; interprets temperature charts)
- interprets graphs depicting motion such as distance-time and velocity-time graphs
- interprets and describes patterns in graphical representations of data from real-life situations such as the motion of a rollercoaster, flight trajectory of a basketball shot and the spread of disease
- investigates the association of 2 2 2 numerical variables through the representation and interpretation of bivariate data (e.g. uses scatter plots to represent bivariate data when investigating the relationship between 2 2 2 variables, such as income per capita, population density and life expectancy for different socio-economic groups)
- investigates, represents and interprets time series data (e.g. interrogates a time series graph showing the change in costs over time; uses a maximum daily temperature chart to determine the average temperature for the month)
- interprets the impact of changes to data (e.g. recognises the impact of outliers on a data set such as the income of a world-class professional athlete on the average income of players at the state/territory level; uses digital tools to enhance the quality of data in a science investigation)

# **Snapshot – Interpret concepts and problems**

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

#### **Content description**

AC9S6I04

#### Continuum extract

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

- identify and prioritise significant elements and relationships within a concept or problem
- 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

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

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

# **Content description**

AC9S6I04

#### **Continuum extract**

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

- identify and prioritise significant elements and relationships within a concept or problem
- 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

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

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

# **Content description**

AC9S6I04

#### **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
- condense and combine selected information related to the topic of study

- 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

#### AC9S6105

compare methods and findings with those of others, recognise possible sources of error, pose questions for further and select to draw reasoned

•

#### **Elaborations**

- working collaboratively to identify the strengths and weaknesses of their own and others' including where testing was not fair and practices could be improved
- recognising errors that could have occurred during , including changing too many , incorrect or misreading of measurements, or changes in environmental factors
- comparing and contrasting collected by different individuals or groups to discuss similarities and differences in their findings and posing questions about differences for further
- comparing and contrasting selected by different individuals or groups from similar
- evaluating the made from and analysis of the to draw a reasoned Students learn to:

compare methods and findings with those of others, recognise possible sources of questions for further investigation and select evidence to draw reasoned conclusion

(AC9S6I05)

#### 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
- Evaluate actions and outcomes

#### Social management

Collaboration

#### **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.

## Understanding ethical concepts and perspectives

· Explore ethical concepts

#### Social management

Collaboration

#### Analysing

Interpret concepts and problems

#### **Analysing**

Interpret concepts and problems

#### Speaking and listening

Interacting

#### **Analysing**

- · Draw conclusions and provide reasons
- Evaluate actions and outcomes

# Speaking and listening

Interacting

# **Analysing**

- Draw conclusions and provide reasons
- Evaluate actions and outcomes

## Snapshot - Draw conclusions and provide reasons

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

# **Content description**

AC9S6I05

#### Continuum extract

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

- draw conclusions and make choices when completing tasks, using observation and prior knowledge to provide reasons and construct arguments for choices made
- 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

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

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

# **Content description**

AC9S6I05

#### **Continuum extract**

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

- evaluate the outcome of a task by explaining ideas, conclusions and actions, including using a given set of criteria to support decisions
- 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

# **Snapshot – Collaboration**

# Personal and Social capability: Social management: Collaboration

#### **Content description**

AC9S6I05

#### Continuum extract

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

- perform designated roles within groups, appreciating everyone's contributions to a shared outcome
- 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

# **Snapshot – Explore ethical concepts**

# Ethical Understanding: Understanding ethical concepts and perspectives: Explor

#### **Content description**

AC9S6I05

#### Continuum extract

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

- identify ethical concepts, such as respect and tolerance, and describe how a situation or context affects actions and behaviour
- 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

#### **Snapshot – Collaboration**

# Personal and Social capability: Social management: Collaboration

#### **Content description**

AC9S6I05

# **Continuum extract**

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

- perform designated roles within groups, appreciating everyone's contributions to a shared outcome
- 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

# **Snapshot – Interpret concepts and problems**

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

# **Content description**

AC9S6I05

#### **Continuum extract**

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

- identify and prioritise significant elements and relationships within a concept or problem
- 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

#### Snapshot – Interpret concepts and problems

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

## **Content description**

AC9S6I05

#### **Continuum extract**

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

- identify and prioritise significant elements and relationships within a concept or problem
- 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

#### Snapshot – Interacting

# Literacy: Speaking and listening: Interacting

## **Content description**

AC9S6I05

#### **Learning progression extract**

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

- interacts to extend and elaborate ideas in a discussion (e.g. provides an additional example)
- presents simple ideas clearly in group situations
- actively encourages or supports other speakers
- shows awareness of discussion conventions (e.g. uses appropriate language to express agreement and disagreement in class discussions)
- uses language to initiate interactions in a small group situation (e.g. "I have an idea")
- critically evaluate ideas and claims made by a speaker
- explains new learning from interacting with others
- appropriately presents an alternative point to the previous speaker
- initiates interactions confidently in group and whole-class discussions
- poses pertinent questions to make connections between a range of ideas
- uses open questions to prompt a speaker to provide more information
- clarifies task goals and negotiates roles in group learning
- monitors discussion to manage digression from the topic
- identifies and articulates the perspective of a speaker, to move a conversation forward
- interacts within school context or the broader community, adjusting language and responses to suit purpose and audience
- synthesises ideas from group discussion into a common theme or hypothesis
- poses problems, hypothesises and formulates questions about abstract ideas in group situations
- restates different views and makes suggestions to negotiate agreement

- poses questions to clarify assumptions made by the speaker
- questions others to evaluate accuracy of thinking or problem-solving processes
- uses language to align the listener with personal position (e.g. "of course", "as you can imagine", "obviously")

#### Snapshot – Draw conclusions and provide reasons

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

# **Content description**

AC9S6I05

#### Continuum extract

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

- draw conclusions and make choices when completing tasks, using observation and prior knowledge to provide reasons and construct arguments for choices made
- 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

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

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

## **Content description**

AC9S6I05

#### **Continuum extract**

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

- evaluate the outcome of a task by explaining ideas, conclusions and actions, including using a given set of criteria to support decisions
- 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

#### Snapshot – Interacting

# Literacy: Speaking and listening: Interacting

## **Content description**

AC9S6I05

#### Learning progression extract

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

- interacts to extend and elaborate ideas in a discussion (e.g. provides an additional example)
- presents simple ideas clearly in group situations
- actively encourages or supports other speakers
- shows awareness of discussion conventions (e.g. uses appropriate language to express agreement and disagreement in class discussions)
- uses language to initiate interactions in a small group situation (e.g. "I have an idea")
- critically evaluate ideas and claims made by a speaker
- explains new learning from interacting with others
- appropriately presents an alternative point to the previous speaker
- initiates interactions confidently in group and whole-class discussions
- poses pertinent questions to make connections between a range of ideas
- uses open questions to prompt a speaker to provide more information
- · clarifies task goals and negotiates roles in group learning
- monitors discussion to manage digression from the topic
- identifies and articulates the perspective of a speaker, to move a conversation forward
- interacts within school context or the broader community, adjusting language and responses to suit purpose and audience
- synthesises ideas from group discussion into a common theme or hypothesis
- poses problems, hypothesises and formulates questions about abstract ideas in group situations

- restates different views and makes suggestions to negotiate agreement
- poses questions to clarify assumptions made by the speaker
- questions others to evaluate accuracy of thinking or problem-solving processes
- uses language to align the listener with personal position (e.g. "of course", "as you can imagine", "obviously")

## Snapshot – Draw conclusions and provide reasons

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

#### **Content description**

AC9S6I05

#### **Continuum extract**

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

- draw conclusions and make choices when completing tasks, using observation and prior knowledge to provide reasons and construct arguments for choices made
- 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

## Snapshot – Evaluate actions and outcomes

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

## **Content description**

AC9S6I05

#### **Continuum extract**

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

- evaluate the outcome of a task by explaining ideas, conclusions and actions, including using a given set of criteria to support decisions
- 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

# AC9S6106

write and create texts to communicate ideas and findings for specific purposes and audiences, including selection of , using as appropriate

#### **Elaborations**

- constructing a scientific report to share findings, such as how plants responded to changes in physical conditions such as temperature or salinity, and using appropriate vocabulary, , units and sentence structures
- creating an imaginative text about a future in which humans live on other planets with differing day lengths, and how they manage the social implications of this, such as keeping track of time or calculating human ages
- acknowledging and exploring First Nations Australians' ways of representing and communicating understandings of the night sky and its use for timekeeping purposes through rock paintings, paintings and stone arrangements
- designing a product that uses electrical circuits and performing a sales pitch to have the product produced
- constructing a poster or slideshow comparing everyday examples of reversible and irreversible change

Students learn to:

# write and create texts to communicate ideas and findings for specific purposes and including selection of language features, using digital tools as appropriate

(AC9S6I06)

General capabilities and cross-curriculum priorities

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

#### Creating and exchanging

- Plan
- Create, communicate and collaborate

#### Social management

Communication

#### **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.

#### Social management

Communication

#### Reflecting

Transfer knowledge

#### Social management

Communication

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

• Develop multiple perspectives

#### Culture

First Nations Australians' ways of life reflect unique ways of being, knowing, thinking and doing.

#### Reflecting

Transfer knowledge

#### Writing

Creating texts

#### Creating and exchanging

· Create, communicate and collaborate

#### Resources

# Work Samples

# WS01 - Mouldy bread

#### Snapshot - Plan

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

#### **Content description**

AC9S6I06

#### **Continuum extract**

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

- use familiar digital tools to develop and follow a basic plan to complete a task
- 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

# Snapshot – Create, communicate and collaborate

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

# **Content description**

AC9S6I06

#### Continuum extract

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

- use the core features of a range of digital tools to create content and communicate and collaborate with peers and trusted adults
- 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

#### **Snapshot – Communication**

# Personal and Social capability: Social management: Communication

#### **Content description**

AC9S6I06

#### Continuum extract

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

- apply verbal and non-verbal communication skills when responding to others
- apply skills to address factors that influence verbal and non-verbal communication
- demonstrate communication skills in a range of contexts, responding to the enablers of, and barriers to, effective verbal and non-verbal communication

#### **Snapshot – Communication**

# Personal and Social capability: Social management: Communication

# **Content description**

AC9S6I06

#### Continuum extract

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

- apply verbal and non-verbal communication skills when responding to others
- apply skills to address factors that influence verbal and non-verbal communication
- demonstrate communication skills in a range of contexts, responding to the enablers of, and barriers to, effective verbal and non-verbal communication

# Snapshot - Transfer knowledge

# Critical and Creative Thinking: Reflecting: Transfer knowledge

## **Content description**

AC9S6I06

#### Continuum extract

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

- use aspects of knowledge and skills gained in one setting to inform learning in a new setting or context
- 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

#### **Snapshot – Communication**

# Personal and Social capability: Social management: Communication

#### **Content description**

AC9S6I06

#### **Continuum extract**

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

- apply verbal and non-verbal communication skills when responding to others
- apply skills to address factors that influence verbal and non-verbal communication
- demonstrate communication skills in a range of contexts, responding to the enablers of, and barriers to, effective verbal and non-verbal communication

#### **Snapshot – Develop multiple perspectives**

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

#### **Content description**

AC9S6I06

#### Continuum extract

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

- discuss different perspectives on familiar topics and intercultural experiences, describing how people's thinking and behaviour may be influenced by a range of factors
- examine how cultural beliefs or practices influence their own perspectives, and those of others, when discussing unfamiliar topics

• consider multiple perspectives held on unfamiliar topics, identifying commonality and difference, and describe how perspectives may be influenced by cultural beliefs and practices

# Snapshot - Transfer knowledge

# Critical and Creative Thinking: Reflecting: Transfer knowledge

# **Content description**

AC9S6I06

#### **Continuum extract**

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

- use aspects of knowledge and skills gained in one setting to inform learning in a new setting or context
- 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

# **Snapshot - Creating texts**

# **Literacy: Writing: Creating texts**

#### **Content description**

AC9S6I06

# **Learning progression extract**

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

#### **Crafting ideas**

- creates informative, imaginative and persuasive texts for a range of learning area purposes, such as to recount a sequence of events; to describe a person, thing or process; to explain a process; to argue with evidence or reasons; to express emotions
- includes learnt ideas on a range of topics from learning areas
- stages text using typical or familiar features such as an introduction and body paragraphs
- supports ideas with some detail and elaboration (e.g. expands on a topic sentence by adding more details in following sentences)
- uses sources to support ideas (e.g. introduces ideas from a shared text to add detail and engage the reader)

# Text forms and features

- writes a range of compound and complex sentences (see Grammar)
- uses pronouns correctly to link to an object or person across the text (see Grammar)
- uses images to reinforce ideas in written text
- maintains consistent tense within and between sentences (see Grammar)
- groups sentences on related ideas into simple paragraphs
- uses cohesive vocabulary to indicate order, cause and effect (e.g. uses text connectives such as "next", "since")
- correctly spells some words with irregular spelling patterns (e.g. "cough") (see Spelling)
- applies learnt spelling generalisations
- accurately spells high-frequency words (see Spelling)
- consistently uses correct simple punctuation (e.g. uses commas in a list) (see Punctuation)

#### Vocabulary

- uses expressive words to describe action and affect the reader (e.g. "tiptoed" instead of "walked")
- uses vocabulary creatively to affect the reader (e.g. repetition, alliteration)
- uses synonyms to replace common and generic words and avoid repetition across a text (e.g. "thrilled" for "excited")
- uses a range of learning area topic words (e.g. "environment", "equipment")

#### 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")

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

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

#### **Content description**

AC9S6I06

#### Continuum extract

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

- use the core features of a range of digital tools to create content and communicate and collaborate with peers and trusted adults
- 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