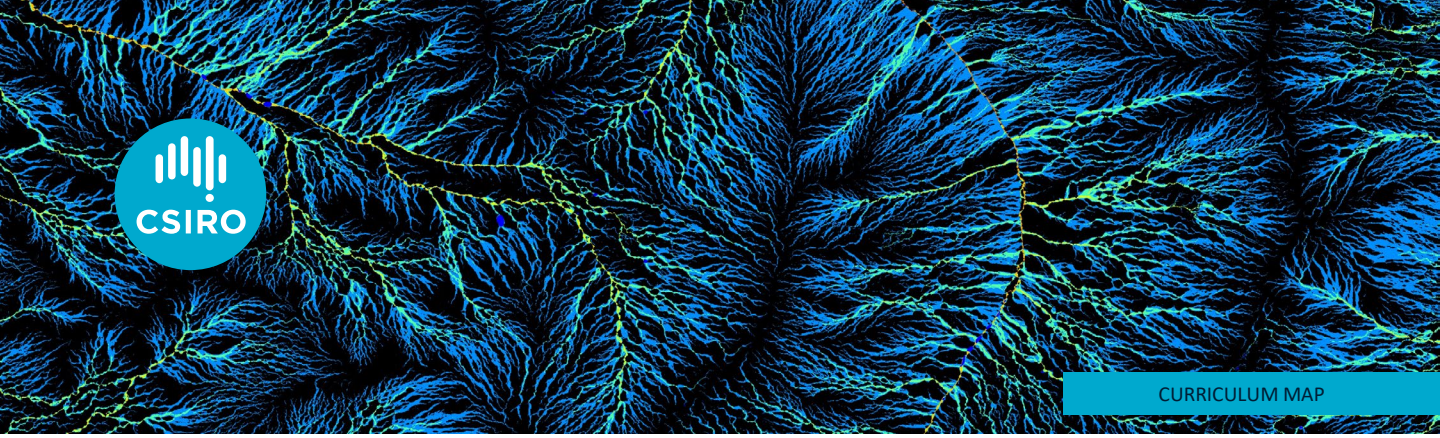


Indigenous Research Methodology

Water in our Environment – Green CREST

Australian Curriculum links

Curriculum Code

Prerequisite

Science understanding

ACSSU094 The growth and survival of living things are affected by physical conditions of their environment Year 6

ACSSU096 Sudden geological changes and extreme weather events can affect Earth's surface Year 6

ACSSU116 Some of Earth's resources are renewable, including water that cycles through the environment, but others are non-renewable Year 7

Science as a human endeavour

ACSHE098 Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions Year 6

ACSHE100 Scientific knowledge is used to solve problems and inform personal and community decisions Year 6

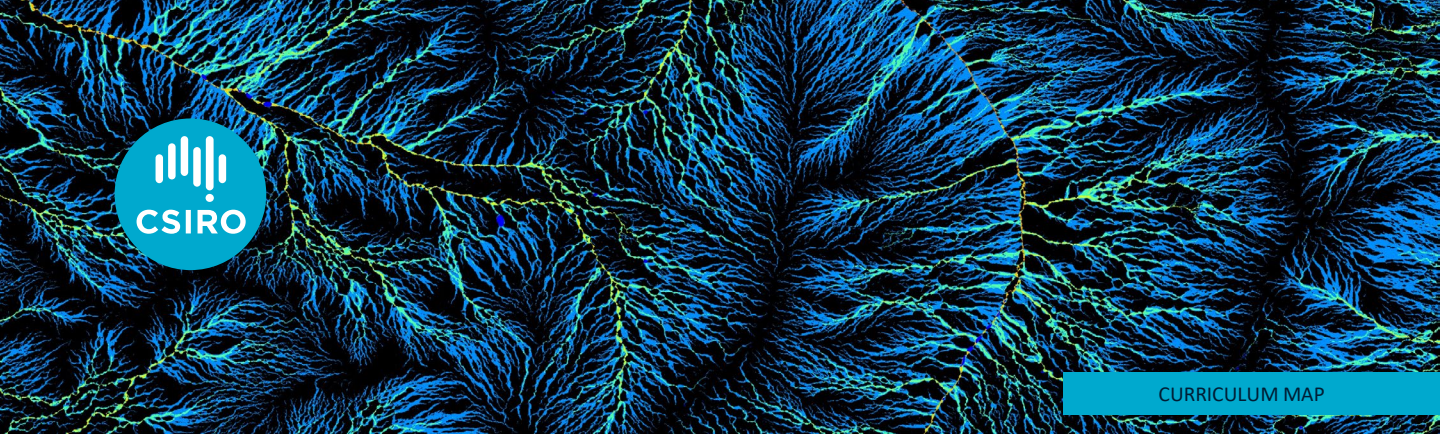
ACSHE119 Scientific knowledge has changed peoples' understanding of the world and is refined as new evidence becomes available Year 7

ACSHE223 Science knowledge can develop through collaboration across the disciplines of science and the contributions of people from a range of cultures Year 7

Cross Curriculum Priority: Aboriginal and Torres Strait Islander Histories and Cultures

Science Inquiry Year 6

Science Inquiry Year 7



Indigenous Research Methodology

Biodiversity – Green CREST

Australian Curriculum links

Science understanding

ACSSU073 Living things depend on each other and the environment to survive Year 4

ACSSU111 Classification helps organise the diverse group of organisms Year 7

ACSSU112 Interactions between organisms, including the effects of human activities can be represented by food chains and food webs Year 7

ACSSU176 Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems Year 9

Science as a human endeavour

ACSHE061 Science involves making predictions and describing patterns and relationships Year 4

ACSHE062 Science knowledge helps people to understand the effect of their actions Year 4

ACSHE119 Scientific knowledge has changed peoples' understanding of the world and is refined as new evidence becomes available Year 7

ACSHE223 Science knowledge can develop through collaboration across the disciplines of science and the contributions of people from a range of cultures Year 7

ACSHE157 Scientific understanding, including models and theories, is contestable and is refined over time through a process of review by the scientific community Year 9

ACSHE160 People use scientific knowledge to evaluate whether they accept claims, explanations or predictions, and advances in science can affect people's lives, including generating new career opportunities Year 9

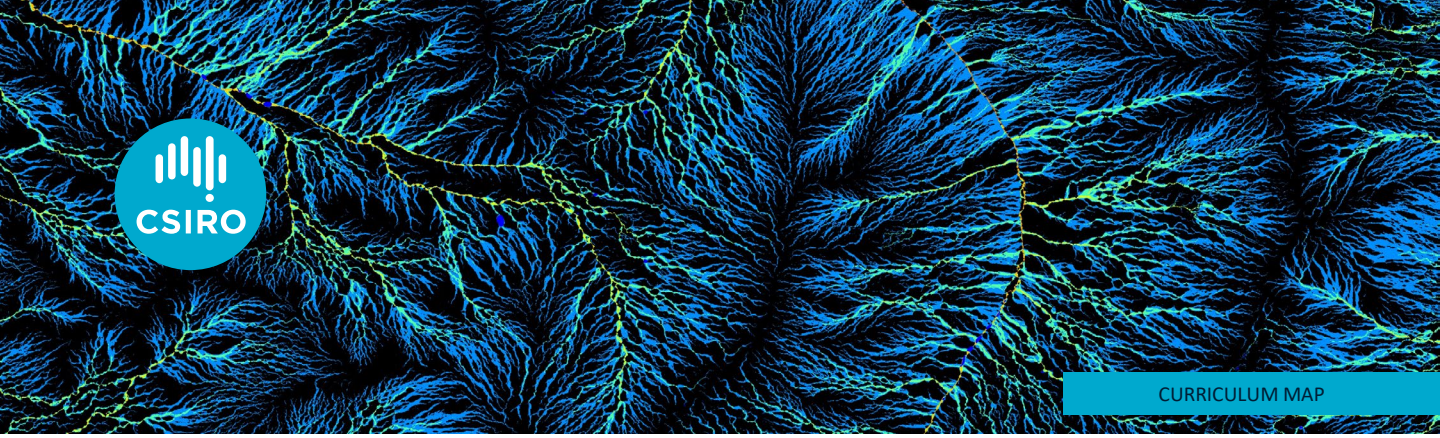
ACSHE228 Values and needs of contemporary society can influence the focus of scientific research Year 9

Cross Curriculum Priority: Aboriginal and Torres Strait Islander Histories and Cultures

Science Inquiry Year 4

Science Inquiry Year 7

Science Inquiry Year 9



Indigenous Research Methodology

Groundwater – Green CREST

Australian Curriculum links

Curriculum Code

Prerequisite

Science understanding

ACSSU075 Earth's surface changes over time as a result of natural processes and human activity Year 4

ACSSU094 The growth and survival of living things are affected by physical conditions of their environment Year 6

ACSSU096 Sudden geological changes and extreme weather events can affect Earth's surface Year 6

ACSSU116 Some of Earth's resources are renewable, including water that cycles through the environment, but others are non-renewable Year 7

ACSSU176 Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems Year 9

Science as a human endeavour:

ACSHE061 Science involves making predictions and describing patterns and relationships Year 4

ACSHE098 Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions Year 6

ACSHE100 Scientific knowledge is used to solve problems and inform personal and community decisions Year 6

ACSHE119 Scientific knowledge has changed peoples' understanding of the world and is refined as new evidence becomes available Year 7

ACSHE223 Science knowledge can develop through collaboration across the disciplines of science and the contributions of people from a range of cultures Year 7

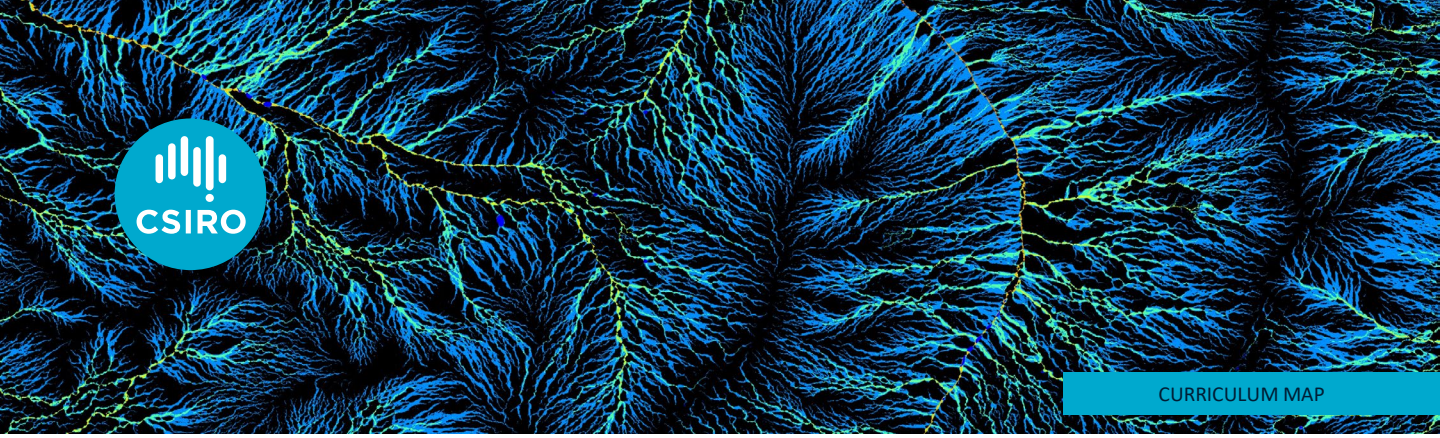
Cross Curriculum Priority: Aboriginal and Torres Strait Islander Histories and Cultures

Science Inquiry Year 4

Science Inquiry Year 6

Science Inquiry Year 7

Science Inquiry Year 9



Indigenous Research Methodology

Groundwater – Orange CREST

Australian Curriculum links

Curriculum Code

Prerequisite

Science understanding

ACSSU073 Living things depend on each other and the environment to survive Year 4

ACSSU075 Earth's surface changes over time as a result of natural processes and human activity Year 4

ACSSU094 The growth and survival of living things are affected by physical conditions of their environment Year 6

ACSSU096 Sudden geological changes and extreme weather events can affect Earth's surface Year 6

ACSSU116 Some of Earth's resources are renewable, including water that cycles through the environment, but others are non-renewable Year 7

ACSSU176 Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems Year 9

Science as a human endeavour:

ACSHE061 Science involves making predictions and describing patterns and relationships Year 4

ACSHE098 Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions Year 6

ACSHE100 Scientific knowledge is used to solve problems and inform personal and community decisions Year 6

ACSHE119 Scientific knowledge has changed peoples' understanding of the world and is refined as new evidence becomes available Year 7

ACSHE223 Science knowledge can develop through collaboration across the disciplines of science and the contributions of people from a range of cultures Year 7

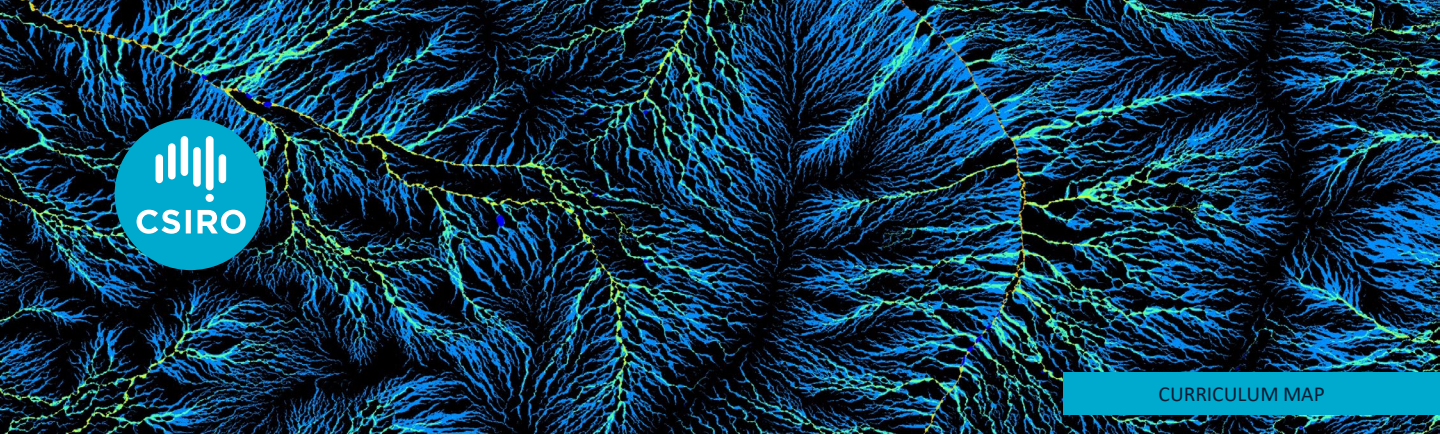
Cross Curriculum Priority: Aboriginal and Torres Strait Islander Histories and Cultures

Science Inquiry Year 4

Science Inquiry Year 6

Science Inquiry Year 7

Science Inquiry Year 9



Indigenous Research Methodology

Cultural Indicators – Blue CREST

Australian Curriculum links

Curriculum Code

Prerequisite

Science Understanding

ACSSU176 Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems Year 9

Science as a Human Endeavour

ACSHE157 Scientific understanding, including models and theories, is contestable and is refined over time through a process of review by the scientific community Year 9

ACSHE160 People use scientific knowledge to evaluate whether they accept claims, explanations or predictions, and advances in science can affect people's lives, including generating new career opportunities Year 9

ACSHE228 Values and needs of contemporary society can influence the focus of scientific research Year 9

Biology Unit 1

Ecosystem dynamics: Indigenous knowledge of ecosystem interactions and change

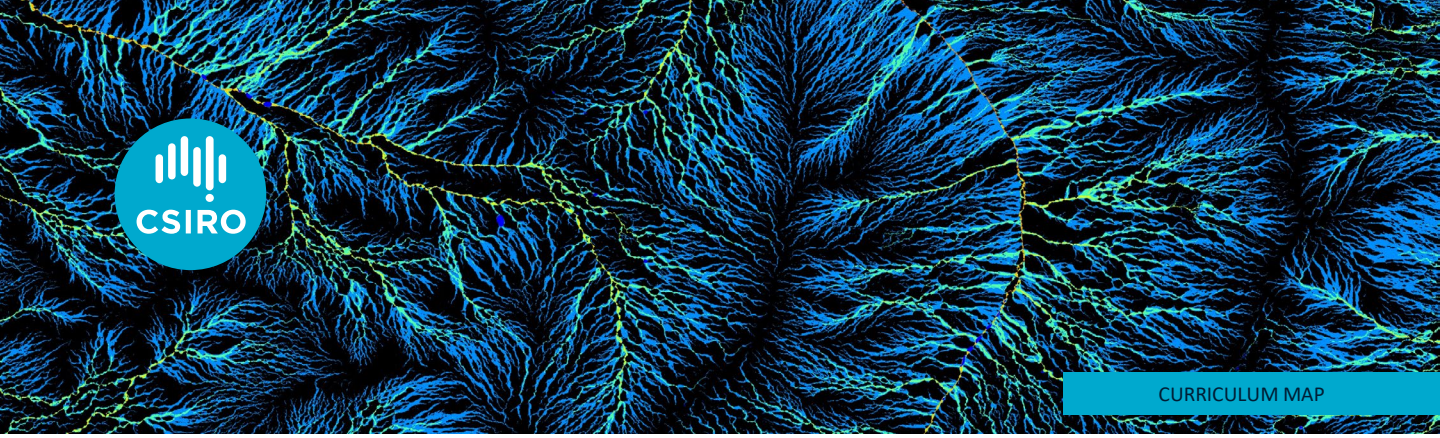
ACSBL009 Development of complex models and/or theories often requires a wide range of evidence from multiple individuals and across disciplines

ACSBL011 The use of scientific knowledge is influenced by social, economic, cultural and ethical considerations

Cross Curriculum Priority: Aboriginal and Torres Strait Islander Histories and Cultures

Science Inquiry Year 9

Science Inquiry Skills (Biology Unit 1)



Indigenous Research Methodology

Cross Curriculum Priority: Aboriginal and Torres Strait Islander Histories and Cultures

Learning Area - Science

Students will have opportunities to learn that Aboriginal and Torres Strait Islander Peoples have longstanding scientific knowledge traditions and developed knowledge about the world by:

- observation, using all the senses
- prediction and hypothesis
- testing (trial and error)
- making generalisations within specific contexts such as the use of food, natural materials, navigation and sustainability of the environment.

Country/Place

OI.2 Aboriginal and Torres Strait Islander communities maintain a special connection to and responsibility for Country/Place.

OI.3 Aboriginal and Torres Strait Islander Peoples have holistic belief systems and are spiritually and intellectually connected to the land, sea, sky and waterways.

Culture

OI.4 Aboriginal and Torres Strait Islander societies have many Language Groups.

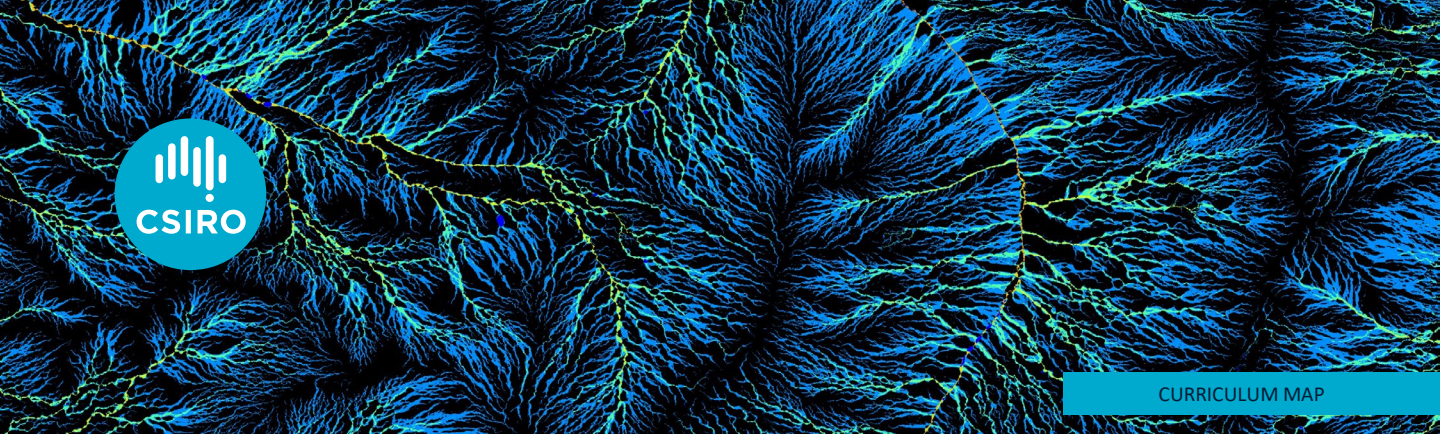
OI.5 Aboriginal and Torres Strait Islander Peoples' ways of life are uniquely expressed through ways of knowing, being, thinking and doing.

OI.6 Aboriginal and Torres Strait Islander Peoples live in Australia as first peoples of Country or Place and demonstrate resilience in responding to historic and contemporary impacts of colonisation.

People

OI.7 The broader Aboriginal and Torres Strait Islander societies encompass a diversity of nations across Australia.

OI.9 The significant contributions of Aboriginal Peoples and Torres Strait Islander Peoples in the present and past are acknowledged locally, nationally and globally.



Indigenous Research Methodology

Science Inquiry Year 4

Australian Curriculum links

AC9S4I01 Pose questions to explore observed patterns and relationships and make predictions based on observations

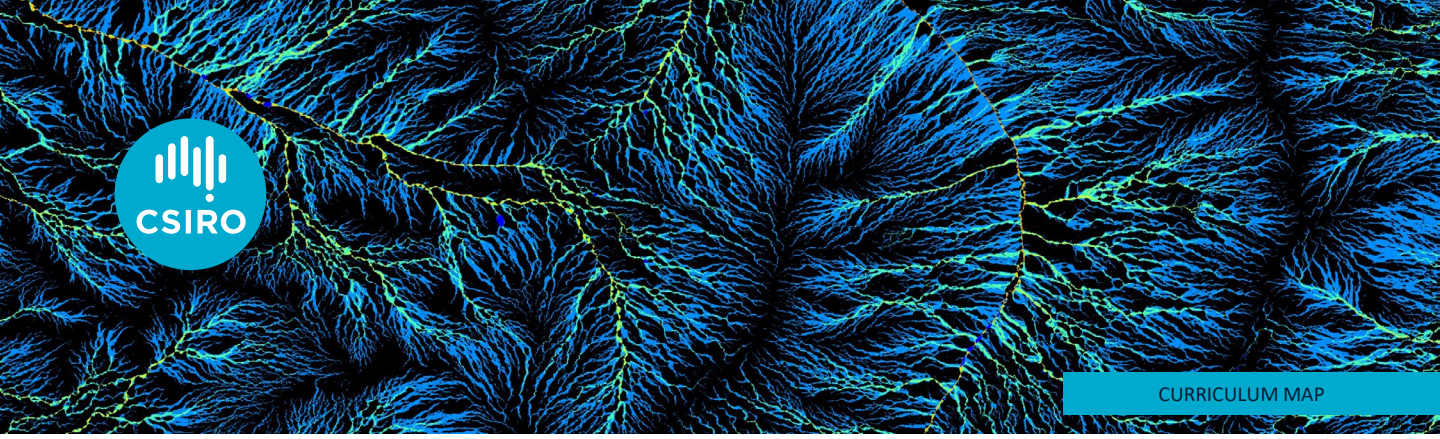
AC9S4I02 Use provided scaffolds to plan and conduct investigations to answer questions or test predictions, including identifying the elements of fair tests, and considering the safe use of materials and equipment

AC9S4I03 Follow procedures to make and record observations, including making formal measurements using familiar scaled instruments and using digital tools as appropriate

AC9S4I04 Construct and use representations, including tables, simple column graphs and visual or physical models, to organise data and information, show simple relationships and identify patterns

AC9S4I05 Compare findings with those of others, consider if investigations were fair, identify questions for further investigation and draw conclusions

AC9S4I06 Write and create texts to communicate findings and ideas for identified purposes and audiences, using scientific vocabulary and digital tools as appropriate



Indigenous Research Methodology

Science Inquiry Year 6

Australian Curriculum links

Science Inquiry

AC9S6I01 Pose investigable questions to identify patterns and test relationships and make reasoned predictions

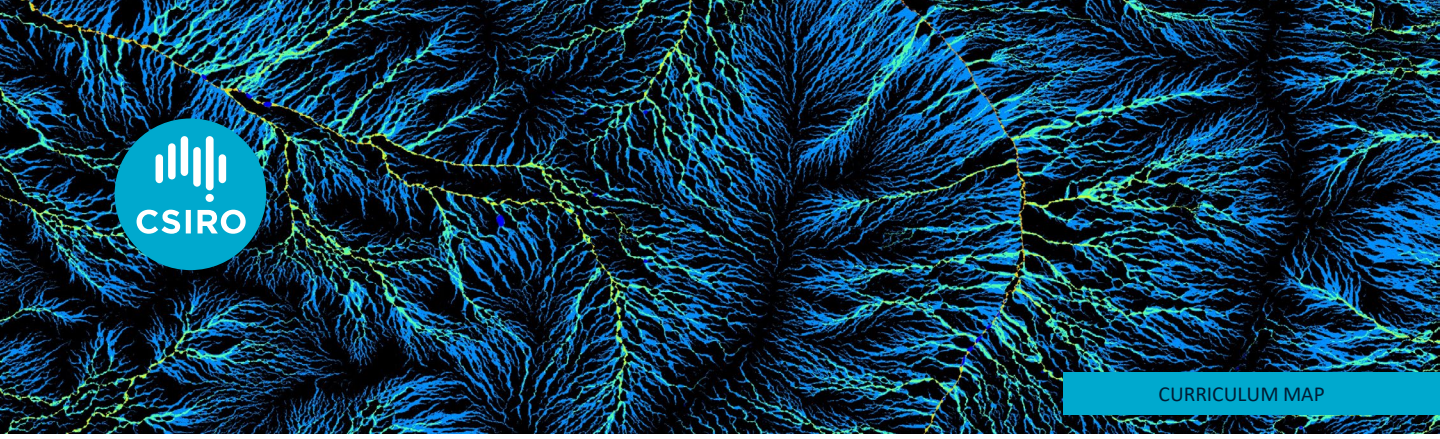
AC9S6I02 Plan and conduct repeatable investigations to answer questions including, as appropriate, deciding the variables to be changed, measured and controlled in fair tests; describing potential risks; planning for the safe use of equipment and materials; and identifying required permissions to conduct investigations on Country/Place

AC9S6I03 Use equipment to observe, measure and record data with reasonable precision, using digital tools as appropriate

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

AC9S6I05 Compare methods and findings with those of others, recognise possible sources of error, pose questions for further investigation and select evidence to draw reasoned conclusions

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



Indigenous Research Methodology

Science Inquiry Year 7

Australian Curriculum links

AC9S7I01 Develop investigable questions, reasoned predictions and hypotheses to explore scientific models, identify patterns and test relationships

AC9S7I02 Plan and conduct reproducible investigations to answer questions and test hypotheses, including identifying variables and assumptions and, as appropriate, recognising and managing risks, considering ethical issues and recognising key considerations regarding heritage sites and artefacts on Country/Place

AC9S7I03 Select and use equipment to generate and record data with precision, using digital tools as appropriate

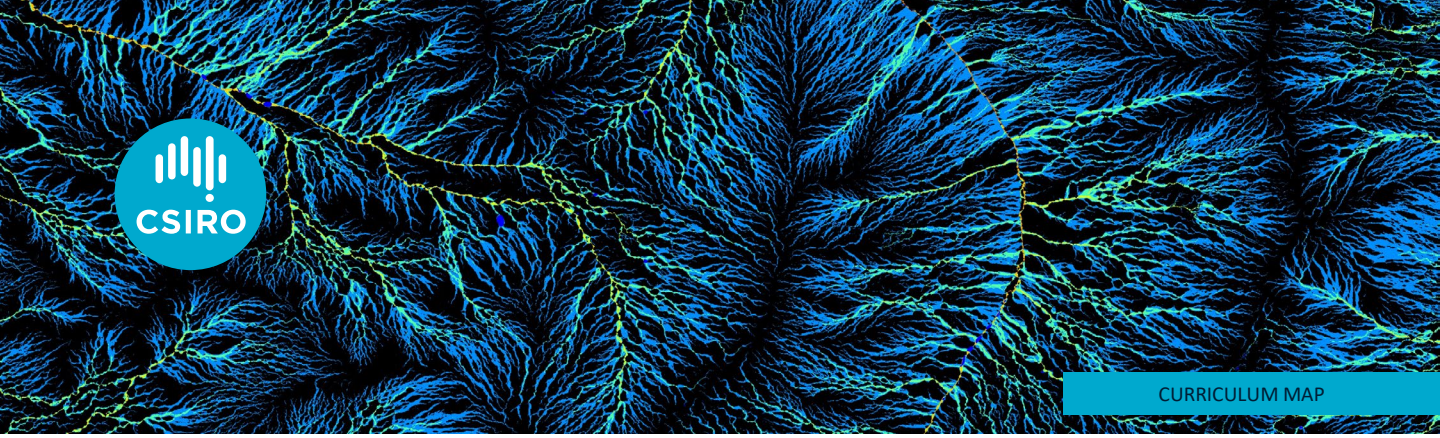
AC9S7I04 Select and construct appropriate representations, including tables, graphs, models and mathematical relationships, to organise and process data and information

AC9S7I05 Analyse data and information to describe patterns, trends and relationships and identify anomalies

AC9S7I06 Analyse methods, conclusions and claims for assumptions, possible sources of error, conflicting evidence and unanswered questions

AC9S7I07 Construct evidence-based arguments to support conclusions or evaluate claims and consider any ethical issues and cultural protocols associated with using or citing secondary data or information

AC9S7I08 Write and create texts to communicate ideas, findings and arguments for specific purposes and audiences, including selection of appropriate language and text features, using digital tools as appropriate



Indigenous Research Methodology

Science Inquiry Year 9

Australian Curriculum links

AC9S9I01 Develop investigable questions, reasoned predictions and hypotheses to test relationships and develop explanatory models

AC9S9I02 Plan and conduct valid, reproducible investigations to answer questions and test hypotheses, including identifying and controlling for possible sources of error and, as appropriate, developing and following risk assessments, considering ethical issues, and addressing key considerations regarding heritage sites and artefacts on Country/Place

AC9S9I03 Select and use equipment to generate and record data with precision to obtain useful sample sizes and replicable data, using digital tools as appropriate

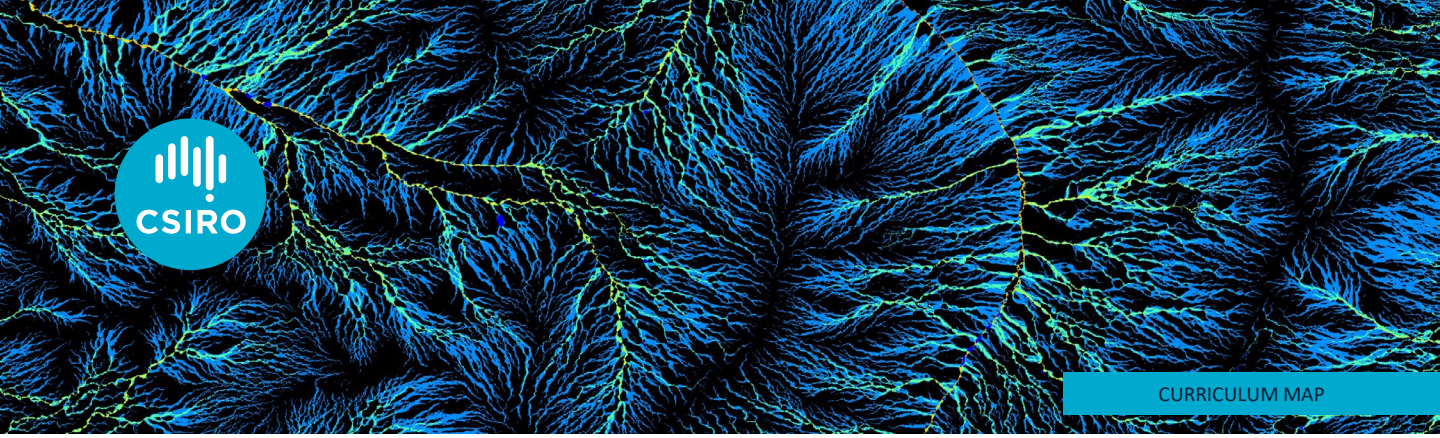
AC9S9I04 Select and construct appropriate representations, including tables, graphs, descriptive statistics, models and mathematical relationships, to organise and process data and information

AC9S9I05 Analyse and connect a variety of data and information to identify and explain patterns, trends, relationships and anomalies

AC9S9I06 Assess the validity and reproducibility of methods and evaluate the validity of conclusions and claims, including by identifying assumptions, conflicting evidence and areas of uncertainty

AC9S9I07 Construct arguments based on analysis of a variety of evidence to support conclusions or evaluate claims, and consider any ethical issues and cultural protocols associated with accessing, using or citing secondary data or information

AC9S9I08 Write and create texts to communicate ideas, findings and arguments effectively for identified purposes and audiences, including selection of appropriate content, language and text features, using digital tools as appropriate



Indigenous Research Methodology

Science Inquiry Skills (Biology Unit 1)

Australian Curriculum links

ACSBL001 Identify, research and construct questions for investigation; propose hypotheses; and predict possible outcomes

ACSBL002 Design investigations, including the procedure/s to be followed, the materials required, and the type and amount of primary and/or secondary data to be collected; conduct risk assessments; and consider research ethics, including animal ethics

ACSBL003 Conduct investigations, including using ecosystem surveying techniques, safely, competently and methodically for the collection of valid and reliable data

ACSBL004 Represent data in meaningful and useful ways; organise and analyse data to identify trends, patterns and relationships; qualitatively describe sources of measurement error, and uncertainty and limitations in data; and select, synthesise and use evidence to make and justify conclusions

ACSBL005 Interpret a range of scientific and media texts, and evaluate processes, claims and conclusions by considering the quality of available evidence; and use reasoning to construct scientific arguments

ACSBL006 Select, construct and use appropriate representations, including classification keys, food webs and biomass pyramids, to communicate conceptual understanding, solve problems and make predictions

ACSBL007 Communicate to specific audiences and for specific purposes using appropriate language, nomenclature, genres and modes, including scientific reports