

GHHP Curriculum Lesson Plans

Topic:

Year Level: 7, 8 and 9

Key Learning Areas: Science and Humanities

Content:

- Lesson One: Build your own Harbour
- Lesson Two: Water Quality Zone Comparison
- Lesson Three: GHHP Report Card Reading Comprehension
- Assessment: Inquiry Task: How healthy is the Harbour?

LESSON PLANS

LESSON ONE: Build your own Harbour

LESSON ONE: Build your own Harbour	
TOPIC	GHHP Zoning in the Gladstone Harbour
OVERVIEW	<p>The 13 environmental reporting zones in Gladstone Harbour have developed over time from an initial 7 zones proposed by Jones et al. (2005) in a risk assessment for contaminants in Gladstone Harbour. In their 2007 Port Curtis Eco Card, the Port Curtis Integrated Monitoring Program (PCIMP) increased the number of zones to nine by including oceanic and estuarine reference sites (Storey et al., 2007). However, these two reference zones were combined in the Port Curtis Eco Card 2008–2010 (PCIMP, 2010) resulting in eight zones. The Queensland Department of Environment and Heritage Protection (DEHP) developed the current 13 zones (Figure 3.1). These zones were also used to define regionally specific water quality objectives for the Capricorn Coast (DEHP, 2014a).</p> <p>Gladstone Harbour drivers and pressures</p> <p>Drivers and pressures are defined as external forces that play key roles in the health of Gladstone Harbour. As a busy industrialised harbour in a subtropical climate with distinct wet and dry seasons, Gladstone Harbour is influenced by a number of environmental, social, cultural and economic drivers. Changes in the demographics of the human population or major climatic events are examples of drivers; both may have strong influences over the environmental, social, cultural and economic condition of the harbour (McIntosh et al., 2014). Pressures are the human forces that may change the environmental condition of the harbour. Examples of pressures are the release of toxic material, physical disturbance of habitats such as mangroves or seagrass, and alterations to the coastline (McIntosh et al., 2014).</p> <p>The environmental, social, cultural and economic health of Gladstone Harbour could be influenced by major events that operate on scales which extend spatially or temporally beyond the reporting boundaries specified for the four components. For instance, connectivity may be driven by changes in oceanic circulation and wind and rainfall patterns; water chemistry may be influenced by pressures originating from human activities in river catchments. This section summarises some key drivers and pressures which may have influenced the 2014–15 report card scores and grades.</p> <p>In the reporting year from June 2014 to July 2015, acute climatic events, such as flooding, and changes to economic circumstances did not influence the</p>

	report card grades.		
TIMING	2 lessons and home time		
	TEACHING & LEARNING SEQUENCE	RESOURCES	
	<p>Students will be able to:</p> <ul style="list-style-type: none"> Construct an informative poster using visual and written text. Investigate the features of an area in the Gladstone Harbour <p>Lesson Plan</p> <ul style="list-style-type: none"> Students are to conduct research into a selected zone in the Gladstone Harbour and present their findings on an informative poster. Students should be assigned a zone in the harbour (13 zones). Each poster should contain the following information and pictures about their zone: <ul style="list-style-type: none"> Size and location of the zone (map) Natural features Man-made features Common animals and their habitat Pressures and Drivers (<i>these are the external forces that play key roles in the health of Gladstone Harbour see overview for more details</i>). Have students present their poster to the class and display them on the wall. Students could compare the information about each zone (particularly those in the inner, mid and outer harbour areas). <p>Checking for understanding</p> <ul style="list-style-type: none"> Have students conducted their own research into their selected zone in the harbour? Have students presented all required information? Are the posters well designed and made? 	<p>Resource 1: Harbour Zone Map</p> <p>GHHP Harbour Model (email GHHP to book the model info@ghhp.org.au)</p>	<p>CROSS CURRICULAR PRIORITIES</p> <p>DIFFERENTIATION</p> <p>Differentiation</p> <p>Students could work individually or in small groups (13 Zones)</p>
LESSON TWO: Water Quality Zone Comparison			
TOPIC	GHHP Zoning in the Gladstone Harbour		
OVERVIEW	<p>Scientists produce quite complicated reports based on their research. Groups like the Gladstone Healthy Harbour Partnership team interpret the complex data and simplify it into graphic organisers that are easier for the community to read.</p> <p><i>Aggregation of report card grades and scores</i></p> <p>A number of methods have been used to calculate an index value for the smallest geographic unit of reporting (e.g. site for water and sediment quality, reef for coral indicators and meadow for seagrass indicators) for the 2014–15 monitoring period.</p>		

For example, the starting point for water quality index calculation was the annual mean value for a measure per site. This was calculated by averaging the field data collected on four occasions in the 2014–15 reporting year. The annual site means were used to develop indexed scores between 0 and 1 compared with relevant guidelines (DEHP water quality objectives or ANZECC/ARMCANZ guidelines as appropriate). This yielded final indexed scores at site level which could be aggregated to higher levels of reporting (Figure 2.2a–d). References have been provided to the methods used to calculate the indexed values for coral, seagrass and connectivity indicators in their respective sections in this report.

Aggregation used a hierarchical approach so that scores for a range of reporting levels (e.g. indicator, indicator group and component) could be generated for individual zones and for the whole harbour for reporting. The lowest level of reporting (e.g. measures such as aluminium, copper, lead, manganese, nickel and zinc for a site) was aggregated to the next level (e.g. metals in water) using bootstrapped distributions rather than direct means of each measure. The bootstrapping method resamples the original data many times to yield multiple means which are used to develop a series of distributions for measures, sub-indicators, indicators and indicator groups. By aggregating distributions (rather than individual means), the rich distributional properties could be preserved, sample bias could be avoided, and means (the report card score) and variances could be calculated for reporting (Figure 2.3).

2015 Technical Report

TIMING 60 minutes

TEACHING & LEARNING SEQUENCE	RESOURCES	CROSS CURRICULAR PRIORITIES DIFFERENTIATION
<p>Students will be able to:</p> <ul style="list-style-type: none"> Analyse and interpret raw data Represent data in a graphical organiser <p>Lesson Plan</p> <ul style="list-style-type: none"> Give students a copy of the Resource 2: Blank Environmental Grades of the Harbour Zones Map Have students answer the following questions in their workbook by using the GHHP Technical Report Chapter 4. The Environmental component. <ol style="list-style-type: none"> List the sub-indicators and measures that comprise of each Indicator <ol style="list-style-type: none"> Water & Sediment <ol style="list-style-type: none"> Water Quality Sediment Quality Habitats <ol style="list-style-type: none"> Seagrass Coral Connectivity Students to access the GHHP Technical Report and find Table 4.19: Environmental indicator group scores and overall environmental scores for the 13 harbour zones and the overall health scores. 	<p>Resource 2: Blank Environmental Grades of the Harbour Zones Map</p> <p>GHHP Technical Report Chapter 4. The Environmental component Where to find the Answers: Water & Sediment use Table 4.1 (pg 41) and 4.2 (pg 42) Habitats use Table 4.9 (pg 55) and 4.12 (pg 62) Connectivity use Table 4.18 (pg 74) Table 4.19: Environmental indicator group scores and overall environmental scores for the 13 harbour zones and the overall health scores can be found on page 76</p> <p><i>*2017 fish and crab</i></p>	<p>Differentiating</p> <p>For students requiring to be extended provide them with Chapter 4 to analyse and interpret the information to answer the question.</p> <p>To provide more assistance for students direct them to the page number in the technical report.</p> <p>For students requiring more assistance show them the tables within the technical report that they can find the information.</p> <p>(you can provide as little or as much assistance with this depending on your desired outcomes from the activity).</p> <p>Students could also work in groups to analyse the technical report but answer their own questions and fill in their own Map.</p>

<ul style="list-style-type: none"> Students are to colour in (or create a key) and transpose the data from Table 4.19 into the Blank Environmental Grades of the Harbour Zone Map (note the answer to the task is available on the GHHP website and Report Card – be aware if students are accessing the technical report online that they can access the answer). <p>Checking for understanding</p>		
LESSON THREE: GHHP Report Card Reading Comprehension		
TOPIC	Report Card	
OVERVIEW	<p>Gladstone Healthy Harbour Partnership (GHHP) is a collaboration of 26 partners comprising 13 industry representatives; six research and monitoring agencies; four community groups, including Traditional Owners; Commonwealth, State and Local Government representatives. GHHP’s role is to annually report on the health of Gladstone Harbour.</p> <p>The Gladstone Harbour Report Card has been informed four components of harbour health: environmental, social, cultural and economic. As GHHP continues to expand and refine its monitoring programs, additional measures will become available. Information and data used to calculate scores and grades in this report card have been provided by a variety of sources and assessed for quality assurance by the GHHP Independent Science Panel (ISP). The ISP is made up of scientists who are renowned and respected leaders in their fields of expertise. The report card also includes a separate assessment of stewardship of different industries.</p> <p>The Port of Gladstone is Queensland’s largest multi-commodity port, the third largest coal exporting terminal in the world, and is part of the Great Barrier Reef World Heritage Area. It is also highly recognised for its national and international significance, but also highly valued by the local community as an iconic symbol of the region.</p> <p><i>2015 Report Card</i></p>	
TIMING	60 minutes	
TEACHING & LEARNING SEQUENCE		RESOURCES
<p>Students will be able to:</p> <ul style="list-style-type: none"> Read the report card and communicate their comprehension <p>Lesson Plan</p> <ul style="list-style-type: none"> Hand out copies of the Report Card to each student (could also use digital copy). Have students complete Resource 3: Reading Comprehension Task while they read the report card. The reading task is generic to the report cards and can be used with a report card from any year. <p>Checking for understanding</p> <ul style="list-style-type: none"> Have students read and understood the report card? Have they correctly 		<p>Resource 3: Reading Comprehension Task</p>
		CROSS CURRICULAR PRIORITIES DIFFERENTIATION
		<p>Differentiation</p> <p>You could work through the questions as a class and identify where is the report they need to read to answer the question.</p> <p>For fast workers, have them complete the optional activity that will require them to process information and prioritise its importance.</p>

answered the comprehension questions?			
ASSESSMENT: Inquiry Task: How healthy is the Harbour?			
TOPIC	Inquiry Based Task		
OVERVIEW	<p>Indicators used to monitor harbour health</p> <p>The indicators were chosen following extensive community consultation on the GHHP vision. Indicators have been grouped into four components reflecting the environmental, social, economic and cultural dimensions of Harbour health.</p> <p>Environmental Indicators</p> <ul style="list-style-type: none"> - Water & sediment quality - Habitats - Fish & crabs <p>Social Indicators</p> <ul style="list-style-type: none"> - Harbour access - Liveability/wellbeing - Harbour usability <p>Cultural Indicators</p> <ul style="list-style-type: none"> - Sense of place - Cultural heritage <p>Economic Indicators</p> <ul style="list-style-type: none"> - Economic values - Economic stimulus - Economic performance 		
TIMING	4 to 5 lesson and home time		
ASSESSMENT TASKS		RESOURCES	CROSS CURRICULAR PRIORITIES DIFFERENTIATION
<p>ASSESSMENT: How healthy is the Harbour inquiry</p> <p>Timing:</p> <ul style="list-style-type: none"> • Part A: 2-3 lessons planning, 1-2 lessons data collection & 1 lesson analysis • Part B: 1-2 lessons • Part C: 1-2 lessons planning and 2 lessons multi-media planning • <i>Students should also complete work at home as part of this assessment. The above lesson timing are only recommendations.</i> <p>Give students a copy of the Task Sheet and Research Journal.</p>		<p>Inquiry Task Sheet Inquiry Research Journal</p>	<p>Please note there is no specific marking criteria sheet for this task as it could be used in a number of subject areas (please see specific subject syllabus for relevant marking criteria)</p>

Appendix A: Links to Australian Curriculum

The following Science and Humanities content descriptors and inquiry skills have been identified from version 7.5 of the Foundation to Year 10 Australian Curriculum which are suited to the Gladstone Healthy Harbour Partnership Year 7, 8 and 9 curriculum resources.

Australian Curriculum				
SCIENCE				
Science Understanding				
Y	Biological Sciences	Chemical Sciences	Earth & Space Sciences	Physical Sciences
7	Classification helps organise the diverse group of organisms (ACSSU111) Interactions between organisms, including the effects of human activities can be represented by food chains and food webs (ACSSU112)	Mixtures, including solutions, contain a combination of pure substances that can be separated using a range of techniques (ACSSU113)	Some of Earth's resources are renewable, including water that cycles through the environment, but others are non-renewable (ACSSU116)	
8		Properties of the different states of matter can be explained in terms of the motion and arrangement of particles (ACSSU151) Differences between elements, compounds and mixtures can be described at a particle level (ACSSU152) Chemical change involves substances reacting to form new substances (ACSSU225)		
9	Multi-cellular organisms rely on coordinated and interdependent internal systems to respond to changes to their environment (ACSSU175) Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems (ACSSU176)	Chemical reactions involve rearranging atoms to form new substances; during a chemical reaction mass is not created or destroyed (ACSSU178) Chemical reactions, including combustion and the reactions of acids, are important in both non-living and living systems and involve energy transfer (ACSSU179)		
Science as a Human Endeavour				
Y	Nature & Development of Science		Use & Influence of Science	
7 & 8	Scientific knowledge has changed peoples' understanding of the world and is refined as new evidence becomes available (ACSHE119) (ACSHE134) Science knowledge can develop through collaboration across the disciplines of science and the contributions of people from a range of cultures (ACSHE223) (ACSHE226)		Solutions to contemporary issues that are found using science and technology, may impact on other areas of society and may involve ethical considerations (ACSHE120) (ACSHE135) People use science understanding and skills in their occupations and these have influenced the development of practices in areas of human activity (ACSHE121) (ACSHE136)	
9	Scientific understanding, including models and theories, is contestable and is refined over time through a process of review by the scientific community (ACSHE157) Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries (ACSHE158)		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 (ACSHE160) Values and needs of contemporary society can influence the focus of scientific research (ACSHE228)	

Science Inquiry Skills					
Y	Questioning & Predicting	Planning & Conducting	Processing & Analysing Data & Information	Evaluating	Communicating
7 & 8	Identify questions and problems that can be investigated scientifically and make predictions based on scientific knowledge (ACSIS124) (ACSIS139)	Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed (ACSIS125) (ACSIS140) Measure and control variables, select equipment appropriate to the task and collect data with accuracy (ACSIS126) (ACSIS141)	Construct and use a range of representations, including graphs, keys and models to represent and analyse patterns or relationships in data using digital technologies as appropriate (ACSIS129) (ACSIS144) Summarise data, from students' own investigations and secondary sources, and use scientific understanding to identify relationships and draw conclusions based on evidence (ACSIS130) (ACSIS145)	Reflect on scientific investigations including evaluating the quality of the data collected, and identifying improvements (ACSIS131) (ACSIS146) Use scientific knowledge and findings from investigations to evaluate claims based on evidence (ACSIS132) (ACSIS234)	Communicate ideas, findings and evidence based solutions to problems using scientific language, and representations, using digital technologies as appropriate (ACSIS133) (ACSIS148)
9	Formulate questions or hypotheses that can be investigated scientifically (ACSIS164)	Plan, select and use appropriate investigation types, including field work and laboratory experimentation, to collect reliable data; assess risk and address ethical issues associated with these methods (ACSIS165) Select and use appropriate equipment, including digital technologies, to collect and record data systematically and accurately (ACSIS166)	Analyse patterns and trends in data, including describing relationships between variables and identifying inconsistencies (ACSIS169) Use knowledge of scientific concepts to draw conclusions that are consistent with evidence (ACSIS170)	Evaluate conclusions, including identifying sources of uncertainty and possible alternative explanations, and describe specific ways to improve the quality of the data (ACSIS171) Critically analyse the validity of information in primary and secondary sources and evaluate the approaches used to solve problems (ACSIS172)	Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations (ACSIS174)

GEOGRAPHY

Knowledge & Understanding

Y	Unit 1	Unit 2
7	UNIT ONE: WATER IN THE WORLD Classification of environmental resources and the forms that water takes as a resource (ACHASSK182) The way that flows of water connect places as they move through the environment and the way these affect places (ACHASSK183) The quantity and variability of Australia's water resources compared with other continents (ACHASSK184) The nature of water scarcity and ways of overcoming it, including studies drawn from Australia and West Asia and/or North Africa (ACHASSK185) Economic, cultural, spiritual and aesthetic value of water for people, including Aboriginal and Torres Strait Islander Peoples and peoples of the Asia region (ACHASSK186) Causes, impacts and responses to an atmospheric or hydrological hazard (ACHASSK187)	UNIT TWO: PLACE AND LIVEABILITY Factors that influence the decisions people make about where to live and their perceptions of the liveability of places (ACHASSK188) The influence of accessibility to services and facilities on the liveability of places (ACHASSK189) The influence of environmental quality on the liveability of places (ACHASSK190) The influence of social connectedness and community identity on the liveability of places (ACHASSK191) Strategies used to enhance the liveability of places, especially for young people, including examples from Australia and Europe (ACHASSK192)

<p>8</p> <p>UNIT ONE: LANDFORMS AND LANDSCAPES Different types of landscapes and their distinctive landform features (ACHGK048) Spiritual, aesthetic and cultural value of landscapes and landforms for people, including Aboriginal and Torres Strait Islander Peoples (ACHGK049) Geomorphic processes that produce landforms, including a case study of at least one landform (ACHGK050) Human causes and effects of landscape degradation (ACHGK051) Ways of protecting significant landscapes (ACHGK052) Causes, impacts and responses to a geomorphological hazard (ACHGK053)</p>	<p>UNIT TWO: CHANGING NATIONS Differences in urban concentration and urban settlement patterns between Australia and the United States of America, and their causes and consequences (ACHGK055) Reasons for, and effects of, internal migration in both Australia and China (ACHGK056) Management and planning of Australia’s urban future (ACHGK059)</p>
<p>9</p> <p>UNIT ONE: BIOMES AND FOOD SECURITY Distribution and characteristics of biomes as regions with distinctive climates, soils, vegetation and productivity (ACHGK060) Environmental, economic and technological factors that influence crop yields in Australia and across the world (ACHGK062) Challenges to food production, including land and water degradation, shortage of fresh water, competing land uses, and climate change, for Australia and other areas of the world (ACHGK063)</p>	<p>UNIT TWO: GEOGRAPHIES OF INTERCONNECTIONS The perceptions people have of place, and how these influence their connections to different places (ACHGK065) The ways that places and people are interconnected with other places through trade in goods and services, at all scales (ACHGK067) The effects of people’s travel, recreational, cultural or leisure choices on places, and the implications for the future of these places (ACHGK069)</p>

Inquiry & Skills

Y	Questioning	Researching	Analysing	Evaluating & Reflecting	Communicating
7	Construct significant questions and propositions to guide investigations about people, events, developments, places, systems and challenges (ACHASSI152)	Apply a methodology to locate and collect relevant information and data from a range of primary and secondary sources (ACHASSI153) Organise, categorise and represent data in a range of appropriate formats using discipline-specific conventions, including different types of graphs, tables, field sketches and annotated diagrams, and maps at different scales (ACHASSI154) Sequence information about events, developments, periods and phenomena using a variety of discipline-appropriate formats and conventions including chronological frameworks that use dating conventions (ACHASSI155)	Examine primary and secondary sources to determine their origin, purpose and reliability (ACHASSI156) Analyse primary and secondary sources to identify values and perspectives on people, actions, events, issues and phenomena, past and present (ACHASSI157) Interpret and analyse data and information displayed in a range of formats to identify and propose explanations for distributions, patterns, trends and relationships (ACHASSI158)	Evaluate and synthesise evidence to draw conclusions (ACHASSI159) Collaborate to generate alternatives in response to an issue or challenge, and compare the potential costs and benefits of each (ACHASSI160) Develop and use criteria to make informed decisions and judgements (ACHASSI161) Reflect on learning to propose personal and/or collective action in response to an issue or challenge, taking into account different perspectives, and describe the expected effects (ACHASSI162)	Present ideas, findings, viewpoints, explanations and conclusions in a range of texts and modes that incorporate source materials, citations, graphic representations and discipline-specific terms, conventions and concepts (ACHASSI163)
	Observing, Questioning & Planning	Collecting, Recording, Evaluating & Presenting	Interpreting, Analysing & Concluding	Communicating	Reflecting & Responding
7	Develop geographically significant questions and plan an inquiry, using appropriate geographical methodologies and concepts (ACHGS047)	Evaluate sources for their reliability and usefulness and select, collect and record relevant geographical data and information, using ethical protocols, from appropriate primary and	Interpret geographical data and other information using qualitative and quantitative methods, and digital and spatial technologies as appropriate, to identify and propose	Present findings, arguments and ideas in a range of communication forms selected to suit a particular audience and purpose; using geographical terminology and digital	Reflect on their learning to propose individual and collective action in response to a contemporary geographical challenge, taking account of environmental, economic and social

		<p>secondary sources (ACHGS048)</p> <p>Represent data in a range of appropriate forms, for example climate graphs, compound column graphs, population pyramids, tables, field sketches and annotated diagrams, with and without the use of digital and spatial technologies (ACHGS049)</p> <p>Represent spatial distribution of different types of geographical phenomena by constructing appropriate maps at different scales that conform to cartographic conventions, using spatial technologies as appropriate (ACHGS050)</p>	<p>explanations for spatial distributions, patterns and trends, and infer relationships (ACHGS051)</p> <p>Apply geographical concepts to draw conclusions based on the analysis of the data and information collected (ACHGS052)</p>	<p>technologies as appropriate (ACHGS053)</p>	<p>considerations, and predict the expected outcomes of their proposal (ACHGS054)</p>
8	<p>Develop geographically significant questions and plan an inquiry using appropriate geographical methodologies and concepts (ACHGS055)</p>	<p>Evaluate sources for their reliability and usefulness and select, collect and record relevant geographical data and information, using ethical protocols, from appropriate primary and secondary sources (ACHGS056)</p> <p>Represent data in a range of appropriate forms, for example climate graphs, compound column graphs, population pyramids, tables, field sketches and annotated diagrams, with and without the use of digital and spatial technologies (ACHGS057)</p> <p>Represent spatial distribution of different types of geographical phenomena by constructing appropriate maps at different scales that conform to cartographic conventions, using spatial technologies as appropriate (ACHGS058)</p>	<p>Interpret geographical data and other information using qualitative and quantitative methods, and digital and spatial technologies as appropriate, to identify and propose explanations for spatial distributions, patterns and trends, and infer relationships (ACHGS059)</p> <p>Apply geographical concepts to draw conclusions based on the analysis of data and information collected (ACHGS060)</p>	<p>Present findings, arguments and ideas in a range of communication forms selected to suit a particular audience and purpose; using geographical terminology and digital technologies as appropriate (ACHGS061)</p>	<p>Reflect on their learning to propose individual and collective action in response to a contemporary geographical challenge, taking account of environmental, economic and social considerations, and predict the expected outcomes of their proposal (ACHGS062)</p>
9	<p>Develop geographically significant questions and plan an inquiry that identifies and applies appropriate geographical methodologies and concepts (ACHGS063)</p>	<p>The capacity of the world's environments to sustainably feed the projected future global population (ACHGS064)</p> <p>Represent multi-variable data in a range of appropriate forms, for example scatter plots, tables, field sketches and annotated diagrams, with and without the use of digital and spatial technologies (ACHGS065)</p>	<p>Interpret and analyse multi-variable data and other geographical information using qualitative and quantitative methods, and digital and spatial technologies as appropriate, to make generalisations and inferences, propose explanations for patterns, trends, relationships and anomalies, and predict outcomes (ACHGS067)</p>	<p>Present findings, arguments and explanations in a range of appropriate communication forms, selected for their effectiveness and to suit audience and purpose; using relevant geographical terminology, and digital technologies as appropriate (ACHGS070)</p>	<p>Reflect on and evaluate findings of an inquiry to propose individual and collective action in response to a contemporary geographical challenge, taking account of environmental, economic, political and social considerations; and explain the predicted outcomes and consequences of their proposal (ACHGS071)</p>

	Represent spatial distribution of geographical phenomena by constructing special purpose maps that conform to cartographic conventions, using spatial technologies as appropriate (ACHGS066)	Apply geographical concepts to synthesise information from various sources and draw conclusions based on the analysis of data and information, taking into account alternative points of view (ACHGS068) Identify how geographical information systems (GIS) might be used to analyse geographical data and make predictions (ACHGS069)		
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ACARA General Capabilities

The Australian Curriculum includes seven general capabilities. These are:

- Literacy
- Numeracy
- Information and communication technology capability
- Critical and creative thinking
- Personal and social capability
- Ethical understanding
- Intercultural understanding.

http://www.acara.edu.au/curriculum/general_capabilities.html

ACARA Cross Curriculum Priorities

Aboriginal and Torres Strait Islander histories and cultures

The Aboriginal and Torres Strait Islander histories and cultures priority provides the opportunity for all young Australians to gain a deeper understanding and appreciation of Aboriginal and Torres Strait Islander histories and cultures, deep knowledge traditions and holistic world views. This knowledge and understanding will enrich all learners' ability to participate positively in the ongoing development of Australia through a deepening knowledge and connection with the world's oldest continuous living cultures.

The Aboriginal and Torres Strait Islander histories and cultures priority has been developed around the three key concepts of Country/Place, Peoples and Cultures:

- The first key concept highlights the special connection to Country/Place by Aboriginal and Torres Strait Islander Peoples and celebrates the unique belief systems that connect people physically and spiritually to Country/Place.
- The second key concept examines the diversity of Aboriginal and Torres Strait Islander Peoples' culture through language, ways of life and experiences as expressed through historical, social and political lenses. It provides opportunities for students to gain a deeper understanding of Aboriginal and Torres Strait

Islander Peoples' ways of being, knowing, thinking and doing.

- The third key concept addresses the diversity of Aboriginal and Torres Strait Islander societies. It examines kinship structures and the significant contributions of Aboriginal and Torres Strait Islander people on a local, national and global scale.

Asia and Australia's engagement with Asia

The Asia and Australia's engagement with Asia priority provides the opportunity for students to celebrate the social, cultural, political and economic links that connect Australia with Asia. This priority will ensure that students learn about and recognise the diversity within and between the countries of the Asia region. They will develop knowledge and understanding of Asian societies, cultures, beliefs and environments, and the connections between the peoples of Asia, Australia, and the rest of the world. Asia literacy provides students with the skills to communicate and engage with the peoples of Asia so they can effectively live, work and learn in the region.

The Asia and Australia's engagement with Asia priority has been developed around three key concepts; Asia and its diversity, achievements and contributions of the peoples of Asia and Asia-Australia engagement:

- The first key concept highlights the diversity within and between the countries of the Asia region, from their cultures, societies and traditions through to their diverse environments and the effects of these on the lives of people.
- The second key concept examines the past and continuing achievements of the peoples of Asia, identifies their contribution to world history and acknowledges the influences that the Asia region has on the world's aesthetic and creative pursuits.
- The third key concept addresses the nature of past and ongoing links between Australia and Asia, and develops the knowledge, understanding and skills, which make it possible to engage actively and effectively with peoples of the Asia region.

Sustainability

The Sustainability priority provides the opportunity for students to develop an appreciation of the necessity of acting for a more sustainable future and so address the ongoing capacity of Earth to maintain all life and meet the needs of the present without compromising the needs of future generations.

This priority will allow all young Australians to develop the knowledge, skills, values and world views necessary for them to act in ways that contribute to more sustainable patterns of living. It will enable individuals and communities to reflect on ways of interpreting and engaging with the world. The Sustainability priority is futures-oriented, focusing on protecting environments and creating a more ecologically and socially just world through informed action. Actions that support more sustainable patterns of living require consideration of environmental, social, cultural and economic systems and their interdependence.

The Sustainability priority is futures-oriented and calls on students to act sustainably as individuals and to participate in collective endeavours that are shared across local, regional and global communities. It emphasises the interdependence of environmental, social, cultural and economic systems.

The Sustainability priority has been developed around three key concepts: systems, world views and, futures:

- The first key concept explores the interdependent and dynamic nature of systems that support all life on Earth as well as the promotion of healthy social, economic and ecological patterns of living for our collective wellbeing and survival.
- The second key concept presents the issues surrounding sustainability in a global context. This concept allows for a diversity of world views on ecosystems, values and social justice to be discussed and linked to individual and community actions for sustainability.

- The third key concept is aimed at building the capacities for thinking and acting in ways that are necessary to create a more sustainable future. The concept seeks to develop reflective thinking processes and empower young people to design action that will lead to a more equitable, respectful and sustainable future.

http://www.acara.edu.au/curriculum/cross_curriculum_priorities.html