



YEAR 5 Geography Unit

Food in the Australian Curriculum:

An educational unit for the Year 5 Geography Curriculum - factors that shape the human and environmental characteristics of places

Investigating Agriculture in Australia



Australian Government
Department of Agriculture

AGRIFOOD
SKILLS AUSTRALIA



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Food in the Australian Curriculum is an initiative of the Australian Government funded by the Department of Agriculture. It aims to raise awareness and enhance the teaching and learning of the agribusiness industry in Australian schools.

The programme supports teachers in the implementation of the English, Maths, Science, History, Geography and Technologies curricula.

Implemented by AgriFood Skills Australia, the programme provides free:

- in-school presentations for students in years 4-10 on the agrifood industry that are aligned to the curricula;
- teacher professional development workshops on the industry, curricula and classroom resources; and
- teaching materials to support the implementation of the English, Maths, History, Science, Geography and Technologies curricula.

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Images on Front Cover: clockwise from top

Tractor with plough drives along beautiful sweeping blossoming bright yellow canola fields © Martin Lehmann

A line up of inquisitive Limousin Cows © Gozzoli

Orchard of oranges – Stock image

Sheep in a paddock – Stock image

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Investigating Agriculture in Australia

Introduction

Australian Curriculum: Year 5 Geography continues to develop students' understanding of place by focusing on the factors that shape the characteristics of places. In exploring the interconnections between people and environments, students examine how climate and landforms influence the human characteristics of places, and how human actions influence the environmental characteristics of places. They also examine how human decisions and actions influence the way spaces within places are organised and managed.

Overview of Activities

Investigating Agriculture in Australia contains five student-focused inquiry learning activities that use food production as the context for geographical learning and skill acquisition, while they explore the interconnections between people and their environment. The understanding of the influence of Australia's major landform and climatic features is enhanced through the interpretation and construction of maps, applied within the parameters of students' own understanding of places, both where they live and places where they have been.

Activity 1 – An introductory mapping unit. Students build an understanding of the relationships between the physical features of the Australian continent and the location and distribution of agriculture and settlement.

Activity 2 – Explores the relationships between human activities and the environment. Students' build on existing knowledge of their use of land and water resources. An appreciation of the methods Indigenous people used to source their food and our reliance on farmers to do the same is developed. Finally students examine the affect the introduction of rabbits had on the Australian farming.

Activity 3 – Students undertake a 'virtual' farm visit. Choosing one of three farms they 'tour' the farm as the research component of a geographical inquiry.

Activity 4 – Up to five separate areas of investigation are undertaken to build students' understanding of the physical features of the Murray-Darling Basin and its importance. How its unique environment has influenced human settlement over time and how both Aboriginal and European activities have impacted on its environment is explored.

Activity 5 – is adapted from the Asia Education Foundation resource '*Life in a floating village*'. How fishing and farming communities on the Tonlé Sap Lake in central Cambodia have adapted to an

environment that is very different to that of the Murray-Darling Basin is explored.

The *Investigating Agriculture in Australia* work unit complements the *Year 5 History unit – Agriculture in Colonial Australia*. These two units can be integrated or taught as two separate subject specific units.

Key Focus Questions

- What roles do maps play in a geographic inquiry?
- How do physical features such as climate and landforms affect the location and distribution of agriculture and settlement in Australia?
- What are some of the long-term impacts of Aboriginal people's methods of sourcing their food from the Australian environment?
- How are Australian farmers adopting sustainable farm management practices to obtain higher yields and efficiencies without jeopardising future food and fibre production?
- What are the challenges facing farmers in Asia and how do they differ from those facing farmers in Australia today?

Learning Outcomes

At the completion of some or all of the *Investigating Agriculture in Australia* activities, students will have a greater understanding of:

- The influence of the natural environment on the nature and distribution of farming and settlement patterns;
- How people and their activities influence the characteristics of a place;
- Methods that can be used to identify and rank the importance of Australia's major food and fibre products in terms of value and amount of production;
- How the adoption of sustainable farm management methods and new technologies are contributing to Australia's position as a leading producer and exporter of agricultural products;
- How physical features such as climate and landforms have impacted on settlement patterns and food production in the Murray-Darling Basin; and
- How the people of Tonlé Sap in Cambodia have adapted to living and working in an environment characterised by significant seasonal variation in rainfall.

Curriculum Links: Year 5 Geography

Introduction

The Australian Curriculum: Geography identifies the concepts of place, space, environment, interconnection, sustainability, scale and change, as the key ideas involved in teaching students to think geographically.

Year 5 Level Description

Factors that shape the human and environmental characteristics of places continues to develop students' understanding of place by focusing on the factors that shape the characteristics of places. In exploring the interconnections between people and environments, students examine how climate and landforms influence the human characteristics of places, and how human actions influence the environmental characteristics of places. They also examine how human decisions and actions influence the way spaces within places are organised and managed.

Geographical Knowledge and Understanding

Activities within *Investigating Agriculture in Australia* in varying degrees, will assist teachers meet three of the five content requirements of the Geography curriculum namely:

- The influence of people, including Aboriginal and Torres Strait Islander Peoples, on the environmental characteristics of Australian places (ACHGK027);
- The influence of the environment on the human characteristics of a place (ACHGK028); and
- The influence people have on the human characteristics of places and the management of spaces within them (ACHGK029).

Actual linkages to content elaborations are highlighted in Table 1 of the Appendix.

Geographic Inquiry and Skills

Activities that assist teachers meet these requirements of the Year 5 Geography Curriculum, are identified in Table 2 of the Appendix.

Suggested Programming Options/Timeframe

Teachers may choose to integrate the activities within *Investigating Agriculture in Australia* into their teaching of geography to Year 5 students. Depending upon the extent of the activities undertaken, they could occupy up to half the time allocated to geography.

However, when using agriculture as a context for teaching and learning in Year 5, there are a number of linkages between the geography and history curricula. Teachers may therefore choose to integrate the *Investigating Agriculture in Australia* activities with those contained in the Year 5 history work unit, Agriculture in Colonial Australia.

Where appropriate, activities can be also incorporated into science, English, maths and technologies.

Suggested Background Reading

The following resources provide a useful background context from which to plan and implement the activities in *Investigating Agriculture in Australia*. Each resource is a hyperlinked overview of the development and importance of farming and agriculture in Australia from the earliest European settlement up to the present.

Australian Government – Australian Farming and Agriculture – Grazing and Cropping by Kathryn Wells: <http://australia.gov.au/about-australia/australian-story/austn-farming-and-agriculture>

Australian Bureau of Statistics – Farming in Australia – Year of the Farmer:
<http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/1301.0Main+Features2072012>

Many of the resources contained within this work unit are available on the Scootle website. To make access easier, teachers and students should be logged onto Scootle before accessing resources. Resources identified by a TLF-ID, can be accessed on the Scootle search engine via the reference number.

Curriculum Links: Year 5 Geography

Australian Curriculum: Year 5 Geography Achievement Standard

By the end of Year 5, students *explain* the characteristics of places in different locations at the national scale. They *describe* the interconnections between people, places and environments and *identify* the effect of these interconnections on the characteristics of places and environments. They *describe* the location of selected countries in relative terms and identify spatial distributions and simple patterns in the features of places and environments. They *identify* alternative views on how to respond to a geographical challenge and propose a response.

Students *develop* geographical questions to *investigate* and collect and record information from a range of sources to answer these questions. They *represent* data and the location of places and their characteristics in graphic forms, including large-scale and small-scale maps that use the cartographic conventions of border, scale, legend, title, and north point. Students interpret geographical data to *identify* spatial distributions, simple patterns and trends, infer relationships and draw conclusions. They present findings using geographical terminology in a range of communication forms. They propose action in response to a geographical challenge and identify the expected effects of their proposed action.¹

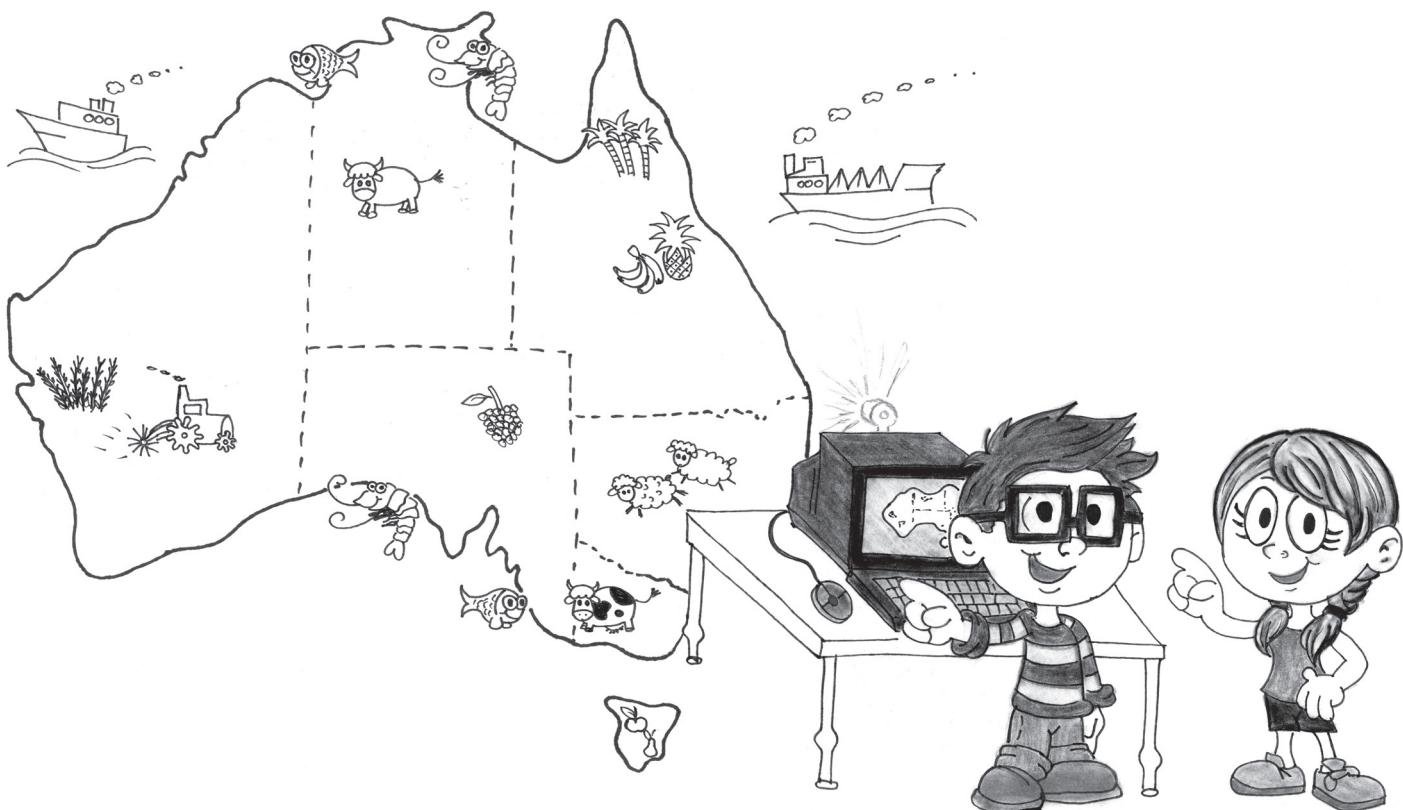


Illustration by Sepi Nolan

¹ Australian Curriculum v5.2

Activity 1: Investigating Australia's landforms and climate

CURRICULUM CONTENT	The influence of the environment on the human characteristics of a place.	ACHGK028
GEOGRAPHIC INQUIRY AND SKILLS	Evaluate sources for their usefulness and represent data in different forms, for example: maps, plans, graphs, tables, sketches and diagrams.	ACHGS035
GEOGRAPHIC INQUIRY AND SKILLS	Interpret geographical data and other information using digital and spatial technologies as appropriate, identify spatial distributions, patterns and trends, and infer relationships to draw conclusions.	ACHGS037

Learning Outcomes

By the end of this activity students should be able to:

- Demonstrate their map drawing and interpretation skills;
- Locate and interact with maps using available digital technologies;
- Appreciate the value of maps as a tool for obtaining and presenting information;
- Describe Australia's climate in terms of types and spatial distribution;
- Understand overall relationships that exist between climate and agriculture; and
- Appreciate that there are other factors that influence the nature and location of agriculture.

Description of Activity

This mapping activity introduces students to the physical features of the Australian continent. They interact with maps (digital and print) of Australia showing the climatic zones, mean annual rainfall and temperature, and the distribution of agriculture.

Students identify the relationships between the various elements and suggest how these elements affect our use of the land and, in particular, for growing of food and fibre crops.

They also identify other factors that affect the location and nature of farming activities and where people choose to live.

They demonstrate their application of mapping skills by constructing a simple map containing the required elements of a map.

Setting the Scene

(a) Teacher Preparation: Using Maps as a Geographic Tool

Obtain a range of maps to display for the initial class discussion. Preferably source maps of varying scales (small and large) and purposes, such as: mud maps, street directories, road maps, wall maps, atlases and digital (including Google Earth).

Print and distribute copies of the following maps for students. NB. All but the blank map, will need to be printed in colour.

- Blank map of Australia
- Map of Australian agriculture
- Map of Australia's climate zones
- Maps of Australian mean annual rainfall and temperature

Source:

Carbon Kids Agriculture in a Changing Climate

Teacher Resource pp 28 – 32: <http://www.csiro.au/resources/CarbonKids-Agriculture>

The following maps can be accessed at the Bureau of Meteorology:

Average annual and monthly mean temperature and rainfall maps: http://www.bom.gov.au/jsp/ncc/climate_averages/temperature/index.jsp

Maps of the World - Map of Australian agriculture: <http://www.mapsofworld.com/australia/images/australian-agriculture.gif>

(b) Class Activity: Using Maps as a Geographic Tool

Introduce the activity by asking students:

- Why do we use maps?
- What types of maps (print, Google, mud) have they used?

Students view a range of maps, including atlas and digital maps, showing features such as landforms, vegetation, climate, population distribution, political boundaries and navigation.

Students brainstorm how maps could be useful in a geographical inquiry.

Review students' understanding of how information can be obtained from a map and demonstrate the use of conventions such as scale, compass direction, key and symbols.

Introduce or reinforce the concept of large and small-scale maps.

During the activity students will demonstrate and refine their mapping skills by constructing an appropriately labeled large-scale map of the classroom or a portion of the playground.

Students reinforce and demonstrate their understanding of the above discussion by completing the following statement in their notebooks:

- *Maps are a useful tool in a geographical inquiry because...*

Assessment

The *Can we farm in the middle of Australia* activity can be used as a tool to assess students' map interpretation skills.

Teachers can also assess students' map drawing skills and understanding of map elements, such as scale and direction, by having the students construct a map of the classroom or a small area in the playground.

Resources

CSIRO Carbon Kids – Agriculture in a Changing Climate Teacher Resource – p28-32: <http://www.csiro.au/resources/CarbonKids-Agriculture>

Bureau of Meteorology – Average annual maximum, minimum and mean temperature: http://www.bom.gov.au/jsp/ncc/climate_averages/temperature/index.jsp

Bureau of Meteorology – Climate classification of Australia: <http://www.environment.gov.au/system/files/pages/6a99aad1-5889-473a-90e2-55eed1f10b2a/images/atfg002.gif>

Maps of the World – Australia agriculture: <http://www.mapsofworld.com/australia/images/australian-agriculture.gif>

Student Activity: Can we farm in the middle of Australia?

Use available interactive technologies to view and access the 'Average annual mean temperature and rainfall' maps on the **Bureau of Meteorology** website: http://www.bom.gov.au/jsp/ncc/climate_averages/temperature/index.jsp

You will need a blank map of Australia for this activity as well as the maps below:

- Types of agriculture in Australia
- Climatic zones of Australia
- Mean annual rainfall
- Mean annual temperatures

① Look at the Climate Zones and Mean Annual Temperatures and Rainfall Maps

- (a) What is meant by mean annual temperature?
- (b) What do you notice about the distribution of climate and mean temperature zones across Australia?
- (c) Where are the areas with the coolest temperatures? Why might this be so?
- (d) What similarities are there between the climate zones and rainfall maps?
- (e) In no more than two sentences, describe the pattern of Australia's rainfall.

② Now look at the Types of Agriculture Map

- (a) What agricultural activities are found in the desert zone? Why might this be so?
- (b) Name the climate zone where grain crops are grown.
- (c) Explain why the most varied agricultural activities are located around the south-east coast of Australia and in the south-west of Western Australia.
- (d) What climatic element has the greatest impact on the location of farming activities?
- (e) What other factors, not shown on these maps, also affect where people can farm?
- (f) Where do most people live in Australia?
- (g) Explain why this is so.

③ With the help of an atlas, locate and label the following on your blank map

- (a) State and territory boundaries and the capital cities;
- (b) Two well known landform features - you may need to use symbols or shading;
- (c) Where you live now and another place you have previously visited;
- (d) Calculate the distance between these two places. Hint: your map needs a scale.
- (e) One of the hottest places in Australia and one of the coldest;
- (f) A town close to where you could visit a sheep farm; and
- (g) Include a key, north point and give your map a suitable heading.

Share your maps with others in the class and explain your decisions.

Activity 2: Using our Environment – an Agricultural Perspective

CURRICULUM CONTENT	The influence of people, including Aboriginal and Torres Strait Islander peoples, on the environmental characteristics of Australian places	ACHGK027
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Learning Outcomes

By the end of this activity students should be able to:

- Appreciate that relationships exist between human activities and the environment;
- Interact with online maps to obtain information;
- Demonstrate relationships in a consequences chart;
- Identify the methods used by Aboriginal people to obtain food and suggest how these methods impacted on the Australian environment;
- Acknowledge the importance of agriculture in Australia today;
- Appreciate that the farming and grazing methods of the past 200 years have changed the Australian environment; and
- Explain that some actions, e.g. introducing rabbits, had unintended but serious impacts on the Australian environment.

Description of Activity

There are five tasks in this activity. Together they provide a basis for more detailed investigation in the *Investigating Agriculture in Australia* work unit.

Students start by looking at our use of land and water resources. They share and tally recommendations to identify three activities with a significant impact on the environment. Student understanding is demonstrated by annotating a consequences chart.

An agricultural perspective is introduced through students' existing knowledge of the various methods available to people to obtain food.

Students access a variety of resources to determine the methods used by Indigenous people to obtain food. They examine the effects of 'firestick farming' on the environment.

Students assess the importance of agricultural production In Australia today.

They investigate how farming and grazing activities over the past 200 years have impacted on the Australian environment and look at the introduction of rabbits as an example of an action with an unforeseen consequence. They link actions and consequences.

Setting the Scene

This introductory teacher directed brainstorming, sharing, and analysis is carried out as a class exercise with students recording findings in their notebooks at appropriate stages.

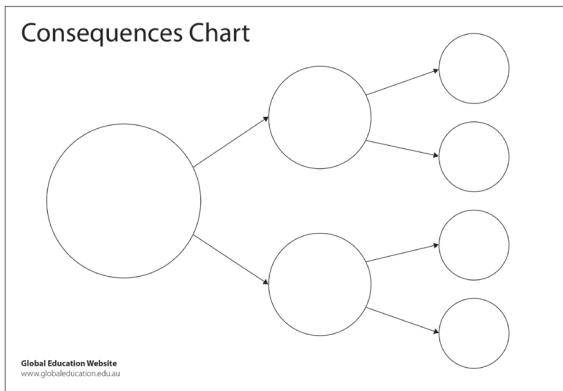
Step 1: Students brainstorm how we use land and water resources. List suggestions under the heading Human activities on the smartboard. Save these for further analysis in Step 3.

Step 2: From this list, students select three activities which could have the greatest effect on the environment. Beside each, students provide at least one reason for choosing that activity. Save these for further analysis in Step 4.

Step 3: Students, in turn, share their three most significant human activities. Select one or two students to record these choices by keeping a tally on the smartboard of how often each activity from the initial brainstormed list is nominated. Students add up the scores to determine the three most popular suggestions and record these in their notebooks.

Step 4: Students review and share the reasons previously provided for these three human activities. At this point, suggest that these reasons might also be viewed as consequences.

Step 5: Students select one of these top-ranked human activities and complete a consequences chart. This template can be downloaded at: <http://www.globaleducation.edu.au/3004.html>



Assessment

As a class draw up an action and consequence table titled Human actions that have changed the farming environment. Group items from the class list under the following headings: Animals, Vegetation, Soils and Water.

Refer to the action and consequence table for ideas from which to construct an illustrated poster.

Think up a suitable title for your poster.

Display and explain the features of your poster to the class.

Resources

The State Library of NSW – Discover Collections: Australian agricultural and rural life: http://www.sl.nsw.gov.au/discover_collections/history_nation/agriculture/index.html

The State Library of NSW – Discover Collections: Looking after the land: http://www.sl.nsw.gov.au/discover_collections/history_nation/agriculture/working/conservation.html

Australian Bureau of Statistics – Topics @ a Glance – Agriculture: <http://www.abs.gov.au/websitedbs/c311215.nsf/web/agriculture>

Australian Bureau of Statistics – Farming in Australia – Year of the Farmer: <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/1301.0Main+Features2072012>

National Farmers' Federation – Major commodities – Fast facts: <http://www.nff.org.au/commodities.html>

Australian Bureau of Statistics – Land Management and Farming in Australia 2011-12 – Land Use on Farms: <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/4627.0main+features32011-12>

Australian Bureau of Statistics – Value of Agricultural Commodities, 2011-12: <http://www.abs.gov.au/websitedbs/c311215.nsf/web/Agriculture++Summary%20Map++Value+of+Agricultural+Commodities+Produced>

Life on a Sheep Farm, 1965: The Rabbit Plague: <http://www.scootle.edu.au/ec/viewing/R7291/index.html>

Inspiration Software – Introduction to Mind Mapping: <http://www.inspiration.com/visual-learning/mind-mapping>

Indigenous Methods of Sourcing Food

City of Mitcham Council, SA – Aboriginal Life and Use of Wetlands: <http://www.mitchamcouncil.sa.gov.au/page.aspx?u=1499>

Native Grass Resources Group – A Short Story about Australia's Native Grasslands: <http://www.nativegrassgroup.asn.au/grasses.html>

The State Library of NSW – Discover Collections: Life on the land: http://www.sl.nsw.gov.au/discover_collections/history_nation/agriculture/life/index.html

Indigenous Australians using fire to hunt kangaroos, c1817 – watercolour, National Library of Australia: <http://www.scootle.edu.au/ec/viewing/R4029/index.html>

'Lift off' – Indigenous children collect and cook oysters: <http://www.scootle.edu.au/ec/viewing/R6743/resource.html>

Indigenous Australians gathering seafood, c1817 – watercolour, National Library of Australia: <http://www.scootle.edu.au/ec/viewing/R4026/index.html>

Indigenous Australians fishing by torchlight, c1817 – watercolour by Joseph Lycett, National Library of Australia: <http://www.scootle.edu.au/ec/viewing/R4031/index.html>

How to make a mind map: <http://www.inspiration.com/visual-learning/mind-mapping>

The National Farmers' Federation: <http://www.nff.org.au/commodities-beef-cattle.html>

Value of Agricultural Commodities Produced in Australia – 2011-12, Australian Bureau of Statistics: <http://www.abs.gov.au/websitedbs/c311215.nsf/web/Agriculture++Summary%20Map++Value+of+Agricultural+Commodities+Produced>

Student Activity: Changing our Environment

1 Thinking and sharing: Obtaining food

- (a) Brainstorm the methods used by humans over time to obtain food. Draw up and complete a Risk and Benefits table for five of these methods.
- (b) Next, write down the methods by which you and your family source food. Qualify these according to their frequency: most, sometimes, rarely.
- (c) Does your family grow any food? If so, give some examples.
- (d) What are your favourite foods? Could you still eat them if you couldn't buy them?
- (e) Finally, in the space of two minutes, list as many food items as you can think of that we rely on farmers to produce for us.

2 Reviewing and researching: Indigenous methods of sourcing food

These two resources will help you with this task: **A Short Story about Australia's Native Grasslands** and **Aboriginal Life and Use of Wetlands**

- (a) Share what you know about the types of food that Aboriginal people have sourced from their environment over time.
- (b) Access a variety of resources to find out what methods Aboriginal people used, and in some cases still use today, to obtain their food from their surrounding environment.
- (c) 'Firestick' farming is a term now used to describe a method of land management used by Aboriginal people. Describe what is meant by 'firestick' farming and why it was used.
- (d) Explain how 'firestick' farming changed the environment.
- (e) Why were the rivers and wetlands important to Aboriginal people?
- (f) Organise and present your findings by constructing and illustrating a mind map with the central idea *Sourcing Food*. Include four layers of information, e.g. sourcing food → methods → type of food → impact on environment.

² <http://www.oxforddictionaries.com/definition/english/agriculture?q=agriculture>

③ Reviewing and researching: Importance of agriculture in Australia

AGRICULTURE: The science or practice of farming, including cultivation of the soil for the growing of crops and the rearing of animals to provide food, wool, and other products.²

- (a) Brainstorm as many agricultural products/commodities as you can. Share this.
- (b) Make a list of five of Australia's most important agricultural industries. Think about the reasons why you chose these five.

The National Farmers' Federation is the main national body representing farmers and agriculture across Australia. One of its important roles is to provide up-to-date information.

On the National Farmers' Federation website you will find facts about 11 major commodities. With the help of your teacher, select a commodity to investigate. You may need to work in pairs. Make sure each commodity is selected.

- (c) Read the **Fast facts** for your commodity. Select four important facts about it. Select another fact that you find interesting. Record these in your notebook.
- (d) Share your findings with the class.

Next look at the map of Australia produced by the Australian Bureau of Statistics. It is titled: Value of Agricultural Commodities Produced, Australia, 2011-12

- (e) Either working individually or from the smartboard, examine the different types of information as you scroll over each state and territory.
- (f) List some interesting facts about agricultural production in your state or territory. Make some comparisons with other states/territories.
- (g) As a class, discuss why this is a useful way of finding information.

④ Investigation and analysis: Impact of European farming methods on the environment

Read the following and highlight key words. This will help you remember what you have read.

"There have been many changes in farming methods over the last 200 years and Australian farmers have had to be **adaptable** as well as **resilient** and **inventive**. The challenges of access to fresh water, the legacy of high amounts of fertilisers, massive clearing, over grazing, a tyranny of distance, transport costs and feral animals, have tested Australian farmers to their limits. In response, farming has become more mechanised and reliant on technologies, as well as holistic as it seeks to become more sustainable."

Taken from Australian farming and agriculture - grazing and cropping

- (a) Discuss these challenges with your teacher. Draw up a class list of examples of human actions that have changed the farming environment. Some may have been caused directly **by** farming methods and others may have **impacted on** farming.
- (b)  Life on a Sheep Farm 1965: The Rabbit Plague Scootle R7291
<http://aso.gov.au/titles/documentaries/life-sheep-farm/clip2/>
- (c) After watching the video - why did rabbits become such a problem for farmers and what impact did they have on the environment?
- (d) Your teacher may also arrange to have someone visit your class to talk about other previous farming practices and their impact on the environment.

Activity 3: Visit a Farm

CURRICULUM CONTENT	The influence of people, including Aboriginal and Torres Strait Islander peoples, on the environmental characteristics of Australian places.	ACHGK027
CURRICULUM CONTENT	The influence of the environment on the human characteristics of a place.	ACHGK028
CURRICULUM CONTENT	The impact of bushfires or floods on environments and communities, and how people can respond.	ACHGK030

Learning Outcomes

By the end of this activity students should be able to:

- Demonstrate a range of geographical skills in planning and carrying out a geographic inquiry;
- Explain the relationship between the physical environment and the nature of the farming operation;
- Appreciate that variations in weather and climate can affect the operation and profitability of a farm;
- Describe a range of farm management practices;
- Provide examples of sustainable farming methods; and
- Explain how technology is influencing the everyday running of a farm.

Description of Activity

This activity involves students undertaking a geographical inquiry. It is based on the interactive resource **The Virtual Farm Visit**: <http://virtualfarm.mla.com.au/> produced by Meat and Livestock Australia.

Students conduct a 'virtual' visit to one of three Australian cattle and sheep farms, located in three different environments:

- **Kalyeeda** – a cattle station in the Kimberley area of NW Western Australia;
- **Iona** – a mixed farming property near Yeoval in central-western NSW; and
- **Malabar Farm** – a beef and sheep farm in the Gippsland area of southern Victoria.

Students 'meet the farmer' for an explanation of various aspects of the farming enterprise. They investigate how the farmers apply their knowledge and experience to adapt to local conditions such as drought and flood.

They discover how new farming methods are reducing the impact on land and water supplies, soils, vegetation and wildlife, while at the same time ensuring that farming practices are sustainable, humane and deliver quality products.

The activity requires an interactive whiteboard for teacher generated discussion, and adequate time for students to 'visit' the farm and 'meet' those who will show them around and explain the workings of the farming enterprise.

Students work in small groups to develop appropriate questions for the fact-finding stage of their inquiry and to share the information gathering and recording through viewing the various video clips that will assist their inquiry.

With teacher guidance they select an appropriate way to organise and present their findings.

The built-in flexibility of the activity accommodates varying student learning needs and abilities.

Setting the Scene

Explain to the students that they have the opportunity to 'visit' three farming enterprises to conduct a geographical inquiry: **Kalyeeda** Station in WA, **Iona** in central NSW and **Malabar** in southern Victoria. All three raise livestock with Iona growing crops as well.

Start by displaying the **The Virtual Farm** homepage on the smartboard. Introduce the three farms in turn and view the associated maps to show their location.

 Select each farm in turn and introduce the farmers: James (**About Kalyeeda**), Andrew and his family (**About Iona**), and Paul and Jenny (**About Malabar**).

Write the name of each farm. Under each have students record:

- (a) The location of the farming enterprise, including: spatial aspects such as its location and direction from the nearest town or capital city, nearby river systems, and other features such as landforms, transport routes and national parks;
- (b) The main type of farming activity carried out; and
- (c) The main features of the climate.

Next, divide the class into groups of three or four students and manage the process of allocating a farm to each group. Ensure each farm is allocated to at least one group with preferably a maximum of three groups investigating one farming enterprise.

Demonstrate how students can carry out their inquiry, with James at **Kalyeeda**, Andrew and his family at **Iona** and Paul and Jenny at **Malabar**. There are between 16 and 20 short video clips (one to two minutes each) about various aspects of each farm. Each video clip is accompanied by a concise summary, maximum one page in length. These summaries can be opened and read online or downloaded and saved as a PDF.

Additional information: Fastfacts on cattle, sheep and goats is available on the Meat and Livestock Association's website: <http://www.mla.com.au/Cattle-sheep-and-goat-industries/Industry-overview>

Assessment

The following student activity uses a suggested three stage template for conducting a geographical inquiry – namely:

1. Planning
2. Investigation and fact finding
3. Producing and presenting

It also provides some examples of open ended questions (why, how) that students should be encouraged to use in their investigation.

Student findings can be presented in a variety of ways, for example:

- A poster demonstrating sustainable farming practices;
- An illustrated report in the school magazine;
- A presentation to a school assembly; and
- A brochure advertising a farm stay.

Students can be assessed on their contribution to the group's oral presentation to the class

Extension

Student learning will be further enhanced by a class visit to a farm.

If teachers are able to arrange a local farm visit students could, with the prior knowledge of the farmer, assume the role of either an investigative journalist, TV reporter or radio producer to interview the farmer and demonstrate the features of the farm.

This could then become a primary resource for the school library, or even, depending upon its quality, be suggested for inclusion on the **Primary Industries Education Foundation Website**: <http://www.primaryindustrieseducation.com.au/> or the Scootle website.

Resources

Meat and Livestock Australia – The Virtual Farm: <http://virtualfarm.mla.com.au/>

Meat and Livestock Australia – Cattle fast facts: <http://www.mla.com.au/Cattle-sheep-and-goat-industries/Industry-overview/Cattle>

Meat and Livestock Australia – Sheep fast facts: <http://www.mla.com.au/Cattle-sheep-and-goat-industries/Industry-overview/Sheep>

Meat and Livestock Australia – Goat fast facts: <http://www.mla.com.au/Cattle-sheep-and-goat-industries/Industry-overview/Goats>

Students could also try and find the location of the three farms using **Google Earth**

Student Activity: Geographical Inquiry: A Virtual Farm

Working in small groups you ‘visit’ a farm and conduct a geographical inquiry into how farming has changed and why new methods of farm management are being implemented.

① Planning

The first step is for members of your group to decide and agree:

- Which farm you will ‘visit’ and what aspects of that farm you will investigate;
- How to divide up research and inquiry tasks between each member of the group;
- How to record your decisions and findings;
- A timeframe, including when to review and check progress; and
- How to produce and present your findings.

② Investigation and fact finding

- Select which videos and associated fact sheets your group will view.
- Decide other sources of information you should refer to, such as **Fast facts on cattle, sheep and goats**.
- Who in the community could members of your group interview to obtain some more information; perhaps a guest speaker to talk to the class on a topic such as *the importance of farming in Australia today and how farming is changing*.
- From the following list select some key questions to guide your investigation. Be sure to include some open-ended questions such as those in **bold**.
 1. What are the landform and climate features of the area where the farm is located?
 2. What are the main activities carried out on the farm?
 3. **How** are these activities modified to suit the natural environment of the farm?
 4. **How** sustainable are the farming practices?
 5. What steps does the farmer take to minimise the effect of the farming activities on the natural environment, including the wildlife?
 6. What methods are used to handle the livestock? **Why** are these so important?
 7. **How** does the farmer’s use of technology help manage the farm more efficiently?
 8. **Why** is it so important for farmers to be reliable and high quality producers of agricultural products?

 **Visit your farm:** <http://virtualfarm.mla.com.au/>

Take notes as you listen to the farmer.

③ Producing and presenting

- As a group, decide how to organise and present your findings and how you might demonstrate a number of geographic skills in preparing and presenting your findings.
- Each group member will be required to take part in the group’s oral presentation.

Activity 4: Influence of people in the Murray-Darling Basin

Geography Year 5

CURRICULUM CONTENT	The influence of people, including Aboriginal and Torres Strait Islander peoples, on the environmental characteristics of Australian places.	ACHGK027
CURRICULUM CONTENT	The influence of the environment on the human characteristics of a place.	ACHGK028
CURRICULUM CONTENT	The impact of bushfires or floods on environments and communities, and how people can respond.	ACHGK030

Learning Outcomes

By the end of this activity students will:

- Have an understanding of the physical features and extent of the Murray-Darling Basin, which occupies much of south-eastern Australia;
- Have constructed and interpreted maps and climatic data;
- Appreciate the area's economic, social and cultural significance;
- Be able to explain how human activities, over time, have impacted on the Murray-Darling Basin environment; and
- Have a heightened understanding of the physical and human challenges faced by farmers in the Murray-Darling Basin today.

Description of Activity

This activity provides a framework for teaching about the location and geography of the Murray-Darling Basin and the interaction, over time, between people occupying the area and their environment.

This activity draws on the array of online resources available on the Murray-Darling Basin Authority website: maps, climatic data, posters, video footage, images and written material, and the Teacher Supplement – The Living Murray Story.

Students start by analysing and constructing maps to observe the extent of the Murray-Darling system: its major tributaries, landform and vegetation features, the location of cities and towns and its transport networks.

Student-centred activities are introduced progressively to enable students to develop an understanding of the interaction between various elements of the river system, such as the plant and animal life it supports. Students investigate how Indigenous people interacted with the river basin environment and draw comparisons with the subsequent spread of European settlement and farming activities and advances in technology.

In view of the close linkages to the Year 5 Science curriculum, Biological Sciences, teachers may choose to extend the focus on plants and animals to meet the Year 5 content requirement – **Living things have structural features and adaptations that help them to survive in their environment** (ACSSU043).

Teachers will need to decide how much emphasis to place on water storage and use, noting that water is a significant component of the Year 7 geography curriculum.

Investigation and Analysis – Teacher Preparation

Before undertaking this activity, teachers are advised to obtain copies of the free posters for display. These posters can be viewed and ordered from the Murray-Darling Basin Authority website. The **Flora and Fauna of the Murray-Darling Basin poster** contains a detailed illustrated map plus facts and figures. The other free posters, which provide valuable stimulus materials, are the double-sided **Frog and Reptile poster** and **Fish poster**.

Download and print PDF copies of the **Murray-Darling Basin Boundary Map** for each student.

Setting the Scene

Display the three Murray-Darling Basin posters in the classroom: **Fauna and Flora of the Murray-Darling Basin** and the double-sided **Frog and Reptile** and **Fish** posters.

Introduce the activity by having the students look at the **Flora and Fauna of the Murray-Darling Basin poster** or display it onto a screen. Explain the concept of a river basin as being the area of land that is drained by a river and its tributaries.

Discuss the extent of the Murray-Darling Basin and have students describe its location within the Australian continent.

While the students are focused on the poster map, read the following text adapted from the Murray-Darling Basin website, **About the Basin**.

The Murray-Darling Basin is Australia's most iconic and largest river system. It is also one of world's largest river systems but also one of the driest. The Basin is ecologically diverse, supporting a wide range of nationally and internationally significant plants, animals and ecosystems.

The Murray-Darling Basin covers over 1 million sq km – 14% of the total area of Australia. It produces over 70% of Australia's irrigated agriculture and has a population of over two million people.

If your school is outside the Murray-Darling Basin, ask students whether they have visited somewhere within it. If so, ask them to locate it on the poster map and explain what they can remember about it.

Suggested approach: Impacts of people on the Murray-Darling Basin

There are four student tasks within the *Influence of People in the Murray-Darling Basin* Activity:

- Murray-Darling Basin – Maps and Graphs;
- Physical Features of the Murray-Darling Basin;
- Aboriginal People's Use of the Murray-Darling Basin; and
- Settlement in the Murray-Darling Basin.

From a geographical perspective, the first two activities are the logical starting point, as they enable students to gain an insight into the physical characteristics of the Basin. These two activities are explanatory.

The two short student inquiry tasks – **Aboriginal people's use of the Murray-Darling Basin** and **Settlement in the Murray-Darling Basin**, enable students to investigate the influence, over time, of people on the Murray-Darling Basin environment. The first task examines Aboriginal people's interaction with the Murray-Darling Basin and the second examines the subsequent impact of European settlement.

Assessment

Owing to the range of activities and inquiry tasks in the Influence of people in the Murray-Darling Basin activity, it is suggested that teachers assess students' acquisition of knowledge and skills as follows.

Either: Write a one-page article describing some of the key features of the Murray-Darling Basin and how people have used the area over time.

Or: Provide students with two climatic graphs from different locations within the Murray-Darling Basin. Students are to examine the graphs and answer the following:

1. Describe the climate (temperature and rainfall characteristics shown in each graph);
2. Suggest where these places might be within the Basin and give reasons for your choice; and
3. What type of farming activities could you carry out at each location. Give reasons for your choice.

If students undertake the Maps and Graphs activity and access the Climate Data Online on the Bureau of Meteorology website, teachers could also assess student's ability to source and record data and their accuracy in constructing a climate graph. Skills will vary according to whether students construct their graph electronically or by hand.

Resources

Murray-Darling Basin Authority – Flora and Fauna poster map: <http://www.mdba.gov.au/media-pubs/publications/flora-and-fauna>

Murray-Darling Basin Authority – Frog and Reptile poster: <http://www.mdba.gov.au/media-pubs/publications/frog-and-reptile-poster>

Murray-Darling Basin Authority – Fish poster: <http://www.mdba.gov.au/media-pubs/publications/fish-poster>

Murray-Darling Basin Authority – Boundary map: <http://www.mdba.gov.au/river-data/spatial-data-services/spatial-information>

Murray-Darling Basin Authority – About the Murray-Darling Basin: <http://www.mdba.gov.au/about-basin>

Bureau of Meteorology – Climate Data Online: <http://www.bom.gov.au/climate/data/>

Working with data in Excel – Construct a graph: <http://www.abs.gov.au/websitedbs/CaSHome.nsf/Home/Professional+Development+Videos+Entry+Page-GRAFH>

Murray-Darling Basin Authority – Learn about the Basin – for students: <http://www.mdba.gov.au/what-we-do/education/students/learn-about-basin>

 **Overview of the Darling catchment with Dr Dave**

Murray-Darling Basin Authority – Basin environment: <http://www.mdba.gov.au/about-basin/basin-environment>

Murray-Darling Basin Authority – Geology and size: <http://www.mdba.gov.au/about-basin/basin-environment/geography/geology-and-size>

Murray-Darling Basin Authority – Hydrology and landforms: <http://www.mdba.gov.au/about-basin/basin-environment/geography/hydrology>

Murray-Darling Basin Authority – A land of drought and flood: <http://www.mdba.gov.au/about-basin/basin-environment/geography/a-land-of-drought-and-flood>

Murray-Darling Basin Authority – Rivers and wetlands: <http://www.mdba.gov.au/about-basin/basin-environment/ecosystems/rivers-wetlands>

Murray-Darling Basin Authority – Ecosystems:

<http://www.mdba.gov.au/about-basin/basin-environment/ecosystems>

Murray-Darling Basin Authority – Flora and Fauna:

<http://www.mdba.gov.au/about-basin/basin-environment/flora-fauna>

Murray-Darling Basin Authority – Economy of the Basin:

<http://www.mdba.gov.au/about-basin/basin-economy>

Murray-Darling Basin Authority – Murray-Darling Basin agriculture:

<http://www.mdba.gov.au/about-basin/basin-economy/basin-agriculture>

Murray-Darling Basin Authority – Water efficiency and the future:

<http://www.mdba.gov.au/about-basin/basin-economy/basin-agriculture/water-efficiency-and-the-future>

A selection of videos can be found at: <http://www.mdba.gov.au/what-we-do/education/teachers/videos>

Indigenous gardens in the Murray-Darling Basin with Dr Dave

Murray-Darling Basin Authority – Aboriginal culture and heritage:

<http://www.mdba.gov.au/about-basin/basin-people/aboriginal-culture-heritage>

Murray-Darling Basin Authority – Connections to land and water:

<http://www.mdba.gov.au/about-basin/basin-people/aboriginal-culture-heritage/connections-land-and-water>

Student Activity: Maps and Graphs – Murray-Darling Basin

You will need a hard copy of the Murray-Darling Basin Boundary Map for this activity:

<http://www.mdba.gov.au/river-data/spatial-data-services/spatial-information>

As well as the Murray-Darling Basin posters on display in your classroom, you can also use an atlas or Google Earth to answer some of these questions.

Annotate (put information on) your Basin Boundary map, or use your notebook to complete the following:

① Look at the map scale on the Boundary map. Explain this scale in writing.

② Label the states/territory that the Murray-Darling River system flows through.

③ Draw arrows showing the overall general direction of the water flow.

Which direction (north, south, east, west or points in between) is this?

④ On your map, label the Murray River, Darling, Lachlan and Murrumbidgee Rivers and one river originating in Queensland.

⑤ What is the source of a river?

Which capital city is closest to the source of the Murray-Darling?

⑥ What is the mouth of a river?

Name capital city closest to the mouth of the Murray-Darling.

⑦ Look at a landform map of Australia, perhaps using Google Earth.

Identify the two most extensive landforms in the Murray-Darling Basin. Draw these on your map and include them the key.

Student Activity: Maps and Graphs – Murray-Darling Basin

8 Select one town or city in the Murray-Darling Basin.

Your task now is to find its mean annual rainfall and temperature data and construct a climate graph.

With the help of your teacher, go to **Climate Data Online** on the Bureau of Meteorology website

<http://www.bom.gov.au/climate/data/>

- Step 1 – select data about **rainfall in** the drop down box
- Step 2 – select **type of data - monthly observations**
- Step 3 – to select a weather station - **enter your chosen city or town**
- Step 4 – select one of the nearest bureau stations and select **get data**
- Step 5 – scroll down to Summary Statistics. Enter the **mean rainfall** data for each month into an Excel spreadsheet or your notebook. Record the mean yearly rainfall total.
- Step 6 – Now repeat the process to obtain and record the **mean temperature** data for your city or town.
- Step 7 – Construct your climate graph, either electronically or on graph paper.
- Step 8 – Put a heading on your graph and label each axis.
- Step 9 – Display your graph. If done electronically, print a hard copy.

Student Activity: Physical Features of the Murray-Darling Basin

Watch the video  Overview of the Darling catchment with Dr Dave (6.36mins)

- What aspects of the video did you find interesting?
- What did you learn about the Darling River?
- Why do people have a close attachment to the river and the various activities it supports?

Working with a partner, read and summarise: **Learn about the Basin - Basin Environment:**
<http://www.mdba.gov.au/what-we-do/education/students/learn-about-basin>

There are four sections in this one page article:

- Basin environment
- Basin people
- Economy in the Basin
- Sharing water

Discovering and learning together:

1. Decide which one of you will read the first section, Basin environment, to the other.
2. As one of you reads, the other needs to write down three or four key words or facts.
3. When you finish the section, share these and try to remember some more details about each one.
4. Review the information and together decide how best to write up each point.
5. You can always add another piece of information if you both missed it the first time.

Repeat the process, this time with your partner reading the next section, Basin people, while you summarise. Once again you both need to write up the main points.

Repeat the process for the last two sections.

6. At this end of this shared reading and note taking, make sure you both have a concise summary in your notebooks of the four sections of the article.
7. Finally, write a sentence in your notebook, to complete each of the following:
 - (a) An ecosystem is ...
 - (b) A healthy Murray-Darling Basin is a ...

Student Inquiry: Aboriginal People's use of the Murray-Darling Basin

When European settlers arrived on the First Fleet in 1788, they encountered a very different environment to that back home. However, they found that the local Aboriginal people had the skills and knowledge to survive in this different and seemingly harsh environment.

① Getting started:

With the help of your teacher, select a partner to share this task with you. Read the following with your partner, or listen while your teacher reads it to the class.

'Long before European settlement, the Murray River, including its surrounding environment of wetlands, floodplains, estuarine systems and forests, was centrally important to Aboriginal communities and shaped their lifestyles, folklore, history and identity in ways that continue to this day. The relationship of Aboriginal people with the river stretches back tens of thousands of years.'

'Aboriginal people still live on traditional lands around the river and maintain traditional knowledge and values about its resources and management. There are numerous sacred and significant places all along the river'. The River Murray Story – Page 4, Murray-Darling Basin Authority.

② Watch the video:

Indigenous gardens in the Murray-Darling Basin with Dr Dave

What does this tell you about Indigenous peoples understanding of and use of the environment? Write down some key points in your notebook.

③ Download and share the reading of the following 1-2 page articles:

Murray-Darling Basin Authority – Aboriginal culture and heritage: <http://www.mdba.gov.au/about-basin/basin-people/aboriginal-culture-heritage>

Murray-Darling Basin Authority – Aboriginal heritage sites: <http://www.mdba.gov.au/about-basin/basin-people/aboriginal-culture-heritage/aboriginal-sites>

Murray-Darling Basin Authority – Connections to land and water: <http://www.mdba.gov.au/about-basin/basin-people/aboriginal-culture-heritage/connections-land-and-water>

④ Investigate:

- How Aboriginal people living within what is now the Murray-Darling Basin met their food, clothing and shelter requirements; and
- How, over time, these methods changed the environment.

As you read the information you have accessed, write down some key headings and list the related points below each of your headings.

⑤ Recording and presenting:

With the help of your teacher, decide on a suitable way to record your findings. It could be a flow chart, PowerPoint presentation, poster, labeled diagrams or drawings.

Student Inquiry: Settlement in the Murray-Darling Basin

Working in small groups, you will be investigating a town or city in the Murray-Darling Basin that you would like to know more about and maybe visit one day. Your task is to discover its main features and attractions and its relationship with the surrounding environment.

① Getting started:

Read the following with the other members of your group, to set the scene for your inquiry.

While over 2 million people live in the Murray-Darling Basin, the region is, like almost all inland Australia, very sparsely populated. With a few exceptions, such as Canberra, the population is essentially a rural one. Many people live on farms, at varying distances from even the smallest of communities. In the semi-arid western parts of the Basin, where pastoral properties can cover vast areas, the distance to even the smallest town can be huge. Find out about some of the different towns and cities in the Basin.³

② Observe, question and plan:

Choose your town or city. Look at the map of the Murray-Darling Basin and review your previous work on this topic.

Aspects that you need to consider in your investigation include:

- Location;
- Physical features - surrounding landform, climate, soils and vegetation;
- Distinguishing features of the town/region;
- Agricultural activities; and
- Role and importance

As a group, divide up the research tasks and decide how to present your findings. It could be as a tourist brochure or information for a web page promoting the features of the town/city and its surroundings.

③ Collect, evaluate and record:

Resources: Wikipedia provides a useful starting point for your inquiry. Sample links are listed below:

Murray-Darling Basin Authority – About the Basin: <http://www.mdba.gov.au/about-basin/basin-people/towns-and-cities>

Wikipedia – Ballarat: <http://en.wikipedia.org/wiki/Ballarat>

Wikipedia – Bendigo: <http://en.wikipedia.org/wiki/Bendigo>

Wikipedia – Dubbo: <http://en.wikipedia.org/wiki/Dubbo>

Wikipedia – Mildura: <http://en.wikipedia.org/wiki/Mildura>

Wikipedia – Renmark: http://en.wikipedia.org/wiki/Renmark,_South_Australia

Wikipedia – Toowoomba: <http://en.wikipedia.org/wiki/Toowoomba>

Wikipedia – Wagga Wagga: http://en.wikipedia.org/wiki/Wagga_Wagga

④ Interpret, analyse and conclude:

Work together to produce and present your findings.

³ Murray-Darling Basin Authority – European heritage: <http://www.mdba.gov.au/about-basin/basin-people/european-heritage>

Activity 5: Living in a fishing and farming village in Cambodia

CURRICULUM CONTENT	The influence of the environment on the human characteristics of a place.	ACHGK028
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Learning Outcomes

By the end of this activity students should be able to:

- Demonstrate an understanding of the physical environment of the Tonlé Sap in Cambodia;
- Demonstrate their ability to access a variety of appropriate resources as part of a geographical inquiry;
- Appreciate how communities have been able to adapt to seasonal flooding to take advantage of both the wet and dry seasons; and
- Describe some of the threats to the sustainability of the Tonlé Sap Lake.

Description of Activity

Students investigate how people live in a farming and fishing village, Kompong Khleang, on the Tonlé Sap Lake in central Cambodia. They obtain much of their information from images found within the Asia Education Foundation resource '**Life in a Floating Village**'.⁴

Depending on the time available, teachers may choose to download and use the complete '**Life in a floating village**' module: http://www.asiaeducation.edu.au/curriculum_resources/geography/year_5_life_in_a_floating_village/year_5_life_in_a_floating_village_landing_page.html

Students gain an insight into how the people of Kompong⁵ Khleang have adapted to the seasonal floods of the vast Tonlé Sap Lake on which they live.

Setting the Scene

Location and features of Tonlé Sap

"Because of the regularity of the flooding and the gradual rise of the flood plain, the villagers of Kompong Khleang have been able to build a permanent community within the flood plain of the lake. Its population is estimated between 10 000 and 20 000 people who live in harmony with the changing ecosystem that the lake provides, mostly fishing in the lake and farming in the rich flood plains around it."⁶

Resources

Asia Education Foundation – Year 5 Geography:

Life in a floating village: http://www.asiaeducation.edu.au/curriculum_resources/geography/year_5_life_in_a_floating_village/year_5_life_in_a_floating_village_landing_page.html

Asia Education Foundation – Map of Cambodia:

http://www.asiaeducation.edu.au/curriculum_resources/geography/year_5_life_in_a_floating_village/map_of_cambodia.html

Asia Education Foundation – Tonlé Sap lake and river system:

http://www.asiaeducation.edu.au/curriculum_resources/geography/year_5_life_in_a_floating_village/tonle_sap_lake.html

Asia Education Foundation – Kompong Khleang:

http://www.asiaeducation.edu.au/curriculum_resources/geography/year_5_life_in_a_floating_village/kompong_village.html

World Climates – Climatic data – Siem Reap:

<http://www.world-climates.com/city-climate-siem-reap-cambodia-asia/>

Tonlé Sap Biosphere Reserve Brochure:

http://www2.adb.org/projects/tonle_sap/brochures/Tonle-Sap-Biosphere-Reserve.pdf

Lechu Photography – Siem Reap – Kompong

Kleang: <http://www.lechuaphotography.com/2010/01/22/siem-reap-kompong-khleang/>

Wikimedia Commons – Collection of Tonlé Sap

images: http://commons.wikimedia.org/wiki/Tonl%C3%A9_Sap

Further information for teachers:

http://en.wikipedia.org/wiki/Tonl%C3%A9_Sap

Aljazeera – Cambodia's declining Fish Stocks:

 <http://www.aljazeera.com/news/asia-pacific/2010/08/201081361321871523.html>

Wikipedia – Tonlé Sap: http://en.wikipedia.org/wiki/Tonl%C3%A9_Sap

⁴ © 2013 Education Services Australia Ltd.

⁵ Kompong – village

⁶ Asia Education Foundation – Kompong Khleang

Student Activity: Living and working in the wet and the dry

Your task is to investigate what life is like for the people of Kompong Khleang in Cambodia. This village is located by the Tonlé Sap, a lake near the city of Siem Reap.

1 Working in pairs or in small groups:

- (a) Look closely at the map of Tonlé Sap Lake to familiarise yourself with the surrounding floodplain. The village of Kompong Khleang is not marked on the map but is situated on the edge of the Tonlé Sap.
- (b) Calculate the approximate length and breadth of Tonlé Sap Lake in the dry season and again in the wet. What are the differences?
- (c) Download and read the **Tonle sap Biosphere Reserve Brochure**: http://www.asiaeducation.edu.au/curriculum_resources/geography/year_5_life_in_a_floating_village/activity_2_living_with_seasonal_change.html
- (d) Use the subtitles, captions and images to create a list of facts about life in the floating village.
- (e) Identify at least five human activities that you think are most important for people living in this floating village setting.
- (f) In comparison, think about some of the things you do every day and how different they would be if you had to do them when your house was surrounded by water.
- (g) Identify the main food sources for the people living here and how the people have adapted to the physical changes experienced each year between the wet and the dry.

2 Watch the video:



Cambodia's declining fish stocks

This video takes you for a ride on the Tonlé Sap to see some important work being done to safeguard the waterway. This and the Lechua photographic collection, **Photographs of Kompong Khleang**, will help you to imagine what life is like there.

3 Working with a partner, decide which time of the year in Cambodia you would prefer to investigate.

Your task now is to assume that you were living in Kompong Kleang at that time and to prepare an illustrated diary entry of your activities over a three-day period. Your diary entry needs to include:

- (a) A description of the weather over the three days (choose your dates carefully, to make sure you are writing about the season of your choice).
- (b) What you did each day.
- (c) What you ate.
- (d) If you travelled anywhere, what method of transport did you use?

A list of resources is provided at the end of this activity sheet. Make sure that you acknowledge the sources of the material you use.

Notes

Appendix

Bold text indicates curriculum elements covered in activities in **Investigating Agriculture in Australia** activities.

Table 1: 5 Geography: Curriculum Overview – Content and Elaborations

People and environments	Year 5
Key inquiry questions	
<ul style="list-style-type: none"> • How do people and environments influence one another? • How do people influence the human characteristics of places and the management of spaces within them? • How can the impact of bushfires or floods on people and places be reduced? 	
Content Year 5 Geography	Elaboration
The location of the major countries of Europe and North America in relation to Australia and the influence of people on the environmental characteristics of places in at least two countries from both continents (ACHGK026)	<ul style="list-style-type: none"> • using geographical tools, for example a globe, wall map or digital application such as Google Earth, to identify the relative location of the major countries of Europe and North America and their environmental characteristics • researching the changes made by people to a particular environment in a country in Europe or North America
The influence of people, including Aboriginal and Torres Strait Islander peoples, on the environmental characteristics of Australian places (ACHGK027)	<ul style="list-style-type: none"> • identifying how Aboriginal and Torres Strait Islander communities altered the environment through their methods of land and resource management • exploring the extent of change in the local environment over time, for example through vegetation clearance, fencing, urban development, drainage, irrigation, farming, forest plantations or mining
The influence of the environment on the human characteristics of a place (ACHGK028)	<ul style="list-style-type: none"> • comparing how people have responded to climatic conditions in similar and different places and explaining why most Australians live close to the coast compared to inland Australia • investigating the influence of landforms, for example river valleys such as the Murray-Darling, Yellow (Huang He), Yangtze, Amazon, Mekong or Ganges, on the development of settlements that are involved in food and fibre production • examining the effects of landforms, for example valleys, hills, natural harbours and rivers, on the location and characteristics of their place and other places they know
The influence people have on the human characteristics of places and the management of spaces within them (ACHGK029)	<ul style="list-style-type: none"> • examining how the use of the space within their local place is organised through zoning • investigating a current local planning issue, for example redevelopment of a site, preservation of open space or subdivision of farming land, exploring why people have different views on the issue, and developing a class response to it
The impact of bushfires or floods on environments and communities, and how people can respond (ACHGK030)	<ul style="list-style-type: none"> • mapping and explaining the location, frequency and severity of bushfires or flooding in Australia • explaining the impacts of fire on Australian vegetation and the significance of fire damage on communities • researching how the application of principles of prevention, mitigation and preparedness minimises the harmful effects of bushfires or flooding

Appendix

Table 2: Australian Curriculum - Geography Year 5 - Skills and Elaborations

Bold text indicates skills elements covered in activities in **Investigating Agriculture in Australia** activities.

Geographic inquiry and skills	Elaborations
Develop geographical questions to investigate and plan an inquiry (ACHGS033)	<ul style="list-style-type: none"> developing a significant question about how human and environmental processes shape places identifying the stages in a geographical inquiry and learning how to keep a class journal of each stage in planning an investigation of a local environmental or planning issue using a range of methods, including digital technologies, to plan and conduct an information search about the impacts of and responses to bushfires
Collect and record relevant geographical data and information, using ethical protocols, from primary and secondary sources, for example: people, maps, plans, photographs, satellite images, statistical sources and reports (ACHGS034)	<ul style="list-style-type: none"> finding out how to conduct ethical research with people and communities, including the protocols for consultation with local Aboriginal/Torres Strait Islander communities identifying the purpose and usefulness of information gained from primary and secondary sources interviewing people, for example Torres Strait Islander people, about rising sea levels, or conflicting parties in a planning or environmental dispute, and summarising the points of view on the issue
Evaluate sources for their usefulness and represent data in different forms, for example: maps, plans, graphs, tables, sketches and diagrams (ACHGS035)	<ul style="list-style-type: none"> interpreting and creating maps such as flow and choropleth maps, or plans for specific purposes, for example a bushfire management plan, mapping geographical data using spatial technologies, the location of recent bushfires in Australia, or information they have collected through fieldwork
Represent the location and features of places and different types of geographical information by constructing large-scale and small-scale maps that conform to cartographic conventions, including border, source, scale, legend, title and north point, using spatial technologies as appropriate (ACHGS036)	<ul style="list-style-type: none"> annotating a map to show places and their features in Australia and in selected countries of North America and Europe
Interpret geographical data and other information using digital and spatial technologies as appropriate, and identify spatial distributions, patterns and trends, and infer relationships to draw conclusions (ACHGS037)	<ul style="list-style-type: none"> constructing climate graphs and using them to interpret and compare the climate of different places interpreting data presented in line, bar, column and pie graphs, for example data about bushfires or floods or a local issue
Present findings and ideas in a range of communication forms, for example: written, oral, graphic, tabular, visual and maps, using geographical terminology and digital technologies as appropriate (ACHGS038)	<ul style="list-style-type: none"> presenting a report, supported by evidence, on an investigation into a local environmental or planning issue using geographical terms, for example: relative location, scale, climate, cultural diversity
Reflect on their learning to propose individual and collective action in response to a contemporary geographical challenge and describe the expected effects of their proposal on different groups of people (ACHGS039)	<ul style="list-style-type: none"> assessing possible options as actions that people could take to enhance sustainability and fairness and reduce the effects of environmental change on the local community

Notes

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