



AN EDUCATIONAL UNIT FOR JUNIOR PRIMARY SCHOOLS



Exploring farms that produce our meat and wool

YEARS 5 & 6

Design and Technologies,
and Geography

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Contents

Introduction.....	3
About the approach	4
Teacher notes	5
Australian Curriculum content descriptions	6
Implementing the unit and activities in the classroom	7
Some questions and possible answers	9
Fast facts about Australian agriculture.....	10
National Farmers’ Federation Farm Facts 2012.....	10
Meat and Livestock Industry	11
Fishing and Aquaculture Industry	11
Cotton Industry	12
Pork Industry	13
Forestry Industry	14
Step 1: Engage with the topic	15
Getting started	15
Step 2: Explore where and how people farm cattle and sheep.....	18
Explore three Australian farms.....	18
Explore the farm environment, resources and systems used.....	21
Step 3: Explain how farms produce meat and wool.....	23
Investigate the processes involved	23
Step 4: Elaborate on concepts and ideas.....	25
Presentation planning	25
Going further.....	26
Step 5: Evaluating	29
Think back and evaluate.....	29
References.....	30

Cover photo courtesy of Primary Industries Education Foundation Australia

Acknowledgements

The Primary Industries Education Foundation Australia in conjunction with the Australian Government produced this educational resource for the Agriculture in Education Initiative. This resource is designed to introduce young people to food and fibre production and primary industries in Australia.

The Primary Industries Education Foundation Australia would like to acknowledge and sincerely thank the education program reference group for offering comments on the drafts of materials in this educational resource. The education resource has been developed by Angela Colliver from Angela Colliver Consulting Services Pty Ltd and designed by Liese Howard from Modo Pty Ltd.

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The material in this Unit of Work is made available for the purpose of providing access to general information about food and fibre production and primary industries in Australia.



As content of the websites used in this unit is updated or moved, hyperlinks may not always function.

Rationale

This resource material aims to help teachers and students in primary schools investigate and understand more about primary industries in Australia.

The objectives of the educational resources are to:

- Support Primary Industries Education Foundation Australia and its members in expanding awareness about primary industries in Australia by engaging and informing teachers and students about the role and importance of primary industries in the Australian economy, environment and wider community.
- Provide resources which help build leadership skills amongst teachers and students in communicating about food and fibre production and primary industries in Australia.
- Develop educational resources that can be used across Australia to provide encouragement, information and practical teaching advice that will support efforts to teach about food and fibre production and the primary industries sector.
- Educate school students on ways food and animals are raised and grown.
- Demonstrate to students that everyone can consider careers in primary industries and along the supply chain of food and fibre products.
- Assist school students to spread this message to their families and the broader community.
- Develop engaging learning programs using an inquiry process aligned with the Australian Curriculum.
- Develop in school communities, an integrated primary industries education program that emphasises the relationship between food and fibre industries, individuals, communities, the environment and our economy.

These educational resources are an effort to provide practical support to teachers and students learning about food and fibre production and primary industries in schools.

An integrated primary industries education program that emphasises the relationship between food and fibre industries, individuals, communities, the environment and our economy.

The approach used, is the inquiry approach through five phases: Engage, Explore, Explain, Elaborate and Evaluate.

Several key principles underpin the theoretical and practical application to this unit.

In providing an integrated *framework for inquiry*, complemented by rich explorations of texts that are, in turn, supported by an emphasis on undertaking a challenge or task, the unit requires students to:

- Search for information using both digital and non-digital means
- Use research techniques and strategies
- Use thinking and analysis techniques
- Present findings to a real audience, and
- Reflect both on the product created and the process undertaken.

Rather than seeing knowledge as something that *is taught*, the emphasis in this unit is on knowledge and understanding that *is learned*.

The unit involves students in:

- Working from a basis of their prior knowledge and experience
- Seeing a real task or purpose for their learning
- Being directly involved in gathering information firsthand
- Constructing their knowledge in different ways
- Presenting their learning to a real audience
- Reflecting on their learning.

The approach used, is the inquiry approach through five phases: **Engage, Explore, Explain, Elaborate** and **Evaluate**. The phases of the model are based on the 5Es instructional model (Bybee, 1997). This unit of work containing student activities assists students to raise questions, gather and process data, make conclusions and take action. These phases are:

- **Engage:** The 'Engage' phase begins with lessons that mentally engage students with an activity or question. It captures their interest, provides an opportunity for them to express what they know about the concept or skill being developed, and helps them to make connections between what they know and the new ideas.
- **Explore:** The 'Explore' phase includes activities in which they can explore the concept or skill. They grapple with the problem or phenomenon and describe it in their own words. This phase allows students to acquire a common set of experiences that they can use to help each other make sense of the new concept or skill.
- **Explain:** The 'Explain' phase enables students to develop explanations for the phenomenon they have experienced. The significant aspect of this phase is that explanation follows experience.
- **Elaborate:** The 'Elaborate' phase provides opportunities for students to apply what they have learned to new situations and so develop a deeper understanding of the concept or greater use of the skill. It is important for students to discuss and compare their ideas with each other during this phase.
- **Evaluate:** The 'Evaluate' phase provides an opportunity for students to review and reflect on their own learning and new understanding and skills. It is also when students provide evidence for changes to their understanding, beliefs and skills.

Source: Primary Connections <http://www.primaryconnections.org.au/about/teaching>

Resource description

This is a unit with five inquiry teaching sequences about where our meat and wool comes from.

It includes sections on food we eat and fibre we use and wear; where food and fibres come from; ways of producing food and fibre; farm management practices used; technologies used on the farms for agricultural production; communication; and the management of these places, to ensure the growth and survival of their livestock on farms; and challenges and opportunities faced by food and fibre producers on farms in Australia today.

The unit endeavours to build on students' understandings about food and fibre; engage them in investigating an interactive learning object about three farms in Australia on which people grow food and produce fibre; and involve them in presenting their understandings about the main process involved in producing meat or wool.

Year levels: 5 and 6

Curriculum focus

It contains a unit of work for **Design and Technologies**, and **Geography** with a variety of student activities selected as vehicles to help students:

- Investigate broadacre grazing and where our meat and wool comes from.
- Investigate how meat and wool are produced.
- Investigate concepts and ideas relating to the management practices used to produce meat and wool.
- Investigate the characteristics and properties of a range of technologies, materials, systems, tools, and equipment involved in food and fibre production.
- Investigate concepts and ideas about land management, sustainable farming, climate adaptation and sustainability.
- Select ideas and undertake an inquiry.
- Reflect and evaluate the success of the actions farmers are taking to produce quality food and fibre products.

Teachers will find, as they examine this unit and its student activities that there are some learning areas which are more strongly represented than others. This is a consequence of the subject matter with which students are dealing. Sustainability is the dominant cross curriculum priority. Design and Technologies, and Geography learning areas feature strongly in the unit as the topics deal with places on which three farming families produce food and fibre, the technologies used in the management of these places and their natural resources to sustain and grow livestock. English, critical and creative thinking and the Information Communication Technologies (ICT's) are also featured strongly throughout the activities.

Based on Australian Curriculum, Assessment and Reporting Authority (ACARA) materials downloaded from the Australian Curriculum website in February 2015. ACARA does not endorse any changes that have been made to the Australian Curriculum.

Build on students understandings about where our wool and meat come from; production and technologies used; and management practices used to ensure the growth and survival of livestock on farms.

Australian Curriculum content descriptions

Design and Technologies

Strand: Design and Technologies Knowledge and Understanding

Investigate how and why food and fibre are produced in managed environments. [ACTDEK021](#)

Investigate characteristics and properties of a range of materials, systems, components, tools and equipment and evaluate the impact of their use [ACTDEK023](#)

Geography

Strand: Geographical Inquiry and Skills: Collecting, recording, evaluating and representing

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](#)

Strand: Geographical Inquiry and Skills: Communicating

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](#)

Cross Curriculum Priorities

Sustainability

- OI.2** All life forms, including human life, are connected through ecosystems on which they depend for their wellbeing and survival.
- OI.3:** Sustainable patterns of living rely on the interdependence of healthy social, economic and ecological systems.
- OI.7:** Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments.
- OI.8:** Designing action for sustainability requires an evaluation of past practices, the assessment of scientific and technological developments, and balanced judgments based on projected future economic, social and environmental impacts.

Source: Australian Curriculum, Assessment and Reporting Authority (ACARA), downloaded from the Australian Curriculum website on February 2015.

Implementing the unit and activities in the classroom

Using the unit

The unit can be used in a number of ways. It will be of most benefit to teachers who wish to implement a sustained sequence of activities following the inquiry stages identified in the **About the approach** section of this unit and content descriptions in Years 5 and 6 in Design and Technologies, and Geography as stated in the Australian Curriculum.

Selecting activities

At each stage several activities are suggested from which you are encouraged to select the most appropriate for your purposes. Not all activities in each stage of the unit need to be used. Alternatively, you may add to or complement the suggested activities with ideas of your own.

It is suggested that teachers create a hyperlinked unit. Organise the digital resources for your class's use on a website or wiki or provide them on your interactive whiteboard.

Resourcing the unit

The resources suggested are on the whole, general rather than specific. Schools and the contexts in which they exist vary widely as does the availability of some resources – particularly in remote areas. There is a strong emphasis in the unit on gathering information and data; research and observations also feature strongly as these methods develop important skills and ensure that the exploration of the topics are grounded in a relevant context.




Some You Tube and online videos in addition to Internet based resources are suggested in the unit. You will need to investigate what is available in your school.

Adapting the unit

The unit is targeted at Years 5 and 6 level students. This is a suggested age range only and teachers are encouraged to modify activities to suit the needs of the students with whom they are working.

The unit's topics are based on content descriptions of the Australian Curriculum and on the key cross curriculum priority of sustainability. They embrace content that we believe is of relevance and significance to all students. We encourage you to explore ways in which the content can be adjusted to the context in which you are working.

Many of the activities contain the following icons offering a suggestion on how many students should be involved:

-  Suggested for individuals
-  Suggested for pairs or small groups
-  Suggested for larger groups or entire classes

Resource sheets are provided for some activities. Most are for photocopying and distribution to students. They are identified within units in bold italic: **Resource 1.1**

The resource sheets are designed to assist teachers to facilitate learning without having to access a range of other resources.

What about assessment?

Rather than being a task carried out at the end of the unit, assessment is viewed as integral to the entire unit sequence. Each activity should be regarded as a context for assessment of student learning.

When planning and implementing the unit of work make clear decisions on what you will focus on in assessing learning. The unit provides an opportunity for a range of skills and understandings to be observed. We encourage you to devise an assessment plan or assessment rubric that features areas to be assessed over subsequent lessons.

In planning for assessment, student learning in the following areas can be considered:

- Understandings about the topic.
- Development of skills.
- Exploration and clarification of values.
- Use of language in relation to content.
- Ability to use and critically analyse a range of texts.
- Ability to analyse and solve problems.
- Ability to interpret information, perceive its meaning and significance, and use it to complete real-world tasks.
- Ability to work cooperatively with others.
- Approach to learning (independence, confidence, participation and enthusiasm).

For this unit, the following understandings are provided to assist teachers in planning for assessment.

Assessment strategies

Each stage in the inquiry sequence provides information about student learning. This unit contains a 'Student Task' which is well suited for assessment as it is the summation of the work undertaken by the students in the unit. Work samples should be retained for this purpose.

Some questions and possible answers

Should I do all the activities?

At each stage of a unit, a number of activities are listed. You would not be expected to do them all. Instead, the unit is designed so that a selection of activities can be made at each stage. You should select the activities according to the needs and interests of your students and the time, relevance to the existing school curriculum and resources available to you.

While you are encouraged to follow the suggested inquiry sequence for each unit, it is quite possible to pick and choose from the range of activity ideas throughout the unit. It may also be used in conjunction with other programs you use.

How do these units fit into my weekly program?

Although the unit integrates a range of key subject areas, it is not designed to be a total program. It is assumed that regular routines that operate in your classroom will continue to run alongside your unit of work. For example, you may have regular times for use of the library, for maths, physical education etc. These things don't change – although student's writing topics or choice of topics to research in the library or in Information and Communication Technology classes may be influenced by this unit.

How long should the unit run?

This will of course depend on your particular circumstances but generally, a few weeks to a term are suggested.

I don't know much about food and fibre production myself – will I be able to teach it effectively?

Yes! The unit is designed in such a way that you, as the teacher are a co-learner, and you are therefore provided with teacher notes, plus readily available resources that are mainly web-based. Most importantly, you will find that you learn with the students and make discoveries with them.

Fast facts about Australian agriculture

National Farmers' Federation Farm Facts 2012



In 2011, there were 157,000 farmers in Australia.



The gross value of Australian farm production in 2011-12 was \$46.7 billion.

This page provides basic food and fibre production information that may be helpful when you interact with the school students.

- Agriculture plays a vital role in Australia, contributing to our social, economic and environmental sustainability.
- In 2011, there were 157,000 farmers in Australia. Around half of these were mixed crop and livestock farmers (22 percent), beef cattle farmers (20 percent) or dairy farmers (8 percent).

Sources: Australian Bureau of Statistics, 2010-11 Agricultural Census; Australian Bureau of Statistics, Australian Social Trends, Australian Farming and Farmers, December 2012, Catalogue No. 4102.0.

- These farmers own or manage Australia's 135,000 farm businesses – 99 percent of which are Australian owned.

Sources: Australian Bureau of Statistics, 2010-11 Agricultural Census; Australian Bureau of Statistics, Agricultural Land and Water Ownership, December 2010, Catalogue No. 7127.0.

- Each Australian farmer produces enough food to feed 600 people, 150 at home and 450 overseas. Australian farmers produce 93 percent of Australia's daily domestic food supply.

Sources: Keogh M, Australian Farm Institute, 2009, "Australia's response to world food security concerns", Address to the 1st National Farmers' Federation Annual Congress – Prime Minister's Science, Engineering and Innovation Council (2010); Australia and Food Security in a Changing World. The Prime Minister's Science, Engineering and Innovation Council, Canberra, Australia.

- The average Australian farmer is male (72 percent), 53 years old (compared with 40 years old for people in other occupations), and a self-employed owner manager (56 percent).

Sources: Australian Bureau of Statistics, 2010-11 Agricultural Census; Australian Bureau of Statistics, Australian Social Trends, Australian Farming and Farmers, December 2012, Catalogue No. 4102.0.

- As of June 2012, there were 290,000 people employed in Australian agriculture. The complete agricultural supply chain, including the affiliated food and fibre industries, provide over 1.6 million jobs to the Australian economy.

Sources: Australian Bureau of Agricultural & Resource Economics and Sciences (ABARES), Australian Commodity Statistics, 2012; Australia's Farm Dependent Economy: Analysis of the role of Agriculture in the Australian Economy. Modelling undertaken by Econtech.

- The agricultural sector, at farm-gate, contributes 2.4 percent to Australia's total gross domestic product. The gross value of Australian farm production in 2011-12 was \$46.7 billion.

Sources: Australian Bureau of Statistics, Value of Agricultural Commodities Produced, 2011-12, Catalogue No. 7503.0; Australian Bureau of Statistics, 2010-11, Australian System of National Accounts, Catalogue No. 5204.0; ABARES, Australian Commodity Statistics, 2012.

- Australian farmers are environmental stewards, owning, managing and caring for 59 percent of Australia's land mass.

Sources: Australian Government Department of Agriculture, Fisheries and Forestry, At a Glance, 2012.

- Farmers are at the frontline of delivering environmental outcomes on behalf of the Australian community, with 94 percent of Australian farmers actively undertaking natural resource management.

Source: Australian Bureau of Statistics, Natural Resource Management on Australian Farms 2006-07.

- Australia's primary industries have led the nation in reducing greenhouse gas emissions: a massive 40 percent reduction between 1990 and 2006.

Source: Australian Government Department of Climate Change, National Inventory by Economic Sector 2006.

Source: National Farmers' Federation Farm Facts 2012 at <http://www.nff.org.au/farm-facts.html>

Meat and Livestock Industry

- Australia's national cattle herd stands at 28.5 million head with the beef industry accounting for 57 percent of all farms with agricultural activity.
- Australia produced around 2.2 million tonnes of beef and veal in 2012–13 directly contributing to 1 percent of Australia's gross domestic product.
- Australia's national sheep flock is 74.7 million head with the sheep industry accounting for 32 percent of all farms with agricultural activity.
- Australia produces approximately 6 percent of the world's lamb and mutton supply and in 2012–13 exported 51 percent of all lamb and 96 percent of all mutton produced.
- Australia's beef and lamb industry employs approximately 200,000 workers across farm, processing and retail.
- Australian cattle and sheep farmers are the custodians of almost half of Australia's land.
- Australia's beef and lamb industry is committed to ensuring a sustainable food supply for future generations with ongoing research and development projects relating to water, soil, biodiversity, animal welfare, energy, emissions and more.

Source: *Meat and Livestock Australia* <http://mla.com.au>

Fishing and Aquaculture Industry

Australia's marine domain, our Exclusive Economic Zone, is one of the largest in the world, covering around 10 million square kilometres. This is larger than mainland Australia (7.69 million square kilometres). Despite the size of this zone Australia ranks 46th in the world for seafood production.

Australia has progressively adopted a more ecosystem-based approach to fisheries management which looks at the effect of fishing practices not just on the target species, but also on the environment and other related species. Fisheries managers monitor both stock and fishing levels as well as a range of other environmental factors to ensure the amount of seafood harvested every year does not deplete stocks. In addition, government observers travel regularly on fishing boats to ensure compliance to quotas, bycatch limits and other regulations.

Source: *Fisheries Research and Development Corporation, 2013* <http://frdc.com.au/>

During 2011–12 in Australia:

- There were 6,991 people directly employed in the commercial fishing, hunting and trapping sector, and 3,642 in aquaculture enterprises.
- The sector comprises approximately 120 wild catch fisheries and 70 aquaculture species.
- The gross value of Australian commercial seafood and products (e.g. pearls) was valued at \$2.3 billion, an increase of 3 percent on the previous year.
- Australian imports of fisheries products increased by 5 percent.
- The value of production for the wild-catch sector declined by 1 percent to \$1.3 billion and production volume decreased by 4 percent to 157,505 tonnes. While the gross value of aquaculture production rose by 10 percent (\$100 million) to \$1.1 billion.
- The largest contributor to Australian aquaculture production in 2011–12 was salmonids, which make up 52 percent of the total aquaculture production volume and 49 percent of the value.
- Tasmania accounted for the largest share of gross value of production (30 percent), followed by South Australia (19 percent) and Western Australia (17 percent). Commonwealth fisheries accounted for 13 percent of the gross value of production.

Source: *ABARES, 2013* http://data.daff.gov.au/data/warehouse/9aam/afstad9aamd003/2012/AustFishStats_2012_v1.0.0.pdf



Australia's marine domain covers around 10 million square kilometres.

Cotton Industry

Australia's cotton growers produce yields almost three times the world average.

40% less water is needed to grow one tonne of cotton lint compared to 2003.

- Every year cotton farmers make an important social and economic contribution to the nation creating jobs for 8,000 people (in Northern New South Wales and Southern Queensland alone), support for more than 4,000 businesses and over \$2 billion for the national economy in export earnings.
Sources: Cotton Australia Pocket Guide to Cotton, Judith Stubbs and Associates Report 2011.
- In 2013, there were 1,181 cotton farms. 63 percent were in New South Wales and 37 percent were in Queensland. Of those farms cotton makes up 17 percent of land area on farm.
Source: Cotton Annual 2014
- Australia's cotton growers produce enough cotton to provide jeans, socks, underwear and a shirt for 450 million people. The overall yield in 2012 was 10.37 bales per hectare – the first time in history that average yields have exceeded 10 bales per hectare. Australia's cotton growers produce yields almost three times the world average.
Sources: Cotton Australia tables (compilation of industry sources), ABARES Crop Report, December 2012, Pocket Guide to Cotton 2014.
- The average Australian cotton farmer is 39 years old, has a family owned and operated farm, employs on average six or more people, grows other crops like sorghum, soybeans, wheat and canola, has 496 hectares of cotton and is not only a farmer but also a builder, mechanic meteorologist, agronomist, conservationist, scientist and marketer.
Sources: Pocket Guide to Cotton 2014, Monsanto audited numbers 20.12.13, 2013 Cotton Practices Grower Survey, Cotton Research and Development Corporation.
- The Australian cotton crop was worth almost \$2.3 billion at the farm gate.
Source: Cotton Australia tables (compilation of industry sources), Cotton Compass.
- The Australian cotton industry has achieved a 40 percent increase in water productivity over the last decade i.e. 40 percent less water is now needed to grow one tonne of cotton lint, compared to 2003.
Source: The Australian Cotton Water Story 2011.
- The ratio of dryland cotton (rain grown) to irrigated cotton varies depending on the market and conditions. Of the 2011–12 crop 5 percent was dryland and 95 percent irrigated. Favourable grain and sorghum prices meant many dryland farmers opted not to plant cotton at that time.
Sources: Cotton Australia tables (compilation of industry sources), ABARES Crop Report December 2012.
- Australian cotton growers have reduced their insecticide use by 95 percent over the past 15 years. *Source: Monsanto Audited numbers 20.12.2013.*
- Cotton growers are good environmental stewards, owning and caring for native vegetation equivalent to 40 percent of the area of their cotton farms, on average. *Source: 2011 Cotton Grower Survey (Cotton Research and Development Corporation and Cotton Catchment Communities Co-operative Research Centre).*

Source: Cotton Australia <http://www.cottonaustralia.com.au>

Pork Industry



Australia's pig herd is one of the cleanest in the world.

- Australia is the first nation in the world to introduce the voluntary phase-out of gestation stalls.
- Pork accounts for approximately 0.4 percent of the national greenhouse gas emissions – significantly lower than other agricultural sectors, including beef at 11.2 percent, sheep at 3.4 percent, and cattle at 2.7 percent.

Source: Garnaut, R 2008, *The Garnaut climate change review – final report*, available at: <http://www.garnautreview.org.au/index.htm>

- Whether housed indoors or outdoors, a pig spends more time resting than any other domestic animal.
- Australia's pig herd health is one of the cleanest in the world, free from many detrimental diseases found in most other pig producing countries
- The feed component (mainly grains such as wheat, barley and sorghum) makes up about 60 percent of the total cost of producing pork.
- Pigs have a very wide angle of vision (310°) and are therefore easily distracted.
- On average, a sow will produce 10–12 piglets per litter.
- The average growth rate of Australian pigs is around 600–650g a day from birth to sale.
- Pigs have colour vision but they can't focus both eyes on the same spot.
- Pigs are unable to perspire and they lose heat through their mouths. Their ideal growing temperature is 20–22°C.

Source: Australian Pork Limited <http://www.australianpork.com.au>

Forestry Industry

Australia has 125 million hectares of forest, equivalent to 16% of its land area.

Forests protect soil and water resources as well as storing carbon.

- Forestry plays a vital role in Australia, contributing to our social, economic and environmental sustainability.
- Forests are also the foundation for a broad range of cultural and spiritual experiences for diverse groups of people. They are a major tourist attraction for Australian and overseas visitors, providing for a vast array of recreational and educational activities.
- In 2010–11, the total turnover of Australia’s forest product industries was more than \$24 billion.
- Australia has 125 million hectares of forest, equivalent to 16 percent of Australia’s land area. Australia has about 3 percent of the world’s forest area, and the seventh largest reported forest area of any country worldwide.
- Australia’s 123 million hectares of native forests are dominated by eucalypt forests and acacia forests.
- 32 percent of all Australia’s native forests (private and public land) are protected for biodiversity conservation. With 73 percent of Australia’s identified old growth forests in formal or informal nature conservation reserves.
- 9 percent (36.6 million hectares) of the native forests were available and suitable for commercial wood production in 2010–11 comprising 7.5 million hectares of multiple-use public forests and 29.1 million hectares of leasehold and private forests.
- Forests protect soil and water resources and are increasingly being recognised for their carbon storage and sequestration capability. The total carbon stored in forests, wood and wood products and paper products was in the order of 400 million tonnes in 2010.
- Australia’s native and plantation forests provide the majority of the timber and a significant proportion of the paper products used by Australians.
- On average, each year, every Australian consumes the equivalent of about 1 cubic metre of harvested log in the form of timber products, including timber for home building, joinery and furniture and paper products.
- Australia’s forest management is among the best in the world in terms of conservation reserves and codes of practice for production forests.
- Australia has two forestry certification schemes that enable users of wood and wooden products to know the source of the wood.
- The sector directly employs 73,267 people in the forest and wood products industry in Australia (2011). This includes full and part time employees with 1.5 percent of all employees being Indigenous.

Sources: <http://www.agriculture.gov.au/forestry>
<http://au.fsc.org/>
<http://www.forestrystandard.org.au/>
<http://www.naturallybetter.com.au/>
<http://www.forestlearning.edu.au>



Step 1: Engage with the topic

Getting started

Purpose

To provide students with opportunities to:

- gather information about their prior knowledge of where our meat and wool comes from
- develop skills in making connections between ideas
- help set directions for an investigation
- provide data for assessment purposes
- develop a focus for the forthcoming experiences in the 'Explore' stage of the inquiry.

Introduction

The sustainable production of food and fibre by our primary industries is imperative. Farms can be explored so that students develop an understanding of the places people live to grow food and wool, and the technologies and farm management practices they use.

Word Association Game



TALK with students about food and fibres. Play a word association game in which students list as many words or phrases as possible in 30 seconds about food and fibres they eat and use every day. **DISCUSS** the lists of words and talk about foods eaten during their evening meal the night before. Talk about the fibres worn or used by students in the class at present.

Brainstorm



Each day we eat foods, and use and wear fibres grown by farmers who use a variety of resources in their production processes.



Use a range of images of primary industries in action and **BRAINSTORM** lists of industries seen as well as the resources and technologies used. See:

<https://www.google.com.au/search?q=primary+industries+images&tbm=isch&tbo=u&source=univ&sa=X&ei=4qBUvOrBsPAkgWBpYGgCw&ved=OCCsQsAQ&biw=1225&bih=584>



CONSIDER primary industries in other places too. See:

<http://www.globaleducation.edu.au/resources-gallery/resource-gallery-images.html>



SHARE the lists in groups. Note common industries seen. **CIRCLE** key industries, resources and technologies used and place a question mark next to those that create debate or controversy.



CLASSIFY lists and give headings to each industry, resources and technologies used. **DISPLAY** brainstormed lists around the room.

Pass the question



Use the 'pass the question' strategy outlined below, to complete a brainstorm.



RECORD one question on each sheet of paper:

- What do we understand about where our meat and wool comes from?
- What is broad acre farming?
- What are primary industries?
- What have we heard about them in the media or from scientists, friends or family members?

DIVIDE the class into working groups

DISTRIBUTE the sheets of paper, one set to each group



Step 1: Engage with the topic

Each day we eat particular foods, use and wear particular fibres grown by farmers who use a variety of resources in their production processes.



Ask students to **BRAINSTORM** their responses to the questions.

After a designated period of time, each sheet is passed to the next group, where students add to the ideas already written by the previous group.

Continue with this activity until the students are satisfied that the questions have been fully answered.



Each group reports to the class, synthesising ideas collated by the class.

DISPLAY brainstorm lists around the classroom. If questions emerge from this activity, record these and display them for future reference as the class progresses through the unit.

Word links



CONSIDER the terms 'farms', 'farming', 'agriculture', 'primary industries', 'agricultural industries' and 'food and fibre production'. List other words that student's link with them.



INVESTIGATE definitions and any associations the words may have.



Issues surrounding food and fibre production can have many confusing terms and technical jargon. **ASK** students what the difference is between:

- Primary industries and agricultural industries.
- Food production and farming.
- Primary industry and agricultural sector.
- Primary industries and suppliers of food and fibre products.
- Fibre production and cotton farming.
- Farming and land and resource management.

Why is it important to make distinctions between these terms?

Concept mapping



Ask students to **DEVELOP** a concept map describing what they know about food and fibre production – what it is, what it comprises, what it needs, what it affects, and why it's important.

Use the Web Map at:

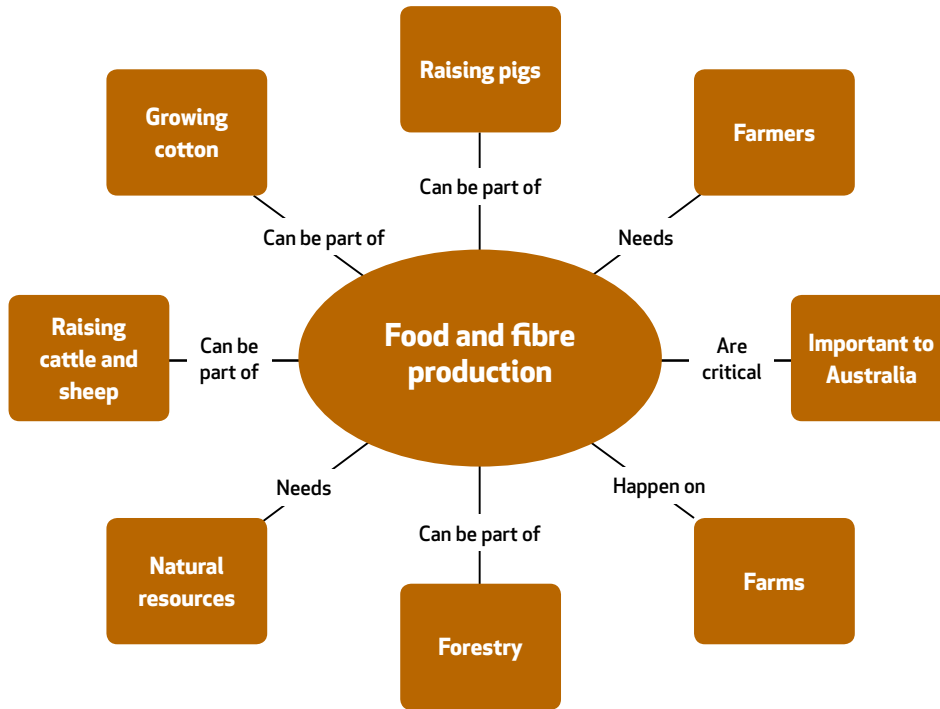
http://www.globaleducation.edu.au/verve/_resources/webmap.pdf

to develop the concept map describing food and fibre production – what it is, what it comprises, what it affects, and its potential impacts on different environments and their natural resources.



Step 1: Engage with the topic

For example:



Setting the task

Note: This is a suggested assessment task.



TALK about how farms supply our food and fibre needs and wants and where the products that satisfy our needs and wants come from.

EXPLAIN to the class that in groups, they will be using a range of activities and an interactive learning object containing three virtual farms to explore:

- Where farmers live.
- Where our meat and wool comes from.
- How technologies are used to produce meat and wool, manage resources and communicate with others.
- How the physical conditions of the farm environment and farm management practices used might impact on the production of meat and wool.

INFORM the students that they will also be encouraged to suggest ways to improve the farm's management practices so that there might be less impact on the environment.



EXPLAIN to the class that their task is to work in three groups to collect and **RECORD** information about one of the three virtual farms including their farm family's use of technologies to produce meat and wool; manage the farm and communicate with others; and their farm management practices.

FIND OUT what students already know about using learning objects.



TALK with students about places where farmers live and produce our food and fibre. **BRAINSTORM** a range of known places.



INVITE students to give short talks about known farm families – where they live, what they produce, how it is produced, farm management practices and challenges faced in the process of producing food or fibre.

Give short talks about known farm families: where they live, what they produce, how it is produced, known farm management practices and challenges faced in the process of producing food or fibre.

Explore three Australian farms

Purpose

To provide students with opportunities to develop their understanding of:

- the places where people live and produce cattle and sheep (meat and wool)
- how spatial technologies represent places
- maps and mapping symbols
- people and places involved in farming cattle and sheep
- technologies used by farm families.

Introduce students to a virtual farms

As a class, **EXPLORE** the different farms the three families live on in Australia using images and information at: <http://virtualfarm.mla.com.au/>

Invite students in their allocated group to choose one of the areas on the map and **VISIT** a real Australian farm.



TALK with the students about the need to be a detective when finding places on a map, as maps give lots of clues.



Using the three Google Maps invite students to **FIND** where their farm is located.

RESEARCH TASK: PART 1



Invite students in their allocated group to **VIEW** the different spatial maps including the street map, satellite, hybrid and terrain versions and discuss:

- What can be seen (compass directions, scale, symbols, roads, forests, terrain, towns)?
- Where things are located (towns on roads, forests and farms in rural areas etc.)?
- Why the farms are located near a watercourse, are on flat terrain, near forests, and near roads etc.?
- Where areas of the land remains in its original state and areas where the land is being changed with an emphasis on food production?



Ask students to **DRAW** a map of Australia that identifies the location of their farm and includes a key for symbols used.

Technologies used on farms



In assigned groups, invite students to **FOCUS** on the 'image links' featured on the web page of the chosen farm. Using the image links, invite students to **RESEARCH** and **RECORD** what the farms produce and the technologies used in the process of producing either meat or wool.



ASK the questions:

- What do they farm? Why?
- What do they produce?
- What technologies are used to manage the livestock? Why?
- Which technologies are used to enable the people on the farm to communicate with others, and also learn and understand more about the farm and the animals grazed there?
- Which technologies assist the farm families manage their resources, like soil, pastures, animals and water?
- How do the technologies used benefit the farmer, their livestock and their farm?



RESEARCH TASK: PART 2

Explore technologies used on the farms

Using the 'Virtual Farm' learning object in allocated groups ask students to view the following videos and:



INVESTIGATE the farms use technologies to produce food and wool.

IDENTIFY the technologies that are used to preserve the natural resources provided by the environment. **IDENTIFY** the technologies that are used to manage time and communicate effectively.



RECORD understandings in a flow chart showing how the farm works, including the resources the farm takes and the wastes it puts back into the environment, and **SUGGEST** ways to improve the farm's management practices so that there might be less impact on the environment.

From *Iona* consider videos and fact sheets titled:

- Chemicals and the boom sprayer
- Soil management
- Working with the environment
- Crop and pasture management
- Climate

From *Kalyeeda* consider videos and fact sheets titled:

- Managing livestock
- Changing for the future
- Farming progress with technology
- Satellite and the Internet
- Farming communities
- Farming machinery

From *Malabar* consider videos and fact sheets titled:

- Technology and farm maintenance
- Wool press
- Machinery improves efficiency and safety
- Responding to consumers
- Cattle for the region
- Sustainability breeding techniques
- Climate variability
- Using solar energy
- Land management
- Soil health
- Pasture management

Show how the farm works, including the resources the farm takes from the environment, and the wastes the farm puts back into the environment.



Step 2: Explore where and how people farm cattle and sheep

Develop a class retrieval chart



When investigations are completed as drafts, **DEVELOP** a class retrieval chart on which students share information and ideas collected. **DISCUSS** patterns that emerge.

For example:

Name:	Date:
What is farmed?	
What is produced by the farm?	
Why is it important to understand where our meat and wool come from?	
What role do technologies play?	
What types of technologies can assist manage resources like soil, water and pastures?	
How might the technologies used benefit the farmer, the livestock and the farm?	
What can farm families do to improve the changing conditions experienced in producing meat and wool?	



Explore the farm environment, resources and systems used

Purpose

To provide students with opportunities to develop their understanding of:

- the ways in which farmers manage drought, climate variability, pests, the seasons, erosion, cattle and sheep, pasture, animal welfare and protecting their animals from diseases and pests
- how sustainable farming maintains production and ensures that natural resources are managed in the best possible way for long term viability.

INTRODUCE students to the concept of sustainable farming and explain how it is using the farm and its resources in such a way that it will remain productive into the future.

View landscapes of the farms



Using the 'Virtual Farm' learning object, **ASK** students in their allocated group to use the map they developed in Task 1 to **IDENTIFY** and **RECORD** the natural resources on and around their farm. Additionally, ask students to identify the built features nearby that provide access to the farms.



As a class **EXPLORE** and **DISCUSS** the locations of the different farms and consider:



- Where in Australia the farms are located?
- Are these locations similar or different? How?
- Are they in the city or country?
- What animals or crops are farmed at these locations? Why?
- What other interesting things they can see about these locations on the maps? E.g. proximity to watercourses, hilly landforms, roads, native vegetation.



Invite students to **DESIGN** symbols that represent the different animals and crops used on the farm and add these to their map key as a reference tool.

Soil



BRING in some soil and talk about it – why it is important, its link to our survival, describe how everything we use has its origins in soil.



BRAINSTORM ways we satisfy our needs and wants from the soil. Make a cooperative **LIST** of ideas.



EXTEND thinking about each natural resource and what it relies on, e.g. sheep eat grass, which grows in the soil.



DISCUSS the natural resources provided by the environment that the sheep and cattle require to grow and be healthy in order to produce wool and meat for consumers. **DRAW** concept maps to record ideas.

Water



Talk about water as an essential item that all living things need to survive. **BRAINSTORM** and draw cooperative lists of ideas about how farm families, farm animals, crops and pastures use water. **DISCUSS** what provides water to each farm, e.g. rainfall, nearby watercourses, groundwater sources etc.



EXTEND thinking about the quality and quantity of water farms and their animals, crops and pastures require for growing and producing food. **DRAW** concept maps to record ideas.



Native vegetation provides protection for native animal species as it is their native habitat.

Native vegetation



VIEW pockets of native vegetation in and around the school or local area and talk about it, and how it prevents land degradation by protecting soil against erosion, salinisation, acidification and structural breakdown



DISCUSS how healthy soils protect water quality and how native vegetation provides protection for native animal species as it is their native habitat. Talk about how vegetation mitigates against the greenhouse effect by acting as a 'sponge' for the excess carbon dioxide in the air.



EXTEND thinking about the benefits of undisturbed native bush (trees, shrubs and groundcovers) on farms and its importance to the maintenance of wildlife habitats, native seed banks and continued biological diversity.



DRAW concept maps to record ideas.

RESEARCH TASK: PART 3

Explore farm resource use and systems



Using the three farms in the 'Virtual Farm' learning object, ask students in allocated groups to **VIEW** the videos and:



INVESTIGATE the farms use of natural resources (water, soils and native vegetation) to produce food.



IDENTIFY the land management practices that are used to preserve the natural resources provided by the environment.

RECORD understandings in a flow chart showing how the farm works, including the resources taken and the wastes returned to the environment by the farm, and **SUGGEST** ways to improve the farm's management practices so that there might be less impact on the environment.



From *Iona* **CONSIDER** videos and fact sheets titled:

- About Iona
- Soil management
- Challenges of drought
- Sustainable pasture management
- Crop and pasture management
- Working with the environment
- Climate



From *Kalyeeda* **CONSIDER** videos and fact sheets titled:

- About Kalyeeda
- The seasons
- Pasture management
- Climate variability



From *Malabar* **CONSIDER** videos and fact sheets titled:

- About Malabar
- Sustainability techniques
- Climate variability
- Pasture management
- Land management
- Soil health
- Renewing pastures



Step 3: Explain how farms produce meat and wool

Investigate the processes involved

Purpose

To provide students with opportunities to:

- describe where our meat and wool comes from
- describe how meat and wool are produced
- describe the resource management practices used to produce meat and wool
- identify the effect of these practices on the characteristics of the places and environments used to produce food and fibre
- represent the processes involved in meat and wool production so that they can be communicated to an audience
- develop a storyboard.

Approaches to producing meat and wool



ASK students why it might be important to understand the ways farm families produce meat and wool. **LIST** the students' responses. **SORT** responses and **ASK** students to give reasons for their suggestions.

Food for thought



TALK with students about their understanding of the origin of other foods and fibres.



PLAY 'Lay it on the Line'. **PLACE** signs in the corners of the classroom – strongly agree, partially agree, disagree and strongly agree. **READ** out statements below and ask students to **RESPOND** by placing themselves in the appropriate corner.

Statements might include:

- Most of the logs we produce in Australia come from native trees.
- Natural fibres come from just plants.
- Coffee is a plant product.
- A woollen rug is a plant product.
- Scrambled eggs are an animal product.
- Cheese can be made from goats.
- Pineapples grow on trees.
- Taro grows above the ground.
- Okra grows beneath the ground.
- Mangos grow on trees.
- Gooseberries grow on a vine.
- A cotton shirt is a plant product.



Once students have moved to their preferred positions ask them to **EXPLAIN** why they have chosen that position.

After the activity, **ASK** students to comment on the way they felt about having to make decisions about where they stood, for example pressure from other students, uncertainty about the topic, or uncertainty about their own understandings.



Misconceptions and gaps in knowledge about the origins of food and fibre is prompting many organisations to build awareness about where our food and fibre products come from.

RESEARCH TASK: PART 4

Reflect on research

Growing realisation that consumers have serious misconceptions about the origins of food and fibre due to gaps in their knowledge, is prompting many organisations to build awareness about where our food and fibre products come from.



Engage students individually or in their allocated groups to **REFLECT** on their research previously undertaken on:

- Where our meat and wool comes from?
- How it is are produced?
- What management practices might be used, their benefits and possible impacts.



Ask students to **CONSIDER** how they are going to present their information so that it can be communicated to an audience at the school, within the local community or via social media outlets like YouTube.



As a class **LIST** the main processes involved in meat and wool production, decide on the main messages from this list and how they could be communicated.

Ask students to decide on a way of **PRESENTING** their research findings, such as a poster, a presentation, a pamphlet or a documentary. Invite them to justify their choice of media and explain its advantages and disadvantages.

Decide on what to present and how to do so



Re-state the purposes of the investigation and ask students to **CONSIDER** how they are going to bring their information together and present it so that the main points come across clearly.



MODEL the construction of the storyboard genre. Students now use the information they have gathered to **CONSTRUCT** a storyboard for the research they have undertaken.

See: <http://www.storyboardthat.com/> for ideas.



TALK about what a storyboard is and how it can be used to help plan a story. **REMINDE** students that their presentation needs a beginning, middle and end and that they can tell their story using pictures, writing, narration or speech bubbles.

Bringing it all together

FOCUS student's attention on:

- What we know.
- What we want to find out.
- What the class now knows.
- What other things we would like to find out.

Use 'What we know' as a source for the whole class, or small group discussion.

Students use other prompts above to **PLAN** their way forward. Students use:

<http://office.microsoft.com/en-au/templates/kwlh-chart-TC101887896.aspx>



Step 4: Elaborate on concepts and ideas

Presentation planning

Purpose

To provide students with opportunities to:

- plan their presentation about meat and wool and how it is produced
- in groups discuss, evaluate and make decisions about their presentation type
- develop skills of cooperative decision-making
- generate a personal and group list of ideas
- encourage sharing of ideas and to learn from one another.

Going further with the planning of the presentation



Invite students to **CONFIRM** the 'big idea' planned for their presentation.



In small groups, **DISCUSS** ways of presenting the big idea in an interesting and engaging format.



Ask students to **CREATE** a final plan for completing the presentation.

Students may need to document their key messages, create an image bank and collate references and acknowledgements for their work sample.



Invite them to **SUMMARISE** these and the learning achieved in a journal log for reflection.

Students work in groups, pairs or individually to create their presentation.

For more detailed video production lessons, have a look at this website below, which includes storyboards, scripting, shooting, editing and assessing. See: <http://kidsvid.4teachers.org/index.shtml>

Review and submit



Invite students to **REFLECT** on the feedback shared in the earlier activity, **REVISE** and **FINE-TUNE** the presentation.



CONSIDER hosting a 'Community Event' to showcase the students' work to the school community and beyond.

Play a game to extend understanding



As a class view and **PLAY** the interactive learning object 'Where do my meals come from?' See: <http://www.foodafactoflife.org.uk/Activity.aspx?siteId=13§ionId=54&contentId=174>

PLAY both the 5–8 year old and 8–11 year old versions.



TALK about where yoghurt at breakfast time might come from...where ham in your sandwich might come from...where a lamb steak, chop or sausage might come from.



IMAGINE a roast beef or lamb dinner, with potatoes, peas, carrots and beans. Think about the steps needed to get each of these food items.

CONSIDER a Pizza or Pide or Yiros accompanied with a salad of lettuce, onions, tomato, carrots and herbs. **THINK** about the steps needed to get each of these food items.

Have the class **SUGGEST** their own examples too!

PLAY the 'Farm to Fork Challenge' at: <http://www.foodafactoflife.org.uk/Activity.aspx?siteId=13§ionId=54&contentId=176>

FIND the correct stages for ham. **PLAY** both the 5–8 year old and 8–11 year old versions.



CONSIDER beef sausages. What are the stages in their production? **DRAW** these.



CONSIDER lamb cutlets. What are the stages in their production? **DRAW** these.



Going further

Purpose

To provide students with opportunities to:

- analyse critically
- make links between their understanding and their experiences
- investigate practices in food and fibre production practices today
- describe probable, possible and preferred futures for food and fibre production in Australia
- write a recount.

Edward de Bono's Six Thinking Hats



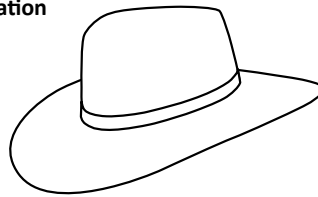
Invite students to **EXPLORE** any issues raised during their investigations into current food and fibre production practices, using Edward de Bono's Six Thinking Hats technique. In six groups, students discuss and document the issues according to the perspective of their assigned hat and then come together to share ideas. See example below.

Red Hat Feelings



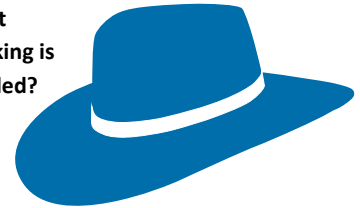
What are the emotions and feelings associated with food and fibre production practices?
How do you feel?

White Hat Information



List the facts that you know about food and fibre production practices and how they affect the environment.

Blue Hat What thinking is needed?



What has happened so far?
What should happen next?
What questions should we consider?

Green Hat New ideas



How could the problems related to the impact of climate on production be solved?
What needs to be done?

Black Hat Weaknesses



What are some of the negative aspects and outcomes of food and fibre production practices?

Yellow Hat Strengths



What are some of the positive aspects and outcomes of food and fibre production practices?



Step 4: Elaborate on concepts and ideas

Explore futures



Take a 'futures walk' by **ENVISIONING** new food and fibre production practices for the future.



What are the possible, probable and preferable futures? **TALK** with the students about the notion of 'futures' and the difference between:

- possible futures
- probable futures, and
- preferable futures (hopes, dreams and visions).

Probable future refers to how students expect the future to be, both in their own lives and in the wider world. A *preferred future* refers to how students would like the future to be, both in their own lives and in the wider world.

Source: Hicks, D. (1994) *Educating for the Future: A practical classroom guide*, World Wildlife Fund.



TALK about what 'probable sustainable food sources' might be.

ASK questions like:

- Would you expect that our school might think of serving seasonal school meals in the future, where the school garden might produce the vegetables and herbs that are needed in a lunchtime meal?
- Would you expect that homes in your street might grow fruit and vegetables in the garden or on their allotment to meet part of their food needs in the future?



TALK about 'possible sustainable food sources' too. **ASK** questions like:

- Is it possible that people you know might consider growing some of their own fruit and vegetables in the future?
- Do you think it might be possible that our school might produce some of the food we need in the canteen in the future?



Teachers can demonstrate a futures timeline, encouraging students to

CONSIDER a scenario about a probable and preferable future. For a sample 'futures timeline' see the image in the box below.

A timeline can be inclusive of probable and preferable futures by adding a < shape



Students **PLOT** probable futures along the upper axis and preferable futures along the lower axis.



Encourage students to formulate their own questions and then **ILLUSTRATE** and **DESCRIBE** their ideas for a probable and preferable future in producing food and fibres in Australia. For example:

- A probable sustainable food future might include...
- I hope a preferable sustainable food future can include...

Take a 'futures walk' by imagining and envisioning new food and fibre production practices for the future.



Discussing futures



Ask students to **TALK** about what they see as issues in relation to:

- sustainable food sources (animals and plants) in the present
- possible sustainable food sources (animals and plants), and
- probable sustainable food sources (animals and plants).



Ask students to **DRAW** two windows: an urban window and a rural window. Ask students to imagine they are looking out of the windows and to **DRAW** or **WRITE** about what food sources they might see.



EXPAND on these thoughts and ask students what might be done about these issues. Synthesise ideas and **WRITE** a recount of ideas collected.



Step 5: Evaluating

Think back and evaluate

Purpose

To provide students with opportunities to:

- reflect on their own learning
- collate data for assessment.

To provide teachers with:

- insights into students' understanding and attitudes, as well as their perceptions of their own strengths and weaknesses.

Procedure

Begin by modelling reflective writing through a whole class learning log. Alternatively, you could model your own entry 'thinking aloud' as you write

Provide students with a set of focus questions for their writing:

- Write about something new you learnt in this unit.
- How did you feel about the activities you undertook?
- What would you do differently if you were to do this again?
- How have my/our feelings and behaviour changed as a result of learning?
- How well did I/we participate in any group/team learning activities?
- What questions do you have about the topic at the moment?

Assessment note

Learning logs are an ideal way to assist students to reflect on their learning and can provide a source of data for assessment. They can provide teachers with an insight into student's understanding and attitudes, as well as their perception of their own strengths and weaknesses.

References

- Australian Academy of Science (2005) *Primary Connections*, Canberra, Australia.
- Australian Council for Education Research (2011) *Food, Fibre and the Future: Report on surveys of students' and teachers' knowledge and understanding of Primary Industries*, Melbourne.
- Cecil, N. (1995) *The Art of Inquiry: questioning strategies for K-6 classrooms*, Peguis, Canada.
- De Bono, E. (1992) *Six Thinking Hats for Schools*, Books 1 & 2, Hawker Brownlow Educational.
- Gardner, H. (1985) *Frames of Mind: the theory of multiple intelligences*, Basic Books, New York.
- Hamston, J. and Murdock, K. (1996) *Integrating Socially: units of work for social education*, Eleanor Curtin, Melbourne.
- Hicks, D. (1994) *Educating for the Future: a practical classroom guide*, World Wildlife Fund.
- Hill, S. and Hill, T. (1990) *The Collaborative Classroom*, Eleanor Curtin, Melbourne.
- Wilks, S. (1992) *Critical and Creative Thinking: strategies for classroom inquiry*, Eleanor Curtin, Melbourne.

Websites (viewed February 2015)

This is a list of websites used in this unit for teacher use. As content of the websites used in this unit is updated or moved, hyperlinks may not always function.

Australian Curriculum Assessment and Reporting Authority. Australian Curriculum
<http://australiancurriculum.edu.au>

Australian Forestry Standard
<http://www.forestrystandard.org.au/>

Australian Government Department of Agriculture
<http://www.agriculture.gov.au/forestry>

Australian Pork Limited
<http://www.australianpork.com.au>

Commonwealth of Australia Global Education
<http://www.globaleducation.edu.au/verve/resources/webmap.pdf>
<http://www.globaleducation.edu.au/resources-gallery/resource-gallery-images.html>

Cotton Australia
<http://www.cottonaustralia.com.au/>

Creative Commons
<http://creativecommons.org/licenses/by/3.0/au/deed.en>

Fisheries Research Development Corporation
<http://frdc.com.au/>

Food a Fact of Life
<http://www.foodafactoflife.org.uk/Activity.aspx?siteId=13§ionId=54&contentId=174>
<http://www.foodafactoflife.org.uk/Activity.aspx?siteId=13§ionId=54&contentId=176>

Forest Learning
<http://www.forestlearning.edu.au>

Forest Stewardship Council Australia
<http://au.fsc.org/>

Garnaut Climate Change Review
<http://www.garnautreview.org.au/>

Google Images
<https://www.google.com.au/search?q=primary+industries+images&tbm=isch&tbo=u&source=univ&sa=X&ei=l4qBUvOrBsPAkgWBpYgGcw&ved=0CCsQsAQ&biw=1225&bih=584>

Kids' Vid
<http://kidsvid.4teachers.org/index.shtml>

Meat & Livestock Australia
<http://www.mla.com.au>
<http://virtualfarm.mla.com.au/>

Microsoft Office
<http://office.microsoft.com/en-au/templates/kwlh-chart-TC101887896.aspx>

References

National Farmers' Federation

<http://www.nff.org.au/farm-facts.html>

Prezi. National Farmers' Federation Farm Facts

<http://prezi.com/qvn0y5hn6dfj/nff-farm-facts-2012/>

Primary Connections

<https://primaryconnections.org.au/about/teaching>

Simple Mapper

<http://simplemapper.org/?gclid=CLeDr8uA1bICFctDpgod6BsABg>

StoryboardTHAT

<http://www.storyboardthat.com/>

Wood Naturally Better

<http://www.naturallybetter.com.au/>



primezone
The place for all your primary industry resources
www.primetimezone.edu.au