

## **Aboriginal Technology**

### **A Stage 3 Integrated Unit**

The teaching and learning activities in this unit will enable students to develop a greater understanding of Aboriginal people and the importance of their traditional way of life. It highlights the complexity of traditional Aboriginal communities, their management of the environment and the importance of the development and use of a range of technologies. It will also allow students to look at Aboriginal people's application of the sciences within contemporary communities.

The learning sequences have been developed with an integrated approach, emphasising Science and Technology. The unit incorporates most key learning areas and teachers are encouraged to further develop the unit to suit the needs of their students.

An individual research project is included to encourage students to identify and research a significant Aboriginal person or community and their contribution to contemporary Australia.

Each learning sequence focuses on a different aspect of Aboriginal technology. Each sequence recommends use of a text from the series *Aboriginal Technology* as a stimulus, but it is not essential; other available texts and visuals could be substituted.

#### **Key Resources:**

Alex Barlow (1994) *Aboriginal Technology: Fibrecraft*

Alex Barlow (1994) *Aboriginal Technology: Housing*

Alex Barlow (1994) *Aboriginal Technology: The Spear*

Alex Barlow (1994) *Aboriginal Technology: Trade*

Alex Barlow (1994) *Aboriginal Technology: Watercraft*

Alex Barlow (1994) *Aboriginal Technology: Women's Technology*

Publisher: Macmillan Education Australia Pty Ltd (1994).

#### **Reference:**

*Working with Aboriginal Communities: A Guide to Community Consultation and Protocols*, 2000, Board of Studies NSW.

We gratefully acknowledge

- the Australian Museum for making available images from the Thomas Dick Collection
- the Powerhouse Museum for images from the Bayagul Exhibition
- Walhallow Public School for photographs of community artefacts.

Outcomes addressed in this unit

### **ENGLISH**

#### ***Talking and Listening***

##### **TS3.1**

Communicates effectively for a range of purposes and with a variety of audiences to express well-developed, well-organised ideas dealing with more challenging topics.

##### **TS3.2**

Interacts productively and with autonomy in pairs and groups of various sizes and composition, uses effective oral presentation skills and strategies and listens attentively.

## ***Reading***

RS3.5

Reads independently an extensive range of texts with increasing content demands and responds to themes and issues.

RS3.6

Uses a comprehensive range of skills and strategies appropriate to the type of text being read.

## ***Writing***

WS3.9

Produces a wide range of well-structured and well-presented literary and factual texts for a wide variety of purposes and audiences using increasingly challenging topics, ideas, issues and written language features.

WS3.12

Produces texts in a fluent and legible style and uses computer technology to present these effectively in a variety of ways.

## **MATHEMATICS**

### ***Measurement***

M3.7

Uses 24 hour time and am and pm notation to read, construct and interpret timetables and timelines in real-life situations.

## **HSIE**

### ***Cultures – Identities***

CUS3.2

Describes different cultural influences and their contribution to Australian identities.

### ***Cultures – Cultural Diversity***

CUS3.4

Examines how cultures change through interactions with other cultures and the environment.

### ***Environments – Relationships with Places***

ENS3.6

Explains how various beliefs and practices influence the ways in which people interact with, change and value their environment.

### ***Social Systems and Structure – Resource systems***

SSS3.7

Describes how Australian people, systems and communities are globally interconnected and recognises global responsibilities, cultural influences and their contribution to Australian identities.

## **SCIENCE AND TECHNOLOGY**

### ***Built environments***

BES3.1

Creates and evaluates built environments demonstrating consideration of sustainability and aesthetic, cultural, safety and functional issues.

### ***Living Things***

LTS3.3

Identifies, describes and evaluates the interactions between living things and their effects on the environment.

### ***Products and Services***

PSS3.5

Creates and evaluates products and services, demonstrating consideration of sustainability, aesthetic, cultural, safety and functional issues.

### ***Investigating***

INVS3.7

Conducts their own investigations and makes judgements based on the results of observing, questioning, planning, predicting, testing, collecting, recording and analysing data, and drawing conclusions.

### ***Designing and Making***

DMS3.8

Develops and resolves a design task by planning, implementing, managing and evaluating design processes.

### ***Using Technology***

UTS3.9

Evaluates, selects and uses a range of equipment, computer-based technology, materials and other resources to meet the requirements and constraints of investigation and design tasks.

## **CREATIVE ARTS**

### ***Visual Arts - Making***

VAS3.1

Investigates subject matter in an attempt to represent likenesses of things in the world.

VAS3.2

Makes artworks for different audiences, assembling materials in a variety of ways.

### ***Drama***

DRAS3.2

Interprets and conveys dramatic meaning by using the elements of drama and a range of movement and voice skills in a variety of drama forms.

## Resources

<p><b>Learning Sequence 1</b> <b>What is technology?</b></p> <ul style="list-style-type: none"> <li>• <i>Aboriginal Technology: The Spear</i></li> <li>• Large sheets of paper</li> <li>• Pens</li> <li>• Pictures, books and artefacts of Aboriginal hunting technology (spears, woomeras, etc.)</li> <li>• Pictures # 1, 2, 3, 4, 5</li> <li>• Student worksheet 1- <i>Artefact research</i></li> <li>• Student work sample 1 - <i>Mind map</i></li> <li>• Student work sample 2 - <i>Spear technology</i></li> <li>• Student work sample 3 - <i>The barbed spear</i></li> <li>• Creating a shield images</li> </ul>	<p><b>Learning Sequence 2</b> <b>Bushfood</b></p> <ul style="list-style-type: none"> <li>• <i>Aboriginal Technology: Women's Technology</i></li> <li>• Mortar and pestle</li> <li>• Wheat and grass seeds</li> <li>• Ingredients and equipment to make damper</li> <li>• Collecting pippies</li> <li>• Pictures #6, 7, 8, 9, 10</li> <li>• Student worksheet 2 - <i>How to make damper</i></li> <li>• Student work sample 4 - <i>grinding wheat</i></li> <li>• Student work sample 5 - <i>Making damper</i></li> <li>• <i>Emu, Brolga and the Grinding Stone</i> text #11</li> <li>• Camera</li> <li>• Strips of cardboard</li> <li>• Large sheets of paper</li> </ul>	<p><b>Learning Sequence 3</b> <b>Natural fibres</b></p> <ul style="list-style-type: none"> <li>• <i>Aboriginal Technology: Fibrecraft</i></li> <li>• Pictures #12, 13, 14, 15, 16, 17, 18</li> <li>• Cardboard</li> <li>• Wool</li> <li>• Books, pictures and examples of fibrecraft</li> </ul>
<p><b>Learning Sequence 4</b> <b>Give me shelter!</b></p> <ul style="list-style-type: none"> <li>• <i>Aboriginal Technology: Housing</i></li> <li>• Large sheets of paper</li> <li>• Books and posters depicting a variety of Aboriginal houses (modern and traditional)</li> <li>• Pictures #19, 20, 21</li> <li>• A4 paper and pencils for sketching</li> <li>• Student worksheet 3 - <i>Group management sheet</i></li> <li>• Natural materials found in the immediate school environment</li> <li>• Student work sample 6 - <i>Sketches of shelters</i></li> <li>• Student work sample 7 - <i>A model shelter</i></li> </ul>	<p><b>Learning Sequence 5</b> <b>Watercraft</b></p> <ul style="list-style-type: none"> <li>• Books, pictures and resources about watercraft</li> <li>• Pictures #22, 23, 24</li> <li>• A4 paper</li> <li>• Student work sample 8 - <i>Sketches of watercraft</i></li> <li>• Natural materials, eg bark, twigs and leaves</li> <li>• Large container of water</li> <li>• Large sheet of graph paper</li> <li>• Stopwatches</li> <li>• Cardboard strips</li> <li>• Camera</li> </ul>	<p><b>Learning Sequence 6</b> <b>Traditional Lifestyle</b></p> <ul style="list-style-type: none"> <li>• <i>Aboriginal Technology: Trade</i></li> <li>• Pictures #25, 26</li> <li>• Student work sample 9 - <i>A list of needs and wants</i></li> <li>• Reading 1 - <i>A sharing community</i></li> <li>• Poem: <i>Ballad of the Totems</i></li> <li>• Student worksheet 4 - <i>Needs and wants</i></li> <li>• Powerhouse Museum images</li> </ul>

**Learning Sequence 7****Culminating activity:**

- All available resources including pictures and websites
- Student work completed during the unit
- Video camera and tape, props, etc

or

- All available resources
- Student work completed during the unit
- Retrieval chart

## Learning sequences

Outcomes	Processes
TS3.2 RS3.5 RS3.6 WS3.12 M3.7 LTS3.3 PPS3.5 INVS3.7 DMS3.8 UTS3.9 VAS3.1	<p><b><i>Learning sequence 1</i></b></p> <p><b>WHAT IS TECHNOLOGY?</b></p> <ul style="list-style-type: none"> <li>• Pose the question: ‘What is technology?’ Suggested discussion prompts: What technology do we use at school? What is the meaning of ‘technology’ in the dictionary? Discuss the broader use of technology as used in the syllabus. Why do we need technology? Who uses technology? Why is technology important in our lives? What innovations and adaptations has technology allowed us to make? Does all technology depend on electricity? Give examples. How has technology led to long-term change of our environment? Name an invention that has been useful and explain why. Is all technology ‘modern’? Why? Why not?</li> <li>• In small groups, students brainstorm inventions they consider to be ‘old’ technology. Groups report responses to whole class, teacher scribes list for display. (<i>See student work sample 1.</i>)</li> <li>• Pose the question: ‘Is technology important in our lives?’ (Give examples of medical advancement, food technology, housing.) Invite students to discuss jobs their parents do, the different tasks they undertake at home, and the technology they use.</li> <li>• Discuss ‘What kinds of technology do Aboriginal people use today?’ View one or two Aboriginal community websites, eg <b><a href="http://www.tobwabba.com.au">www.tobwabba.com.au</a></b> <b><a href="http://www.wettpics.gov.au/rah/rah_cult_tourism.html">www.wettpics.gov.au/rah/rah_cult_tourism.html</a></b></li> </ul> <p>Possible discussion points: In what ways do Aboriginal communities use</p> <ul style="list-style-type: none"> <li>- websites to sell artefacts and fabrics?</li> <li>- computers to run community medical centres and other enterprises?</li> <li>- media and local radio and television production?</li> <li>- manufacturing technology for businesses?</li> </ul> <ul style="list-style-type: none"> <li>• Teacher reads <i>Aboriginal Technology: The Spear</i> to the class. Possible discussion points: What hunting technology, developed by the traditional Aboriginal people, assisted in their survival? Why were these tools important? Were they tools, weapons or both? How were they developed over time? Are these tools used today? In what way?</li> </ul>

	<ul style="list-style-type: none"> <li>• In small groups, students view pictures and/or artefacts of traditional Aboriginal hunting technology eg fishing spears, composite spears, barbed spears, harpoons. Pictures may be sourced from a local historical museum. <b><a href="http://www.hogarthartsaustralia.8k.com/home.htm">www.hogarthartsaustralia.8k.com/home.htm</a></b> <b><a href="http://www.nla.gov.au/nla.pic-an5600392">www.nla.gov.au/nla.pic-an5600392</a></b></li> <li>• Display pictures of spears and weapons #1, #2, #3, #4 from Walhallow P.S. and <i>Aboriginal Technology: The Spear</i> (pp 19 and 21) and Aborigines with spears and shields #5 from <i>The Lycett Album</i>.</li> <li>• Each group selects one item to research. Using <b>student work sheet 1</b>, researches their selected artefact and reports their findings to the class (<i>see student work sample 2</i>). Using computer technology, students publish their reports and add to class display with artefacts, books and pictures (<i>see student work sample 3</i>).</li> <li>• Show Thomas Dick Collection photographs of men creating a shield from a tree.</li> </ul> <p><i>EXTENSION ACTIVITIES</i></p> <ul style="list-style-type: none"> <li>- Visit a local museum or invite a community member to show and discuss traditional hunting technology. Did both men and women have a responsibility for hunting?</li> <li>- Visit or invite a guest speaker from the local Aboriginal Council to talk about technology and hunting in the local area.</li> <li>- Create a timeline of the development of hunting technology.</li> <li>- Paint a traditional hunting scene using natural colours.</li> <li>- Compare the types of traditional Aboriginal spears with those from another ancient culture.</li> <li>- Collect rock and wood samples. Develop a table of their properties. Discuss suitability for tool and weapon manufacture. Display.</li> <li>- Organise a walk around the local area and identify native trees, shrub and plant species that would have been used by Aboriginal people.</li> <li>- Research Australian animal tracks. Make models in sand and create plaster casts. Display with tags to identify each animal. Students may wish to make a cast of their footprint!</li> </ul>
TS3.2 RS3.5 ENS3.6 WS3.9 LTS3.3 PSS3.5 INVS3.7 DMS3.8 UTS3.9	<p><b><i>Learning sequence 2</i></b>  <b>BUSHFOOD</b></p> <ul style="list-style-type: none"> <li>• Pose the question: What are the four essential items needed for human survival? (food, shelter, fire and water)</li> </ul> <p>Suggested discussion points:</p> <p>What roles did men have in traditional Aboriginal communities?  Women also had important roles; what do you think they were?  How do you think children contributed to community life?  What roles do people in your family have?  How do you contribute to your household?</p>

Are the roles for women, children and men different in today's Aboriginal and non-Aboriginal families?  
Why is it important that everybody cooperates and contributes to community life?

- Read '*Aboriginal Technology: Women's Technology*'. Students list the roles of traditional Aboriginal women and the types of technology developed, both traditional and contemporary. Invite students to share their information. Teacher scribes list for display.
- As an additional or alternative activity: Invite an Aboriginal woman to discuss the role of women in traditional communities and the variety of technology they created to fill their needs.
- Show Thomas Dick Collection photographs of women collecting pippies and cooking them in a sand oven.
- Pose the question: 'Why was it so important for traditional Aboriginal women to have knowledge about food preparation?'  
Discussion prompts:  
How would the women know where to find the food?  
Would the seasons affect what the community ate? Why?  
In what ways would they prepare and cook their food?  
What safety precautions would they take?  
How do we prepare our food?  
What will occur if we do not prepare our food properly?  
How do we keep safe in the kitchen?
- Use the National Parks and Wildlife Service website for information. [www.npws.nsw.gov.au/culture/abori\\_01.htm](http://www.npws.nsw.gov.au/culture/abori_01.htm)
- Explain that most traditional Aboriginal communities harvested seeds of native millet, which only grows in the summer months. Some groups overcame the problem by gathering the grass seeds while they were green and stacking them in heaps until they ripened. Seed-grinding stones were larger and flatter than stones used to grind other plants. Show pictures of carrying dish from *Aboriginal Technology: Women's Technology* (Barlow, p 9), #6, #7, #8 from *Bush Food Aboriginal Food and Herbal Medicine*, (Isaacs, cover) and *Aborigines Feeding from Beached Whales* from *The Lycett Album*.
- Activity: Show children a mortar and pestle. Place some wheat or grass seeds inside. Invite students to grind the seeds to flour (best done outside the classroom). Some students may wish to experiment with trying to grind the seeds with stones. (*See student work sample 4.*) Discuss what students would mix with the seed flour to make bread, how they would cook it if a stove was unavailable, the difficulties they could have and the amount of time it would take to grind enough seeds to make a loaf of bread.

- Review the rules of kitchen safety, cooperation and hygiene. Distribute copies of **student worksheet 2**, equipment and utensils. Read the instructions and discuss. In small groups, students prepare and make damper.
- Alternate activity: read *Johnny Cakes* from Big Mob Books For Little Fullas. Make johnny cakes with the students using the procedure from the text.
- Take photographs of students preparing and eating the damper (*see student work sample 5*).
- Discuss the following: Would you like to prepare and eat bread in the traditional Aboriginal way? Give reasons why.
- Visit a local supermarket or show students some of the range of bushfoods sold today. A tasting may also be able to be arranged through contact with a local restaurant. These may include lemon myrtle tea, macadamia ice-cream, wattle seed damper, wild tomato cheese, rosella jam.
- Show images of bushfood (#9, #10).

*EXTENSION ACTIVITIES:*

- Use *Emu, Brolga and the grinding stone* as a model and ask students to write a Dreaming story about a cooking utensil. (See copy of text from *Aboriginal Technology: Women's Technology* p 21) #11
- Research activity: Ask students to research the life cycle of an Australian bird, reptile or insect. Discuss the importance of this knowledge to traditional Aboriginal communities. What were the restrictions applied to Aboriginal totems?
- Encourage students to try grinding grain seeds with two rocks. Discuss the outcome.
- Research medicines used by Aboriginal communities – where were they found and how were they prepared? Are these medicines used today?
- Discuss with a guest speaker or research Aboriginal health issues today and compare them with traditional communities, eg sugar, breads, alcohol, processed food, variety of protein foods.
- Organise a food festival. Each student brings in a plate of their favourite food and the recipe used to make it. Create a class recipe book.
- Design a menu for 'The Bush Tucker Restaurant'.
- Grow wheat from seeds. Record growth. Investigate the process of bread making from the farm to the table.
- Bake a 'damper' by using wheat seeds (grind with a coffee grinder to speed up the process). Compare and contrast the taste of this bread to damper produced using the recipe supplied for this lesson sequence.

<p>TS3.1 PSS3.5 INVS3.7 DMS3.8 UTS3.9 VAS3.1 VAS3.2</p>	<p><b>Learning sequence 3</b> <b>NATURAL FIBRES</b></p> <ul style="list-style-type: none"> <li>• Pose the question: Where would the materials to make baskets be found? Suggested discussion points: Could traditional Aboriginal people go to a shop and purchase ropes and fishing lines? How would they go about making such items? Who would know where to find them? How would they know the procedures to make useful items? What do they use today?</li> <li>• How do Aboriginal people use fabric and fibres today?</li> <li>• Show images of fabrics and clothes made by Aboriginal craftspeople today #12, #13.</li> <li>• Display the pictures #14 # 15 from pp 15 and 19 <i>Aboriginal Technology: Fibrecraft</i>, #16 Eel traps from <i>Affirmations of Identity Kit</i>, 2000, #17, #18 dilly bags from Walhallow</li> <li>• Organise a walk around the school. Students identify and discuss grasses, plants and trees that could possibly be useful in the making of ropes and baskets. Teacher takes a sample of each, if possible. In the classroom, small groups experiment with samples to see whether they are useful. Discuss the findings with the class.</li> <li>• Read <i>Aboriginal Technology: Fibrecraft</i> or similar text about traditional Aboriginal weaving and rope making. During the reading, students create a database of items made from natural fibres and their uses.</li> <li>• Use the following website to view a variety of examples of baskets and other artefacts. <b><a href="http://www.ingarnendi.samuseum.sa.gov.au">www.ingarnendi.samuseum.sa.gov.au</a></b></li> <li>• Discuss other types of fibrecraft that are used to make garments and household items, eg tatting, knitting, crocheting, finger-knitting, plaiting.</li> <li>• Using the Alex Barlow texts and other sources ask the students to work in small groups, and research the procedure for making an essential item, such as a rope or dilly bag. Why would these items be considered essential? Supply each group with balls of wool, thick cotton or string to design and test an item. Ask the students to write the procedure onto an activity card.</li> <li>• Set up the activity cards for each of the procedures with a range of fibres on separate tables around the classroom.</li> </ul>
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	<ul style="list-style-type: none"> <li>• Explain to the class that their task is to attempt to follow the procedures and begin to make two useful items. Students move from table to table, using the wool and activity cards. At the conclusion of the activity, students discuss activities attempted and their end results. Display cards and student attempts with pictures and books depicting traditional Aboriginal fibre craft.</li> <li>• Pose the question: Why was it difficult for us to make these items? Possible discussion prompts: Has someone who has had experience showed us how to do this? What inferences/conclusions can we make about the richness of traditional Aboriginal life from our attempts to make these items? Is weaving and rope-making a tradition? How are traditions handed down? Is it difficult to knit something without being shown? What traditions are handed down in your family? (eg knitting, crocheting, sewing). Who instructed you? Why aren't many traditions/practices and artefacts passed along in modern families? How did traditional Aboriginal people hand down their knowledge? (Oral history) What do 'practice makes perfect' and 'necessity is the mother of invention' mean? Do you think these sayings apply to making these items? Why?</li> <li>• Provide students with a range of fibres and encourage them to plait or weave a wristband, headband or bookmark. They may like to use the colours of the Aboriginal flag.</li> </ul> <p><i>EXTENSION ACTIVITIES</i></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Research string games like 'cat's cradle'. Encourage students to develop their own patterns using a piece of wool. Ask parents for ideas.</li> <li><input type="checkbox"/> Invite a representative from the local Aboriginal community to show fibre craft and demonstrate various methods used.</li> <li><input type="checkbox"/> Weave a small item using wool on a cardboard loom.</li> <li><input type="checkbox"/> Investigate how rope is made today. What materials are used?</li> <li><input type="checkbox"/> Develop a database of native flora that can be used in fibre craft.</li> <li><input type="checkbox"/> Label the native flora in the school and identify the uses by traditional Aboriginal people. Invite a member of the local Aboriginal community to assist.</li> <li><input type="checkbox"/> Publish a procedure for string games in the school newsletter, inviting others to participate and share.</li> <li><input type="checkbox"/> Record an oral family history on a cassette. Play for the class. Include other family members if appropriate. Identify similarities and differences in traditions.</li> </ul>
TS3.2 CUS3.2 CUS3.4 ENS3.6 BES3.1 INVS3.7	<p><b><i>Learning sequence 4</i></b>  <b>GIVE ME SHELTER!</b></p> <ul style="list-style-type: none"> <li>• Recall the four main survival needs - food, water, shelter and fire. Pose the question: 'Why do we need shelter?' What kind of shelter do we need? Do we have the same kind of houses?</li> </ul>

DMS3.8  
UTS3.9

Why would our houses be different from others?  
Give other names for forms of shelter (eg cave, demountable classroom, house, igloo, tembe, longhouse, flat, unit, caravan).

- Divide a large sheet of paper in half. On one side of the paper write 'permanent' and on the other side of the paper, write 'temporary'. Discuss what we mean by 'permanent' and 'temporary' and why there is a need for both.  
Brainstorm houses that are permanent and temporary. Discuss the reasons why we have two types of shelter and give situations where one type of shelter is better than another.
- Ask the question: 'What does "terra nullius" mean?'  
Suggested discussion points:  
Why did the first colonisers think that Aboriginal people did not own the land?  
What do we understand 'ownership' to mean in western society?  
National parks are something we 'own' as a society. What does that mean? Why do we have them?  
Why did the Aboriginal people consider the British to be invaders?  
What does a 'nomadic lifestyle' mean?  
Look at a map of the local area. Who were the traditional owners of the local area? Examine the topography and discuss the students' knowledge of the seasons and weather for the area. (Horton, *The Encyclopaedia of Aboriginal Australia: Aboriginal and Torres Strait Islander History, Society and Culture* would be a useful source)  
What type of shelter would be needed in different seasons?  
Where would be the best place to find/construct shelter?  
What would influence the movements of Aboriginal people in the environment? (eg seasons, weather, food)  
Discuss seasonal movements within a defined area. How is this the same as/different from a 'nomadic' lifestyle?  
If you were to become nomadic, how would your lifestyle change?
- Read *Aboriginal Technology: Housing* (Barlow 1994) if available. Discuss types of houses. Display books and posters depicting a variety of traditional Aboriginal houses.
- Discuss with the class how Aboriginal tribes moved sites according to seasons and food supply. Many built different styles according to the season, eg a winter house, a summer house. The houses were generally open as the space around them was considered part of the house.
- In small groups, students use all available resources and research types of houses used by the traditional Aboriginal people. Students sketch at least 3 types of houses and write a description of each one (*see student work sample 6*). Display.
- Display and discuss a range of different houses **#19, #20, #21**

	<p><i>Aboriginal Technology: Housing</i> (pp 9, 17, 23).</p> <ul style="list-style-type: none"> <li>• Distribute <b>student worksheet 3</b>. Explain to students that their task is to construct a model of a temporary structure using natural materials found in the local environment. The model must have ‘poles’ of some sort. Nails, glue or pins are not allowed! (<i>See student work sample 7.</i>) A procedure must be published to explain how the model was constructed. Each group member must contribute to the task.</li> <li>• Groups give a short presentation to the class, reporting on the difficulties they overcame, how they would do things differently next time and how they would feel about sleeping in a full-scale version of their construction.</li> <li>• Discuss: ‘How did traditional Aboriginal people use their technology to assist in the construction of houses?’</li> <li>• Class devise a book called ‘Houses’, using the published procedures and photographs of completed models. Display in the school library for all to share.</li> </ul> <p><i>EXTENSION ACTIVITIES</i></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Research traditional houses of another culture. Compare and contrast.</li> <li><input type="checkbox"/> Create a poetry book called ‘My home’ from children’s writing.</li> <li><input type="checkbox"/> Create a PowerPoint presentation using photographs of constructed models. Use Warumpe Band <i>My Island Home</i> as the theme music.</li> <li><input type="checkbox"/> Encourage students to sleep out one night (in a tent or home-made shelter). Discuss feelings and interesting facts.</li> <li><input type="checkbox"/> Arrange a walk around the local area, identifying how people have modified their homes to suit their needs eg use of materials, elevated for airflow, breezeways ‘Queenslander’, sustainability.</li> <li><input type="checkbox"/> Talk with the local Town Planner about how councils plan to suit the needs of the community.</li> <li><input type="checkbox"/> Invite a speaker from the local Aboriginal community to talk about traditional houses.</li> <li><input type="checkbox"/> Design a temporary shelter of the future, eg bus, tent, caravan, car.</li> </ul>
<p>TS3.1 TS3.2 CUS3.4 PSS3.5 INVS3.7 DMS3.8 UTS3.9</p>	<p><b><i>Learning sequence 5</i></b> <b>WATERCRAFT</b></p> <ul style="list-style-type: none"> <li>• Brainstorm the types of boats we use for trade, transport and recreation.</li> </ul> <p>Pose the question: ‘Why do we use boats?’ Why do we have so many different types of boats? How did the early European explorers discover new places? What method of travel do you think the first Aboriginal people would have used to travel to Australia? Would we use a rowboat in the middle of the ocean?</p>

What are boats made from?  
 What natural materials would traditional Aboriginal people have used to make boats?  
 Is a raft a temporary form of transport?  
 Why are boats important for the people who live on an island continent?

- Display the examples of Aboriginal watercraft #22, #23, #24 from *Aboriginal Technology: Watercraft* (pp 13, 23, 27).
- Using all available resources, students create a database about the three main types of watercraft used by traditional Aboriginal people (dugout canoe, bark canoe and raft). The database should include the following: evidence of watercraft use, how it was made, a sketch of the craft and why it was developed. Invite students to share information with other groups after a period of time. Display databases with pictures.
- Students design and make an example of watercraft (*See student work sample 8*). Students use natural materials such as leaves, bark, twigs and string, to create a model of their craft from their design. Take photographs of models and their creators!
- Students give a short presentation about the construction of their vessel. Students predict if their watercraft will float or sink, giving reasons why.
- Use a large container of water for the students float their models. Use a stopwatch to time how long the model stays afloat. Record on a chart. Discuss results of the experiment. Encourage students to identify the influence of characteristics such as shape, construction materials, weight, stability and buoyancy with the length of time afloat. Students may wish to add small weights to represent passengers, goods or food.
- Pose the question: ‘How would the development of watercraft have helped traditional Aboriginal communities?’  
 Suggested discussion points:  
 How would a raft help a community living on the edge of a river?  
 What would occur if the men caught a large turtle or whale?  
 How would they bring the catch back to shore if they were using a bark canoe?  
 What distances did men travel by boat?  
 How did they develop an understanding of the prevailing winds?  
 Do you think different communities use different types of watercraft?  
 Why would this happen? (practical uses, availability of materials)
- On strips of cardboard, students write statements about traditional Aboriginal watercraft, their technological development and uses. Display with models, natural materials used, photographs,

	<p>databases and sketches. Invite others to view the display.</p> <p><i>EXTENSION ACTIVITIES</i></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Publish an article for the school newsletter about the model watercraft experiment.</li> <li><input type="checkbox"/> Research the theories surrounding the arrival of the first Aboriginal people to Australia. Write an exposition about the theory most favoured.</li> <li><input type="checkbox"/> Conduct a school model canoe competition. Give certificates for a variety of categories (devised by students).</li> <li><input type="checkbox"/> Invite a representative from the local Aboriginal community to speak about watercraft and the technology involved.</li> <li><input type="checkbox"/> Design a temporary boat of the future. Label the important characteristics. Write an adventure story to match!</li> <li><input type="checkbox"/> Examine watercraft from other cultures. Compare and contrast with traditional Aboriginal watercraft.</li> </ul>
<p>WS3.9 CUS3.2 CUS3.4 ENS3.6 SSS3.7 PSS3.5</p>	<p><b><i>Learning sequence 6</i></b> <b>TRADITIONAL LIFESTYLE</b></p> <p>View one or more of the following websites to initiate this sequence <b><a href="http://www.tobwabba.com.au">www.tobwabba.com.au</a></b> <b><a href="http://www.wettropics.gov.au">www.wettropics.gov.au</a></b> <b><a href="http://www.hogarthartsaustralia.8k.com">www.hogarthartsaustralia.8k.com</a></b> <b><a href="http://www.aboriginalartonline.com/regions/topend3.html">www.aboriginalartonline.com/regions/topend3.html</a></b></p> <ul style="list-style-type: none"> <li>• Pose the question: ‘What were the main features of traditional Aboriginal lifestyle?’ What does ‘lifestyle’ mean? Suggested discussion points: Is there an ‘Australian’ lifestyle? In traditional Aboriginal communities, what did people need? How were their needs met? What impacts on ‘lifestyle’? Did communities spend all their time hunting and gathering? What other activities did members of the community undertake? In today’s society, what are our needs? How do you go about getting something you want? What are the differences in how we meet our needs and traditional Aboriginal communities met their needs?</li> <li>• Discuss with the class their understanding and perceptions about traditional Aboriginal lifestyle. Ask students if these have changed as they have been involved in this unit. Ask where their original ideas came from. Discuss stereotyping of communities, eg Aboriginal, Middle-Eastern, Asian.</li> <li>• Students write a brief description of what they now know about how Aboriginal communities spent their time. They may like to revisit the websites from earlier in the unit.</li> <li>• In small groups, students create a list of needs and a list of wants</li> </ul>

(see student work sample 9). Invite students to share their responses. Discuss the importance of items on the list of ‘wants’. How do we meet our ‘needs’?

- Distribute **Reading 1: A Sharing Community**. Students take turns at reading aloud. Invite students to comment on the importance of trading, sharing and gift-giving in traditional Aboriginal communities. This is a significant part of contemporary community cohesion. Discuss the issue of learning more about other cultures and religious beliefs. Encourage students to brainstorm ways we could show tolerance to others.
- Display and read the poem *Ballad of the Totems* by Oodgeroo Noonuccal (Kath Walker) and discuss the importance of totems. What might be considered to have a similar significance in our culture or Chinese culture?
- Show students the trade routes for pearl shell trading from *Aboriginal Technology: Trade* p 23 #25. Discuss. From *Aboriginal Technology: Trade* pp 7, 8 #26 some pearl shell necklaces.
- **Distribute student worksheet 4**. Explain to students that they will be trading ‘goods’ with other class members. Cards need to be cut out neatly for this activity and all cards must be traded. Choose two students to role-play the activity first. Discuss end results.
- Pose the following question: Does trading give you what you need or what you want?  
Possible discussion points:  
What is the difference between sharing and trading?  
Do you think trading is a fair system? Why?  
Is it a good idea to share abundant foodstuffs with neighbours?  
Did traditional Aboriginal people trade a lot of food?  
What is self-sufficiency?  
Do you think Aboriginal people today trade and share goods and services? Give reasons.  
Do you share food with your neighbours? Why/why not?  
Do we trade today? How?  
What about Trading cards? Do they count?
- Students publish a recount of their experience in trading in the classroom. Publish using computer technology. Invite students to share their recounts with the class. Display with pictures and books of items traded.
- Investigate the range of commercial activities in which contemporary Aboriginal communities and individuals are involved, eg fashion, media, arts, tourism, architecture, film. The Powerhouse Museum *Bayagul: contemporary Indigenous communication* exhibition is an excellent source of information and examples. There is a book available from the Powerhouse to

	<p>support the exhibition.</p> <ul style="list-style-type: none"> <li>• Show students #27 which illustrates contemporary Aboriginal initiatives from the Bayagul exhibition.</li> <li>• <a href="http://www.phm.gov.au/exhibits/exib_new/bayagul/">www.phm.gov.au/exhibits/exib_new/bayagul/</a></li> <li>• Use the Gavala website to view a range of artefacts and products <a href="http://www.gavala.com.au">www.gavala.com.au</a></li> </ul> <p><i>EXTENSION ACTIVITIES</i></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Design and make a card game called ‘Trade’. Develop rules and share with others.</li> <li><input type="checkbox"/> Develop a trading system for jobs at home. Use computer technology to devise a table that is realistic. For example, make the bed = 10 minutes television time. Try it for a week. Discuss results.</li> <li><input type="checkbox"/> Research imports and exports in Australia. Write a discussion about the importance of trade in our country today.</li> <li><input type="checkbox"/> Investigate where your favorite food comes from. Does it have preservatives and additives? Is it fresh? How does it get to Australia and stay fresh?</li> <li><input type="checkbox"/> Design a survey to use in the supermarket. Find out where foods come from. Graph results and discuss findings.</li> <li><input type="checkbox"/> Invite a representative from the Australian Quarantine Service to visit the school to discuss the movement of goods into our country.</li> <li><input type="checkbox"/> Investigate the rules involved in the taking of food interstate.</li> <li><input type="checkbox"/> Invite a guest speaker to talk to students about the significance of totems to Aboriginal people or research totems and their importance.</li> </ul>
<p>TS3.1 TS3.2 DRAS3.2</p>	<p><i>Learning sequence 7</i></p> <p><b>CULMINATING ACTIVITY</b></p> <ul style="list-style-type: none"> <li>• Divide class into 6 groups, one for each topic in the unit. Each group is to role-play a ‘Behind the News’ style program, interviewing and discussing the importance of technology in traditional Aboriginal communities. Each person in the group must contribute. Encourage students to use resources that have been made or displayed. The script must be published. Students could also video or photograph the segments and include an audio track.</li> <li>• Organise a morning tea for parents and neighbours of the class. Invite representatives from the local Aboriginal community. Show the students’ presentation. Encourage discussion of traditional and contemporary Aboriginal communities.</li> <li>• <b>Individual Research Task</b> Students identify and research for a class presentation an Aboriginal person who has contributed significantly to the development of ideas and promotion of Aboriginal culture. These people could come from a range of areas, eg science, media, arts, fashion, tourism, literature, government, architecture.</li> </ul>

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## Excursions

- Royal Botanical Gardens Sydney, *Cadi Jam Ora: First Encounters Garden*. A walk commemorating the Cadigal people and the land they called home. The display tries to capture their spirit by growing plants native to the site. Information 92318134
- Powerhouse Museum, *Bayagul: contemporary Indigenous communication* exhibition reflects and celebrates the vibrant voices and cultures of Indigenous Australia today.
- Australian Museum, *Indigenous Australians exhibition*, Hands-on Room allows children to experience Aboriginal technology first hand.
- Museum of Sydney on site of first Government House Corner of Phillip & Bridge Streets, Sydney Phone 02 92515988 fax 92525966. *Whose Place is it Anyway? A Teacher's Resources Kit*, intended for use in conjunction with the educational program at the Museum of Sydney.
- Walker, B, Pop, T & Pop, N, *Footprints on Rocks, Aboriginal Art of the Sydney Region*, Metropolitan Local Aboriginal Land Council Redfern, Sydney NSW. This book identifies many site locations that have either a totemic connection of significance or relate to actions of ancestral beings on the earth, of the hunting cycles or of ceremonial cycles of the Sydney clans.

## Websites

[www.hogarthartsaustralia.8k.com/home.htm](http://www.hogarthartsaustralia.8k.com/home.htm)

[www.schools.ash.org.au/elanorah/abspear.htm](http://www.schools.ash.org.au/elanorah/abspear.htm)

[www.npws.nsw.gov.au/culture/abori\\_01.htm](http://www.npws.nsw.gov.au/culture/abori_01.htm)

[www.ingarnendi.samuseum.sa.gov.au](http://www.ingarnendi.samuseum.sa.gov.au)

[www.tobwabba.com.au](http://www.tobwabba.com.au)

[www.wettropics.gov.au](http://www.wettropics.gov.au)

[www.aboriginalartonline.com/regions/topend3.html](http://www.aboriginalartonline.com/regions/topend3.html)

[www.austmus.gov.au/ahu/cultural.htm](http://www.austmus.gov.au/ahu/cultural.htm)

This website also identifies a number of Aboriginal Cultural Centres and keeping places all over NSW that could be used for excursions.

Powerhouse Museum, Sydney

[www.phm.gov.au](http://www.phm.gov.au)

National Library of Australia, Picture gallery

[www.nla.gov.au/nla.pic](http://www.nla.gov.au/nla.pic)

[www.dreamtime.net.au](http://www.dreamtime.net.au)

## Artefact Research

## Student worksheet 1

Name of technology (Has the name changed over time?)	
How was it made?	
How was it used?	
What innovations were made to improve or modify the design?	
Were there different designs? Describe.	
Who used them?	
How important was it to the traditional Aboriginal people?	
Who uses it today?	
Interesting facts	
Bibliography	

## How to make damper

## Student worksheet 2

You will need:

1 cup self-raising flour  
1/4 teaspoon baking powder  
1/4 teaspoon salt  
about 1 cup of water  
milk for glazing  
greased tray

Method:

1. Put the flour, baking powder and salt into a small bowl. Mix it around.
2. Make a well in the centre and pour in half of the water.
3. Mix slowly with your hands until you have a smooth ball.  
\* If the mixture is crumbly and dry, add more water. If it is sloppy and sticky, add more flour.
4. Flatten the damper slightly and place onto a greased tray. Brush the top with milk.
5. Bake for 30 minutes in an oven that has been preheated to 180°C.

## **Emu, Brolga and the grinding stone**

A story from the Nunggubuyu people in east Arnhem Land tells how Emu and Brolga fought over a grinding stone. Brolga always took care to gather only the best grass roots to grind and eat. Emu was lazy and gathered only old grass roots she could find. Brolga's roots were fresh, fat and juicy which meant that she could pound them flatter and then grind them more smoothly. They also tasted juicier and sweeter after she cooked them. Emu thought Brolga's roots were better because she had a better grindstone than Emu did. Certainly Brolga's stone had a well-worn smooth surface. So when Brolga wasn't looking Emu stole her grinding stone and swallowed it. Then they fought and Brolga hit Emu so hard on the back that Emu coughed up the missing grinding stone.

## Houses

## Student worksheet 3

**Aim:** *To create a model of a traditional Aboriginal house using materials from the natural environment. Pins, nails, glue etc are not permitted.*

**KEEP A RECORD OF MATERIALS USED AND THE STEPS INVOLVED IN MAKING THE HOUSE.**

**TAKE PHOTOGRAPHS TO RECORD THE EVENT AND USE THE PHOTOGRAPHS IN THE PROCEDURE.**

### Group Management Plan

Type of house to be constructed:	
<b>Group member</b>	<b>Responsibilities</b>
1.	
2.	
3.	
4.	
5.	
Due date:	
Difficulties that occurred and how we overcame them	
What we would change if we had to do this again!	
Self-assessment	

**A sharing community**

The exchange of artefacts and other goods among traditional Aboriginal people is often referred to as 'trade', but would be better described as 'exchange' or 'distribution'. Not only were different artefacts exchanged but also myths, corroborees, dances and songs and a range of raw materials such as ochre, spinifex gum.

Evidence suggests that ochre was one of the major items traded by the traditional Aboriginal people. A particular red ochre can only be found in few places in Australia. Scientists have found the remains of a man who had red ochre as body paint, a long way from where the ochre can be found. They believe that this could be the first type of trading by Aboriginal people.

Very little food was traded, but native tobacco was a common item exchanged. Traditional Aboriginal people moved to where the food was plentiful depending on the seasons, rather than take the food and move it. Their religious and cultural beliefs strongly influenced how they interacted with their environment and this meant they would leave enough plants and animals to allow reproduction for next year. They did not preserve food, so moving food over a long distance would not work. It would be wasted before they could exchange it. The care of the land also extended to burning areas to help regeneration.

If there was an abundant supply of one particular food, Aborigines would visit the area and they would feast there. Many traditional communities followed a pattern every year to find food, which led to the misconception of the British colonisers believing they were nomadic and led to the belief that Australia was 'Terra Nullius'. When food became scarce in their area, they would travel to another neighbouring area where food would be in abundance. Some communities, particularly those living near the coast, did not move far.

Aboriginal families and communities were happy to share with their neighbours. Issues of totems and relationships within families played a significant role in providing and sharing food. Not all things were shared. Some items that one community might need could be exchanged for items not required. As their technology developed, ideas were shared or traded as well. Skills and new knowledge would be exchanged, often for items of value. For example, the making of a certain type of spear or how to use new tools could be important to the survival of the community.

Traditional Aboriginal people did not use money, so goods did not have a price. An agreement was reached between the two parties and goods exchanged or distributed. The value of the goods was determined by how much each party needed a particular thing. Some of the items traded would be greenstones for axe heads, reed spear shafts, possum skin rugs, shells, necklaces, boomerangs, ochre, dilly bags, spearheads and plants. One person may trade a possum rug for pearls. Later, the pearls could be traded for spearheads, and so on. Hence, goods and technology could be traded across the country.

Trade allowed their daily lives to improve. It also meant that the exchanging of ideas and goods would build better relationships with other communities. A deeper understanding of the other community would lead to respecting differences and religious beliefs.

Gifts were exchanged as an important part of some ceremonies. Sometimes only special goods belonging to a particular ceremony are exchanged. Other times they would be given a 'payment' for doing a particular job in a ceremony.

Ceremonies were also traded. The ceremony was then passed to other communities, who could alter parts of the ceremony to suit. The ceremonies could then be passed to another group and this, in turn, meant that songs and dances would be communicated across large areas. Sacred ceremonies were not exchanged.

## Ballad of the Totems

By Oodgeroo Noonuccal

My father was Noonuccal man and kept old tribal way,  
His totem was the Carpet Snake, whom none must ever slay;  
But mother was of Peewee clan, and loudly she expressed  
The daring view that carpet snakes were nothing but a pest.

Now one lived right inside with us in full immunity,  
For no one dared to interfere with father's stern decree:  
A mighty fellow ten feet long, and as we lay in bed  
We kids could watch him round a beam not far above our head.

Only the dog was scared of him, we'd hear its whines and growls,  
But mother fiercely hated him because he took her fowls.  
You should have heard her diatribes that flowed in angry torrents  
With words you never see in print, except in D. H. Lawrence.

'I kill that robber,' she would scream, fierce as a spotted cat;  
'You see that bulge inside of him? My speckly hen make that!'  
But father's loud and strict command made even mother quake;  
I think he'd sooner kill a man than kill a carpet snake.

That reptile was a greedy-guts, and as each bulge digested  
He'd come down on the hunt at night as appetite suggested.  
We heard his stealthy slithering sound across the earthen floor,  
While the dog gave a startled yelp and bolted out the door.

Then over in the chicken-yard hysterical fowls gave tongue,  
Loud frantic squawks accompanied by the barking of the mung,  
Until at last the racket passed, and then to solve the riddle,  
Next morning he was back up there with a new bulge in this middle.

When father died we wailed and cried, our grief was deep and sore;  
And strange to say from that sad day the snake was seen no more.  
The wise old men explained to us: 'It was his tribal brother,  
And that is why it done a guy' – but some looked hard at mother.

She seemed to have a secret smile, her eyes were smug and wary,  
She looked as innocent as the cat that ate the pet canary.  
We never knew, but anyhow (to end this tragic rhyme)  
I think we all had snake for tea one day about that time.

