Permanent European settlement reached central Australia much later than other parts of Australia. In 1844 Charles Sturt led an expedition deep into the desert north of Adelaide, hoping to find an inland sea. Finding only desert, they returned exhausted to Adelaide. In 1848 Ludwig Leichhardt led an expedition to cross the continent from western Queensland to Perth. His party were never heard from again. In 1860 an expedition led by Robert O’Hara Burke set out to cross the continent from south to north. Burke and three other explorers, William Wills, John King and Charles Grey, successfully reached the Gulf of Carpentaria but on the return journey disaster struck. Charles Grey died from hunger and exhaustion before the party could reach the base camp which had been set up at Coopers Creek. When the remaining three arrived at the base camp they found it deserted. Burke and Wills subsequently died of starvation and exhaustion. Only King survived. He accepted the offer of assistance from the local Aboriginal people who looked after him until a rescue party arrived. John McDougall Stuart set out from Adelaide. His expedition successfully reached the Gulf of Carpentaria in 1862 and returned triumphant to Adelaide.

By 1880, a line of pastoral outposts in the western MacDonnell Ranges formed the edge of the settled districts. As police patrols and exploring and prospecting parties travelled west, some Aboriginal people moved east, crossing into the pastoral districts. The move was prompted by the easy availability of rations and cattle, and curiosity about the newcomers and their animals. This ebb and flow of desert people was accelerated by drought and starvation.

The great pastoral stations needed both land and cheap labour. Aboriginal people became vital to northern Australia’s cattle industry. A great number of Aboriginal people stayed on their traditional lands working as stockmen or housemaids. In return for their work, they were given rations, tobacco and some clothing. The industry relied on this workforce and in many instances may not have been able to survive without it.
During the late 1870s farmers began to replace the graziers in some areas. Some Aboriginal people were pushed off their land at this time. On northern cattle stations, the practice of ‘giving rations’ in return for work ended only when Aboriginal workers won a claim for equal pay in the 1960s.

In 1871 gold was discovered at Pine Creek, then in 1887 at Arltunga, east of what is present-day Alice Springs. This find brought miners and prospectors into the area. By 1926 a small town of 40 people resided in ‘Stuart’. Alice Springs was the name given to the local telegraph station until 1933 when the town officially became gazetted as Alice Springs. Provisions for the small community were brought via camel trains from the railhead at Oodnadatta and the Afghan cameleers were an important part of the opening up of this desert area.

In 1866 the Lutheran Church established a mission at Lake Killalpaninna and in 1877 at Hermannsburg, west of Alice Springs. By the mid-1900s hundreds of missions and government stations were set up across the desert areas of central Australia. The effects of the missions and stations was to control the movements of Aboriginal people and strip them of much of their cultural heritage. Traditional foods were replaced by an inadequate diet consisting mostly of flour, sugar and tea, and traditional spiritual and cultural practices were forbidden or at least actively discouraged.

In 1929 the railway line between Alice Springs and Adelaide was completed. Better road, rail and air transport as well as developments in communication meant a lessening of the isolation of the desert areas of central Australia.

Today, along with pastoralism and mining, tourism is one of the region’s main industries with thousands of people each year visiting premier attractions such as Uluru.

**Activities**

**Plan a desert expedition**

Have students work in pairs to plan a journey to somewhere in Australia’s central desert area. Using a map students should select a home and a destination. They should then select a mode of transport and decide the length of their journey. Once these have been decided they should carefully plan their trip. Have each pair of students fill out an expedition plan (see appendix 1).

**Research project**

Have students research Aboriginal people’s contribution to the pastoral industry in central Australia. They may do this as a general piece of research or by concentrating on a single pastoral station. The research should encompass the following points:

- when Aboriginal workers won their claim for equal wages
- what happened to many Aboriginal communities working on cattle stations when equal wages was introduced
- what contributions Aboriginal men and women have made to Australia’s pastoral industry
- the design of a cattle brand for the station.

**Toy construction**

Aboriginal children in the desert often used recycled materials such as wire to make their own toys. Have students construct a toy using wire and other recycled materials which they may find around their home or which are available in the classroom. Make a class display.

**Opening up the desert**

Explorers and missionaries were among the first Europeans to travel into the desert areas of central Australia. Have students research their journeys and fill in the sheet ‘Opening up the desert’ (see appendix 2).

**The Overland Telegraph Line**

Ask students to search the web to find out as much as they can about the Overland Telegraph Line between Adelaide and Alice Springs. Have students present their findings in the form of a three-dimensional display using maps, images, text and objects.

**Explorer’s diary**

Have students research the two expeditions to cross Australia from south to north. When they have completed their research ask them to imagine they are participating in one of the expeditions and are keeping a diary of what happens each day. For one week they should make a day-by-day entry in their diary. They may choose to begin their entries at the beginning of the expedition, in the middle or towards the end. Students could be working in pairs, one student keeping a diary for the Burke and Wills expedition and one for the Stuart expedition. At the end of the week students swap diaries and compare their imagined experiences. Students should be encouraged to illustrate their diaries with pictures of new things they encounter on their journey.

**Aboriginal perspective**

Divide the class into groups of four to six students. Have each group research the effects of European settlement on the Aboriginal people of central Australia. Ask each group to present their findings in a way that is not simply a research paper, e.g. as a performance, a large artwork, a three-dimensional display or a media piece.
For contemporary desert dwellers the preservation and revival of traditional material culture, including cultural arts, is an important means of retaining cultural identity and supplying income to communities when traditional subsistence is no longer viable. In some communities the effects of colonial government have extended beyond loss of traditional lifestyle to loss of language and family links. In such cases, retaining or rebuilding other forms of cultural expression is vital to the wellbeing of individuals and communities.

Africa

San cultural arts
Traditionally, the accumulation of material culture by hunter-gatherers is limited by their egalitarian and highly mobile lifestyle. This is true of the San who have no traditional ‘cultural arts’ separate from daily life. Storytelling, music and painting are as integral to daily life as making tools or clothing. There are no requirements in San society or religion for ceremonial art forms or objects of worship. There is however, a long tradition, dating back perhaps 20,000 years or more, of decorating personal items. Although these objects may be used in gift exchange or trade, they are not considered ‘art’ by the San and have no implications for social status. Today traditional objects are marketed alongside modern evolutions of traditional arts, to provide subsistence for San communities, through development organisations and community groups. Locally sourced materials such as: ostrich eggs, wood, roots, grasses, seeds, shells, skins, animal hair and horn, bones, insects and porcupine quills and introduced materials such as: iron, glass, beads, tins and wire are used to produce a range of goods for sale such as jewellery, bags, musical instruments, carvings and paintings. A blend of traditional and modern techniques, including carving, painting with both traditional materials and acrylics on a variety of objects and surfaces, beading, weaving, knotting, sewing and pyrogravure are used to make and decorate these items.

Music and dance
Music and dance are ubiquitous in San culture, serving a number of purposes. It may be introspective, personal and melancholic or vigorously communal and communicative. The San dance for ritual purposes, to celebrate and to play. Musical instruments, some borrowed from other cultures, are produced from a variety of materials. The most common is the traditional bow which may be used with a sound box or simply with the mouth. Drums are less common due to both the lack of ready materials and the San preferences for low, melodic sounds but other percussion instruments such as dance rattles and clapping grasses are widespread.

Modern San art
As the San have become sedentary, a growing art culture based on modern concepts of self-expression in art has emerged. This gives San artists an opportunity to record traditional stories and patterns, to reflect on and record
the land from which many have been displaced and the impacts of colonisation and modern societies on their cultural identity. A number of cooperatives support this work and artists are gaining respect and renown around the world, as are the artists of many Indigenous desert peoples.

**Herero cultural arts**

The cultural arts of the Herero pivot around the cattle farming culture. For these people, their cattle are not merely goods to be traded but are central to their life. As with the San, everyday objects have now also become a source of income and cultural expression in a global marketplace. The Herero produce a range of traditional crafts, associated with their cattle herding lifestyle, such as wooden jugs and leather containers, colourful dolls in traditional dress and intricately patterned baskets. Herero women’s traditional dress is elaborate and colourful, featuring a Victorian-style crinoline dress with many petticoats, usually in red, green and white and a distinctive headdress resembling cattle horns.

**South America**

Disease and dispossession by colonial governments since the 16th century, a strong emphasis on European culture and only limited recognition for Indigenous groups has resulted in great cultural losses in the Atacama. In the midst of this however, some Indigenous cultural arts survive. Dynamic cultural exchange between the desert coast and the high *puna*, as well as between successive empires throughout history have shaped the vibrant cultural traditions that exist today.

**Aymara textiles**

For the Aymara, and other related Andean peoples, textiles are central to culture. Much more than simple material for daily use, weavers produce designs unique to communities, that signify gender, age, wealth and social status. Many are considered sacred, used in rituals and ceremonial exchange, and have profound spiritual value, carrying the spirits of ancestors. They are passed on from one generation to the next with a great sense of reverence and responsibility. These cloths, traditionally made by women on a simple loom, are also remarkable for the beauty, complexity and durability of the designs. Many examples of ancient textiles survive, some thousands of years old, including some found in burials in the coastal Atacama.

Although the impacts of modern society have diminished the practice of some cultural traditions, such as silverwork, weaving skills survive and provide a means of financial and cultural survival for the Aymara. Demand by international collectors brings revenue to communities but has also raised the occurrence of theft which is a distressing cultural loss.

However, in a positive twist, this has stimulated the renewal of the Indigenous textile industry in many regions.

**Music and dance**

There is also a strong music and dance tradition in the Andes, consisting of both pre- and post-Spanish influences. Traditionally these are expressions of communal life, both religious and secular, which communicate and strengthen community values. Pre-Spanish Andean music had many characteristics shared across regions. The main instruments were flutes made of reed, clay, metal or bone and drums. The Spanish introduced guitars, harps, mandolins, violins, transverse flutes, and oboes and later, brass instruments. Inspired by the guitar, the Aymara invented a stringed instrument called the charango, made from armadillo shells, which is now a favourite Andean musical instrument.

**Mapuche cultural arts**

One of the oldest art traditions among the Mapuche is wood carving. Axes and hooks are used to carve both decorative arts and functional objects such as bowls, spoons, plates and large platters. Traditional design motifs include chickens, ducks, pigs and fish. Mapuche weaving and metal work are also important expressions of culture which continue today. Weavers use upright looms which are different from those of the Aymara, to produce colourful blankets, clothing and ceremonial pieces with geometric designs that recall the Inkas. Silver and precious
metalwork in the Mapuche culture dates back 500 years. Many of the objects, such as plates, bowls and spoons, were produced for domestic use but decorative shawl pins, hair ornaments and ritual objects were also made. Strikingly coloured woven cloaks and silver jewellery were both signifiers of wealth and social status. More recently, from the eighteenth century, silver coins were melted down or beaten for bridle and saddle ornamentation.

Music and dance
Music is fundamental to Mapuche culture and there are musical forms for social, ceremonial or religious life. Sacred music and dance accompany shamanic rituals. Unlike Andean musical culture only Mapuche individuals, rather than groups, sing accompanied by long cattle horn and bamboo instruments, wooden flutes and small drums.

Atacameños
The Atacameños, like other Indigenous desert dwellers have long traditions in weaving, as well as basketry and pottery which continue today. Traditionally, llama and alpaca wool or more commonly today, sheep and goat wool, are woven or knitted into shawls, caps and sashes. These were once traditional trade goods signifying wealth and social position. The Antofagasta region also produced distinctive ceramics from 1600 years ago. Burnished red ceramics were produced from 400 CE and from 900 to 1200 CE. Under the influence of the Tiwanaku empire, finely decorated, burnished black pottery objects, known as negra pulida were used for personal ornamentation, domestic containers and utensils and for consuming hallucinogens. Known for its delicate finish and design, it is also considered remarkable for the sophisticated and naturalistic representation of human figures. Although the original production technology is no longer used, the characteristic designs are being reproduced today.

Australia
In the deserts of Australia, art is a way of keeping a sense of identity — and a new way of making a living from desert knowledge. Pintupi men and women, who walked out of the Australian desert only a generation ago, now command an international market for their Western Desert paintings.

In the 1970s, Papunya Tula artists pioneered a renaissance in Australian desert art.

Papunya Tula
Papunya settlement, which lies 45 kilometres from the former ration depot at Haasts Bluff, was officially opened in 1960. In 1971, Geoffrey Bardon, an art teacher at the Papunya government settlement, situated 250 kilometres west of Alice Springs, encouraged men to transfer their stories onto linen or board. From this developed the prolific acrylic on canvas — a revolution of art of the desert people in Australia. The traditions of visual communication through age-old body, rock and ground paintings could in unison be transported, displayed, viewed and purchased by art lovers all over the world.

Profile of Pintupi Artist: Shorty Lungkata Tjungurrayi
Shorty Lungkata Tjungurrayi (about 1920–1987) was born at Walukuritji, south of Lake MacDonald. He probably arrived in Haasts Bluff around 1948. Shorty Lungkata Tjungurrayi was one of the most senior men in the Pintupi community at Papunya, renowned for his ritual authority, dancing and hunting skills. He was a founding member of the Papunya painting group. He raised the artist Linda Syddick Napaltjarri after her father died. She gained valuable experience and training by assisting with his work. Shorty Lungkata’s works appeared in exhibitions including The Face of the Centre (1985), Dreamings (1988–89), Mythscapes (1989), Aratiara (1993–94) and Twenty-Five Years and Beyond (1999). In the early 1980s, Shorty Lungkata moved to Walungurru to be closer to his country.
The Papunya Tula Company was set up by, and for, the artists who held their first major exhibition in central Australia in 1984. Their works are now a source of Pintupi identity and national pride.

Music
Aboriginal people today use both traditional and western music as a means of communication. In central Australia ownership of a song may be inherited and the owners are responsible for the representation of the ancestors through song and dance. Performances may only be accessible to certain people, for example men only, married women only and so on. In most ceremonies it is usual that some performers sing while others dance. Even in the performance of contemporary music many traditions are maintained. For example, the Central Australian Aboriginal Media Association (CAAMA), negotiates with family members before broadcasting any recordings. This keeps control of the music in Aboriginal hands.

Activities

1 Western desert painting (Australia)
(a) Have students research the art of Papunya and Utopia. The following questions could form the basis of their research.
(i) What is distinctive about Papunya art?
(ii) Why does Papunya art attract attention nationally and internationally?
(iii) What makes Papunya art a successful commodity both in Australia and throughout the world? Why has there been a great demand for Papunya paintings throughout the world?
(iv) How important is the art industry to the wellbeing of the Aboriginal artists’ communities?
(v) Do you think Papunya art continue to survive in the contemporary art world? Explain your answer.

(b) Ask students to choose a famous desert artist, such as Emily Kame Kngwarreye, to research in depth. The following questions could guide their research.
(i) Why do the works of Emily Kame Kngwarreye command international respect?
(ii) What made this artist’s work distinctive and recognisable?
(iii) Is Australian desert art considered to be significant by the European art world? Explain your answer.
(iv) What does this artist’s success suggest about Australian culture and identity?

2 Make an ocarina (clay whistle)
Have students make their own ocarina. Give them the following instructions.
1. Using self-hardening clay (no firing required), make two egg-shaped halves and stick them together to make a hollow form. This will form the body of the whistle.
2. Take a small piece of clay and attach it to the whistle. Line up the nozzle piece with the top of the ‘egg’. Make a hole through the nozzle and into the hollow using a skewer or other fine tool. Line up the stick with the inside top of the ‘egg’.
3. Cut a square opening in the top of the whistle where the skewer pierces the ‘egg’, making one edge vertical and the other at about 45 degrees. Make sure that this opening is not too small — about seven or eight millimetres is a good guide.
4. Once you have made the whistle, put some holes in the main ‘egg’ to change the tone it produces. Gently test the whistle sound before the clay hardens and add more holes if you want a higher-pitched sound.
5. Leave your whistle to dry according to the instructions for the clay you use. Paint your ocarina in bright colours and then enjoy playing it! (In South America, ocarinas are sometimes made in special shapes such as animals or birds. You may like to do this or to carve decorations on it.)

3 Use symbols to make a work of art
To help students understand the iconography of desert art have them devise their own symbols then tell a story by creating a picture using the symbols. Students should devise symbols from their own environment. For example:

|       | may represent a line of telephone poles
|-------|---------------------------------------
|       | may represent a row of houses
|-------|---------------------------------------
|       | may represent water

Students may also research and use some commonly accepted symbols such as those used in street directories.

NB Students should not copy symbols from Aboriginal artworks as these may have spiritual and cultural significance and may be owned by the community to which the artist belongs.
### Appendix 1: Expedition plan

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<th>SUPPLIES (WRITE QUANTITIES AS WELL AS ITEMS)</th>
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www.couchdesign.com.au  3219
## Appendix 2: Opening up the desert

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<tr>
<th>Name of explorer/missionary</th>
<th>Departed from</th>
<th>Date of departure</th>
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<th>Date of return</th>
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Appendices 3 and 4
are to be used together with
Cultural arts among
the peoples of the
great southern deserts sheets.

Appendix 3

In 1981, Shorty Lungkata Tjungurrayi painted Goanna Droppings featured in Appendix 4. He was one of the most senior men in the Pintupi community at Papunya. He often painted blue-tongue lizards (lungkata) and goannas: Dreamings for his country in the Gibson Desert. This painting shows his characteristic bold and intense style.

Activities

Ask students to look at the painting, read this page (excepting Information about the Painting at the left of this page) and the page about the artist and Papunya in Cultural arts among the peoples of the great southern deserts — and answer the following questions.

- Why do you think this artist's painting relates to goannas?
- What do you think this painting is about? What could the symbols represent?
- Students could investigate desert art further using suggestions on page titled, activities found in Cultural arts among the peoples of the great southern deserts.

These symbols are some of the symbols used in Papunya paintings. They form a basic visual vocabulary to assist with the reading of some Papunya desert paintings. However, these symbols may take on other levels of meanings within the context of different paintings.

Information about the painting

This painting, Goanna Droppings, is inspired by the body decoration for the Tingari ceremonies, probably pertaining to a place called Warntaritjana in the artist's country. Tingari is the ancient and secret post-initiatory higher education undergone by Aboriginal men of this region. The designs are complementary mnemonics to the song cycles which convey the secret teachings. The familiar and limited vocabulary of ideograms is used subjectively, so that the artist alone can convey a full interpretation. However, the story concerns Rumia the Sandhill Goanna. The larger concentric circles represent a soakage waterhole at the site. The smaller concentric circles include several of the holes which goannas dig in the ground to keep cool in extreme heat.

SOURCE: DR VIVIEN JOHNSON AND PAPUNYA TULA ARTISTS

SOURCE: BARDON, GEOFFREY, 1991, PAPUNYA TULA ART OF THE WESTERN DESERT, WITH DIAGRAMS BY JUDITH RYAN, PAGE 128, MCPHEE GRIBBLE.
Appendix 4

Goanna Droppings
Papunya Tula acrylic
© Goanna Droppings licensed by aboriginal artist agency 2005
The people of the southern deserts come from very different cultural traditions. Ancient rock art reflects this diversity. Across the southern deserts a variety of forms of rock art tell the stories of people in times past. Geoglyphs, petroglyphs and pictographs found throughout the deserts record spiritual stories, cultural events and history and mark trade routes. Many of the meanings associated with this art are lost, however researchers continue to seek new ways to understand them and gain more insight into human history through them.

Types of rock art

Geoglyphs are made by moving dark rocks or foliage on the surface to expose the underlying soils or by piling stones into patterns and shapes.

Pictographs or paintings are generally found on protected walls in rock shelters. They are fragile, with paints made from ochre, clay and charcoal mixed with binders including blood, fat and plant products.

Petroglyphs are made by carving or engraving into the outer layer of rock which is usually discoloured and sometimes polished in appearance. This is sometimes referred to as ‘desert varnish’ and removing it exposes different colours underneath.

Meaning in rock art

Often there is not sufficient cultural continuity to accurately determine the meaning in rock art, particularly in the case of those sites that are many thousands of years old. Ethnographic data can be a useful tool for decoding rock art symbolism but often detailed data is not available. Indigenous knowledge is also very valuable in the search for meaning but often the original rock artisans have been displaced many times over through waves of migration, wars and colonial settlement. Even where this type of information does not exist, it is still possible to analyse rock art and gain some insights into the cultures that created it. Similar methods to those used by archaeologists to analyse dig sites can be employed to explore the relationship between the art and the surrounding environment and to develop theories about art meaning and past cultures. The spatial patterns of the art can be analysed; the layers of painting can also reveal information and even the discarded ochre fragments can provide clues to the history of use in an area.

Africa

Approximately 14,000 rock art sites have been recorded across southern Africa but it is thought that as many as 50,000 sites containing a total of more than two million images may exist. Three distinctive traditions and belief systems are represented in African rock art sites: Palaeolithic hunter-gatherers and herders and Iron Age agriculturists. The Namib Desert has one of the richest
and oldest collections of rock art in the world. Twyfelfontein in the Namib-Naukluft Park is well-known for its thousands of petroglyphs or engravings. Many of these depict animal tracks from a variety of species: lions, giraffes and elands are just some of these. After discussions with San shamans, researchers believe the engravings are related to rituals for making rain, healing, and to bring game animals and good fortune to hunters.

There are paintings in the area which appear to be derived from the same belief system. In fact, thousands of rock art paintings appear in caves and rock shelters across southern Africa and have been dated as far back as 30,000 years. Believed to record the culture of the San people, the paintings are highly detailed and show animals and hunters, as well as images of creatures which have both human and animal characteristics. Though some are closely related to both spiritual life and social structure, more recent paintings also depict those who came into their land and displaced the San, showing pastoral herders, ships, horses and European weapons.

**Dating rock art**

Dating rock art is critical to many other types of analyses, however there are several difficulties in accomplishing this. A variety of methods are used depending on the nature of the site and the type of art. Rock art can be dated by analysing the weathering pattern in the rock or by dating the style or content. For example, the depiction of an extinct animal or a pre-existing environment can give a minimum date. Rock art is most commonly dated by its location within stratigraphy, that is, when it or the surrounding region is covered by archaeological or mineral deposits which can be dated by chemical or other methods. Finally the art itself may be dated by collecting samples of organic material to analyse by methods such as radiocarbon dating. This method is rarely used because it is both destructive and has been shown to be inaccurate in several cases.

<table>
<thead>
<tr>
<th>Years ago</th>
<th>Events</th>
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<tbody>
<tr>
<td><strong>Paleocene epoch</strong></td>
<td>Extinction of dinosaurs</td>
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<tr>
<td>65 – 55 million years</td>
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<tr>
<td><strong>Eocene/Oligocene/Miocene epochs</strong></td>
<td>Age of mammals begins</td>
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<tr>
<td>55 – 6 million years</td>
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<tr>
<td><strong>Pliocene epoch</strong></td>
<td>Bipedal hominids appear</td>
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<tr>
<td>6 million – 1.8 million</td>
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<tr>
<td><strong>Pleistocene epoch</strong></td>
<td>Homo erectus</td>
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<tr>
<td>1.8 million – 1,000,000</td>
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<tr>
<td><strong>Lower Paleolithic</strong></td>
<td>Humans use fire, stone tools</td>
</tr>
<tr>
<td>500,000 – 250,000</td>
<td>Hunter-gatherers move into Namib</td>
</tr>
<tr>
<td><strong>Middle Paleolithic</strong></td>
<td>Fishing in lakes, near Tsodilo Hills, northern Kalahari</td>
</tr>
<tr>
<td>250,000 – 60,000</td>
<td></td>
</tr>
<tr>
<td><strong>Upper Paleolithic</strong></td>
<td>Paintings in rock shelters across southern deserts</td>
</tr>
<tr>
<td>60,000 – 10,000</td>
<td>Hunters move into the Atacama and Australian deserts</td>
</tr>
<tr>
<td><strong>Holocene epoch</strong></td>
<td>Homo sapiens</td>
</tr>
<tr>
<td>10,000 – present</td>
<td>Fishing, horticulture</td>
</tr>
<tr>
<td></td>
<td>Post colonial rock paintings, geoglyphs</td>
</tr>
</tbody>
</table>

**South America**

All three types of rock art are found in the Atacama Desert. Petroglyphs are the most common. There are various images and some are thought to be as much as 2500 years old. More recent figures dating back between 700 and 1000 years depict fishermen hunting whales and fishing from rafts. Paintings can also be found but are much less common.

A striking array of geoglyphs are found in the northern Atacama. These can be even more difficult to date than paintings or petroglyphs, particularly because new are often overlaid on older sites. Some of the Atacama geoglyphs are thought to date back at least 2500 years. They are often found in clusters or lines of camelids, such as llamas, alpacas and guanacos which are believed to represent trading caravans. These geoglyph sites follow ancient caravan routes between the Andes mountains and the coast and between large desert oases. Geoglyphs may also represent lizards, fish, birds, geometric patterns and, occasionally, humans. The geoglyphs of the Atacama range in size between one metre and more than one hundred metres high. There are more than a hundred of these sites and the largest are visible only from a distance.
Rock art conservation

As there are many causes for the deterioration of rock art such as weathering, erosion by water or damage by dust, minerals, frost, salt, vegetation, animals and vandalism, conservation of rock art sites presents great challenges.

It is often difficult to differentiate between deterioration that occurs naturally and that which is caused by human intervention. Dust, which can be very damaging, is a natural phenomenon, however dust caused by vehicle traffic on an unsealed road and mixed with exhaust fumes exacerbates the problem significantly.

Other human activities such as road and rail building and industrialisation also have huge impacts on rock art sites. In desert areas this impact has taken longer to arrive due to the geographical remoteness of the sites from areas of large human habitation. However as human activities push further into desert areas the infrastructure which supports these activities continues to present a threat to this very vulnerable form of cultural heritage.

Steps which have been taken to conserve fragile rock art include running silicon driplines around the art, erecting barriers against both animals and humans and providing walkways for visitors. In Australia the government provides funds for the conservation of rock art sites. In 1981 Australia ratified the ‘Burra Charter’ which contains guidelines for the conservation of rock art.

Australia

Rock art shows how Aboriginal people viewed their world. Aboriginal desert art links people and place through the Dreaming. Like the contemporary art of central Australia, the rock art is dominated by place and pathways. It provides a ‘sacred charter to the land’.

People’s rights to land vary according to the links they have with ancestral beings who created the landscape, or travelled across it, or were transformed into its landforms. Rock paintings, stencils and engravings are a sign of this. They are often said to be purely natural features that validate Tjukurrpa, the ‘Dreaming’. This art is from a hunter’s perspective, resembling tracks in sand, and drawing on conventions used in sand drawings. Some common motifs used in Australian desert art include circles, meandering lines, bird, wallaby or kangaroo tracks.

‘Iconography’ refers to the way particular drawings or sculptures represent important aspects of the artist’s world and belief system. In Australian deserts, an unpredictable environment is countered by a graphic system that reinforces detailed knowledge of country and of rights to land. Rock art is one of the most abundant and most visual of all archaeological evidence today in Australia.

In was not until 1987 that the first proof emerged that central Australia was inhabited in the Pleistocene with the discovery of 22,000 year old occupation in Puritjarra rock shelter. Puritjarra is a large rock shelter in a cliff of hard red sandstone. It consists of an extensive array of rock art that includes engravings, stencils and paintings.

Aboriginal people began using the Puritjarra rock shelter as a campsite around 32,000 BP. Archaeologist Mike Smith discovered charcoal, pieces of high-grade red ochre, sixty stone flake artefacts, including a large steep-edged implement, and a great number of small pieces of flaking debris. Archaeological evidence shows a substantial increase in occupation of the region during the last 1000 years.
Activities

Create a frieze
Discuss with your students significant and unusual events which occur each year within your school. What events have occurred in the last ten years? 100 years? How would you tell these stories in pictures?

Ask the students to create a frieze around one or two walls of the classroom on which these events and stories are represented in symbols or stylised pictures.

Rock painting
If available, have students collect stones from around the school. They should be at least five centimetres in diameter. In groups students think of a familiar story. They then devise symbols for the key elements of, or characters in, the story. Each student paints one of these symbols on a rock, using water based paint. Students can then retell the story by moving the rocks around. When students have completed the activity the rocks can be washed and returned to the school grounds.

Rock carving
Have students bring a bar of soap to school — sand soap is preferable. Use either a blunt knife or a pointed stone to ‘engrave’ the rock. Have students ‘engrave’ an image that they feel is a symbol of themselves, their class or their school. Do not reproduce Aboriginal art works or patterns as these may have cultural and spiritual significance.

Rock art sites
Ask students to read the Australian section of Rock Art in the great deserts of the Southern Hemisphere. Why was the discovery of the Puritjarra rock shelter by Australian archaeologist Mike Smith important to Australia? What conclusions can be drawn from this discovery?

Have students investigate rock art sites within Australia. On a large map of Australia note as many currently known rock art sites as students can find. Students could work in pairs or small groups to investigate one rock art site. Each pair should give a class presentation about their findings. Here are some questions for students to consider:

- Is the style of rock art you have found similar or different to the Central Desert rock art? In what ways?
- What, if any, historical information can you learn from the rock art?
- What are the reasons why Aboriginal people strive to have rock art sites protected?
- Find out about a site that Aboriginal people are currently attempting to protect — e.g. Burrup Peninsula in Western Australia http://www.csiro.au/index.asp?id=Burrup&type=mediaRelease.
- What are some of the important issues with this site? (e.g. Who are the stakeholders? What are the opinions of the different stakeholders? etc.)
- Do you think all remaining rock art sites in Australia should be protected? Explain your answer.

Ask students to research rock art from other deserts in the Southern Hemisphere. This could be a web-based project. Students compare and contrast Australian rock art with rock art from another desert. They should look at technique, motif and meaning, to understand where there are similarities and where there are differences. Students’ findings could be presented as a written piece of work or a three dimensional display.

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