



# LESSON IDEA – YRS 1-5

## Big idea

- First Nations Australians' ways of life reflect unique ways of being, knowing, thinking and doing (Culture A\_TSIC2 )
- First Nations Australians have sophisticated political, economic and social organisation systems, which include family and kinship structures, laws, traditions, customs, land tenure systems, and protocols for strong governance and authority (People A\_TSIP2)

## Applications

investigating situations where First Nations Australians estimate, compare and communicate measurements; for example, understanding animal behaviour using the length of animal tracks



AC9M1M01  
compare directly and indirectly and order objects and events using attributes of length, mass, capacity and duration, communicating reasoning

investigating and comparing measurable attributes that are interpreted by First Nations Australians to understand animal behaviour such as the length, width and depth of animal tracks



AC9M2M01  
measure and compare objects based on length, capacity and mass using appropriate uniform informal units and smaller units for accuracy when necessary

investigating how animal tracks can be interpreted by First Nations Australians using the transformation of their shapes to help determine and understand animal behaviour



AC9M5SP03  
describe and perform translations, reflections and rotations of shapes, using dynamic geometric software where appropriate; recognise what changes and what remains the same, and identify any symmetries





# LESSON IDEA – YRS 1-5

## Connection

First Nations Australians have long observed and recorded the prints, tracks and traces left by animals and they use a variety of methods to represent and communicate such this information, such as rock carvings and paintings. A teaching practice of many Aboriginal and Torres Strait Islander Peoples is to replicate animal tracks and traces on the ground, to teach children how to identify animals that move through the environment.

Understanding symmetry and being able to rotate and reflect shapes were important skills for First Nations Australians. In relation to tracks, rotation and reflection were important skills for working out what direction an animal had headed in. Symmetry was also evident in art, whether painted on sand, rocks, animal skins or human bodies. In many cases, the symmetries in a design were intimately connected with the sacred meaning of the design. This kind of knowledge continues to be an important part of cultural identity for many First Nations Australian people today.

## Lesson ideas

1. Use the identifying tracks resources (see page 3) to familiarise students with the common Australian animal tracks
2. Have students play the Waayin game where they draw or create tracks in sand and the other students have to correctly guess the animal.
3. Prepare a challenge in a sandpit creating footprints (using the Animal Tracks - Learning Noongar culture resource, the Animal Tracking Worksheet or the Waayin resource) and asking the students to identify the animals and to describe their journeys (position / direction). Create different sizes of tracks for young / adult animals.
4. Watch the Australian animals size comparison and ask students to choose and draw an animal, research to find what its footprint looks like and draw the footprint in its real size. Identify how much the animal weighs compared with informal weights (such as a bag of flour). Order the class animals from lightest to heaviest, smallest to largest and smallest to biggest footprint.
5. Identify any line or rotational symmetry in the animal and its footprint and apply transformations to the footprint, for instance using the Symmetry summative worksheet.



# BACKGROUND



## Cultural significance

First Nations Australians developed exceptional tracking skills based on their hunter-gatherer life, which includes the ability to track down animals, to identify and locate edible plants, and to find sources of water.

First Nations Australian children would learn to recognise the tracks of animals as soon as they were old enough to notice. Instructive games like Waayin from the Datiwuy People of the northern part of the Northern Territory, would help children learn to identify the tracks of different animals. The ground makes a good drawing board and children would learn the patterns and shapes which represent the tracks of common animals by drawing images in the sand.

Traditionally, as soon as children learn to walk, they would learn to track their mother's and sibling's footprints as well as learning hand signs so that people know when to be quiet or careful. To this end, people walking together in the bush do so in single file.

In *Hunters and Trackers of the Australian Desert*, Pat Lowe reported:

'An experienced tracker can read the ground like a storybook. If the tracks are those of a mammal, he can probably tell you, from the size and 'weight' or depth of the tracks, its gender and approximate age. If the animal is a female, he will know by the spacing of the hind legs whether or not it is 'parapu' (carrying young). He will usually be able to tell you the species of a lizard and not only which way a snake is travelling, and its size, but how fast it is moving and whether it is harmless or venomous.'

Trackers also need to know whether tracks are fresh, otherwise they might be wasting their hunting time. At the end of a day, however, a good hunter needs to be able to find his way home using the shortest route possible - not in the tedious zigzag way he tracked his prey. This acute sense of direction is inseparable from acute powers of observation and good memory.

The exceptional tracking skills of First Nations Australians were recognised post-1788 as government agencies, explorers, surveyors and members of the public called upon the tracking abilities of First Nations men and women. First Fleet officers and early land-owners sometimes made use of trackers to help find and capture escaped convicts. Later, surveyors made use of numerous First Nations Australian guides during expeditions into the interior. In more modern times, the police have employed First Nations specialists to assist in the tracking of both criminals and people lost in the bush. Barry Port, a Lama Lama Elder and Australia's last First Nations police tracker, was described as a living legend on his retirement in 2014 at the age of 71.



# BACKGROUND

## Identifying tracks

The following resources can be used to help students identify different animals' tracks:

Name and link	Nature of resource
<a href="#"><u>Angwenhe Impatye? Whose Footprint?</u></a>	Short video from Indigenous Community Videos on demand in the Arrernte language (NT) showing animals and their footprints
<a href="#"><u>Animal Tracks - Learning Noongar culture</u></a>	Video from Perth NRM showing how to create animal tracks in sand in English and the Noongar language (WA)
<a href="#"><u>Animal Tracking Worksheet</u></a>	Worksheet from National Aboriginal and Torres Strait Islander Children's Day showing how to make animal tracks with fingers
<a href="#"><u>Tracking Australian Animals</u></a>	Worksheet from Fort Wayne Children's Zoo with a range of photos of tracks to try and match to the correct animals
<a href="#"><u>Yulunga: Waayin</u></a>	Guide to the Waayin track drawing instructional game from the Australian Sports Commission (Yulunga resources)
<a href="#"><u>Tracks and Traces</u></a>	Worksheet from Perth NRM that shows various tracks on the beach and how to interpret them, including speed and direction
<a href="#"><u>Tracking animals - how to read animal tracks</u></a>	A guide on the different features and types of tracks from Australian animals



# BACKGROUND

## Other resources

The following resources can be used to assist in exploring this topic:

Name and link	Nature of resource
<a href="#"><u>Symmetry summative worksheet</u></a>	Worksheet where students mark symmetry and apply transformations to traditional symbols including tracks
<a href="#"><u>My survival as an Aboriginal - Tracking animals</u></a>	Video extract showing Muruwari community worker and filmmaker Essie Coffey instructing a young boy on how to track animals
<a href="#"><u>Tracking and forensics</u></a>	Video explaining how Aboriginal trackers are still employed by the police, showing how Fish River ranger and tracker John Daly tracks a woman in the bush
<a href="#"><u>Australian animals size comparison</u></a>	Video showing a range of different animals, their mass and length. (discussion point: are the images of the animals scale?)
<a href="#"><u>Wildlife tracks</u></a>	A series of photos of tracks of Australian animals
<a href="#"><u>Understanding symbols in Aboriginal art</u></a>	An explanation of some of the symbols (including animal tracks) using in Aboriginal art
<a href="#"><u>Symmetry in the animal kingdom</u></a>	A video explaining how symmetry appears in different animals (not Australian specific and needs a free account)



# BACKGROUND

## Artwork

Artworks have been created by:

- Zoe Fitzpatrick, a Yanyuwa and Garrawa woman from Borroloola and Alice Springs in the NT
- Sheri Skele, a proud Bidjara woman and a contemporary Aboriginal artist who calls her artworks Bigi Nagala, which means 'I am dreaming' in Bidjara

## References

- Australian Curriculum, Assessment and Reporting Authority (n.d.). *The Australian Curriculum: Teacher background information*  
<https://www.australiancurriculum.edu.au/TeacherBackgroundInfo?id=56580>
- Australian Government, Culture and Recreation Portal, (2008), *Aboriginal Trackers*.<https://web.archive.org/web/20080827232231/http://www.cultureandcreation.gov.au/articles/indigenous/trackers/>
- Australian Sports Commission, (2008). *Yulunga Traditional Indigenous Games*.  
[https://www.qld.gov.au/\\_data/assets/pdf\\_file/0021/13548/indigenous-games-yulunga.pdf](https://www.qld.gov.au/_data/assets/pdf_file/0021/13548/indigenous-games-yulunga.pdf)
- Australians Together, (n.d.), *Rotation and symmetry in animal tracks and symbolic language from Indigenous cultures*,  
<https://australianstogether.org.au/assets/Curriculum-Resources/6-Mathematics-ACMMG141-Geometric-Reasoning-Student-Handout.pdf>
- National Film and Sound Archive of Australia, (1978), *My survival as an Aboriginal - Tracking Animals*. <https://www.youtube.com/watch?v=FbxZFFhltAM>
- Pathfinders NSW, (2023), *NSW Aboriginal Trackers*.  
<https://pathfindersnsw.org.au/a-general-history/>
- SBS, (2014). *Australia's last Indigenous police tracker a 'living legend'*.  
<https://www.sbs.com.au/news/article/australias-last-indigenous-police-tracker-a-living-legend/6lhrzr5fv>

