

# Emu in the Sky – Teacher Notes



## Aboriginal Astronomy

In Australia, the Aboriginal and Torres Strait Islander people are recognised as the first astronomers. Among other things, they use their knowledge of the night sky for food gathering and navigation purposes. However, instead of focusing on the position of the stars to form the constellations, Aboriginal astronomy focuses on the whole of the sky, including the dark patches between the stars. They see the connections between the sky and the land, viewing them as one entity (Steffens, M. 2009).

### Activity 1. An introduction to the Emu in the Sky constellation

Each language group has its own cultural stories that speak of their local environment. The Emu in the Sky is one story that is familiar to many Aboriginal communities across Australia and relates to a particular constellation. As shown in our video [Emu in the Sky](#), the shape of the Emu is formed from the dark patches in the Milky Way and almost stretches across the whole sky.

Read one of the stories of the Emu in the Sky in [Star Stories of the Dreaming](#), compiled by the Kamilaroi, Euahlayi People and their neighbours, Murrawarri, Ngemba. These First Nations People are located in north central and northwest NSW, however the story repeats for many language groups across Australia.

Listen to the story of [The Emu in the Sky](#), as told by Ben Flick, an Aboriginal man from the Kamilaroi language group of north-western New South Wales.

Kirsten Banks, Australian astrophysicist, science communicator and proud Wiradjuri Woman, discusses her experience of [The Emu](#) and how it inspired her to learn more about Aboriginal astronomy.

### The Emu in the Sky orientation

The image on the next page of the night sky in July. Can you see the Emu in the Sky constellation? Trace over the shape of the emu, remembering that the dark spaces are important in forming the shape of the emu.

## Emu in the Sky – Teacher Notes



*The Emu in the Sky (photo courtesy of Dr John Goldsmith/celestialvisions.com.au)*

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With the movement of the Earth, the position of the Emu in the Sky changes throughout the night and through the year. Locate images of the Milky Way in April, July, November and January. Trace the Emu over each of these images. Australian Indigenous Astronomy has an excellent [blogspot](#) describing this phenomenon.

(TEACHER NOTE: The Emu is not visible in January)

Note what you observe about the visibility and orientation of the Emu at each of these times of the year.

MONTHS	VISIBILITY	ORIENTATION
April / May	entire	Horizontal across the sky
July / Aug	entire	Diagonal across the sky, angled with the head up to right and tail at bottom left
November	partial	Diagonal, head dipping to bottom right (not visible), tail visible
January	Not visible	

# Emu in the Sky – Teacher Notes



Why is the Emu not visible at certain times of the year? Discuss in relation to the rotation of the Earth throughout the year. You can use a diagram to assist with your explanation.

As the Earth revolves around the Sun throughout the year (and rotates on its own axis), our view of celestial bodies changes. Between late November and early February, due to the position of the Earth in relation to the Sun, the Emu constellation is in the sky during the day, and therefore not visible to us. The Emu constellation remains, but its view is blocked by the Earth, ie. it is rising and setting below the horizon of the Earth.

## Activity 2. The emu on the land

Aboriginal peoples relate the position of the emu in the sky to the breeding behaviour of the emu on the land. From the position of the emu, Aboriginal people know when it is time to harvest the emu eggs for food.

Research the lifecycle of the emu on the land and present it as an infographic or a poster. Include the month that each stage occurs. [Birdlife Australia](#) has some great information or visit [Perth Zoo](#) to assist with your research.

Review your images of the change in visibility and orientation of the emu in the sky. Place these alongside the stages in the lifecycle of the emu.

What do you note about the position of the emu in the sky and the lifecycle of the emu on the land?

Between March / April and July / August, when the emu in the sky is visible across the entire sky and is orientated diagonally with the head up, the emus on the land are laying their eggs and sitting on their nests to incubate the eggs.

Add these notes to your infographic.

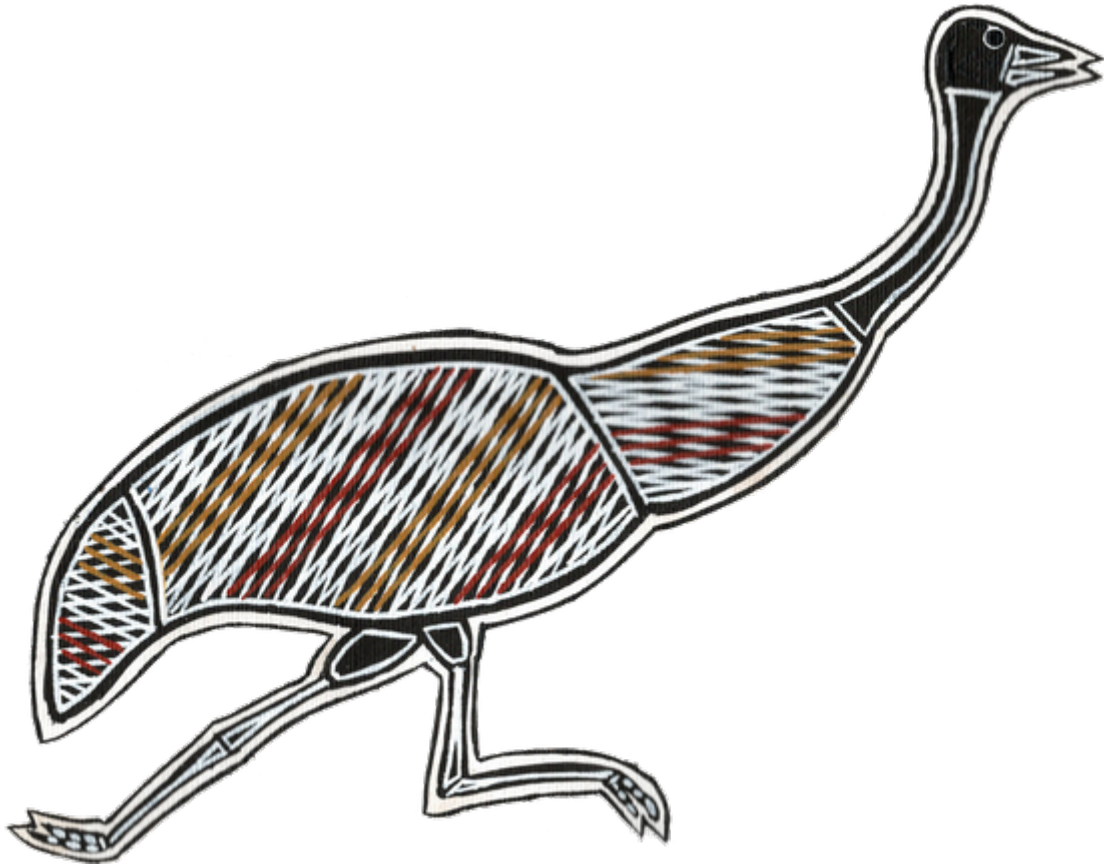
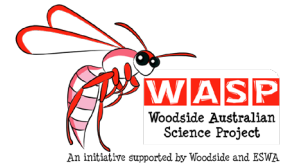
Why would this observation be important to Aboriginal peoples locating emu eggs for food?

This indicates to the Aboriginal Peoples when the eggs can be collected for food. When the visibility and orientation of the emu in the sky alters, it indicates that the chicks inside the eggs are too mature and are about to hatch, and therefore the eggs are no longer suitable as a food source.

## Activity 3. Presenting the link between the emu in the sky and the emu on the land.

The Aboriginal and Torres Strait Islander people use stories and art to share important cultural information. Below is an artistic representation of an emu.

## Emu in the Sky – Teacher Notes



*Image Kakadu Tiny Tots (sourced from Canva, via license)*

Create a picture of the Emu in the Sky, linking it to the activities of the emu on the land that you could use to tell a friend that it is a good time to collect emu eggs. Use colours and materials sourced from your local environment to create your image.

# Emu in the Sky – Teacher Notes



## Acknowledgement

The astrophotography featured in this resource were provided by Dr John Goldsmith courtesy of [Celestial Visions](#).

## References

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Fuller, R. (2014). *The Kamilaroi and Euahlayi Emu in the Sky*. Indigenous Astronomy Blog, Monday March 31 2014. Australian Indigenous Astronomy. Accessed at <http://aboriginalastronomy.blogspot.com/2014/03/the-kamilaroi-and-euahlayi-emu-in-sky.html>

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Steffens, M. (2009). *Australia's First Astronomers*. ABC Science. Accessed at <https://www.abc.net.au/science/articles/2009/07/27/2632463.htm>

*Through our Eyes – Dhinawan 'Emu' In The Sky with Ben Flick* (2014). Western Local Land Services Documentary. Accessed at <https://www.youtube.com/watch?v=LzFYFutiwoA>

## Curriculum links

### Year 10 Science: Earth and Space Sciences

The universe contains features including galaxies, stars and solar systems, and the Big Bang theory can be used to explain the origin of the universe (ACSSU188).

*Elaboration – researching Aboriginal and Torres Strait Islander People's knowledge of celestial bodies and explanations of the origin of the universe.*