How have First Nations Australians used astronomy?

Content focus:	Investigating First Nations Australians' knowledge and use of astronomical bodies
Science as a human endeavour:	Use and influence of science
Science inquiry:	Questioning and predicting | Planning and conducting | Processing, modelling and analysing | Evaluating | Communicating

Background information

- Many cultures have different interpretations for the same constellations (groups of stars). Even people from different groups in the same culture can have different interpretations.
- First Nations Australians were the first astronomers. For generations, they have observed the Sun, Moon, stars and visible planets. There are many stories about the celestial objects and different meanings among different groups.
- They have also used clouds to predict weather patterns, time of year and information about which foods can be gathered.

Preparation

- Display photographs or diagrams of constellations, particularly the Emu in the Sky, from reference books or the internet while teaching this section.
- Students will need access to the internet and other reference material to complete page 23.

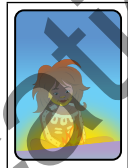
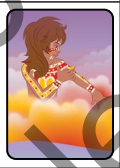
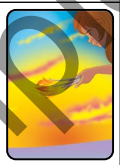
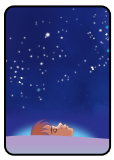
The lesson

- Pages 21 and 22 are to be used together.
- Read through the information on page 21 as a class. Discuss the Emu in the Sky constellation and the story of Walu the Sun Woman.
- Students can work in small groups to arrange the story in the correct order and discuss what is seen in the sky. If required, supply an image of an emu sitting on its egg to help students answer question 3(b).
- The cloud investigation can be done as a whole class. It may be useful to watch videos about the cloud types, as it can take practice for the students to be able to correctly identify them.

Answers

Page 22

1–2.

	When Walu wakes each morning, she lights a small fire.
	Then she paints herself in red and yellow ochre. Some of it falls onto the clouds.
	Walu then lights a torch made from stringybark. She carries it across the sky. It brings light and warmth to the land.
	At the end of her journey, Walu comes down from the sky. She drops some of her red and yellow ochre.
	Walu puts out her torch and travels back to her camp under the ground. She sleeps there until morning.

3. (a)

(b) Teacher check

Are any of your students showing signs of discomfort in the learning environment?

Consider allowing students to work in a quiet space (e.g. wet area or just outside the classroom door) with their partner/group if they prefer, ensuring at least one student in each group is an independent reader.

Measure in a minute

Ask students to share three things about how First Nations Australians use the sky and stars, two things they found interesting, and one thing they want to learn more about.

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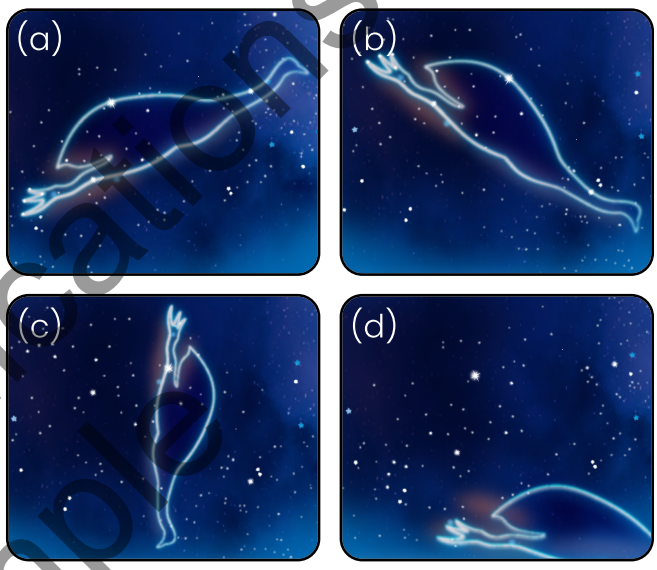
How have First Nations Australians used astronomy? – 1

Long ago, people noticed that groups of stars made patterns in the sky. These groups of stars are called 'constellations'. People gave names to the constellations and created stories about them to remember the locations of stars in the sky.

Many constellations have names from Greek and Roman myths.

First Nations Australians have different names for the same constellations. They use the positions of the constellations at different times of the year. It first helped them to make calendars, tell the time at night, and know when to plant different crops or find different animals.



One example is the 'Emu in the Sky' constellation. It is outlined by the dark areas in the sky rather than the light of the stars. The *emu* stretches across the Milky Way. Throughout the year, the position of the 'Emu in the Sky' changes. To many First Nations Australians, it signals the changing behaviour of the emu on the land. Here is what the Euahlayi Nation believes:

(a) Females chase a male partner.

(b) The male sits on the eggs.

(c) The eggs hatch and the males look after the young.

(d) Emus sit in waterholes and then leave when they dry up in summer.

First Nations Australians also tell Dreaming stories about the things they see in the sky. Many of these explain how space bodies, like the Sun and Moon, came to be.

One story is of Walu, the Sun Woman. It is how the Yolngu peoples of Arnhem Land believe the Sun rises and sets each day.

When Walu wakes each morning, she lights a small fire. This is the dawn.

Then she paints herself in red and yellow ochre. Some of it falls onto the clouds. This is the sunrise.

Walu then lights a torch made from stringybark. She carries it across the sky. It brings light and warmth to the land. This is the daylight.

At the end of her journey, Walu comes down from the sky. She drops some of her red and yellow ochre. This is the sunset.

Walu puts out her torch and travels back to her camp under the ground. She sleeps there until morning. This is the night.

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