

Earth and Space

Learning Objective:

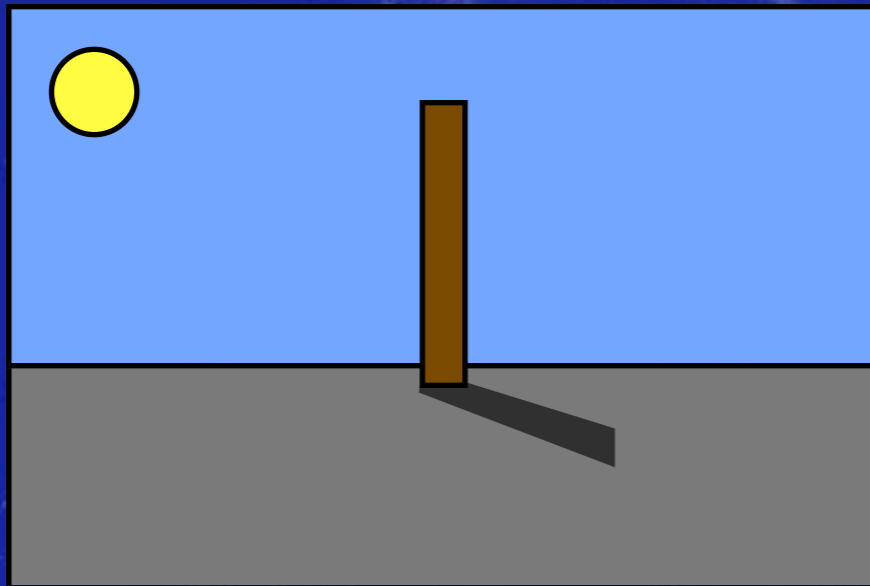
To use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky.



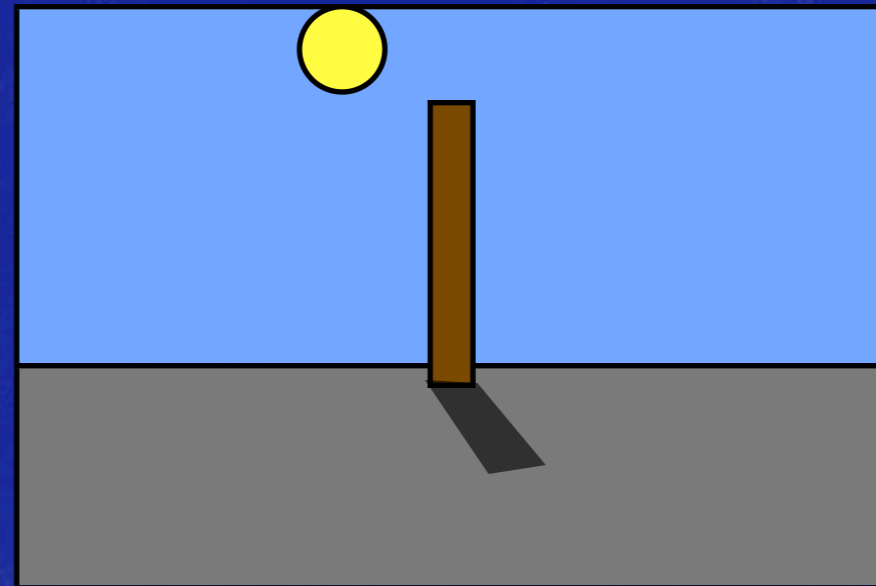
Two children did an experiment to find out what happens to shadows throughout the day. They set up a stick in the playground and went back four times during the day to see where the shadows were. Here are the results...



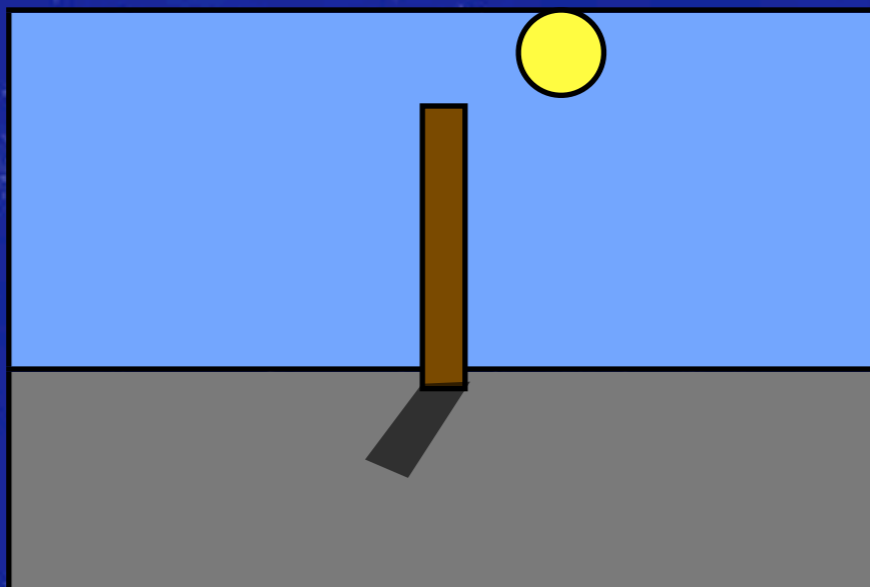
9am



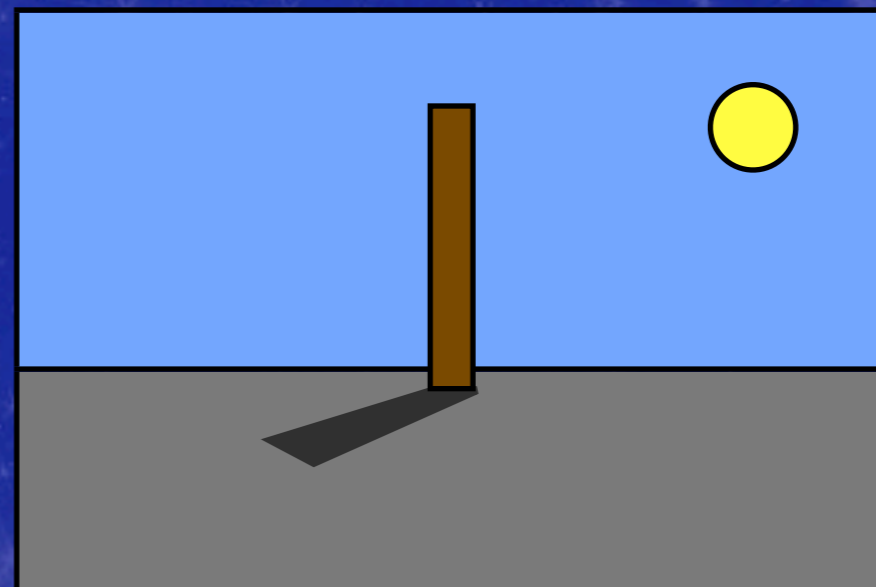
11am



1pm



3pm



They both looked at the results but came up with different conclusions. Who do you think is right and why?

The results show that the Sun moves across the sky throughout the day which changes the position of the shadow.



The results show that the Earth turns during the day which changes the position of the Sun in the sky. This is why the shadows move.

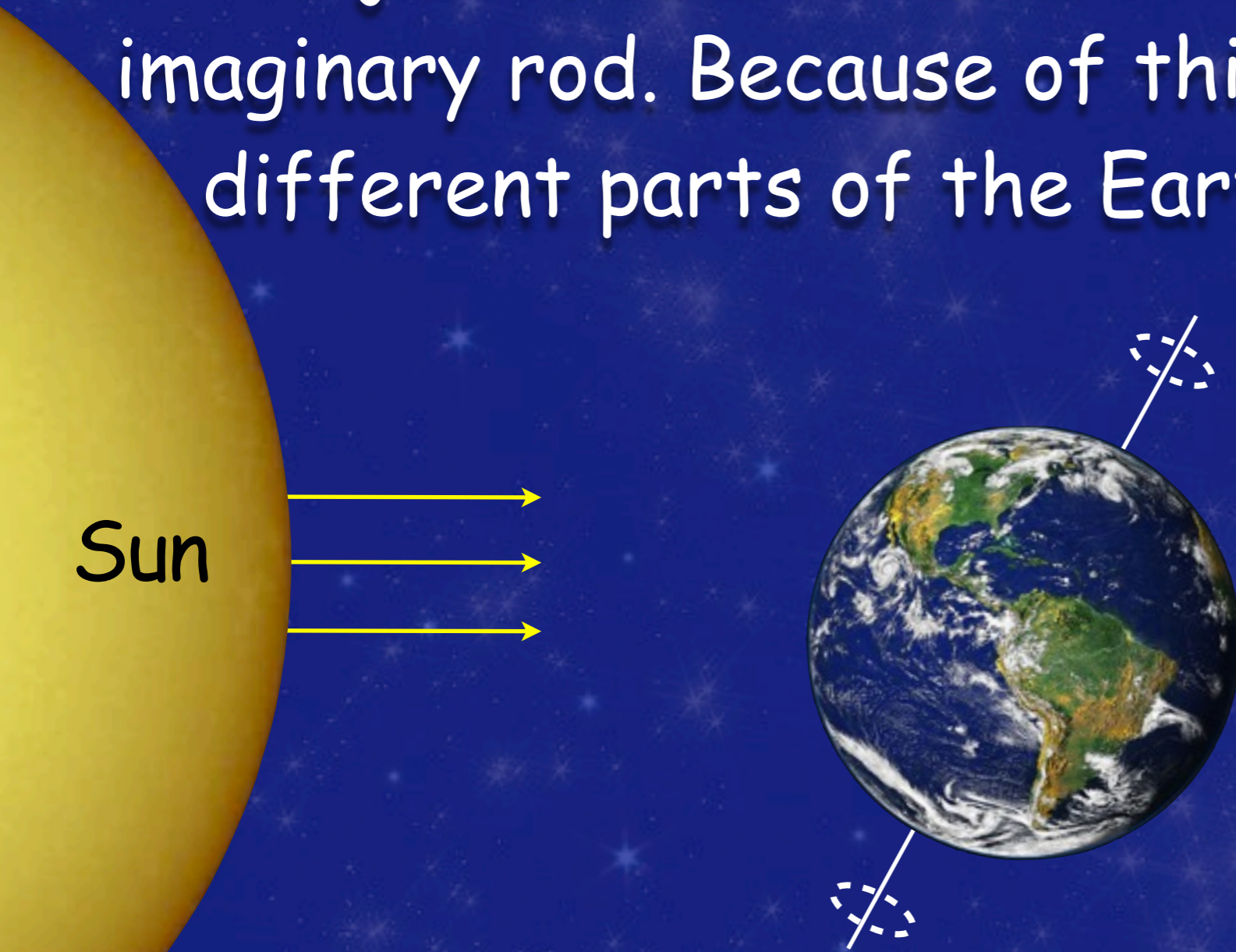


BACK

NEXT

The Earth rotates on its axis once every 24 hours.

This just means it turns round and round on an imaginary rod. Because of this, the Sun shines on different parts of the Earth during the day.



This is why it looks as though the Sun moves across the sky during the day. In fact, it is the Earth that is moving.

Think of it as being like when you are on a moving train. If you look outside the window, it looks as though the houses and trees are whizzing past when in fact it is you who is moving.

BACK

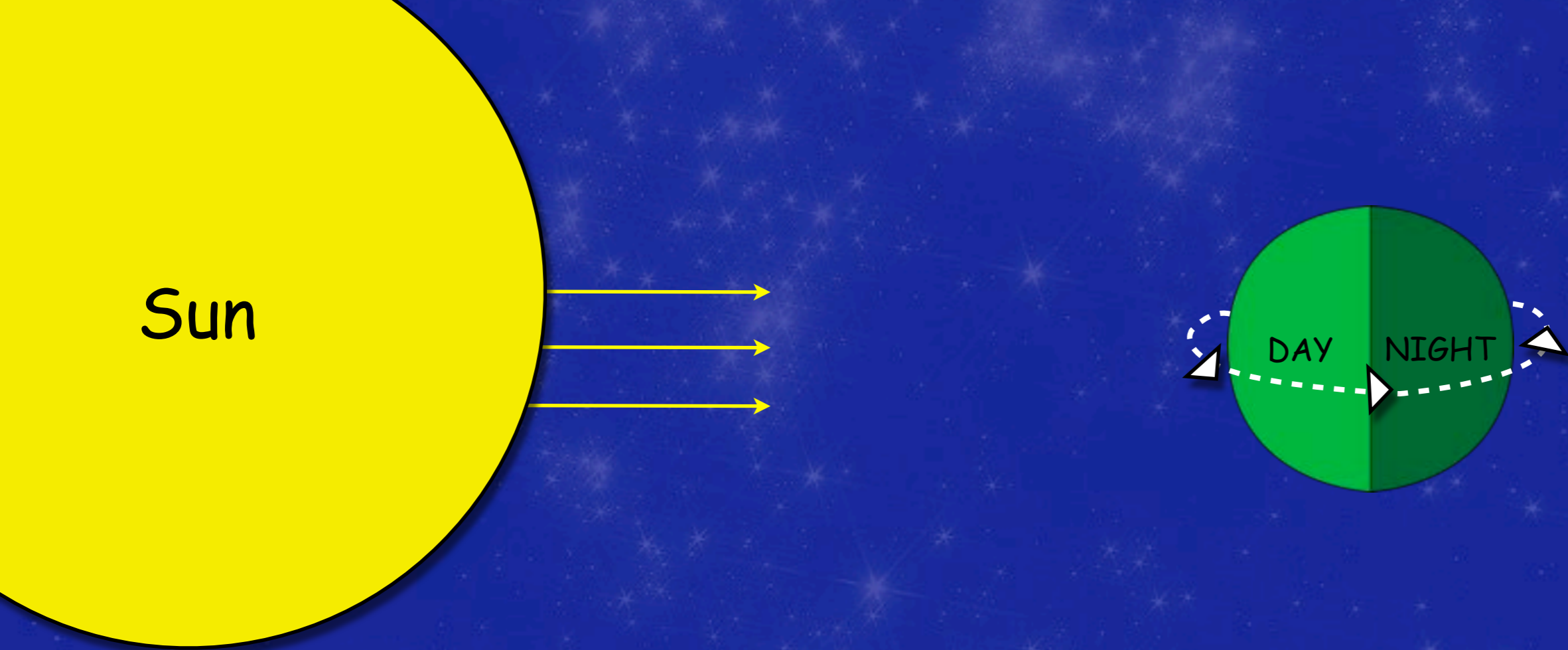
NEXT

Can you use this information to explain why we have night and day? Discuss your ideas with a partner.



BACK

NEXT



Night occurs on the side of the Earth that is facing away from the Sun. As the side that is in darkness rotates to face the Sun, the Sun comes into view. This is known as sunrise. The Earth continues its rotation until the Sun can no longer be seen. When the Sun sets, day is over and night begins.

BACK

NEXT

This means that when it is daytime for us, it is night for people on the opposite side of the world. This is why different parts of the world have different time zones. For example, when it is 4pm in London, it is 11am in New York, 11pm in Beijing and 1am in Sydney.

