

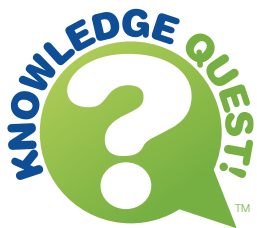
Our Solar System Activity Bank

Earth Cycles Demonstration

Review the natural cycles of our planet, such as the cycle of the seasons and the cycle of day and night. To demonstrate the cycle of day and night, point a flashlight (representing the sun) horizontally at a globe. Have a child hold the flashlight steady. Spin the globe counterclockwise (viewed from the North Pole) to imitate the direction Earth naturally spins on its axis. As you spin the globe, have children identify countries experiencing daytime and nighttime. Mark one location and repeat the spin, emphasizing that the cycle of day and night is 24 hours because it takes that long for Earth to rotate on its axis.

You may also wish to have children demonstrate Earth's daily motion using their bodies. Remind them that it only looks like the sun is moving as it rises in the morning, crosses the daytime sky, and sets in the evening. This perceived movement is caused by Earth's rotation on its axis. Place a lamp with the bulb exposed (do not use a lampshade) on a desk or on the floor, explaining to them that the lamp represents the sun. Have the children stand in front of the lamp and place their right hand over their heart, then spin in place in the direction their fingers are pointing. As they spin slowly in place, tell them that when their front is facing the lamp (the sun), it is daytime, and when they face away from the sun, it is nighttime. You may also wish to have children walk around the lamp to model Earth's orbit around the sun, reminding them that it takes a full year (365.25 days) for our planet to complete one orbit. Do not have children try to spin and "orbit" at the same time, but remind them that Earth is constantly rotating as it orbits.

To extend this, you may wish to place a hula hoop around the lamp on the floor. Explain that the hula hoop is Earth's orbital path around the sun. (To be more scientifically accurate, place tape around the lamp in an elliptical shape.) Holding the globe, walk around the orbital path, constantly spinning the globe counterclockwise. Ask children to recall how long it takes Earth to orbit the sun. Remind them that the tilt of Earth as it orbits the sun is what causes seasonal changes throughout the year.



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Earth Cycles Demonstration (continued)

Discuss the usage of a.m. and p.m. when talking about the cycle of day and night. Explain that a.m. is an abbreviation of a Latin phrase that means before midday and p.m. is an abbreviation of a Latin phrase that means after midday. Review that there are 24 hours in a day. Showing children a clock, ask them what time they think midday would be. Tell children that noon (12 o'clock) is midday. Explain that the 12 hours before noon are marked with a.m. and the 12 hours after noon are marked with p.m. Practice marking times of the day. Discuss that noon is 12 p.m., while midnight is 12 a.m. You may also wish to talk with children about other words that describe periods during the day, such as *dawn*, *dusk*, *morning*, *afternoon*, and *evening*.

CCSS

- Use words and phrases acquired through conversations, reading and being read to, and responding to texts. **KL.6**
- Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using frequently occurring conjunctions to signal simple relationships (e.g., *because*). **1L.6**

