

Earth's Turning Side

Trace how Earth's rotation creates the daily pattern of light and darkness.

6.3.b "the rotation of Earth in relationship to the sun causes day and night;"

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline sentences that explain how Earth's rotation changes a location from daylight to nighttime, then circle each form of the word rotate.

A World That Keeps Turning

- ① Imagine standing outside at noon. The Sun appears high in the sky, and sunlight reaches your location. At that same moment, Earth is a sphere with only one half facing the Sun. That sunlit half has day. The half turned away from the Sun receives no direct sunlight, so it has night. The boundary between the lighted and unlighted halves moves across the surface as Earth rotates. This changing position explains why places do not all have noon at once.
- ② Earth rotates, or spins, toward the east. It completes one rotation in about 24 hours. A place on Earth's surface is carried from the dark half toward the lighted half. As it turns into sunlight, people there see sunrise and day begins. Later, rotation carries that place away from sunlight. People there see sunset, and night begins. The Sun seems to travel from east to west across the sky during a day, but this apparent motion results from Earth's rotation. Earth, not a daily trip around the Sun, causes the repeating cycle.
- ③ Because Earth is rotating all the time, different longitudes face the Sun at different times. When it is morning at one location, another location farther west may still be in darkness. As Earth continues its eastward spin, the first location moves through afternoon and then into night. The second location later turns into the lighted half and has its own morning. Day and night are not caused by clouds blocking the Sun. Clouds can make a daytime sky dim, but direct sunlight still reaches the side of Earth facing the Sun.

2 ANSWER WITH EVIDENCE Use the passage

1 Why does one half of Earth have day while the other half has night at the same moment?

2 What happens to a location as Earth carries it into sunlight and later away from sunlight?

3 The Sun seems to move from east to west across the sky. According to the passage, what actually causes this apparent movement?

4 How can one location have morning while a location farther west is still dark?

3 YOUR TURN Your own words

Make a two-panel sketch of the same location on Earth. In Panel 1, show the location just turning into sunlight. In Panel 2, show that location after Earth rotates into darkness. Draw an arrow labeled eastward rotation, and label the Sun, day side, and night side in both panels.

A rectangular box for drawing a sketch. It has a dashed horizontal line near the bottom, indicating a horizon or ground line.A rectangular box for drawing a sketch. It has a dashed horizontal line near the bottom, indicating a horizon or ground line.

PART 1 • READ AND MARK

Underline sentences that explain how Earth's rotation changes a location from daylight to nighttime, then circle each form of the word rotate. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Why does one half of Earth have day while the other half has night at the same moment?	The half facing the Sun receives direct sunlight and has day. The half turned away receives no direct sunlight and has night.
2	What happens to a location as Earth carries it into sunlight and later away from sunlight?	As the location turns into sunlight, it has sunrise and day begins. Later it turns away from sunlight, has sunset, and night begins.
3	The Sun seems to move from east to west across the sky. According to the passage, what actually causes this apparent movement?	Earth's eastward rotation causes the Sun to appear to move from east to west across the sky.
4	How can one location have morning while a location farther west is still dark?	Because Earth rotates, different longitudes face the Sun at different times. One location can be turning into the lighted half while a farther-west location remains on the dark half.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Panel 1: Earth has a labeled day side facing the labeled Sun and a labeled night side facing away. A marked location is just entering the day side. Panel 2: The same marked location is on the night side after an arrow labeled eastward rotation shows Earth turning. The Sun, day side, and night side are labeled.

Accept answers that connect day to the Earth side facing the Sun and night to the side facing away. In the sketch, accept any clear orientation if the same location moves from the lighted side to the dark side as Earth rotates eastward.