Understanding Day-Night Cycles

https://nms8thgradescience.weebly.com/day-and-night-cycle.html

DIRECTION: Using my website, nms8thgradescience.weebly.com, go to Unit 4, Day and Night cycles. Explore the webpage and then answer each of the following.

1. Does our sun move in the sky? _____

2. Compare universal time, eastern standard time, and eastern daylight time.

3. Take some time to explore the "Interactive Time Zone Map". Record 3 observations you make. (If you are unsure of the countries on the map, reference a world map that is labelled with country names.)
   a. _____
   _____
   b. _____
   _____
   c. _____
   _____

4. Watch the Day-Night animation. As you watch the animation, use the word cards below to record in the space provided at least 3 questions, predictions and/or fact statements.

Words Cards Back to Teaching Suggestions		
sun	Earth	axis
spin	rotate	turn
daylight	night	sunrise
sunset	counterclockwise	east
North Pole	South Pole	24 hours
cycle	day	rotation
west	360 degrees	longitude
local time	Universal Time (UT)	Greenwich, England

STUDENT'S RESPONSES

- _____
- _____
- _____
- _____

5. With a partner (or small group), answer as many of the guiding questions below that you can.
   a. Why do different places have different sunrise and sunset times?

   b. How do portions of the Earth move in and out of the sun's light each day?

   c. How long does it take for the Earth to spin all the way around?

   d. In which direction does the Earth rotate?

   e. How do these images help explain why the sun appears to move across the sky from sunrise to sunset?

   f. Why is earth's daily rotation referred to as a cycle?

   g. Why do we use the words sunrise and sunset when it is the Earth that is moving?

   h. How does Universal time compare to our local time?

6. Locate your state or country on a globe and place a sticker to mark the spot. Shine a flashlight on the side of the globe and turn it slowly counterclockwise. Have students watch what happens as the globe rotates.

   a. Which countries are in daylight while our hometown is experiencing nighttime?

   b. Which countries experience sunrise after the USA, Canada, and Mexico?

   c. Why doesn't everyone in the USA experience sunrise at the same time?

   d. Why do countries in the Northern and Southern hemispheres experience sunrise and sunset about the same times, but their seasons are different?

7. There are 24 hours in a day. Each day, the earth rotates once on its axis, which equals 360 degrees. How many degrees' longitude does the earth turn each hour?