



Teacher's Notes: Earth Rotation

Science Standard:

Learning Objectives:

The students will be able to match picture to picture.

The students will be able to complete a graphic organizer.

The students will use a graphic organizer to write sentences.

The students will be able to identify what sunset and sunrise looks like.

The students will be able to identify where the Earth is in relationship to the Sun during sunrise, day, sunset, night.

The students will be able to distinguish between day and night.

The students will utilize technology to find pictures of sunset, sunrise, day, night.

Activities

1. Students do image searches. Have the students save pictures of their favorite ones. Those are then inserted onto a Word document or a PowerPoint. Students write a sentence about each bird characteristic. **See Technology printable in the materials.**
2. On a globe, place a sticker on the location of where you live. Darken the room and use a flashlight to represent the sun. Turn the globe slowly. The children can observe what causes day and night.
3. Get a collection of magazines. Have students look for pictures of day and night to cut out. Depending on group you could use the pictures for different things:
 - Divide a large poster board in half. Everyone glues pictures of day on one side and night on the other.
 - Students make their own collage of day and night
 - Students write a sentence describing day and night.

General Tips: The goal is to build background knowledge while leading an engaging discussion on any and all information that can be talked about on a given page. The items that you choose to bring up or focus on can be modified for the students you are working with. For example, if you have a student who can point to something in the picture, answer yes/no questions be sure to incorporate a lot more of that as you go through the book. On the same token, be sure to ask a lot of comprehension questions and critical thinking questions at the level appropriate for students. There is something for everyone.

Page 1: There are 8 planets in our solar system. We live on planet Earth. The blue parts of Earth is water. The green parts of Earth are land. There is a lot of water on the planet Earth!

Point: Earth, water (blue), land (green)

WH Questions: What planet do we live on?

Yes/No: Is Earth a planet? Is Earth square shaped? Is Earth round? Do we live on Earth?

Opinions/Experiences: Planet Earth is round. What other things are round?

Peer to Peer Interaction: After you read Page 1, ask students, "What planet do we live on?" The answer is the main idea card "Earth." Students will find the main idea card and read it to their partner. Teacher will prompt them to talk to each other about Earth.

Page 2: The Earth is always moving. We cannot tell that Earth is moving, but it is!

Earth rotates. That means that it turns in a circle. Have students watch the following time lapse video of Earth rotating. <https://www.youtube.com/watch?v=N7WgkWPLvz8>

Point: Earth, water (blue), land (green), red arrow

WH Questions: What does Earth do all of the time? What does rotate mean?

Yes/No: Does Earth stay still? Does Earth turn? Does Earth turn all of the time? Does rotate mean turn around?

Opinion/Experiences: Have students stand up and rotate in a circle.

Peer to Peer Interaction: After you read Page 2, ask students, "What does Earth do all of the time?" The answer is the main idea card "rotates." Students will find the main idea card and read it to their partner. Teacher will prompt them to ask their partner some of the questions talked about above.

Page 3: We can look up in the sky and see the sun. The sun is a big star. We can see the sun during the day. The sun does not move. The Earth moves. Clouds move. The sun does not move.

Point: sky, sun, clouds

WH Questions: What star can we see up in the sky during the day?

Yes/No: Is the sun a planet? Is the sun a star? Does the sun move? Does the sun turn?

Opinion/Experiences: Have students go outside and point at the sun (not looking at it). Have students stand still like the sun.

Peer to Peer Interaction: After you read Page 3, ask students, "What star can we see during the day?" The answer is the main idea card "sun." Students will find the main idea card and read it to their partner. Teacher will prompt them to talk to each other about the sun.

Page 4: The Earth is facing the sun when it is daytime. Have the students view the following video of the Earth rotating. Have the students point to the part of Earth that is light. Explain that it is daytime in that part of the Earth. <https://www.youtube.com/watch?v=OUAkZ1FOAUQ>

Point: sun, Earth, side of Earth facing the sun, side of Earth away from the sun.

Questions: Is it day or night when Earth is facing the sun?

Yes/No: Is it night when Earth is facing the sun? Is it day when the Earth is facing the sun?

Sharing Opinion/Experiences: What do you like to do during the day? Do you like to face the sun?

Peer to Peer Interaction: After you read Page 4, ask students, "Is it day or night when the Earth is facing the sun?" The answer is the main idea card "day." Students will find the main idea card and read it to their partner. Teacher will prompt them to talk to each other about the day.

Page 5: When the Earth starts to move away from the sun it is called sunset. After the sun sets, it becomes dark outside. When you look at the sky during sunset, it looks like the sun is going down. Remember the sun does not move. What is happening is that the Earth is turning away from the sun.

Have the students view the following time lapse video of a sunset.

https://www.youtube.com/watch?v=a2pu_xhBnzY

Point: clouds, sun, sky, Earth

WH Questions: Does Earth start to face or turn away from the sun during sunset? During sunset, does it look like the sun is going up or down? Is it getting light or dark during sunset?

Yes/No: Is the Earth facing the sun during sunset? Is the Earth moving away from the sun during sunset? Is it getting dark during sunset?

Sharing Opinion/Experiences: Have you ever looked at the sky during sunset? Do you think the sky looks pretty during sunset?

Peer to Peer Interaction: After you read Page 5, ask students, "What is it called when the Earth is starting to move away from the sun. The answer is the main idea card "sunset." Students will find the main idea card and read it to their partner. Teacher will prompt them to talk to each other about the sunset.

Page 6: The Earth is away from the sun at night. That is why it is so dark out. The sun is not shining on that part of the Earth. Because it is dark, we can see the moon and the stars.

Point: hands, dirt, plant

WH Questions: Is it day or night when the Earth is turned away from the sun?

Yes/No: Is the Earth facing the sun at night? Is the Earth turned away from the sun at night?

Opinion/Experiences: It is dark at night. What do you do at night?

Peer to Peer Interaction: After you read Page 6, ask students, "Is it day or night when the Earth is turned away from the sun?" The answer is the main idea card "night." Students will find the main idea card and read it to their partner. Teacher will prompt them to ask their partner some of the questions talked about above.

Page 7: When the sun starts to move towards the sun again, it is called sunrise. The sky looks pretty during sunrise. It looks like the sun is moving up during sunrise. Remember the sun does not move. What is happening is that the Earth is moving towards the sun again. Have the students view the following video showing a time lapse of the sunrise. <https://www.youtube.com/watch?v=x3ikZ4gMnlk>

Point: water, trees, sky, sun, Earth, sun

WH Questions: Does Earth start to face or turn away from the sun during sunrise? During sunrise, does it look like the sun is going up or down? Is it getting light or dark during sunrise?

Yes/No: Is the Earth facing the sun during sunrise? Is the Earth moving away from the sun during sunrise? Is it getting dark during sunrise? Is it getting light during sunrise?

Opinion/Experiences: Have you ever pulled a plant out of the ground? If so, how big were the roots?

Peer to Peer Interaction: After you read Page 7, ask students, "What is it called when the Earth is starting to move towards the sun again. The answer is the main idea card "sunrise." Students will find the main idea card and read it to their partner. Teacher will prompt them to talk to each other about sunrise.

Page 8: The Earth moves very slowly. It takes 24 hours for the Earth to rotate one time. It takes 24 hours to go from sunrise to day to sunset to dark and then to sunrise again. Have the students stand up and slowly rotate one time in a circle. Have the students view the following 24 hour time lapse. Stop

periodically and have students identify the time of day it is.

<https://www.youtube.com/watch?v=x1Os8NcSrbI>

Point: sun, Earth, sky, girl, backpack, water bottle

WH Questions: How many hours does it take for Earth to rotate one time?

Yes/No: Does it take 12 hours for the Earth to rotate one time? Does it take 24 hours for the Earth to rotate one time?

Opinion/Experiences: What are some of the things that you do every day?

Peer to Peer Interaction: After you read Page 8, ask students, “How many hours does it take for Earth to rotate one time?” The answer is the main idea card “24 hours.” Students will find the main idea card and read it to their partner. Teacher will prompt them to ask their partner some of the questions talked about above.

Page 9: There are 24 hours in one day. It takes 24 hours to go from Monday to Tuesday. It takes 24 hours to go from Tuesday to Wednesday. It takes 24 hours to go from Wednesday to Thursday.

Point: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday

WH Questions: How many times does the Earth rotate in one day? How many times does the Earth rotate on Friday? Thursday? Monday? Etc.

Yes/No: Is there 12 hours in one day? Is there 24 hours in one day? Does the Earth rotate two times a day? Does the Earth rotate once a day?

Opinion/Experiences: There are 24 hours in a day. What is your favorite day of the week? The Earth rotates one time during the day? What is your favorite time of day? Sunrise? Day? Sunset? Night?

Peer to Peer Interaction: After you read Page 9, ask students, “How many times does the Earth rotate in one day?” The answer is the main idea card “once.” Students will find the main idea card and read it to their partner. Teacher will prompt them to ask their partner some of the questions talked about above.