



MINISTRY OF EDUCATION
YOUTH & INFORMATION

- Grade:** 6
- Subject:** Social Studies
- Theme:** The physical environment and its impact on human activities
- Duration:** 2 X 40 minutes
- Attainment Target:** Understand the processes and forces that have formed the physical and built environment
- Focus Question:** How do the movements which the Earth makes as it orbits the Sun impact us?
- Lesson Topic:** Why do we have night and day?
- Prior Learning:** Check if students can:
- name the planet on which they live
 - identify other components of the Solar System e.g. the Sun moon and other planets
 - identify the Equator, the North Pole and the South Pole
- Objectives:** By the end of the lesson students should be able to:
- i. Define and use correctly the terms hemisphere, rotation, day, daytime, axis, sunrise, sunset
 - ii. Use a model/diagram to explain how rotation causes day and night
 - iii. Use measurement to create model/draw diagram
 - iv. Display willingness to acquire new information and use it to understand the world in which we live
 - v. Contribute ideas and listen to the ideas of others to complete assigned tasks
- Resources:** Globe, flashlight, atlas/map of the world, dough/modelling clay (play dough), tooth pick/large paper clip, markers, cartridge paper, ruler, multimedia projector, laptop, textbook
- Video - <https://www.youtube.com/watch?v=hWkKSkI3gkU>
- Points to Note** Dough made from flour may be used instead of modelling clay (play dough)
The flashlight on the cellular phone may be used instead of a flashlight or lantern
Teacher may use a tape measure to check the circumference of the student's model

All activities must be done in class. The model must not be made at home.
Teacher must download the video and print copies of the story before class

Engagement: *How can I get students interested in this? How do I elicit prior learning? How do I set the ground work for upcoming activities in the lesson?*

Teacher will:

- Place students in groups of 4 – 6
- Set up projector and laptop
- Hand out story, “Why there is Day and Night” as told by Lynn Maroney, to the selected readers.
- Narrate the story being told
- Direct students to watch the video
- Asks probing questions about the students’ belief about why day and night occurs.

Students will:

- Listen attentively to the story, “Why there is Day and Night” as told by Lynn Maroney, being read.
- Read sections of the story as assigned by the teacher
- Answer and discuss questions posed by the teacher at the end of the reading such as:
 - Do you believe this story? Why? /Why not?
 - How do you think day and night occurs?
- Students will then watch YouTube video <https://www.youtube.com/watch?v=hWkKSkI3gkU>
- Students will then say which explanation of why we have day and night they believe and why?

Exploration: *How do I get students involved in the topic? What tasks/activity/questions can I use to help students analyse and think while extracting information?*

Teacher will:

- Instruct students to read through worksheet.
- Play video and allow the students to view content (play the video twice for students to really absorb the content where needed). **OR** Provide students with material to answer questions on the worksheet.
- Give students instructions, materials and rubric for creating model of the Earth
- Monitor each group to ensure that the students are on task and they fully understand the tasks.

Students will:

- View the video “Day and Night Cycle” at <https://tinyurl.com/yb9q4l2z> and make notes to be used to answer the questions posed on the worksheet. **OR** Read resource materials provided and answer the questions on the worksheet.
- Complete worksheet.
- In groups, use materials provided (dough/modelling clay, paper clip/toothpick, ruler) to create a model of the Earth on its axis, using the given rubric as a guide to ensure their model meets the established criteria
- Consult the globe on the teacher’s desk or use their atlases to determine the location of the Equator and the approximate location of Jamaica. Draw a line on the model to represent the Equator and use a small piece of dough or modelling clay to mark Jamaica’s location in the Northern Hemisphere. Identify the North and South Poles

Explain: *What have the students learnt so far? How can I help students make sense of their observations? How will students communicate what they have learnt so far? How do students correct misconceptions? How do I correct misconceptions?*

Teacher will:

- Monitor the group presentations and ask guiding questions to elicit information that may not be presented.
- Measure model to ensure it meets required criteria and monitor demonstrations to ensure that the Earth is rotating on its axis
- Allow students to ask questions of the group presenting

Students will:

- Each group will present their models and demonstrate the rotation of the Earth
- Identify the Equator, North Pole, South Pole and Jamaica
- Explain how day and night occurs in Jamaica and elsewhere

Extend/Elaborate: *Extend/Elaborate: How can my students apply their new knowledge to other situations? How can students apply their knowledge to real world situations?*

Teacher will:

Give students additional activity

Students will:

Investigate how humans and various animals respond to daylight and night.

Evaluate: *How much learning has taken place? How can I help my students self-evaluate and reflect on the teaching and learning? How can I evaluate the students learning of concepts and skills?*

Teacher will:

- Mark the worksheet submitted by each student
- Use Rubric to assess the model

Students will:

- Complete and submit worksheet
- Complete model according to specification, using the rubric as a guide
- Demonstrate rotation of the Earth and day and night using model created

Rubric for model

The Model	9- 10 (Accurate)	8-6 (Satisfactory)	5-3 (Needs improvement)
Shape of Earth			
Circumference of Earth			
Axis of Earth is tilted			
Equator is identified			
Hemisphere are identified			
Jamaica is in the correct hemisphere			
Demonstration of Day and Night			
Sun is stationary			
Earth rotates on its axis			
Explanation of day and night			

Worksheet

1. What is daytime?

2. How long is a day?

3. What is rotation?

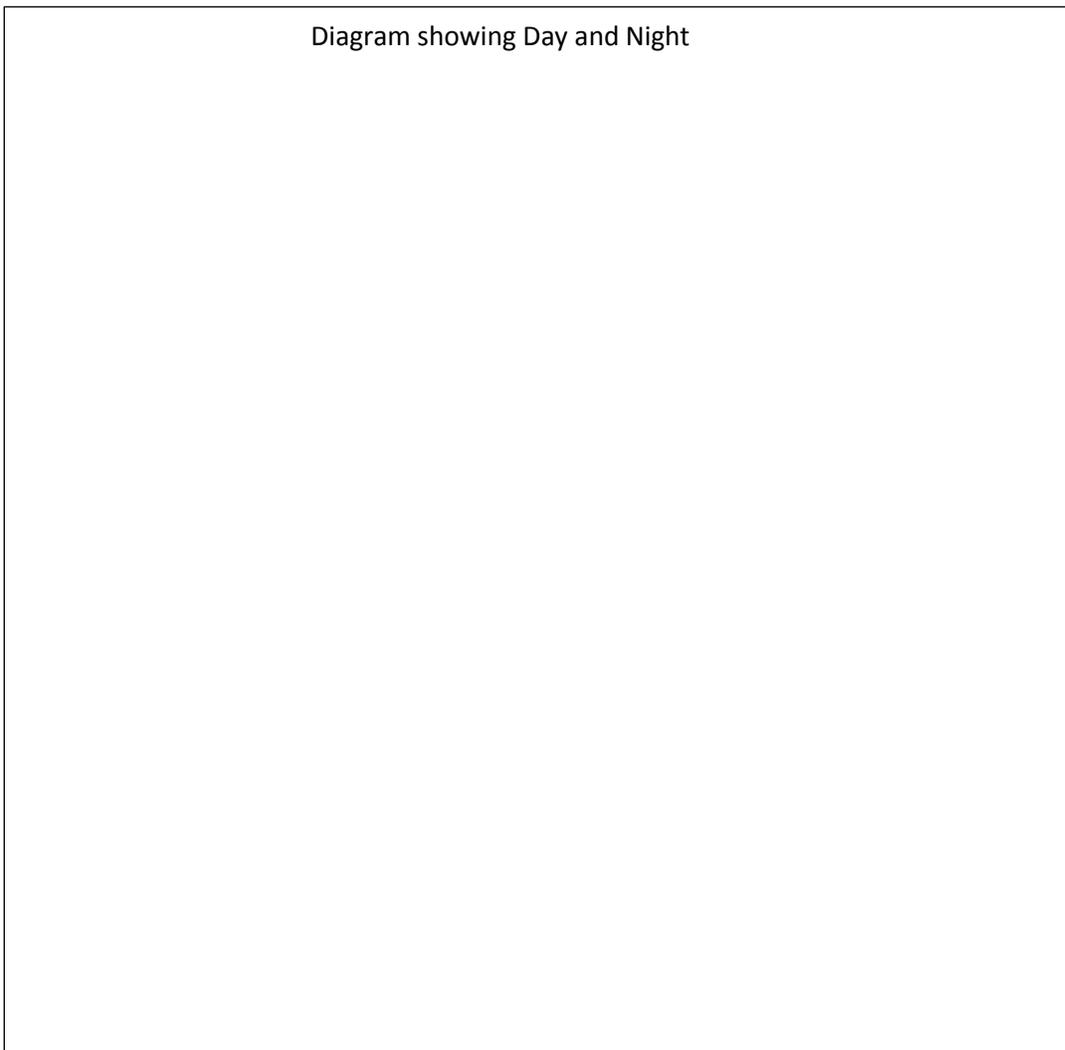
4. In what direction does the Earth rotate?

5. What is the Earth's axis?

6. Why do we have night and daytime?

7. Name two things other than Earth that rotate on an axis.

8. Draw a diagram to show day time and night time occurring on Earth. The diagram must be labelled to include the following: Sun, Earth, Axis, Northern Hemisphere, Southern Hemisphere, Daylight, Night, rays of the Sun.



Why There is Day and Night



As told by [Lynn Moroney](#)

Before there were people, there were only the animals and the birds. And in those days, the day and the night were exactly the same. One time, when Rabbit was going along, he began to think about the days and the nights and how they were alike and how there wasn't enough light. And then, in a loud voice, he said, "There is not enough light. I cannot see where I'm going. I need more light."

Just then, Rabbit heard a voice, and it said, "There is plenty of light." Rabbit could not see who was talking and so he called out "Who is there, who is speaking to me?" "It is I. It is Owl. And I say there is enough light in the world." Then Rabbit said, "Well I say there is not enough light, and I will call the animals together. We will have a council. And I will ask them. I will ask them if they think there is enough light and they will agree with me and then you will know that there is not enough light in the world." But then Owl said, "I will invite all the birds of the air. We will join in the council and then you will see that the birds will agree with me and then you will note that there is enough light in the world."

Well, all the animals and all the birds came together and they all sat around in a great circle and waited for Rabbit and Owl to speak. Rabbit stepped forward and said "There is not enough light in the world. We need more light." Then Owl stepped forward and then he said, "There is too much light. We do not need more light."

Well, with that, all the animals and birds began to talk to one another. Bear said that there was way too much light, that he liked to sleep in the dark and, if there were more light, it would interrupt his rest. Some of the birds said that they wanted more light so that they could see to gather twigs for their nests. Raccoon said that he agreed with Owl. Raccoon did not want light. Frog said that there was enough light, and that he couldn't sing well when there was too much light. Then Buffalo said that, with so little light, he couldn't find enough grass and that he was often hungry. Then all of the animals and birds began to talk at once. Some of them agreed with Owl and some of them agreed with Rabbit.

Finally, Rabbit and Owl decided that they would settle the argument by seeing which of them had the strongest medicine. And whoever had the greatest power, well, that person would have his way. So Owl began to say "Night, night, night, night." And then Rabbit spoke faster, "Light,

light, light, light." And then Owl spoke even faster, "Night, night, night, night." Rabbit's friends warned him, "Rabbit, do not say Owl's word, or it will be night all the time." And Owls' friends warned him, "Owl, be careful. Do not say Rabbit's word or there will be light all the time."

Owl was saying "Night, night, night, night, night, night, night...." when he heard his friends say the word "light". And he accidentally said, "Night, night, night, night, light ... oh, oh," said Owl. But it was too late, he had already said the word "light".

And so it was that Rabbit won. And since that time, the day has had lots of light. But because some of the animals could not hunt or sleep with so much light, Rabbit declared that part of the time would be night after all. And that is why, in these days, we have both day and night.

Variants found throughout North American Indian lore

Tale courtesy of [Lynn Moroney](#).

Background was created by Brad Snowden of the [Western Washington University Planetarium](#). Used with permission. The raven is a head-dress produced by the Haida tribe. It is owned by the Department of Anthropology, National Museum of Natural History, Smithsonian Institutes. Washington D.C. The photographer is Don Eiler.