# Oreo Cookie Moon Phase Activity

## Astronomy

### Introduction:

In this activity you and your group are going to use cookies to represent the phases of the moon as viewed from Earth. As the moon and Earth move relative to one another we see different amounts of the moon's surface lit up with sunlight. Using cookies, you will represent the phases of the moon and be able to explain why and how they occur. The white icing represents the reflected sunlight and the chocolate cookie will represent the dark or unlit portion of the moon.

## Supplies:

- 7 cookies (one can do two phases)
- 1 plastic knife or spoon
- 2 paper towels to put your cookies on and clean up any mess
- A smartphone camera



#### **Procedure:**

- 1. Gather with your group around your group station.
- 2. Decide which members of the group will grab which supplies.
- 3. Lay a paper towel down on the lab table so that you have a protected area to work on.
- 4. Take of the "top" cookie very carefully! Be cautious as to not tear up the icing in the middle. Set the top aside for now. DON'T EAT THE COOKIES! (Yes, I had to remind you that you are in a lab, cookies or not.)
- 5. Using your research skills, display each of the 8 moon phases on the sheet provided. Be sure to be cautious of the sun's direction and check with all group members before cutting the icing.
- 6. Once you and your group are confident in your results, label each moon phase on your sheet. Be prepared to justify your answers as I will be around to check.
- 7. Using a group member's phone, take a photo of your group members and your results. (Yes I'm being serious; I need a selfie of your group and your work for evidence that you did what you were supposed to.) Make sure that the photo is clear and shows legible results. Email the photo to <u>erin.witucki@kiskiarea.com</u>. Smile pretty because these photos will also be displayed within the classroom ③.
- 8. Once you have emailed your photo, you may share the cookies and eat them. Be sure to clean up your entire lab area and floor. Wipe the lab bench with a wet paper towel. I will be around to check each station.
- 9. Begin the review questions.

#### **Questions:**

Answer each of the following questions in complete sentences. Some might take a bit of extra research, so use the Chromebooks and your group members and see what you can find out!

- 1. What appears to happen to the moon as it goes through the cycle?
- 2. Why does the Moon look different at different times of the month?
- 3. What does "waxing" mean?
- 4. What does "waning" mean?

- 5. How long does it take the moon to cycle through all of its phases?
- 6. How many times a year do we see a full moon?
- 7. In what phase can we not see the moon from the earth? Explain.
- 8. What would happen if the moon's revolving speed around the earth was twice as fast as it is now?
- 9. What would happen if the moon's revolving speed around the earth was half as fast as it is now?

