

### Materials Needed

- 8 Oreo cookies
- Popsicle stick, toothpick, or butter knife
- Pencil or pen
- Paper
- Optional: smart phone

### Grade Range

K-2  
3-5  
6-8

### Topics/Skills

Science: Phases of the moon

### Learning Standards

NGSS: [Earth and the Solar System](#)

### Duration

20 minutes

### Prep Time

5 minutes

# Chocolate Moon Cookies

## Taste the Moon!

Many people admire the moon. It changes from new moon to full moon and back to new moon every 28 days. Learn more about the moon's phases by observing and replicating its phases out of Oreo cookies.

### Activity Challenge

Replicate the moon's phases out of Oreo cookies.

### Preparation

1. Review materials list and gather needed items.
2. Create a Moon Phase Chart (see the next page for guidance). Make sure each box is large enough to fit an Oreo.

### To Do

1. Slowly and gently twist an Oreo cookie. Try to get all of the frosting on one side of the cookie.
2. Use the Popsicle stick, toothpick or butter knife to create the phases of the moon out of the cookie's frosting (see image on next page).
3. Arrange the phases of the moon in order on the chart.
4. Adult Permission Required: Take a picture of your work and post it to social media. Make sure to tag RAFT!

### Observations

- Note the light and dark areas of the moon. What do you think the most distinct parts of the moon are?
- Observe the moon tonight. What phase is the moon in? How do you know?

### Extensions

- Use drawing or modeling software to create a display or presentation of your observations.
- View this moon phase simulation (<https://bit.ly/360NZC0>)
- Have fun completing RAFT's [Phases of the Moon](#) Learning Activity.

### The Science behind the Activity

Hold a ball at arm's length in front of you with a bright light (the "Sun") shining from a spot behind and above you. The ball (our "moon") would appear as a bright circle (a **Full Moon**), you (the "Earth") would have your back in "daytime" and your front in "nighttime" (see illustration on next page).

When you turn to the left a quarter of a full turn you would see the "moon's" left half lit up and right half in darkness (a **Quarter Moon**). Turning further to the left you would see the bright left half of the moon become smaller (**waning**) and the dark area become larger. The bright curved shape that you see getting narrower forms the shape of a crescent (a **Crescent Moon**). As you continue

turning, the moon's side facing you becomes completely unlit, which is called a **New Moon**. Turning further to the left a bright growing (**waxing**) crescent shape appears on the right side of the moon. When you have turned a quarter of the way around from facing the Sun, we would see the moon's right half lit up and left half in darkness (a **First Quarter Moon**). The full rotation of the real moon about the Earth takes a little less than 30 days (a **calendar month**).

Moon Phase Chart Template

<b>New Moon</b>	<b>Waxing Crescent</b>	<b>Waxing Half (first quarter)</b>	<b>Waxing Gibbous</b>
<b>Full Moon</b>	<b>Waning Gibbous</b>	<b>Waning Half (last quarter)</b>	<b>Waning Crescent</b>

Phases of the Moon

