

**8th Grade Science Unit 2: Traveling Through Space****Task 1: A Sun-Earth-Moon Model**

**Unit Essential Question:** *What forces keep the parts of our solar system together and how can we use this knowledge to plot a telescope route through space?*

**Engage**

At the end of the Lift-Off task, we used our prior knowledge to brainstorm what is in our solar system. However, to prepare to launch a telescope through space, we don't just need to know what is in our solar system, but where objects are in our solar system. The best way to visualize something so huge is by creating **models**. Before creating a model of our whole solar system, you are going to practice with a very important sub-system—the Sun-Earth-Moon system. Understanding how this system works helps to explain a lot of the phenomena you experience on Earth!

In pairs, make predictions about the science behind some of the phenomena you experience on Earth:

1. Why does your shadow grow shorter and then longer throughout a day?
2. Why is it colder in winter in and warmer in summer in California?
3. Why does the moon appear as a different shape in the sky on different nights?
4. Why can we see some stars for only a portion of the year?
5. How is it possible that an area of the world can go temporarily dark in the middle of the day?