

If the Moon were a penny...

Activity Mission 1

Objectives:

- To understand the ways in which objects move around themselves and one another.
- To explore the unique phenomena about how we see the Moon from Earth.

Initial Questions:

1. What does it mean if an object rotates?

2. What does it mean if an object revolves?

In this activity, we are going to model the rotation and revolution of the Moon around the Earth by using two coins.

Materials

One penny, one other larger coin, marker, table

Procedure:

In order to mimic the way the Moon moves around the Earth:

1. Obtain two coins – a penny to represent the Moon and another coin larger in size to represent the Earth.
2. Place the two coins on a table or desk.
3. Choose a particular place on the edge of the "Moon" as a reference point and mark it with a small mark.
4. Now, move the Moon around the Earth to make one complete circle, but be careful to always keep the spot you picked pointed at the Earth.

You have just made a model of the way the Moon moves in relation to the Earth.

Questions:

1. In your model, how many times did the "Moon" revolve?

2. How long does it take for the Moon to revolve around the Earth?

3. In your model, how many times did the "Moon" rotate?

4. How long does it take for the Moon to rotate?

5. What do you notice about the time it takes for the Moon to revolve and the time it takes for the Moon to rotate?

6. What does this mean about how we see the Moon from Earth? Repeat the activity, paying special attention to your mark on the penny. Pretend you are on the coin representing the Earth. What would you see as the Moon rotates and revolves?