Phases, Eclipses, and Tides

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Reading Skill

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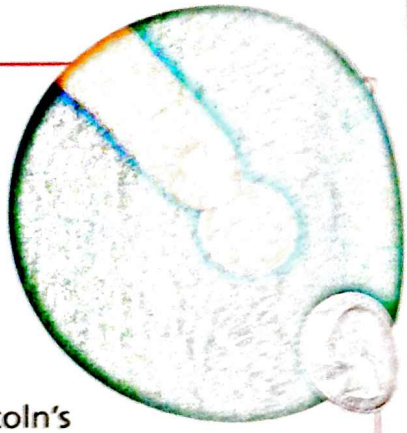
Lab zone Discover Activity

How Does the Moon Move?



1. Place a quarter flat on your desk to represent Earth. Put a penny flat on your desk to represent the moon.
2. One side of the moon always faces Earth. Move the moon through one revolution around Earth, keeping Lincoln's face always looking at Earth. How many times did the penny make one complete rotation?

Think It Over

Inferring From the point of view of someone on Earth, does the moon seem to rotate? Explain your answer.

When people look up at the moon, they often see what looks like a face. Some people call this "the man in the moon." Of course, the moon really has no face. What people are seeing is a pattern of light-colored and dark-colored areas on the moon's surface that just happens to look like a face.

It is interesting to note that this pattern never seems to change. That is, the same side of the moon, the "near side," always faces Earth. The "far side" of the moon always faces away from Earth, so you never see it from Earth. The reason has to do with how the moon moves in space.

Motions of the Moon

Like Earth, the moon moves through space in two ways. The moon revolves around Earth and also rotates on its own axis. It takes the moon about 27.3 days to revolve around Earth.

The moon rotates slowly on its own axis once every 27.3 days. Because the moon also revolves around Earth every 27.3 days, a "day" and a "year" on the moon are the same length. For this reason, the same side of the moon always faces Earth. As the moon revolves around Earth, the relative positions of the moon, Earth, and sun change. **The changing relative positions of the moon, Earth, and sun cause the phases of the moon, eclipses, and tides.**