EDIBLE ROCKS

Goal:

Use candy bars to help understand meteorites.

Estimated time:
45 minutes

Who to do it with:
Ages: 10–Adult
Numbers: 1 or more!

What you need:

- Prepared edible samples (See list on page 8.3 of educator guide)
- Small plastic bag to hold samples
- Knife to make cross sections of samples
- Field note descriptors (See pages 8.7-8.10 of educator guide)
- Student procedure for each group of two participants (See page 8.5 of educator guide)

Advanced preparation:

1. Go to http://ares.jsc.nasa.gov/ares/education/program/ExpMetMys/LESSON8.PDF and download the educator guide.
2. Determine which samples you want to use and prepare samples. (See pages 8.1-8.2 in educator guide for directions.)

How to do it:

1. Explain that meteorites are rocks from space that hit the Earth.
2. Explain that in this activity, we will make descriptions and sketches of each meteorite candy sample.
3. Distribute one candy sample per small group. Have participants describe their observations using familiar vocabulary but **no food terms**. For example: The outer layer is a thick coat of light brown materials containing tan colored round chunks (instead of chocolate candy bar coating that contains peanuts.)
4. Once descriptions and sketches are done, have participants try to match their sample with the prepared field note descriptors. Note: They will likely try several matches before they have an accurate pairing.
5. During step #4, you should verify that correct pairs were made.

6. Once matched correctly, have participants place their sample next to the correct field note descriptor. Reward them with a separate piece of candy.
7. Involve participants in the following questions:
    a. What are the basic skills you modeled as a scientist?
        i. Making detailed observations of a sample
        ii. Task was accomplished with teamwork
        iii. The skills and processes used to observe and record data
        iv. Communicating observations and sharing results verbally

Optional:

8. Have participants describe their sample to the whole group.
9. Conduct the same exercise with real rocks.
10. If you have access to computers, participants can Find a Meteorite with this computer interactive: http://dawn.jpl.nasa.gov/meteorite/experiment.asp

Why do it:

Studying meteorites is an easy way to study rocks from other planets or from the asteroid belt. Many meteorites came to Earth from Vesta or Vestoids!

Some meteorites come from asteroids that are very old. A lot of asteroids formed in the beginning of the solar system (4.5 billion years ago), and impacts since then have sent us pieces of the asteroids. So meteorites are like having a time machine that can tell us what things used to be like in the beginning of the solar system. Why? Most meteorites are from asteroids that formed at the beginning of the solar system.