**Resources, Materials, and Equipment**

Modeling Clay (8) String Measuring Tape (8)

Scissors

**Pre-requisites**

Students will understand to some degree the size and scale of the solar system and orbiting bodies to apply to the Sun-Earth-Moon system.

**Implementation**

Step 1: Divide clay into 50 equal-sized pieces.

Step 2: Set one piece aside and roll into a ball.

Step 3: Mash the remaining 49 pieces together and make a ball.

* + 1. Earth and Moon have now been created.
    2. Before uncovering step 4, explain that the orbit of the Moon is approximately 30 Earth diameters. What is diameter? How will we figure this out?
    3. Have a “getter” from each group come up and get string and scissors.

Step 4: Measure the diameter of the Earth. Measure a length of string 30 times this diameter. (pass out lengths of string and scissors.)

Step 5: Connect the string to the Earth and Moon by poking the string into the clay.

Step 6: With two team members, carefully stretch out the string to full length to view the Earth-Moon system in proper scale.

**Reflection:**

**What went well?**

When the sense of space really hit home, this exercise was fantastic. The warm-up relating to eclipses was great too, as it got kids thinking about how eclipses aren’t common and it must be difficult for Earth and Moon to line up frequently.

Also, asking students about how they might perceive an eclipse if they were around several thousand years ago, then relating it to myths and legends went over well. Although not planned, the example of China continuing the tradition with its navy last century was a nice piece to relate how modern we are...yet there are cultural pieces that we carry with us, too.

There was a ton or participation and engagement in the activity overall.

**What didn’t go as planned?**

There was one class that I had to stop the activity. After multiple reminders regarding noise level and time required refocusing, I collected the materials and we took a look at the back wall of traits that scientists have.

**What can be improved for next time?**

The lesson overall went great. I think that one area that I should have remembered to do, but didn’t, was keep tabs on lab points for the day. This probably would have helped with behavior issues in the one class and offered the opportunity for them to continue with the lab.

Also, although each class except for the one completed the activity, only one class finished with time for reflection. The reflection piece was very powerful. Many comments related to a sense of awe about how much space there is in space, and how something so far away could have such an impact on life on Earth – tides, etc.