

Moon: NC Summer Tour Lesson 2007

Moon pie

Location: Classroom

Objectives: learn how craters and marea are formed on the moon

Materials Needed:

- large pans, one for each table, with a thick layer of dark soil and a dusting of sand or lighter soil on top
- small rocks or marbles
- moon globe

Instructions:

1. (3-5 mins) Still on the carpet, pass around the moon ball so that everyone can look. What are all those little bumps and holes on it? These are craters. How were they formed? Let children guess. A crater is made when a rock floating around in space (these are meteors—we'll talk about them later in the day) hits the moon and leaves a dent. The Earth and other planets have craters too—we just don't see as many on Earth because rain and wind washed them away (there is no weather on the moon).
2. (3-5 mins) What are the dark blotches on the moon? We sometimes think of these as making a face, the man in the moon. Of course there's not really a man on the moon, but sometimes we can see patterns on the moon's surface, like that face. The dark patches are called marea, and they're formed a lot like craters are. What happens is a really big rock hits the moon, and punches so deep inside it makes a volcano. It's sort of like the crater pokes a hole in the moon and a little of its guts leak out, and these are the big dark patches on the moon, marea.
3. (10 mins) Send everyone to the tables, where a pan will already be set out, but don't let them touch the pans yet. Explain that we're going to pretend that the dirt in the pan is the moon, and we're going to do an experiment to see how craters are made. The rocks are our meteors. What will we need to do with them to make craters? How could we make marea? Have them tell you, not show you yet. Give each child 3 or 4 rocks and let them drop them into their pans. Make sure they take turns, and drop things one at a time. Have them experiment with different heights and different sizes of rocks.
4. (3 mins) Once all the rocks have been dropped, counselors can carefully remove the rocks. Have each group share their moon surface with the others. Did their craters turn

out deep? Big? Are there any marea?

Sun, Earth and Moon Dance (this is lots of fun!, and make them dizzy)

1. (5-7 mins) The sun's gravity also makes the Earth circle around it in something called an orbit. Again, have them repeat this word to you. An orbit is a big circle in space—all the planets, plus the moon, have orbits. One of Earth's orbits is called a year—use their ages to illustrate (i.e., you're five years old—that means the Earth has gone around the sun five times since you were born). While the Earth is making circles around the sun, though, it's also spinning around on its own—this is what makes a day. It looks like the sun moves across the sky, but really it's the Earth that's moving, making it look like the sun moves. Do the Earth-Sun dance—demonstrate first with two counselors, then let kids try it in pairs. (also add in the moon if you are up for some more fun! the kids should be in groups of three for this) The sun stands still, while the Earth spins around AND walks in a circle (and the moon goes around the earth, but does NOT spin on its own). Switch after everyone's got it right. The Earth has a hard job, doesn't it?

TIMES ON THIS SCHEDULE ARE APPROXIMATE. GIVEN THAT OUR TIME CONSTRAINTS MAY BE VARYING, ADAPT THEM TO ADJUST TO OUR SETTING.