

MSU Science Zone

No. 11

Is Moon dirt different than Earth dirt?

You probably never thought about how Moon dirt and Earth dirt were made. Believe it or not, they were made differently. The dirt on the Moon was formed by meteors smashing into rocks on the Moon's surface. The depth of the dirt ranges from about 6 feet deep to 65 feet deep. Moon dirt can be sharp, rough, and made of tiny pieces of glass. It can slow down or break machinery and damage human lungs. On Earth, dirt was formed by weathering, which includes rain, wind and ice.



If you were going to build a robot to dig Moon dirt, how would you do it? Engineering students at MSU recently won a national contest held by NASA to see whose robot could dig up the most pretend Moon dirt. They beat teams from 21 other colleges and universities and won \$5,000 with their robot the Montana MULE. They also won a chance to go to Kennedy Space Center in Florida to see a Space Shuttle launch.

Learn about opportunities to participate in upcoming science activities and events at MSU by visiting Montana.edu/outreach



Try making "dirt"

Try the following experiment with an adult helping you.

You'll need: sand paper; a large plastic tub or flat cooking sheet; and two different colors of toast (like white and wheat) or flat crackers. The toast needs to be really dry and brittle. Note that whole wheat bread does not get brittle enough.

1. Imagine that the piece of toasted bread is a rock on Earth. Your hand is the wind. Rub your hand over the toast many times. What happened? Describe the size and shape of the crumbs.
2. Now imagine that the sand paper is wind carrying particles of sand. Rub the toast with the sand paper. What happened?
3. In a large plastic tub, or on a flat cooking sheet, stack 2 slices of very brittle toasted white bread on top of 3 slices of toasted golden wheat bread (or use two different colors of large flat crackers). This represents the Moon's crust. Drop a rock onto the layers of toasted bread twice from waist high. You might want to tape the tub to the ground so it doesn't move. What happened? Describe the bread slices and the crumbs.

Project courtesy of NASA JPL (http://sse.jpl.nasa.gov/docs/Regolith_508FC.pdf)

Did-you-know?

Scientists make fake Moon dirt for NASA to use when testing robots, rockets and equipment?



Mountains & Minds