

Rocks and Soil

Running Time: 26 Minutes

Nifty questions in this episode:

- In what state did all the rocks in the world once exist?
- What breaks rock down?
- What is dirt?
- What are the three types of rock?

Awesome answers:

- All the rocks in the world once existed in a melted state.
- Wind and rain break rock down and make sand.
- Dirt is rock, broken down.
- The three types of rock are igneous, sedimentary and metamorphic.

Experiments shown in the video:

CRYSTAL CLEAR

Objective: To make crystals.

- Cut black construction paper to fit inside a jar lid.
- Pour one-fourth cup Epsom salts (obtained from a drug store) into one cup water.
- Pour some of the Epsom salts solution into the lid and let it sit for a day.
- Crystals will form. Notice how crystals draw together.

More interesting stuff to do:

EAT 'EM UP!!

Objective: To demonstrate the three basic forms of rock.

- Use a cookie or brownie mix in powder form (sedimentary rock).
- Mix ingredients together and add to the recipe if necessary. Change begins to occur (metamorphic rock).
- Place cookie or brownie mix in an oven and bake at the proper temperature (igneous rock).
- Try adding some chocolate chips, nuts or candy to make conglomerate rock or various forms of metamorphic rock.

THE LAYERED LOOK

Objective: To demonstrate how hot, molten magma could penetrate the Earth's layers through vents.

- Place a large (26.5- by 24.4-centimeter), heavy-duty zippered freezer bag on a table with the open end up.
- Cut a 25.5- by 24.4-centimeter piece of tag board (or stiff cardboard) and trim to fit just inside the freezer bag.
- Insert the tag board into bag.
- Use the following ingredients to build Earth layers on both sides of the tag board inside the bag.
- Pour pudding or yogurt across the bottom of one side of the bag eight centimeters high.
- Stick three large straws into the pudding or yogurt. Space them across the bottom of bag, sticking up towards the bag opening.
- Build four or five layers, each three centimeters high, on top of the pudding/yogurt. Each layer should be made up of different materials (pebbles, soil, clay, sand, mixed material, minerals, etc.).
- All layers should resemble the Earth's layers in appearance and texture. A funnel or a cone made from a piece of notebook paper will help you pour the different layers.
- A sucking action on one of the straws will bring the pudding or yogurt (magma) to the top of the straw (volcanic action).
- Use a ball pump to pump air through one of the straws. This pumped air will force the pudding or yogurt out one of the straw openings (some may ooze along the layers).
- Build additional layers on the other side of the tag board (different configuration and substances) for comparison.
- What happens to the Earth's layers as the pudding or yogurt is pumped out through straws? Do they shift, change, lift up or fall? Explain.

Way Cool Scientist: Chuck Natsuhara, Soil Scientist



Disney Educational Productions

105 Terry Drive, Suite 120
Newtown, PA 18940-3425
1-800-285-6310



Funding provided
by The National
Science Foundation.