

F CUSED FIELD TRIPS

PLEASE NOTE: Parts of Level 1 are currently under renovation while we prepare your next scientific adventure! For up-to-date construction information, please visit azscience.org/construction_updates.

Third Grade Student Investigation

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This Investigation contains activities on a variety of topics found throughout the Center. Each activity directly supports the Arizona state science standard (listed in the Teacher Guide). Exhibits are also sometimes removed temporarily for repair or refurbishment, or may be in use by other groups, so be prepared to be flexible.

Investigation Activities

Between Levels 2 and 3: Music Landing. Note - this area is not wheelchair accessible.

Sounding Off

Pitch is one term used to describe sound waves. It can be described as the highness or lowness of a sound. An example of a high-pitched sound is the buzz of a mosquito. The purr of a cat has a lower pitch.

Where to go

Plucked Strings

What to do

Pluck each string one at a time. Listen to the pitch – how high or low the sound is. Match the length of the string to the pitch of the sound.

| | |
|-----------------|------------|
| Longest string | High sound |
| Shortest string | Low sound |

Imagine a violin and a cello.

Which instrument has longer strings? _____

Which instrument has shorter strings? _____

Which do you think has a higher sound? Why? _____

Did you know?

Plucking the strings makes them vibrate. The vibrations travel from the strings to the soundboard, making the entire soundboard vibrate. The big, hollow shape of this box amplifies, or makes louder, the vibrations from the soundboard. The sound comes out the hole, and is picked up by your ear.

Level 3: Forces of Nature in the Sybil B. Harrington Galleries

The Rock Cycle

Like water, rocks also have a cycle. They are all around us; they leave us clues that provide information about the Earth and how it changes. Rocks are classified as igneous, sedimentary and metamorphic, depending on how they were formed. A rock is made up of one of more minerals.

Where to go

The Rock Recycler

What to do

At the Rock Recycler, preview the rock cycle by reading and discussing the information provided on the chart on the left.

Can you guess how these rocks were made just by looking at them?

Using the Rock Recycler, have each person in your group participate in changing rocks. As you are making choices, make sure to take a rock through at least 3 changes. Be sure to pay close attention to the how the rocks are changed.

Name three of the forces that can change rocks from one type to another:

Now find the exhibit, Earth Rocks: Take a Closer Look. Use the magnifying eye to look at examples of each type of rock.

Write down some words you would use to describe the rocks:

Are all the rocks the same? Why or why not?

Based on what you learned from the Rock Recycler, can you identify the three types of rocks in these samples?

Level 3: Hallway

Rocks and Minerals

The Earth is made of rocks and minerals. The main difference between a rock and a mineral is that a mineral is the same all the way through. Rocks are made of two or more minerals, and can be very different in color and texture.

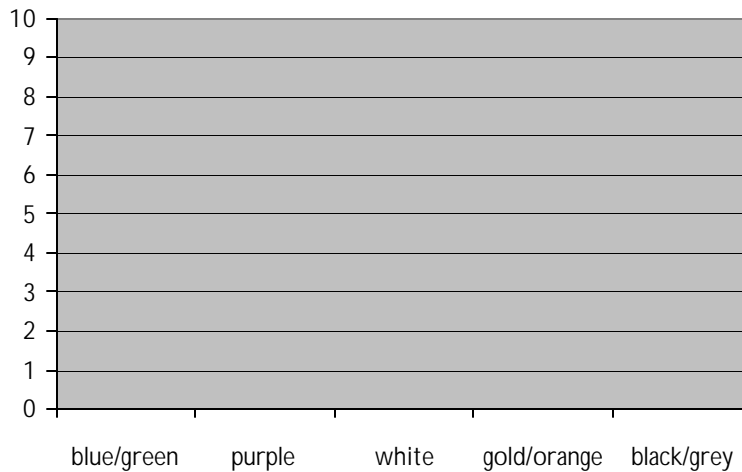
Where to go

Minerals of Arizona

What to do

Look at the specimens in the case, and decide how you would describe the color of each mineral. Put an "X" in a column above each color for each specimen.

Which color is most common in this collection of minerals?



Did you know?

There are about 3000 known minerals on earth. The color of a mineral comes from the chemicals it is made from, plus any trace elements that may be nearby.

Updated September 2010

Level 4: Solarville in the APS Solar Gallery

We're All In This Together!

An **ecosystem** is a community of living and non-living things that work together. Ecosystems have no particular size. An ecosystem can be as large as a ocean or as small as a lake.

The water, water temperature, plants, animals, air, light and soil all work together. If there isn't enough light or water or if the soil doesn't have the right nutrients, the plants will die. If the plants die, animals that depend on them will die. Ecosystems in nature work the same way. All the parts work together to make a balanced system.

Where to go

Solarville, Ecosphere

What to do

Tell the students they are looking at an ecosphere and give the students a few minutes to observe it.

Ask them to describe what they notice (this ecosystem contains green algae, a rock, water and tiny shrimp).

Have the students try to identify the living and the nonliving aspects of the ecosystem.

Ask the students why they think this ecosystem needs both living and nonliving things to survive? What would happen if one part was removed from the ecosystem?