

LAB: ARE YOU READY TO ROCK???

IDENTIFYING ROCK SAMPLES

ROCK TYPE	ROCK SAMPLE #	ROCK SAMPLE NAME
IGNEOUS	I-1	Pumice- has holes and floats
IGNEOUS	I-2	Granite- coarse texture, large crystals, light gray color
IGNEOUS	I-3	Scoria- has holes does NOT float
METAMORPHIC	M-4	Gneiss- wide bands, can see crystals
METAMORPHIC	M-5	Marble- WHITE
METAMORPHIC	M-6	Quartzite- looks like sandstone
SEDIMENTARY	S-1 OR S-2	Conglomerate/breccia- large pebbles, conglomerate is rounded, breccia is angular
SEDIMENTARY	S-3	Sandstone- like sandpaper
SEDIMENTARY	S-9	Limestone- shells, dead coral

Igneous Rocks

- Using the **Igneous Rock ID chart**, identify the igneous rocks. Make sure everybody in your group has a chance to handle the rocks, use their charts, and has some input in the naming them. (This is Important.)
- What does texture look like in an igneous rock? Describe how you used this concept to ID your rocks: How does this relate to the terms intrusive and extrusive?

The texture is different for different igneous rocks...Large crystals vs small crystals. Extrusive cool on surface quickly – small crystals, Intrusive cool inside Earth – larger crystals

- What does composition look like in an igneous rock? Describe how you used this concept to ID your rocks.

Different colors and crystals and different crystal shapes. Looked at different sizes of crystals to identify rock

- What evidence do you see in igneous rocks that show they are really made of minerals? Give specific examples..

The difference in the crystals. For example pumice has really tiny crystals that can barely be observed by your eyes, while granite has larger crystals that are easy to see and different colors.

- Examine the samples of pumice and scoria. How are they alike? How are they different?

The both have lots of bubbles and fall apart easily. The bobble holes are larger in scoria, scoria is a darker color, pumice is a light color, and pumice is less dense

- Rocks like pumice and scoria are extrusive. How do you suppose they got their holes?

Gas escaping

7. Rocks like granite are intrusive. How is granite similar to pumice? How is it different? Give specific examples.

Both have crystals. Pumice's color is all gray where granite is speckled and the crystals in granite are larger.

Sedimentary Rocks

1. Using your **Sedimentary Rock ID Chart**, identify the sedimentary rocks. Make sure everybody in your group has a chance to handle the rocks, use their charts, and has some input in the naming them. (This is Important.)
2. Sandstone and conglomerate are really made of the same stuff. Why are they classified as 2 separate rocks?

Different sized particles

3. How do non-clastic rocks like limestone, help demonstrate a major difference between minerals and rocks?

Different colors and crystal shapes show different types of minerals.

4. The Bonneville Salt Flats here in Western Utah were deposited by Lake Bonneville some 10,000 years ago. Why are they classified as "evaporates"? Which chemical phase change had to occur to change them?

Water "evaporated" leaving behind the minerals

Metamorphic Rock

1. Using your **Metamorphic Rock ID Chart**, identify the metamorphic rocks. Make sure everybody in your group has a chance to handle the rocks, use their charts, and has some input in the naming them. (This is Important.)
2. Just using your hands compare the density (heaviness) of sedimentary, igneous, and metamorphic rocks. How can this difference be explained?

It depends on the type of rock. More sedimentary rocks tend to be less dense while more metamorphic rocks tend to be most dense.

3. Why does the metamorphic rock gneiss look so much like the igneous rock granite? How does this observation help geologists' construct a rock cycle?

When granite undergoes heat and pressure, many of the minerals soften and rearrange forming the bands in gneiss. This help by showing a change in type of rock, where the minerals are simply rearranged

4. The metamorphic rock marble does not look like the sedimentary limestone rock that it formed from. How is this best explained?

Heat and pressure changes the arrangement of minerals