

Measurement

How are rocks classified?

All rocks can be divided into three categories: igneous, metamorphic and sedimentary. These categories describe how the rocks were formed.

The word *igneous* comes from a Latin word that means "out of fire." Igneous rocks form when magma (hot, melted rock from beneath Earth's surface) hardens.

The word *metamorphic* comes from a Latin word that means "change form." Metamorphic rocks can form when igneous, sedimentary or other metamorphic rocks undergo changes in heat and pressure.

The word *sedimentary* comes from a Latin word that means "settling." Sedimentary rocks can form when loose material or sediments settle and become pressed or cemented together.

In this Virtual Lab you will watch a presentation that describes how igneous, metamorphic, and sedimentary rocks are formed and explains their different characteristics.

Then you will classify and identify mystery rocks by performing scientific tests.

Objectives:

- Classify rocks according to their origins (igneous, metamorphic, or sedimentary).
- Identify different types of igneous, metamorphic, and sedimentary rocks.

Procedure:

1. Click the Video button. Watch the presentation to learn about igneous, metamorphic, and sedimentary rocks. Observe how rocks are formed and compare their different characteristics.
2. Click and drag a rock sample to the test plate.
3. Drag the magnifying glass over the rock sample to determine whether it is igneous, metamorphic, or sedimentary. Review the presentation if you need more help.
4. Take the rock to the appropriate Rock Testing Lab by clicking the door you want to enter. Only the door to the correct lab will open. Use your Journal to record how you determined the correct testing lab.
5. Igneous Rock Testing Lab: Drag the magnifying glass over the rock sample

to get a close-up view. Click the posters on the wall to get specific information about igneous rocks. Use the left and right arrows to page through the information on the poster.

Metamorphic Rock Testing Lab: Drag the magnifying glass over the rock sample to get a close-up view. Click the posters on the wall to get specific information about metamorphic rocks. Use the left and right arrows to page through the information on the poster. Remove the magnifying glass from the rock sample. Drag the rock sample over the piece of glass.

Sedimentary Rock Testing Lab: Drag the magnifying glass over the rock sample to get a close-up view. Click the posters on the wall to get specific information about sedimentary rocks. Use the left and right arrows to page through the information on the poster. Then click the 5% HCl Solution bottle to place a drop of HCl on the rock sample. If no reaction occurs after the hydrochloric acid is dropped on the rock, the result is negative. Write your observations in your Journal.

6. Open the Table and compare your observations about your rock sample to the data in the Table. Determine the identity of the mystery rock.

7. Click the door to return to the Main Lab. Click the arrow on the front of the test plate. Select the name of the mystery rock. Click Check.

8. Repeat the activity several times. After testing various rocks, complete the Journal questions.