

Igneous Rock Collection

Guide

Once you begin investigating rocks, you will probably collect quite a lot of information. Here are a few ideas to keep you and your rock information organized.

Carry a notebook when you're out looking for rocks.

It's not enough to just find a rock. You also need to be able to write down important information about your find. This information might include:

- Where and when you found the rock
- Information about other rocks in the same location
- A picture of your find and a description, including its colors, shape, size, and any other information you discover by looking at it

Give each rock in your collection a number.

It is important to keep your rock information organized. Here's how:

1. Give each rock a reference number. You will use this number to keep track of all the information about this rock.
2. Dab a small spot of white hobby paint or correction fluid on a rock. When it dries, write a small number on the spot.
3. Keep the numbers and data in an easy-to-access place. You can create a chart or database on a computer or you can write an index card for each crystal or rock and file them alphabetically in a recipe file.

Protect your samples.

You can buy more trays or even build them yourself out of wood or cardboard. Empty egg cartons are also useful for storing rock samples. If possible, let each sample sit on a sheet of cotton to protect it.

Join a club.

A great way to discover more is with other rock hounds. You can join or start a local rock club. Sometimes it's easier to find samples if lots of people are looking in the same area at the same time.

Also available from Educational Insights:

EI-5201	Everyday Uses Rock & Card Set	EI-5208	Sedimentary Rock Collection
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EI-5207	Mineral Collection		



Before You Begin

Locate the sheet of 12 stickers included in this rock box. Peel off each sticker and apply it to the smoothest part of each rock. The rocks have been packed in the box in the order they appear on the inside box lid: (1) scoria, (2) pumice, (3) gabbro, (4) tuff, (5) rhyolite, (6) diorite, (7) granite, (8) andesite, (9) basalt, (10) obsidian, (11) pegmatite, and (12) porphyry. If the rocks get mixed up, refer to this guide or the box lid so you can always identify them.

Igneous: Rocks from Fire

The word **igneous** comes from the Latin word *igneus*, meaning “fire.” Igneous rocks are formed when magma, the hot, molten rock from deep within the Earth, cools and solidifies.

There are two types of igneous rock: **intrusive** and **extrusive**. Rocks formed from slowly cooling magma inside the Earth are called intrusive igneous rocks. Because the magma cools slowly, larger crystals can grow on the intrusive rocks. When liquid magma forces its way to the Earth's surface during a volcanic eruption, it is called lava. The lava cools quickly when it reaches the air, forming extrusive igneous rocks. Extrusive rocks do not have time to form large crystals because they cool too fast.



WARNING:

CHOKING HAZARD — Small parts.
Not for children under three (3) years.



CAUTION:

Federal law requires us to advise that THE ROCKS in this educational product may contain lead which may be harmful if swallowed. We stand behind the safety of all of our products. For further information please contact us at QA@educationalinsights.com or 800-222-3909.

Let's Look at Your Igneous Rocks



Scoria

Scoria is a reddish, extrusive rock that is often found near basalt. It is formed from fast-cooling lava blasted out of a volcano. Scoria is used in roads and landscaping.

Pumice

The word pumice comes from the Latin word *pumex*, meaning “foam.” Pumice, like obsidian, is formed from lava that pours out of a volcano. However, both look and feel very different. Pumice has many little holes that were formed by escaping gases. The holes make pumice very light—so light that it can float!

Gabbro

Gabbro is a coarse-grained intrusive rock that is chemically similar to basalt. A dense rock, it is greenish or dark-colored. It is often found along mid-ocean ridges or in ancient mountains composed of compressed oceanic crust.

Tuff

Tuff is made of compacted volcanic material smaller than 4 mm (0.2 inches) in size that is fused together by extreme heat.

Rhyolite

Rhyolite, an extrusive rock formed from quick-cooling lava, is a light-colored rock consisting of micro-crystalline potassium feldspar, quartz, and other minerals.

Diorite

Diorite is an extremely hard, medium- to coarse-grained intrusive rock. It is composed of light-colored and dark-colored crystals, which give it a “salt and pepper” effect. The famous Code of Hammurabi was inscribed in a slab of diorite.

Granite

Granite, an intrusive rock, is a popular building material that is usually light in color. Because it is formed underground, it contains large crystals that form when the hot magma inside the Earth cools slowly.

Andesite

Andesite is a fine-grained extrusive rock. It can look similar to basalt, but is more light-colored. Although its name is derived from the Andes Mountains, it is common in most of the world’s volcanic areas.

Basalt

Basalt is an extrusive rock that forms on the surface of the Earth. It is the most common extrusive rock, formed from hot lava that pours out of volcanoes and cools quickly when exposed to the air. Basalt contains only very small crystals that form when lava cools quickly.

Obsidian

Obsidian is a smooth, glassy extrusive rock that cooled very quickly, leaving no time for crystals to form. Early people used obsidian for tools, arrowheads, and ornaments because of its sharp edges.

Pegmatite

Pegmatite, a very coarse-grained intrusive rock formed deep within the Earth, contains many beautiful mineral crystals. Its composition is very similar to that of granite.

Porphyry

Porphyry is an intrusive rock that contains crystals called phenocrysts. A rock’s texture is *porphyritic* when it has two distinct sizes of crystals. Look carefully at the rock. Can you see the different sizes of crystals throughout its speckled composition?

Tips for Rock Hounds

Your rock collection may be the beginning of a life-long hobby. Here are some tips that will help you in your search for rocks.

Respect the environment.

Many rock hounds today don’t collect the actual rocks they find. Instead, they collect the information they gather from the rocks. Why? In many places people have removed so many natural parts of the environment that other parts—living parts—suffer. Taking rocks from some places may mean destroying a home for plants and animals. If you’re not sure it’s okay to take a rock, take notes instead. Better yet, take a photo too!