

Non-Foliated Rocks

Chapter 11

The major differences between foliated and non-foliated metamorphic rocks is the texture, appearance, and the type of pressure applied during recrystallization. The pressure applied to the reforming rock causes the differences in the way the rock looks once recrystallized and determines whether it be foliated or non-foliated.

Soapstone

Soapstone is a metamorphic rock that is composed primarily of talc. Soapstone is also known as steatite. The rocks contain varying amounts of chlorite, micas, hornblende, and other minerals. It is usually very soft because it is primarily made of talc.

Soapstone is a rock that can contain a variety of minerals. The minerals contained in the soapstone depend on the parent rocks, temperature, and pressure at the time the rock formed. As a result, they physical properties of soapstone can vary from quarry to quarry.

The grade of metamorphism sometimes determines its grain size. Soapstone with a fine grain size is used for highly detailed carvings. The hardness of soapstone can depend on other minerals in the rocks and the level of metamorphisms can determine its hardness. Harder varieties are used for countertops because they are more durable than soapstone that is pure talc.

Throughout the world, in areas where the soapstone is exposed at the surface, it was one of the first rocks to be quarried.

Native Americans

People have quarried soapstone for thousands of years. As early as 3000 to 5000 years ago they used soapstone to make bowls, cooking slabs, smoking pipes, and ornaments.



Boiling stones / NPS Ocmulgee National Monument

Boiling stones

Native Americans made boiling stones for cooking out of soapstone with a hole in them so they could move them when they were hot. They heated stones in a fire and then used a stick to transport the stones to a small pit lined with a thick animal skin. The boiling stones cooked the stew and were used over and over.

West coast Native Americans traveled by canoe 60 miles to San Clemente Island to obtain soapstone for cooking bowls and to create carvings of people as early as 8000 years ago.

Name _____

Date _____

Non-Foliated Rocks

Quiz 11

Fill in the blanks using words from the Word Bank

1. The name serpentine originated from the similarity of the texture of the rock to that of the skin of a _____.
2. Soapstone is a metamorphic rock that is composed primarily of _____.
3. Chert recrystallizes into low-grade microcrystalline _____ that is like sand grains on a beach but are microscopic in size.
4. Knapping is the process of breaking off parts of obsidian, flint, chert, and novaculite to form sharp pointed _____ and spearheads.
5. Metamorphism of serpentinite usually destroys the texture of the parent rocks because the minerals in serpentinite are _____ and flexible.
6. New studies show that _____ inside the crust react to serpentine minerals forming talc.
7. Arkansas _____ became world-famous for their ability to produce a sharp edge on a metal blade.
8. Novaculite is a dense, hard, fine-grained silica rich rock that breaks with a conchoidal _____.
9. The people of Scandinavia began using _____ during the Stone Age.
10. Subduction zones are places where _____ forms in low temperature and high-pressure areas.

Word Bank

soapstone	weak	snake	arrowheads	serpentinite
hot fluids	quartz	talc	whetstones	fracture

Rock Hard Dough Art

Activity 11

Background information

Kneading flour, salt, and water causes the materials to bind together. The pressure you apply to the dough creates a change in texture. The longer you knead the dough the smoother it becomes. When the dough is baked the materials change without melting. This is like what happens to rocks recrystallize without melting.



Materials

- ◆ Measuring cup
- ◆ Flour
- ◆ Salt
- ◆ Cold water
- ◆ Garlic press (optional)
- ◆ Paints
- ◆ Baking tray

Directions

Creating the dough

1. The basic recipe for dough art
 - 2 Cups flour
 - 1 Cup salt
 - 1 Cup water
2. Mix the flour and salt in a bowl.

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