

9. Granite is composed of four minerals. Name them.
10. Feldspar can be chemically broken down into:
 a) Sand b) Clay
 c) Silt d) Sandstone
11. Clay will settle out of water to form what?
 a) Chalk Deposits b) Mud
 c) Oil Shale d) Granite
12. All rivers and streams carry sediments.
 (True or False)
13. Salt is a Sedimentary rock? (True or False)

Answers

1. Wind or Water
 2. Shale (C)
 3. Sandstone (C)
 4. Clastic and Non-Clastic
 5. 1) Clastic
 2) Clastic
 3) Non-Clastic
 4) Clastic
 5) Clastic
 6) Not a Sedimentary rock
 7) Clastic
 8) Clastic
 6. (B) CaCO_3
 7. (D) Bottom of the Ocean
 8. (A) Sandstone
 9. Granite is composed of Quartz, Hornblende, Mica and Feldspar
 10. (B) Clay
 11. (C) Mud
 12. (A) True
 13. (A) True

The Physical Geography Series

Sedimentary Rocks and Their Formation

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Glossary

Sedimentary Rocks- Existing rock which was broken down due to mechanical weathering such as wind, water, gravity or chemical weathering.

Coquina- Sedimentary rocks which are composed mainly of broken and worn fragments of shells and large shell fragments cemented together with calcium carbonate.

Shale- A fine-grained Sedimentary rock composed of clay-sized and silt-sized particles of unspecified mineral composition.

Sandstone- A Clastic Sedimentary rock composed of predominantly sand-sized particles.

Limestone- A Sedimentary rock consisting of predominantly Calcium Carbonate.

Clastic- Sedimentary rocks which are composed mainly of broken or fragments of pre-existing minerals, rock particles or shells that were carried to the site of deposition by moving agencies such as streams, wind, waves or glaciers.

Non-Clastic- Sedimentary rocks which were formed by being precipitated from a solution or by evaporation. You cannot see the individual rock fragments.

Cementing Agents- Materials which cement or bind together individual rock fragments. They are mostly Calcite, Clay, Quartz or Limonite.

Silt- Scale of Sedimentary particles having diameters larger than 4 microns and smaller than 1/16 mm.

Graded Bedding- the process where particles settle to the bottom according to weight and particle size. Larger, heavier particles are on the bottom and lighter materials are on top.

Evaporite- A type of sedimentary rock where water surrounding the material evaporated. Good examples include salt and gypsum.

Suggested Teaching Activities

1. Assemble a small collection of Sedimentary rocks in your classroom. Common Sedimentary rocks include Limestone, Sandstone, Siltstone, Coquina, Shale and Mudstone.

2. Using cement mix which you can get from a hardware store place about a half cup of the cement into a small glass jar with a screw-type lid. Cover with water, tighten the lid and shake the jar vigorously. Place the jar in front of you and describe what is happening. The heaviest particles sink first and the lighter materials are at the top. This happens in a natural setting.

3. Have the students make a collection of Sedimentary rocks if they can be found in your area. Mountainous areas will likely have Igneous and Metamorphic rocks present but the Midwest and the great plains are composed mostly of Sedimentary rocks.

4. Using a large map of the United States have students bring in Sedimentary rocks from places they may have visited and place these on the map where they were found.

5. Show how a rock can be broken up by:
a) Wind b) Water
c) Gravity d) Chemical Weathering

6. If your school has a stream table, set it up and demonstrate how moving water carries particles and then deposits them elsewhere.

7. Discuss how moving water can carry a load of sediment. Note how the faster the water the more material it will carry. Torrential floods can move cars, buildings and even bridges.

8. Discuss why a river in flood stage is often brown or red while a slow running stream runs clear.

Quiz

1. Broken rock fragments may be carried elsewhere by what means?

2. When clay particles are cemented together they form:

- a) Sandstone b) Limestone
c) Shale d) Slate

3. When sand grains are cemented together they form what rock?

- a) Limestone b) Mudstone
c) Sandstone d) Granite

4. Sedimentary rock can be classified into two types. Name them.

5. Tell whether the following sedimentary rocks are:

- a) Clastic b) Non-Clastic

- 1) Shale
2) Sandstone
3) Limestone
4) Coquina
5) Conglomerate
6) Granite
7) Chalk Deposits
8) Mudstone

6. The chemical formula for limestone is:

- a) H₂O b) CaCO₃
c) SiO₂ d) CaCO₂

7. Limestone is formed where?

- a) In caves and caverns.
b) At the bottom of a freshwater lake.
c) At the bottom of a moving river.
d) At the bottom of an ocean.

8. Sand dunes may be the origin of which of the following rocks?

- a) Sandstone b) Limestone
c) Oil Shale d) Lava