

Types of Rocks

Name: _____ Period: ____ Date: _____

Essential Question: How are rock formed?

Rocks are not all the same!

The three main types, or classes, of rock are sedimentary, metamorphic, and igneous and the differences among them have to do with how they are formed.

Sedimentary

Sedimentary rocks are formed from particles of sand, shells, pebbles, and other fragments of material. Together, all these particles are called sediment. Gradually, the sediment accumulates in layers and over a long period of time hardens into rock, this process is called **lithification**. Generally, sedimentary rock is fairly soft and may break apart or crumble easily. You can often see sand, pebbles, or stones in the rock, and it is usually the only type that contains fossils.

Examples of this rock type include conglomerate and limestone.

Metamorphic

Metamorphic rocks are formed under the surface of the earth from the metamorphosis (change) that occurs due to **intense heat and pressure** (squeezing). The rocks that result from these processes often have ribbonlike layers and may have shiny crystals, formed by minerals growing slowly over time, on their surface.

Examples of this rock type include gneiss and marble.

Igneous

Igneous rocks are formed when magma (molten rock deep within the earth) cools and hardens. Sometimes the magma cools inside the earth, and other times it erupts onto the surface from volcanoes (in this case, it is called lava). When lava cools very quickly, either *small or no crystals form* and the rock looks shiny and glasslike. Sometimes *gas bubbles are trapped* in the rock during the cooling process, leaving *tiny holes and spaces* in the rock.

Examples of this rock type include basalt and obsidian.

<http://www.learner.org/interactives/rockcycle/types.html>

Clarifying Questions:

1. What are the three types or classes of rocks?

2. Why do we have different kinds of rocks? Think!

3. Sedimentary rocks are formed from _____

4. Particles of sand, shells, pebbles, and other fragments of material are classified as _____

5. What is lithification?

6. Describe a sedimentary rock.

7. Which type of rock can contain fossils? _____
8. Give two examples of sedimentary rock.

9. How are metamorphic rocks formed?

10. Describe a metamorphic rock.

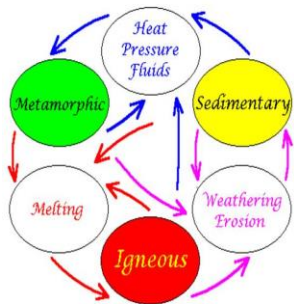
11. Give two examples of metamorphic rocks.

12. How do igneous rocks form?

13. Describe the difference between magma and lava.

14. Describe the type of igneous rock that formed when the lava cooled quickly.

15. Give two examples of igneous rocks.



The Rock Cycle- any rock can become any type of rock depending upon certain conditions.

Igneous rocks form when molten rock (magma and lava) cools and harden. They break down by **weathering** and the breakdown products are transported by **erosion**. The breakdown products are deposited to form **sedimentary** rocks. Sedimentary rocks are buried, subjected, pressure. Heat and pressure (without melting) change rocks, forming **metamorphic** rocks. Metamorphic rocks may eventually be heated enough to melt, forming a new generation of **igneous** rocks.

<http://www.uwgb.edu/dutchs/EarthSC202Notes/rockcycl.htm>

Multiple choice: Write the letter of your answer on the blank before each number.

You can use the choices more than once.

- | | |
|---|---------------------|
| ___ 16. Lithification (ribbonlike layers) | A. igneous rock |
| ___ 17. Intense heat and pressure, no melting | B. sedimentary rock |
| ___ 18. Presence of fossil | C. metamorphic rock |
| ___ 19. Formed from magma and lava | D. Rock cycle |
| ___ 20. Have ribbonlike layers | |
| ___ 21. Metamorphosis | |
| ___ 22. Buried and subjected to pressure | |
| ___ 23. Presence of sand, pebbles, or stones in the rock. | |
| ___ 24. Weathering and erosion | |
| ___ 25. Any rock can change into any type of rock. | |

- 16. B
- 17. C
- 18. B
- 19. A
- 20. C
- 21. C
- 22. B
- 23. B
- 24. B
- 25. D