Types of Rocks Worksheet

Grade 6 Geography | Unit 1: Structure of the Earth and Types of Rocks

Name: _____ Class: _____ Date: _____

Section A: Multiple Choice

Circle the correct answer.

1. Hot molten rock found in the lower crust and upper mantle is called: a) Lava b) Magma c) Slate d) Pumice
2. Igneous rocks that form just under the Earth's surface are called: a) Extrusive rocks b) Sedimentary rocks c) Intrusive rocks d) Metamorphic rocks
3. Which rock is made when lava cools very quickly and forms black glass? a) Granite b) Obsidian c) Marble d) Shale
4. Which is the only rock that floats on water? a) Basalt b) Gabbro c) Pumice d) Limestone
5. Sedimentary rocks are formed by deposition, compaction and: a) Melting b) Cementation c) Erosion d) Eruption
6. The word "metamorphic" comes from Greek words meaning: a) Hot rock b) Layered rock c) Change of form d) Broken rock
7. When limestone is changed by heat and pressure it forms: a) Slate b) Granite c) Marble d) Obsidian
8. Slate is formed when which rock is changed by pressure and heat? a) Shale b) Basalt c) Pumice d) Gabbro

Section B: Fill in the Blanks

Use the words in the box: **cooling, layers, solid, small, large, Giant's Causeway, quartz, impermeable**

1. Igneous rocks are formed by the _____ and solidification of magma and lava.
2. Intrusive rocks have _____ crystals because magma cools slowly.
3. Extrusive rocks have _____ crystals because lava cools quickly on the surface.
4. Vertical cracks in cooled lava create straight-sided prisms like those of the _____.
5. Sedimentary rocks form when sand and gravel are deposited in successive _____.

6. Metamorphism occurs when the rock is in a _____ state.
7. Granite contains the mineral _____ along with mica and feldspar.
8. Shale is _____, which means water cannot pass through it.

Section C: True or False

Write T for true or F for false. Correct the false statements.

1. Lava is molten rock that flows onto the Earth's surface. _____
2. Granite and gabbro are soft rocks that erode easily. _____
3. Rocks are broken down by water, wind and ice before becoming sedimentary rocks. _____
4. Pressure from overlying material compacts the lower layers of sediment. _____
5. If a metamorphic rock is heated too much, it turns into magma. _____
6. Only igneous rocks can undergo metamorphism. _____

Section D: Match the Columns

Write the correct letter next to each number.

1. Magma that cools slowly underground _____
2. Lava that cools quickly on the surface _____
3. Light rock filled with tiny gas bubbles _____
4. Shiny, smooth, black glass-like rock _____
5. Rock changed from shale _____

A) Obsidian B) Slate C) Extrusive rock D) Pumice E) Intrusive rock

Section E: Short Answer Questions

1. Define igneous rocks. How are they formed?
2. Describe the composition of igneous rocks with examples.
3. Explain how sedimentary rocks are formed. Name the three processes involved.
4. What does the word "metamorphism" mean? Explain how metamorphic rocks are formed.
5. Give the difference between intrusive and extrusive rocks. Write one example of each.
6. Why does pumice float on water? When does it sink?

7. Name the places in Pakistan where granite is found. Name the colours of granite found in Gilgit-Baltistan, Sindh and Khyber Pakhtunkhwa.

Section F: Complete the Table

Fill in the missing information for each type of rock.

- Igneous rocks: How formed? _____ Two examples: _____
- Sedimentary rocks: How formed? _____ Where do sediments collect? _____
- Metamorphic rocks: How formed? _____ Two examples: _____

Section G: Think and Answer

The rock cycle shows that rocks can change from one type to another. Using the lesson, explain what happens to a metamorphic rock if it is heated too much and then cools.

Answer Key

Section A: Multiple Choice

1. b) Magma
2. c) Intrusive rocks
3. b) Obsidian
4. c) Pumice
5. b) Cementation
6. c) Change of form
7. c) Marble
8. a) Shale

Section B: Fill in the Blanks

1. cooling
2. large
3. small
4. Giant's Causeway
5. layers
6. solid
7. quartz

8. impermeable

Section C: True or False

1. True
2. False. Granite and gabbro are hard rocks that do not erode easily.
3. True
4. True
5. True
6. False. All types of rocks (igneous, sedimentary and metamorphic) can undergo metamorphism.

Section D: Match the Columns

1. E (Intrusive rock)
2. C (Extrusive rock)
3. D (Pumice)
4. A (Obsidian)
5. B (Slate)

Section E: Short Answer Questions

1. Igneous rocks are volcanic rocks formed by the cooling and solidification of magma and lava. They form when hot molten rock from the lower crust and upper mantle (magma) escapes to the surface of the Earth.
2. Igneous rocks are made of crystals of minerals formed as molten rock cools. Intrusive rocks form when magma cools slowly under the surface and have large crystals (examples: granite, gabbro). Extrusive rocks form when lava cools quickly on the surface and have small crystals (examples: pumice, obsidian, basalt). Granite contains quartz, mica and feldspar.
3. Sedimentary rocks are formed from the deposition, compaction and cementation of rock fragments and mineral grains. Rocks are broken down by water, wind and ice. Loose sand and gravel are deposited in successive layers at the bottom of a sea or lake, on a beach, or in a desert. Pressure from overlying material compacts the lower layers. Dissolved minerals in the spaces between the grains are deposited in thin films that glue the grains together.

4. "Meta" means change and "morph" means form (Greek), so metamorphism means change of form. Metamorphic rocks are formed when existing rocks are changed physically, mineralogically or chemically by immense heat and pressure while the rock is in a solid state. Examples: limestone changes to marble, and shale changes to slate.
5. Intrusive rocks form just under the Earth's surface when magma cools slowly, giving large crystals (example: granite or gabbro). Extrusive rocks form on the surface when lava cools quickly, giving small crystals (example: obsidian or pumice).
6. Pumice is formed when lava is thrown out in a volcanic explosion and cools quickly while full of water and gases. It is very light and filled with tiny gas bubbles, so it floats. It sinks when the holes fill with water.
7. Granite is found in the Karakoram and Himalaya mountains in the north, the Chaghai Hills in Balochistan, and the Karoonjhar Mountains of Sindh. Gilgit-Baltistan has mainly pink granite (blue granite in some parts of the Himalayas), Sindh (Karoonjhar) has white granite, and Khyber Pakhtunkhwa has black granite.

Section F: Complete the Table

- Igneous rocks: formed by cooling and solidification of magma or lava. Examples: granite, gabbro, basalt, obsidian, pumice (any two).
- Sedimentary rocks: formed by deposition, compaction and cementation of rock fragments and mineral grains. Sediments collect at the bottom of the sea or lake, on beaches and in deserts.
- Metamorphic rocks: formed when rocks are changed by heat and pressure. Examples: marble, slate.

Section G: Think and Answer

If a metamorphic rock is heated too much, it melts and turns into magma. When the magma cools, it forms igneous rock.