

## A4. Different Categories Of Rocks

### Different Categories Of Rocks

Rocks are everywhere around us! They make up the Earth's crust and come in many different shapes, sizes, and colors. But did you know that there are three main categories of rocks? Let's learn about these different types and how they are formed.

## Types of Rocks

### Igneous rocks



### Sedimentary rocks



### Metamorphic rocks



### Igneous Rocks

Igneous rocks are the first category, and they are formed from molten magma. Magma is hot, melted rock found deep beneath the Earth's surface. When a volcano erupts, magma flows out onto the surface and cools down. As it cools, it hardens and turns into igneous rocks. Examples of igneous rocks include basalt and granite.

### Sedimentary Rocks

Sedimentary rocks are the second category of rocks. They are formed from tiny pieces of rocks, minerals, and other materials that settle and compress over time. These rocks are often found in layers, and you might see fossils trapped in them. Some examples of sedimentary rocks are sandstone, limestone, and shale.

### Metamorphic Rocks

Metamorphic rocks are the third category. They are formed from other rocks that have been changed by heat and pressure. This transformation occurs deep within the Earth's crust. Over time, the existing rock is squeezed, heated, and reshaped into metamorphic rocks. Examples of metamorphic rocks include marble and slate.

### How Rocks Change

Rocks are constantly changing over millions of years through a process called the rock cycle. The rock cycle is like a never-ending journey that rocks take as they go through different stages and transform from one type to another.

### **The Rock Cycle**

The rock cycle begins with igneous rocks forming from magma. These rocks can then be weathered and eroded into tiny pieces, which are carried by rivers and deposited as sediment. Over time, the layers of sediment are compressed and cemented together to form sedimentary rocks.

Under intense heat and pressure, either from tectonic movements or buried deep within the Earth, sedimentary rocks can change into metamorphic rocks. The heat and pressure cause the minerals in the rock to rearrange and form new crystals.

Metamorphic rocks, in turn, can be uplifted to the Earth's surface and weathered and eroded again, starting the cycle anew.

1. Which category of rocks is formed by molten magma?
  - A) Igneous rocks
  - B) Sedimentary rocks
  - C) Metamorphic rocks
  - D) Magma rocks
2. How are igneous rocks formed?
  - A) They are formed from tiny pieces of rocks settling and compressing.
  - B) They are formed from molten magma cooling and hardening.
  - C) They are formed from other rocks changing under heat and pressure.
  - D) They are formed from volcanic ashes and debris.
3. Limestone and shale belong to what category of rocks?
  - A) Igneous rocks
  - B) Sedimentary rocks
  - C) Metamorphic rocks
  - D) Fossil rocks
4. What might you find trapped in sedimentary rocks?
  - A) Volcanic ash
  - B) Fossils
  - C) Crystals
  - D) Lava
5. How are metamorphic rocks formed?
  - A) They are formed from molten magma cooling and hardening.
  - B) They are formed from tiny pieces of rocks settling and compressing.
  - C) They are formed from other rocks changing under heat and pressure.
  - D) They are formed from volcanic ashes and debris.

6. What is the process called when rocks are constantly changing from one type to another?
- A) Rock journey
  - B) Rock transition
  - C) Rock cycle
  - D) Rock transformation
7. How are sedimentary rocks formed?
- A) They are formed from molten magma cooling and hardening.
  - B) They are formed from tiny pieces of rocks settling and compressing.
  - C) They are formed from other rocks changing under heat and pressure.
  - D) They are formed from volcanic ashes and debris.
8. How can sedimentary rocks turn into metamorphic rocks?
- A) Evaporation
  - B) Tectonic movements
  - C) Weathering
  - D) Erosion
9. Marble and slate belong to what category of rocks?
- A) Igneous rocks
  - B) Sedimentary rocks
  - C) Metamorphic rocks
  - D) Diamond rocks
10. Where are metamorphic rocks formed?
- A) In the ocean
  - B) In the atmosphere
  - C) Deep within the Earth's crust
  - D) On Earth's surface

## ANSWERS & EXPLANATIONS

1. A - Igneous rocks.
  - a. Igneous rocks are formed by molten magma cooling and hardening.
2. B - They are formed from molten magma cooling and hardening.
  - a. Igneous rocks are formed from molten magma cooling and hardening into solid rock.
3. B - Sedimentary rocks.
  - a. Limestone and shale are examples of sedimentary rocks.
4. B - Fossils.
  - a. Sedimentary rocks often contain fossils of ancient plants and animals trapped within the layers.
5. C - They are formed from other rocks changing under heat and pressure.
  - a. Metamorphic rocks are formed from other rocks changing under intense heat and pressure within the Earth's crust.
6. C - Rock cycle.
  - a. The process of rocks constantly changing from one type to another is called the rock cycle.
7. B - They are formed from tiny pieces of rocks settling and compressing.
  - a. Sedimentary rocks are formed from tiny pieces of rocks, minerals, and other materials settling and compressing over time.
8. B - Tectonic movements
  - a. The intense heat and pressure from tectonic movements can transform sedimentary rocks into metamorphic rocks.
9. C - Metamorphic rocks.
  - a. Marble and slate are examples of metamorphic rocks.
10. C - Deep within the Earth's crust.
  - a. Metamorphic rocks are formed from other rocks changing under heat and pressure, deep under the Earth's crust.