

Science Study Guide: Rocks, minerals and soil.

What Are Rocks?

- **Definition:** Rocks are solid, natural objects we find everywhere—on the ground, in the mountains, and even at the beach.
- **Made of Minerals:** Rocks are made up of tiny pieces called **minerals**, which are like ingredients. Just like cookies are made with flour, sugar, and chocolate chips, rocks are made of different minerals mixed together.

Minerals

- **Definition:** A mineral is a tiny, natural material that makes up rocks. Minerals are like the "ingredients" that come together to form a rock.

Where Do Rocks Come From?

- Rocks are found everywhere: in the ground, in mountains, and even in our backyards!
- **Earth's Layers:** Rocks come from different layers inside the Earth, and they form in special ways depending on the type of rock.

Types of Rocks

1. Igneous Rocks

- **Formation:** Made from hot, melted rock called **magma** that comes from deep inside the Earth. When magma cools down, it turns into solid rock.
- **Example:** It's like melting chocolate and letting it cool; it hardens, just like magma cools to form igneous rocks.

2. Sedimentary Rocks

- **Formation:** Formed when tiny pieces of other rocks, sand, and even bits of plants and animals pile up. Over time, these layers get squished together into solid rock.
- **Example:** Like a sandwich with layers that stick together.

3. Metamorphic Rocks

- **Formation:** These rocks start as one type (like igneous or sedimentary) and then change into something new because of **heat and pressure** deep inside the Earth.
- **Example:** Imagine pressing down on clay to change its shape. Metamorphic rocks change shape with heat and pressure.

Soil: Different Types and Layers

Soil is made of small pieces of rocks and other materials. Plants need soil to grow.

1. Types of Soil

- **Clay:** Soil made of very small pieces of rock packed tightly together. It feels sticky when wet.
 - **Example:** The sticky soil near the river is mostly clay.
- **Loam:** A mix of sand, clay, silt, and humus (decayed plants and animals). Great for gardens!
 - **Example:** Most gardens use loam.
- **Humus:** The part of soil made of nutrients from dead plants and animals. It's in the top layer of soil.
 - **Example:** Adding humus to our gardens helps plants grow.

2. Layers of Soil

- **Topsoil:** The top layer of soil where plants grow. It's rich in nutrients.
- **Subsoil:** The middle layer, which is a mix of soil and small rocks.
- **Bedrock:** The bottom layer, made mostly of solid rock.

An interactive version of this study guide can be found on our class Quizlet. Please scan QR code below to access it. Practice the matching game and if possible, have your parents create an account and take a practice test.

