

Metamorphic Rocks

Metamorphism

There are two main types of metamorphism:

- **Regional metamorphism:** This is caused by geological processes that affect a wide area. This process affects many sedimentary rocks because they're already in layers. For example, limestone in mountains or other formations turns into marble as pressure from tectonic plates push the layers together.
- **Contact metamorphism:** This is caused by the heat of magma covering the rock(s). Most of the rocks formed by this process are called **hornfels**. For example, sandstone becomes quartzite and shale becomes a hornfels containing a variety of minerals.

Study Tip

Think of foliated rocks as something that is foiled. Adding foil creates a layer, so foliated rocks are layered rocks.











An example of contact metamorphism, where magma changes the type of rock over time

Textures

There are two types of textures on metamorphic rocks:

- **Foliated:** These rocks typically have layers as they're usually formed by pressure exerted from one direction. They give off a "platy" look.
- **Non-foliated:** These rocks don't have layers, and they are described as "massive" due to their non-uniform look.

Picture	Rock Name	Type of Metamorphic Rock	Comments
	Slate	Foliated	Metamorphism of shale
	Phyllite	Foliated	Metamorphism of slate, but under greater heat and pressure than slate
	Schist	Foliated	Often derived from metamorphism of claystone or shale; metamorphosed under more heat and pressure than phyllite
	Gneiss	Foliated	Metamorphism of various different rocks, under extreme conditions of heat and pressure
	Hornfels	Non-foliated	Contact metamorphism of various different rock types
	Quartzite	Non-foliated	Metamorphism of quartz sandstone
	Marble	Non-foliated	Metamorphism of limestone
	Metaconglomerate	Non-foliated	Metamorphism of conglomerate

Concept Check

- What are the two types of metamorphism?
- What are the two textures of metamorphic rocks?