

# Metamorphic Rocks

## Third Grade Field Guide

Source: AIMS

Science Specials - Askew



# All About Metamorphic Rocks



**Metamorphic rocks** are formed when rocks are changed by heat or pressure. This happens underground. The new rocks are usually much harder.



1

Metamorphic rocks may look layered. These “stripes” are the different minerals in the rock. The heat and pressure help them form into bands.



Metamorphic Rock

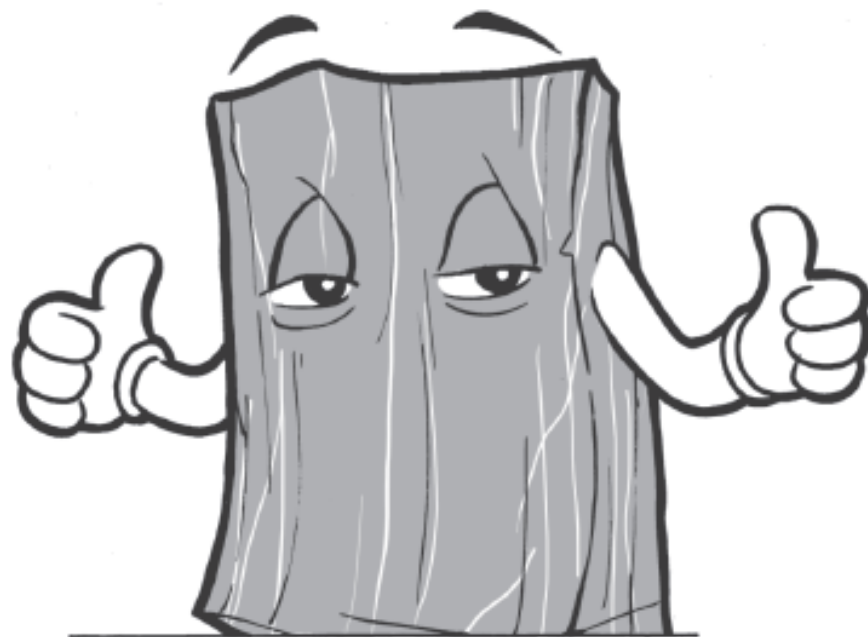
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Granite is an igneous rock. It becomes gneiss with heat and pressure. The minerals in both rocks are the same. But the rocks look very different.



Gneiss

Shale is a sedimentary rock. It becomes slate with great pressure. The minerals in both rocks are the same. But the rocks look very different.



Slate

# Slate

**Type of rock**  
Metamorphic

**Minerals common to it**  
Mica, quartz, and sometimes pyrite



## Where it forms

Slate forms when shale is changed by heat and pressure. Slate is an example of a metamorphic rock in its beginning stages of change. When slate is placed under further heat and pressure, it changes into schist and finally into gneiss.

## Fascinating Factoids

Slate breaks into smooth flat sheets. It is very common in the mountains of North America. Slate is often used as a building material for walks as well as for roofs. It is used in classrooms as blackboards. Good quality pool tables often will have a slate surface under the felt playing surface.

# Quartzite

Type of rock  
Metamorphic

Minerals common to it  
Sandstone

Where it forms

Quartzite is made from sandstone that is under a lot of pressure and heat from earth's plates moving together. It is found deep in the earth.

Fascinating Factoids

Quartzite can be used to make railroad tracks, roofs, and stair steps.



## Gneiss

**Type of rock**  
Metamorphic

**Minerals common to it**  
Quartz, feldspar, biotite, and hornblende

### Where it forms

Gneiss forms deep in the Earth's crust. It undergoes the greatest change as a result of the high heat and pressure. Granite is often the parent material for gneiss. The minerals in the granite all have different points at which they melt and recrystallize. This results in the formation of bands in gneiss.

### Fascinating Factoids

The Acasta gneiss is the oldest known crustal rock in the world. It is found in the Northwest Territories of Canada. Gneiss is very hard metamorphic rock. It is used as building materials, as well as gravel for both roads and railroad beds.



# Marble

Type of rock  
Metamorphic

Minerals common to it  
Calcite and dolomite

Where it forms

Marble can be found in mountains all over the world. Pressure and heat form the crystals you sometimes see in marble.

Fascinating Factoids

Marble is used in sculptures and building materials. Many buildings in Washington, D.C., are made of marble. Marble can come in many different colors.

