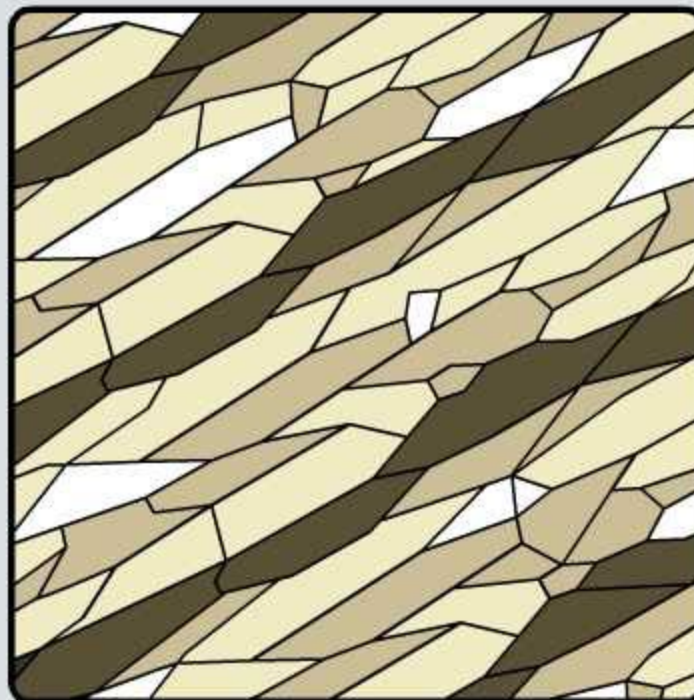


Metamorphic Rocks



What are metamorphic rocks?

What has happened to the fossils and layers of particles in these rocks?

The layers and fossils in these rocks have become squashed and twisted.

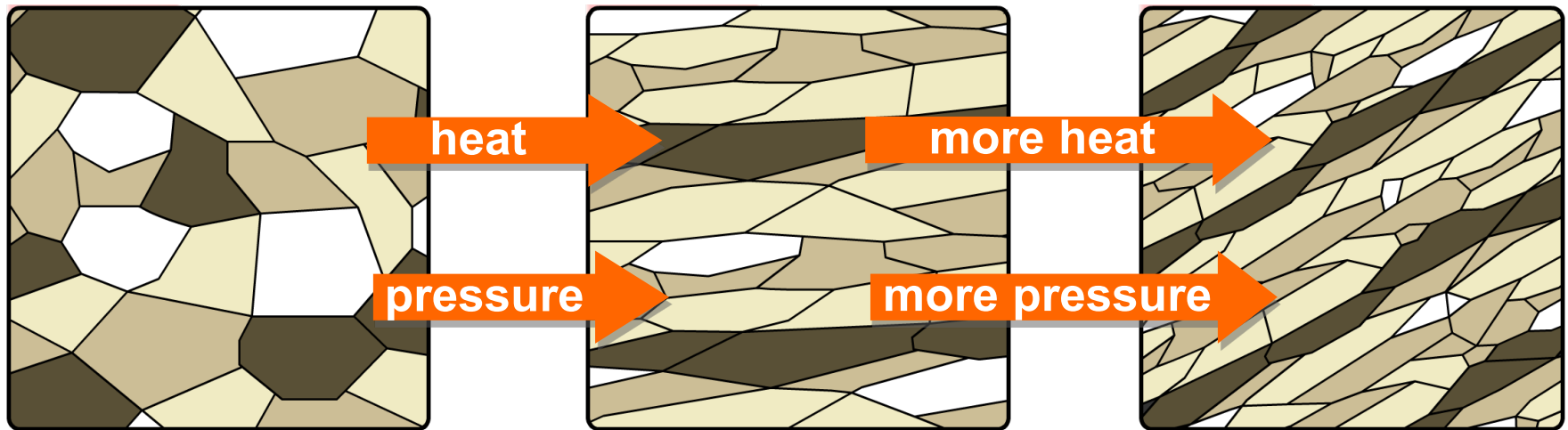
What caused this?



Formation of metamorphic rocks

Sedimentary rocks are turned into metamorphic rocks by the extreme pressures and temperatures deep within the Earth.

These conditions change the structure of the rocks so that new layers are formed.



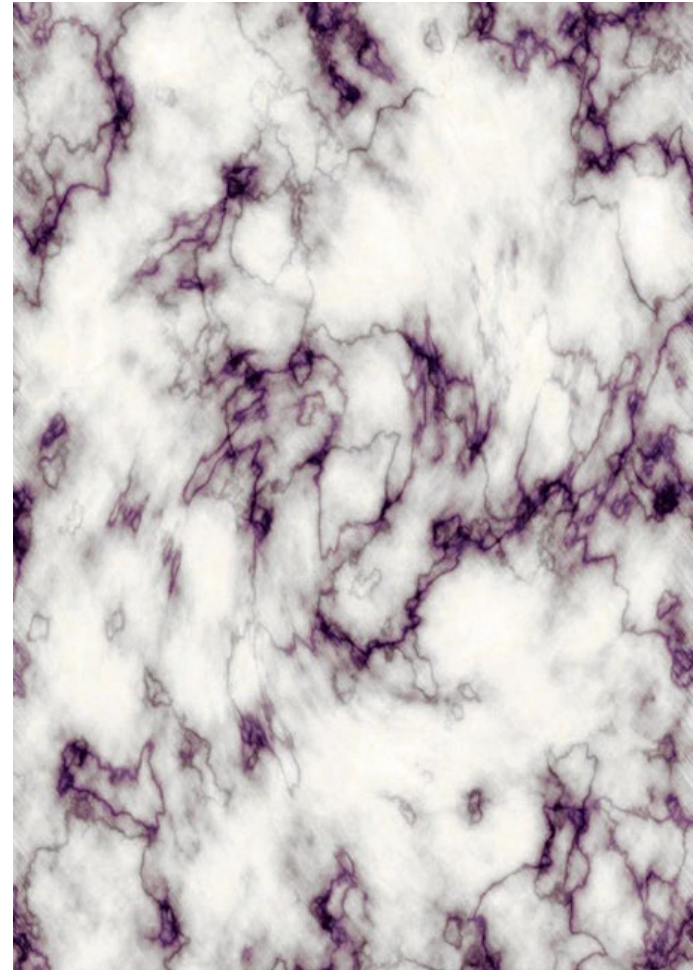
Mixture of grains
in structure

Heat and pressure
compress grains

Grains form
orderly layers

How are the properties of metamorphic rocks different from sedimentary rocks?

- Metamorphic rocks often contain layers of crystals, caused by the effect of heat and pressure.
- Metamorphic rocks are usually denser and harder than sedimentary rocks.
- Metamorphic rocks sometimes show wavy or zigzag patterns within the rock, caused by the movements that led to their formation.



Examples of metamorphic rock



soap stone



marble



slate

What is marble?

Marble is a hard smooth rock made from sedimentary limestone or chalk.

Because marble is extremely hard it is an excellent building material, and is also often used for sculpture.

The different colors in marble are caused by the different combinations of minerals in the limestone from which it was formed.



What is slate?

Slate is a gray rock with fine grains made from sedimentary volcanic ash or clay.

Because it is composed of many distinct layers, slate can be split into thin sheets.

During the 18th and 19th centuries, thin sheets of slate were used as writing surfaces. Slate sheets have also traditionally been used as a roofing material.



What is mica?

Mica is a mineral that forms sheets that split smoothly, creating almost perfect edges. This is because its atoms are arranged in hexagonal sheets.

Mica usually appears very shiny.

Because of its stable atom arrangement mica is very heat resistant. For this reason it is often used in electrical components such as capacitors, and as an insulator in high voltage equipment.

Because mica can be split into flat sheets it is also often used as an alternative to glass window panes in greenhouses etc.



Which type of metamorphic rock?

Match the rock types to their definitions

mica

Dark gray rock used for roofing since it splits easily into thin layers.

marble

Smooth and hard white rock widely used in building and sculpturing.

slate

Transparent sheets used as an insulator in some electrical devices.



solve

