





## Learning Question:

How can I explain the formation of different types of rocks?

## Success Criteria:

- Name the three different types of rocks – igneous, metamorphic, sedimentary.
- Describe the properties of the three types of rocks.
- Explain how the three types of rocks are formed.
- Describe the process of rock formation with the help of scientific diagrams.

## Vocabulary

- Igneous
- Metamorphic
- Sedimentary

What are the 3 types of rocks we have learnt about ?

1.

2.

3.

[https://www.youtube.com/watch?v=E  
GK1KkLjdQY](https://www.youtube.com/watch?v=E<br/>GK1KkLjdQY)

Make notes about the formation of the different types of rocks.

# Share notes: Igneous Rocks

## What the name means

Igneous means fiery

## How they are formed

Extrusive igneous – magma comes to surface because of volcanic eruption and cools.

Intrusive igneous – magma slowly cools inside the volcanos chambers.

## Examples of igneous

Granite

Obsidian

Tuff

# Share notes: Sedimentary Rocks

## What the name means

It is formed from mud, organic matter and sand at the bottom of water known as sediments

## How they are formed

Layers of sediment are pushed together forming rocks.

## Examples

Sandstone, limestone, Shale

# Share notes: Metamorphic Rocks

## What the name means

Metamorphic means changing form

## How they are formed

Heat and pressure can change the rocks

Heat comes from the rocks being near magma near the earths surface.

Pressure from deep under the earth. Pressure is high.

## Examples

Limestone changes to marble

Sandstone change to quartzite

Shale changes to slate

# Rock cycle

Melted rock – magma

Magma cools and forms igneous rock

Igneous rock breaks down into sediments

The sediments form

Sedimentary rock.

Sedimentary rock

Gets pushed down

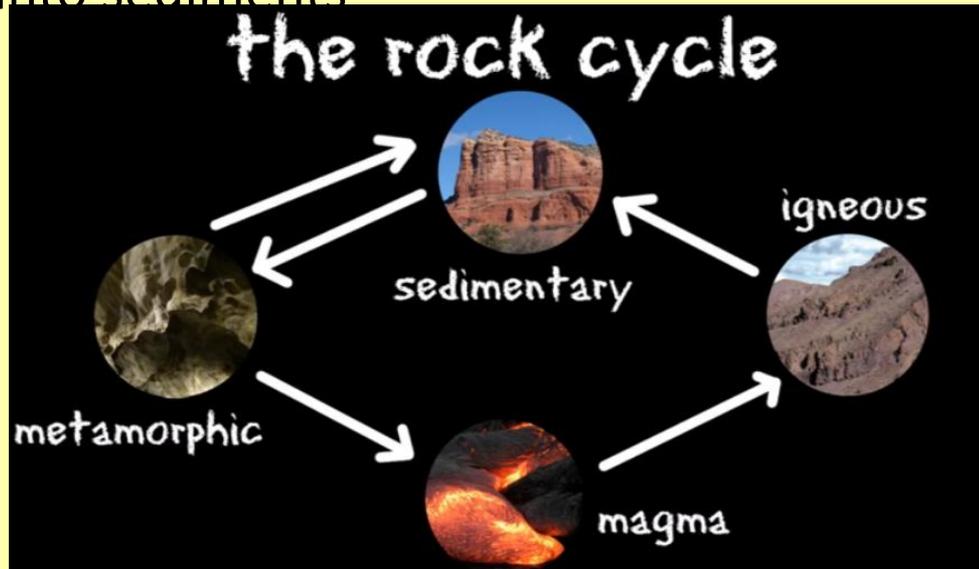
By tectonic plate

Activity.

Under the earth is hot,

And high amount of pressure, so metamorphic is formed.

Metamorphic rock melts into magma and the process starts again.



# Create a fact file

## Igneous Rocks

- What does igneous mean?
- How are igneous rocks formed?
- What rocks are igneous rocks?

## Sedimentary Rocks

- What does 'sediment' mean ?
- What are sedimentary rocks formed from?
- What type of rocks are sedimentary?

## Metamorphic rocks

- What does 'metamorphic' mean?
- How are metamorphic rocks formed?
- What rocks are metamorphic?

## The rock cycle

- Where does the rock cycle begin?
- How do sediments form?
- What caused sedimentary rocks to change to metamorphic rocks?

## Word bank

- Magma
- Lava
- Volcano
- Intrusive
- Extrusive
- Sediment
- **Weathering**
- **Erosion**
- **sedimentation**
- **Compaction**
- **Cementation**
- Heat
- Pressure
- Collision
- Tectonic plates

# The formation of natural rocks

## Igneous Rocks

Igneous means formed from \_\_\_\_\_.

Igneous rocks are formed from \_\_\_\_\_ rock. This is rock \_\_\_\_\_ the earth's surface that is very \_\_\_\_\_. It is so hot that the rock is \_\_\_\_\_. When the molten rock comes out of the ground it is called \_\_\_\_\_. When lava \_\_\_\_\_ it becomes rock.

**Word bank: heat, molten, hot, beneath, melted, cools, lava.**

## Sedimentary Rock

A sediment is a little bit of \_\_\_\_\_ that ends up in the river because of \_\_\_\_\_. It goes to the \_\_\_\_\_ of the river. With \_\_\_\_\_, more and more sediment ends up at the bottom of the river. Over time, the sediment is \_\_\_\_\_ together and forms \_\_\_\_\_.

**Word bank: rock, bottom, rock, weathering, time, pushed.**

## Metamorphic

Metamorphic rock is \_\_\_\_\_ over time. It starts as an \_\_\_\_\_ or \_\_\_\_\_ rock. It changes over time due to \_\_\_\_\_ or \_\_\_\_\_.

**Word bank: pressure, igneous, change, metamorphic, heat**

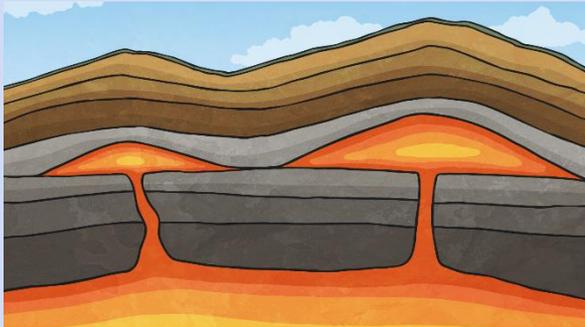
# Natural Rocks

## Igneous Rock

Far under the ground, the temperature is hot enough to melt the rock into a liquid.

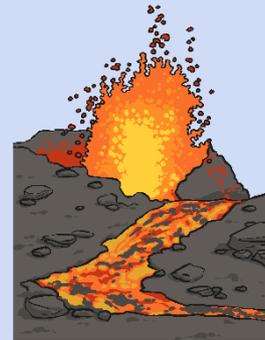
This is called molten rock. Igneous rocks are formed from this molten rock in two ways.

### Intrusive Igneous Rocks:



Molten rock that remains underground is called magma. When magma cools and hardens it becomes a type of intrusive igneous rock. (Intrusive = internal = inside)

### Extrusive Igneous Rocks:



Molten rock that comes out of the ground is called lava. When lava cools and hardens it becomes a type of extrusive igneous rock. (Extrusive = external = outside)

# Natural Rocks

Sedimentary rock forms under the sea.

## Sedimentary Rock

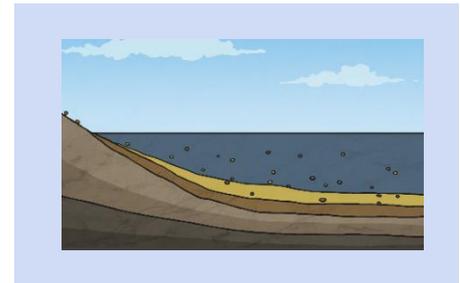
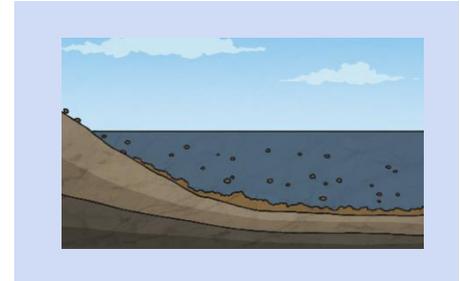
The following illustrates the process:

1) As a result of weathering and erosion, bits of rock end up in lakes and rivers. Rivers transport bits of rock and deposit them on the bottom of the sea.

This process is called sedimentation.

2) With time, more layers (strata) pile up and press down on the lower layers of rock. This process is called compaction.

3) Over time, water is pushed out from these layers and the process of cementation occurs. This is when salt compounds glue or cement the bits of rock together so they form a solid layer.



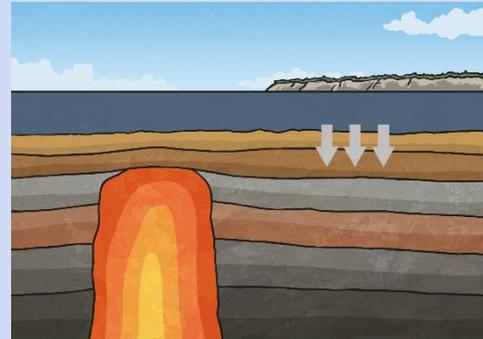
# Natural Rocks

## Metamorphic Rock

Metamorphic rocks don't just form from being near magma they can also be formed from Earth movements which can cause rocks to be deeply buried or squeezed. This means the rocks are heated and put under immense pressure which causes the minerals they contain to be changed chemically. Collision of tectonic plates can also result in the formation of metamorphic rock too.



This illustration shows how the igneous rock near magma is being heated and changed.



This illustration shows how the sedimentary rock near magma is being heated and changed.