

The ROCK CYCLE



How do rocks form?

What is a ROCK?



- A rock is made up of minerals that have combined together.
- Rocks can contain one mineral or be made up of many different minerals.

Three Types of Rocks





•lgneous









Sedimentary

Metamorphic

Rock Descriptions:

- You will have 5 minutes per station.
- Here you will describe the rock that is at each table.
- Try to determine if they are igneous, metamorphic or sedimentary.
- We will discuss this as a group.
- Go be a GEOLOGIST!

COLOR, CAN YOU SEE THE INDIVIDUAL GRAINS, PATTERN, ECT.



How the Rock Cycle Works

 Rocks are weathered, eroded, transported, deposited and lithified to form DIFFERENTLY CLASSIFICED ROCKS.

FOLDABLE:

- Match the correct description with the process or rock type.
- Glue these in place.



How does a SEDIMENTARY ROCK form?

• An igneous rock such as a granite OR metamorphic rock such as gneiss can be physically weathered by wind, rain and other environmental factors to produce sand, silt and clay.





GRANITE

GNEISS

How does a SEDIMENTARY **ROCK form?**

- Sediment then is transported deposited and lithified (compacted under heat and pressure) to form sedimentary rocks.
 - Clay -> Shales
 - Sand -> Sandstones



How does an IGNEOUS ROCK form?

 Forms from molten rock or magma in the subsurface, inside the Earth, or lava which is magma on the surface of the Earth.





How does an IGNEOUS ROCK form?

 Any rock can be exposed to enough heat or pressure to cause it to melt and then cooled.





How does an IGNEOUS ROCK form?

 The rate at which an igneous rock cools determines its grain size which is why igneous rocks vary so much.



GRANITE



BASALT





How does a METAMORPHIC ROCK form?

• The presence of pressure, heat and fluids cause preexisting rocks or sediments to become metamorphic rocks.



GNEISS



How does a METAMORPHIC ROCK form?

• This same process can happen to a rock that is already considered a metamorphic rock such as slate, when slate is exposed to enough heat and pressure it transforms to phyllite.







SLATE

The ROCK CYCLE:

 The Rock Cycle does not just go in one direction.
Any given rock can go through any part of the cycle a number of times.



ELABORATE?

- 1. Either we can give the students another rock and each group will have to determine the type of rock it is.
- 2. Rock cycle game. Each group of students will roll the dice and see what happens to their rock over time. The students will record their observations.
- 3. Explain further on how plate tectonics goes into the rock cycle.

Quiz Time!

- You will have 5 minutes to work on this quiz INDEPENDANTLY!
- We will go over it after.

