

# A ROCK IS BORN

Rocks are classified according to the way they were formed. This board game for two to six players shows that all types of rocks are related to each other.

**MATERIALS:** Large version of the rock cycle game board shown; markers; die.

## DOING IT:

1. All players start as igneous rock. The object of the game is to go around the game board in a counterclockwise direction and finish as igneous rock.

2. Each throw of the die tells a player how many spaces to move. When you land on or pass a circle with an arrow leading from it (e.g. sediments, metamorphic rock), you must make a special throw of the die. If a 1 or 2 appears, you follow the arrow back to the space indicated at the end of the arrow. If numbers other than 1 or 2 appear, you don't follow the arrow backward; wait until your next turn to continue moving forward. Note: No special throw is required when players are first leaving the igneous circle, but a throw is required when players finish on the circle.

3. To end the game, players must reach the igneous circle by exact count (i.e. if you're one space away from landing on igneous, you must roll a 1 on the die).

4. The winner is the player who reaches the igneous circle, makes the final special throw, and does not obtain either a 1 or a 2. If a 1 or a 2 appears, the player must follow the arrow from the igneous circle and begin play again from the space at the end of the arrow.

MAKE TIME

There are three basic types of rocks. Any one type of rock can become another type -- given time and the proper conditions. *Igneous* or "volcano, fire-formed" rocks are formed from cooled and hardened "magma" (an extremely hot, liquid-like mixture of rock material deep within the Earth). Cooled lava, basalt, and granite are examples of igneous rocks. *Sedimentary* or "water-deposited" rocks result from the "erosion" (breaking into smaller bits) of any type of rock material (even other sedimentary rock). Small rock fragments called "sediments" roll downward from high places such as hills and are carried along by streams and rivers until they reach oceans or low-lying places on land. As more and more sediments are deposited over the years, the layers of loose material become hard, compact, and turn into rock. For example, sandstone consists of sand grains that have cemented together. *Metamorphic* or "changed" rocks are also made from other rocks. With sufficient heat or pressure, rocks can be folded, squeezed, and hardened into new rocks. For example, marble is metamorphosed limestone (a sedimentary rock).

In summary, igneous rocks can be seen as the first or parent rocks of the Earth's crust. When igneous or other types of rocks erode, they break into fragments which are deposited and form sedimentary rocks. Sedimentary rocks -- as well as igneous rocks -- may be changed into metamorphic rocks. Sometimes, high temperatures beneath the Earth remelt rocks and form new igneous rocks.

Topics: Rock Types.



