

Date: _____

Name: _____

Code Your Rock!

This activity was created by Victoria.

In order to understand minerals better let's think of them in coding terms.

Minerals are different because they have different formation processes and are made up of different things.

In coding a variable is like a labeled box where you can have many different things inside of the same category. For example a variable can be balls, and within the variable of balls we can find blue, red or green balls. A variable for minerals can be what they are made out of, they can contain plant debris or shells and corals.

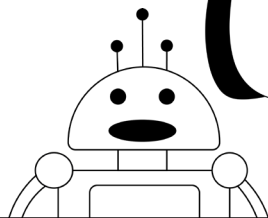
In coding **conditional statements** allow the computer to do something if something happens. An example of a conditional statement would be if the rock is igneous is formed as lava cooled down over the years.

Now that you know so much about coding, let's teach Esiw about the rocks that live on Earth. Since Esiw is a robot, he is not familiar with rocks. Computers need to be given information to them in order to function. Often this data is stored in something called **data sets**, where the data is stored as a collection of similar information. Today Esiw will be learning about rocks and storing them in a data set.

Here is what Esiw already knows about these rocks:

- Coal is a rock used all around the world to fuel things like cars and electricity, it has a negative impact in the environment as it pollutes a lot.
- You can find fossils in limestone rocks .
- Granite is a great rock to carve in.
- Basalt is found on the Moon because its volcanoes are composed of basaltic lava.
- Marble isn't made from marbles, marble got its name for their appearance.
- Quartzite was used by humans to make stone tools for over one million years.

In this activity you will learn to code the rocks below by matching them to their variables, helping Esiw to learn about rocks.



Can you help me decode which variables on the next page belong to which rock? The variables can be used more than once.

Rocks you will be decoding:

Coal

Limestone

Granite

Basalt

Marble

Quartzite

Date: _____

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Rock type variable

Igneous
if igneous =
formed from solidified lava

Metamorphic
if metamorphic =
formed from alteration of existing rock

Sedimentary
if sedimentary =
formed from the accumulation of sediment

Formation variable

Sandstone is altered by heat, pressure, and chemical activity

Shell, coral, algal, and fecal debris

Plant debris

Limestone is subjected to heat and pressure

Cooling of lava

Physical appearance variable

Grey/white and shiny

Black fine-grained

Black and shiny

Translucent light coloured rock

Coarse-grained, light-colored

Uses variable

Sculpture and decoration

Construction, manufacturing, architecture

It is a component of concrete

Decoration in tiles and countertops

Construction material

Fuel

Fill in the table below with the variables above for each rock!

	Coal	Limestone	Granite	Basalt	Marble	Quartzite
Rock Type						
Formation						
Description						
Uses						