We're Going on a Rock Hunt!

As we kick off our unit on ROCKS, we are going to suit up and put on our geologist best and embark on a rock hunt! After reading section one, ***Classifying Rocks***, pages 74-77, your job is to venture off and collect rock samples.

Though, before doing so, remember when geologists study a rock sample, they observe the **rock's color**, **texture**, **mineral composition**, and **origin**. As you collect your rock samples, think about these things. As we activate our prior knowledge about minerals, we know color doesn't provide enough information to identify a mineral, nor does it really help to identify a rock, so we need to dig deeper!

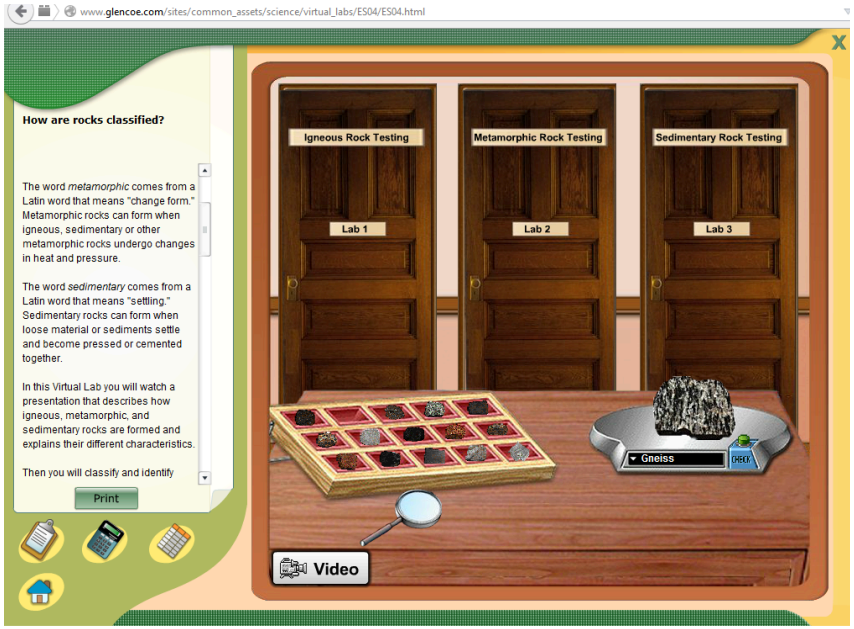
As geologist, we need to think about **texture!** Remember texture, is the size, shape and pattern of a rock's grain. Some rocks are SMOOTH and glassy, others are **rough** and chalky. Most rocks are made up of particles of minerals or other rocks, which geologists call **grains**. A rock's grain gives it texture.

Getting Practice and Testing Your Scientific Knowledge

Use the following website to become more familiar with classifying rocks.

[Screencast Demo to Navigate the Website]

*[Assignment 1: Virtual Lab_Classifying Rocks]



As you venture off, get yourself in the mindset of a geologist and think about the following characteristics and ask yourself the following questions:

To observe the following, zoom in on the image for a closer look and think about the following!

1. **Grain size**: Is the grain of my rock easy to see? Is it large? If so, do I have a coarse grained rock? Are the grains small? Do I need a microscope to see them? If so, is my rock fine grained?

2. **Grain shape**: The grains in rock vary widely in shape. Does my rock have fine grain shape like sand? Is it made up of fragments of other rock? Is it smooth or jagged?

3. **Grain pattern**: Does my grain form a pattern? Is the pattern flat like pancakes, or is it wavy-swirling? Do they form a pattern that looks like multi-color beads? Or is it random? Is it banned or nonbanded?

4. **No visible grain**: Some rocks have no grain. This is because the rock cooled so quickly giving it a smooth, shiny texture. Does my rock have any visible grain? Is it it smooth? Is it shiny? Does it resemble glass?

Other forms of testing include:

5. Mineral composition: To identify a rock's mineral composition, geologists look at a small sliver of a rock under a microscope to observe its crystals and identify the minerals it contains. They also use tests identify minerals, including the scratch test for hardness, an acid test for compounds called carbonates, and a magnet to detect iron or nickel.

   (Hold off on this test, we will run these tests in the lab with your samples!)

6. Identify its origin: There are **three major groups** of rocks: *igneous rock*, *sedimentary rock*, and *metamorphic rock*. Three terms refer to how the rocks in each group formed.

Different Types of Rocks!

Feel Free to Watch this Video for a Further Explanation!

	**Igneous Rock:** forms from the cooling of molten rocks-either magma below the surface of lava at the surface
	**Sedimentary Rock:** forms when particles of other rocks or the remains of plants and animals are pressed and cemented together. Sedimentary rocks forms in layers below the surface.
	**Metamorphic Rock:** forms when an existing rock is changed by heat, pressure, or chemical reactions. Most metamorphic rock forms deep underground.

DIRECTIONS

Your assignment mission

1. Suit up, grab a bag and go and collect ***8-10 different rocks, of various, size, shape, color, and texture.*** Think about your location of where you are locating these rocks, forest, park, river bank, park, etc. Jot these notes in your science notebook.

2. When you get home, or on your hunt, snap pictures of these rocks! First, take a picture about two feet away to photograph the whole rock, next zoom in and take a snapshot of the rock, photographing and capturing its grain size, grain shape, and grain pattern, or lack of.

4. ***Next, pick 3 rocks*** **that show a different *grain size, GRAIN SHAPE, GRAIN PATTERN,* or if you found a rock with no visible grain, file it under that box. Next upload your 3 best pictures and** add them to our "Online Rock Gallery Exhibit" using our classes Google Doc sheet that was emailed to you. Here we will begin to classify our rocks!

How to upload photos to Google Docs
Link to Our Classes Rock Gallery Assignment

OUR ROCK GALLERY

	CLASSIFICATION				
	TEXTURE			Mineral Composition	Origin
PROPERTIES	Grain Size	Grain Shape	Grain Pattern	No Visible Grain	• Acid Test • Magnetic Test	Make a prediction: Is your rock an **IGNEOUS,** SEDIMENTARY, or metamorphic rock? Explain why!

MRS. J						

DESCRIBE	Sample 1: **Large coarse grained-*Visible - Able to see with the naked eye.***	Sample 2: **Round grain-*fragments of other rocks appear- smooth and rounded.***	Sample 3: **Banded- *forms a pattern that resembles a band of stripes.***	Sample 4: **No visible grain-*smooth, shiny, glass like.***		*Make a prediction for all three samples. Identify whether your rock sample is an igneous, sedimentary, or metamorphic rock. As a class, we will later visit this chart to see if we made good class predictions! For example: *My prediction for sample 2 is that it is a sedimentary rock. I predict this because sedimentary rocks are formed when other rocks are pressed and cemented together.*

NAME	Insert Picture Here					
DESCRIBE						
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DESCRIBE						
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DESCRIB	Sample 1:					

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