Interactive Trail *Draft 4*

The trail begins at the Ela Sanctuary Information Station

Answer all questions in your notebook.

Exercise 6

Station 3

Rocky Roads

On the mound, about 30 feet to the *south*, you will find many, many rocks. If you are not certain of the direction you may need to use your compass. In your notebook describe the general colors and shape of these rocks. What caused the rock to become smooth?

Make a table similar to the one shown here to keep track of the **characteristics of the rocks**. You will complete the table as you work through the rest of this exercise. Use four different rocks to complete the table. A definition of terms can be found on the next page.

There are three basic types of rocks.

Igneous -Fire formed from hot magma found below the surface of the earth.
Intrusive igneous - have small crystals and they cool below the surface
Extrusive igneous - have large crystals and they cool above the surface.
They are usually made from a volcanic explosion.

Sedimentary - Rocks formed by pressure. When igneous rocks breakdown from erosion they wash to the ocean where more and more rocks pile on top. When the pressure becomes great enough from the rocks above the bottom rocks become solid sedimentary rocks. Sedimentary rocks usually do not have crystals.

Metamorphic - These are rocks that are formed by two forces, fire and pressure.

Use the information at the end of this unit to learn how to do the tests that are used in the next part of this exercise.

Color					
Shape					
Fossils?					
Texture					
Acid Test					
Streak Test					
Hardness					
Crystals?					
Other Tests					
Type of Rock					

1. Use your **rock hardness** test kit to determine the hardness of four different colors of rock. (The kit contains a penny, a piece of glass and a nail.) *(4-1.02, 5-1.05)*
2. Use the piece of porcelain in your rock test kit to determine the color of the streak left by the rock.
3. Can you find any **fossils** in the rocks? *(4-3.44)*

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4. Test several rocks to see if they will cause dilute **acid** to bubble. (*Be careful with the acid and wash your hands if you get any acid on your hands.*) This is a **test for calcium**, which is an indication that animals with shells may make up part of the rock. *(4-1.02, 5-1.05, 5-2.33)*
5. Use your magnifying glass to see if you can find any small **crystals** in any of the rocks? *(4-1.02, 5-1.05)* Small crystals indicate a igneous (fire formed) rock that cooled below the surface of the earth.
6. Use the Rock Chart to identify the types of rocks. (igneous, sedimentary or metamorphic) *(4-2.11, 4-2.12, 5-2.11)*
7. Describe, with simple diagrams, how each type of rock is formed.
8. Predict the size and location of these rocks 10 million years from now.
9. What natural forces were important in the formation of each rocks?
10. How were these rocks brought to this location?

List of terms:

color	Describe the general color of the rock to include background color and the color of smaller particles in the rock
shape	Are there layers? Are there pits or bumps in the rock. If, so how big?
fossil	can you find small shells or other fossils in the rock
texture	Is the rock smooth or rough?
acid test	Do bubbles form when vinegar, a weak acid, is placed on the rocks. If bubbles forms the rock may have calcium from animals in it and it is probably a form of limestone.
streak test	What color streak does the rock leave when it is scratched on a piece of porcelain? (The streak color may be different than the color of the rock.)
hardness	Try to scratch the rock with each of the following materials or see if the rock can be scratched by each of the following materials.

your fingernail	2	usually sedimentary
a penny	3	usually sedimentary
glass	6	sedimentary, igneous or metamorphic
a nail	7	usually igneous or metamorphic

crystals	Use your magnifying glass to see if you can see crystals in the rock. If you can see crystals without a magnifying glass the rock is called an extrusive igneous rock. If you can see crystals only with the magnifying glass the rock is an intrusive igneous rock.

Name at least five common materials or products that we use every day that are made from rocks or minerals.

If you are working on the weather station, take a second weather observation here.