

The Rock Cycle: Student Instructions

Activity 1: The Rock Story

In this activity, you will use creative storytelling techniques to show your understanding of the rock cycle. You should choose a type of rock and determine what might happen to it as it undergoes geologic changes. Then, think of a way to explain this in story form. You might give your rock a name and describe his/her adventures. You might write it as a mystery. There are many frameworks you might choose to use. Be creative and be sure you include the scientific information necessary to explain what happens to your rock. Your story will be graded on the following components:

- Proper and liberal use of terminology (magma vs lava; intrusive/extrusive etc.)
- Accurate and thorough description of the processes and conditions that cause you to change
- Good physical description of what you would look like at each stage of your rock cycle, and the proper name that would be given at each phase.
- Creativity

Suggestions for the rock cycle aspect of your story.

This outline is an example of the changes your rock might undergo. You can adjust it if you like, or you are welcome to use this format. Of course your story might start at any point of the rock cycle but should include all the possible phases of the rock cycle. This is the type of information that you should be sure to include!

I. Igneous Rocks

A. You start as magma. Do you stay deep within to cool, or do you come to the surface.

B. Cooling Rate

- Fast or Slow
- Large or small crystals, or no crystals at all
- Are there any gases trapped within?

C. What is your overall appearance. What would you be called at this phase of your life.

II. Sedimentary Rocks

A. You are being broken into smaller pieces and carried away

- What are these processes called?
- What is causing the breakdown? (winds, glaciers, rivers, waves?)
- What is carrying you away?
- Where are you going
- Where did you end up

B. You are surrounded by other rock fragments

- Are all of the same size, shape and composition?
- What happens next, are you reworked or buried immediately?

C. You become a sedimentary rock

- What changed you into a sedimentary rock
- Describe your overall appearance and give your self a name
- Explain how you have changed since your days as an igneous rock

III. Metamorphic Rocks

A. What occurs for you to change into metamorphic rock?

- What factors are involved?
- Where will this change occur?
- How do you get there?

B. What do you look like now?

- i. Foliated or non-foliated
 - ii. Crystalline or non-crystalline?
 - iii. What would your friends call you?
 - iv. How are you different from sedimentary and igneous rocks
- IV. Explain what might happen next.

Activity 2: Rock Around the Rock Cycle

Diagram your rock story in a rock cycle form. To review basic rock types and to see a basic rock cycle diagram, go to <http://www.cnwl.igs.net/~gvss/gca2a0/website/rock.htm>. However, your design should illustrate your rock story. Therefore, all the connections on the rock cycle may not be relevant in your diagram. Do be sure to include specific rock names on each part of the diagram and show what happens to your rock. Also, illustrate what else could happen to your rock (e.g. are there shortcuts it could take, but doesn't take in your story). Be creative and remember that this diagram should illustrate the story you wrote. Illustrate your rock cycle diagram to show the environment surrounding your rock and to show the forces acting upon it.

Your rock cycle diagram will be graded on the following components:

- Does it contain all the elements and processes necessary for your rock to complete its journey?
- Does it contain all the correct rock names in the right places?
- Is it neat and easy to read?
- Is it creative?