It's a Rocky Life

Application

Challenge: How can you use rock/geology vocabulary to personify the life a rock?

Materials: any rock sample

Let's Dig In:

Bring in a rock sample of your choice or use one of the many available in the classroom. Using the rock/geology vocabulary and descriptors that we have studied in class, create a story about the life of the rock which takes the rock from its probable beginning to its end. Underline any terms or phrases which pertain to the rock/geology vocabulary and descriptors. Sample statements might be: "I've had a rough life. I used to be solid as a rock. I had a sparkling crystal personality when I was mostly quartz. I hung around with pretty colorful characters , and we were tough guys." Your story should be long enough to completely tell the life cycle of the rock.

Go Figure:

1. Explain how your story takes the rock through the steps of the rock cycle.
2. How does your rock specimen differ now from when it first was formed?
3. Is your rock specimen likely to be strong or weak? Explain your answer.

Teacher Notes

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GEOMES Topic: Structure and Composition of the Earth - Rocks

Lab setup:	none	**easy**	moderate	difficult
Reasoning level:	**easy**	moderate	difficult	
Time required:	20-40 minutes	**40-60 minutes**	60-90 minutes	
Process skills:	**observing**	**classifying**	**interpreting data**	

Objective: Students will apply their knowledge of rock/geology vocabulary and descriptors and creatively detail the "life cycle" of a given rock specimen.

National Science Education Standards:

Content Standard: Earth and Space Science - Structure of the Earth system

Materials: various rock samples which might include: granite, limestone, gneiss, marble, conglomerate, sandstone, etc.

Teaching Strategies:

Prior to beginning the activity, it might be useful to review some of the terms and descriptors relative to each of the types of rocks and their formation. A few sample sentences are included in the student page. The teacher might want to choose a rock and compose a sample "life cycle" of that rock in advance. Another option is to select a sample rock and have the students brainstorm about the type of rock and its probable origin. Students could then suggest possible statements (with a hint of creativity or humor) to describe the processes the rock has experienced in its lifetime. You may also want to bring in a variety of rock samples and have each student select their sample.

Sample Data:

Student's stories will vary. Here is one example: " I've had a rough life. I used to be solid as a rock years ago. I had a sparkling crystal personality when I was mostly quartz. I hung around with some pretty colorful characters, and we were tough guys. Over the years, our friendships weathered, and we split apart. It was no one's fault really. My relatives and I drifted downstream. As it turned out, we liked hanging around the beaches of the world. We bonded with those crusty little sea creatures, but they kept dying off. We became permanent cemeteries for those little guys. They stuck to us like glue. We tried for centuries to wash ourselves of those guys. Like everyone else who ages, we just kept getting softer and more rounded on our edges. Our hearts still bleed over this. That's why we have these darn red spots!"

Sample Responses to Go Figure:

1. Each student's example will differ, so the responses will vary. The important thing is to see if the students realize that the rock has in fact changed. The sample story indicates that rock probably originated from tough rock material (igneous or possibly metamorphic) that has weathered into pieces and been stuck or cemented together (sedimentary.) It is observed

that it probably ended as conglomerate (sedimentary) made of pieces that have been rounded off by flowing water (weathering) and moved to different locations via erosion.

2. Student specimens will vary, but in the sample story the specimen is now in pieces that have been stuck together but would not be a tough or sturdy rock. It was originally more solid and tough. The evidence of quartz indicates this solid nature.

3. The student responses will vary depending upon the sample chosen. The sample rock written about would be weak because it is a clastic that has been literally stuck together by compaction and cementation rather than by crystallization or recrystallization.