

Enhancement Activities/Strategies for Gifted/High Ability Learners: Sample Science Learning Plan

Big Idea/ Topic

- Rocks and Soils of Georgia

Standard Alignment

S3E1. Obtain, evaluate, and communicate information about the physical attributes of rocks and soils.

- Ask questions and analyze data to classify rocks by their physical attributes (color, texture, luster, and hardness) using simple tests. (Clarification statement: Mohs scale should be studied at this level. Cleavage, streak and the classification of rocks as sedimentary, igneous, and metamorphic are studied in sixth grade.)
- Plan and carry out investigations to describe properties (color, texture, capacity to retain water, and ability to support growth of plants) of soils and soil types (sand, clay, loam).
- Make observations of the local environment to construct an explanation of how water and/or wind have made changes to soil and/or rocks over time. (Clarification statement: Examples could include ripples in dirt on a playground and a hole formed under gutters.)

Crosscutting Concepts: Patterns, Cause and Effect, Structure and Function, Stability and Change

Connections to Other Content Standards:

ELAGSE3RI4: Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.

ELAGSE3SL1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.

c. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.

d. Explain their own ideas and understanding in light of the discussion.

Advanced Research

Virtual Lab to learn about mining. You are part of a team to determine the best possible site for a copper mine by conducting “authentic tests that exploration geologists, environmental scientists,

and mining engineers” do as they “explore potential mine sites.” This task may be best to do in pairs.

Communication

How can you use a cooking task to model the rock cycle or demonstrate the different types of rocks? Research and plan the next episode of [MasterChef, Junior](#) in which you are the chef competing. Choose one concept to present. What recipe will you use? How will you demonstrate the characteristics of rocks or something else? Here's a sample [video](#) to get you thinking. Your video should be a maximum of five minutes.

Critical Thinking and Critical Problem-Solving Skills

[Breakout EDU](#) (You can sign up for a free game if you don't have an account) [Rock Robbery](#). Digital Breakout games are an easy way to challenge students to collaborate, use critical thinking, and communication to "breakout" (like an escape room concept, but everything is digital). This game requires children to apply their understanding of **rocks**. If this is your students' first experience with a Breakout Challenge, you may need to be prepared to give hints to help guide students. I find the best hints are questions to make them think more. Allow the students time to struggle before providing a hint. I encourage students to use the back of their recording sheet to write down solutions they try. Oftentimes, they will figure out the answer by working through what does not work. (*Handout on p. 3*)

Creative Thinking and Creative Problem-Solving Skills

Encourage students to make a digital (or draw your own) trading card depicting a rock or mineral often found in Georgia. Using PowerPoint or Google Slides, a photograph or draw a picture on the front. On the back (or slide two), add the type of rock or mineral along with characteristics and other information. Have students share their rock trading cards with classmates in small groups.

Awareness of Self—Student's Well-being

Give students an opportunity to create and hide rocks with encouraging words in the community or on the school grounds. There are dozens of Facebook [groups](#) around Georgia with the same basic premise. Encourage others by adding an encouraging word painted on a rock and hidden where someone else might find it. You can add your school's social media account or a class website to

the back-encouraging others to post a picture when they find the rock. Challenge students to think of words, phrases, or pictures that would brighten the day of someone else.

Digital Breakout EDU Challenge Recording Sheet: The Rock Robbery





My Name _____

Names of the Students in My Group: _____



When Dr. Minny Rals entered her lab this morning, she was shocked to find her prized rock specimens missing. Luckily, the thief left some clues behind. Can you help Minny find her missing rocks before it is too late?

Record the Correct Lock Combination for Each Lock

Lock	Correct Combination							
 Directional Lock								
 Word Lock								
 Number Lock								
 Word Lock								

How did your knowledge of types of rocks help you solve the puzzles?

Explain a time you had to do research to solve a puzzle.

What did you learn about the rock cycle?