

Lesson 6: Rocks and Mineral Unit Review: Jeopardy Contest

Topic

Unit Review on Rocks and Minerals

Grade level

Sixth grade science

Instructional Objectives

- Students will review concepts of mineral types, classification schemes and practical uses
- Students will review concepts of rock types, classification schemes, and rock cycle
- Students will use their process skills and prior knowledge to make conclusions

Science Concepts Addressed/Proposed PDE Academic Standards

- 3.2.7 Inquiry and Design
 - Identify and use the elements of scientific inquiry to solve problems
 - Generate questions about objects, organisms and/or events that can be answered through scientific investigations.
 - Evaluate the appropriateness of questions
- 3.5.7 Earth Sciences
 - Describe earth features and processes
 - Describe the processes involved in the creation of geologic features and that these processes seen today are similar to those in the past
 - Explain how the rock cycle affected rock formations in the state of Pennsylvania
 - Recognize earth resources and how they affect everyday life
 - Identify and locate significant earth resources in Pennsylvania
 - Explain the value and uses of different earth resources

Materials required

Index cards, students must use all of the information and assignments for gathering questions, timer (stopwatch), and score chart

Engagement (motivator or anticipatory set)

Students will work in pairs and formulate questions from their notes and previous assignments from this unit. They will devise 2 questions from each of the following categories: Types of Common Minerals, Classifying Minerals, Common Uses of Minerals, Major Rock Types, Common Rocks and Rock Cycle. The students will write their questions with the answer on an index card. I will provide a list of questions that I will ask the students as well. The children will have 10 minutes for this activity.

Procedure

1. Students will form in teams of 5 students in each.

2. A Jeopardy game board display will be setup on the chalkboard with categories of questions listed above in the engagement. There will be 5 questions for each category.
3. Each student will have the opportunity to answer, there is no designated spokesperson for the group. However, only one student at a time can answer a question.
4. A team will begin by selecting a category and point value (10, 20, 30, 40, 50). They will have a 30 second time limit to answer the question.
5. If the team answers incorrectly, the next team will have the opportunity to answer the question within the next 5 seconds. If none of the team can provide the correct answer then the answer will be provided.
6. The team that answers correctly maintains control in the game.
7. This lesson can last one to two 55-minute periods, depending on how much the students have remembered.

Key discussion questions

Here is a list of questions that can be asked for the Jeopardy game contest. Also, these are good exam questions to use for this unit.

- What is a mineral?
- Minerals have two basic structures. What are they?
- What element is most commonly found in minerals?
- What are five major classification schemes used for identifying minerals?
- Describe two of the major classification schemes used to identify minerals?
- Give three characteristics of the following minerals (descriptive adjectives):
 - Quartz, amphibole, potassium feldspar and olivine
- List two common purposes for the following minerals:
 - Mica, Calcite, Potassium feldspar, and quartz
- In your own words, what is a good definition of a rock?
- What is the most common rock found on earth?
- Rocks are comprised of different _____.
- Explain in words or in pictures how sedimentary rocks are formed?
 - How metamorphic rocks are formed?
 - How igneous rocks are formed?
- What are the two major types of igneous rocks?
- List and explain three ways rocks can be metamorphosed? In other words what are the three types of metamorphisms?
- List three examples of sedimentary rocks and give three identifying factors of each? In other words...if you choose limestone, what are 3 characteristics of limestone?
- List three examples of igneous rocks and determine if they are extrusive or intrusive rocks.
- What is the rock cycle? Please draw a diagram with labels.
- Mineral and Rock Identifications: Use samples of rocks and see if the students can identify them right away.

Closure

To conclude the lesson I will give students a list of these questions to review for their exam. It is important that you review any questions that aren't chosen during the game.

Assessment

As a final measure of assessment the students will be given a unit exam. This exam will be comprehensive and include all of the content learned throughout the unit. The exam will be based on a 100-point scale.

Extension activities:

Students will be allowed to redo any laboratory, Internet and other class activities that were completed during the unit to reinforce their knowledge. They will have time to do on their own afterschool or at home.