TUMBLER RIDGE GLOBAL GEOPARK

United Nations Educational, Scientific and Cultural Organization

Tumbler Ridge UNESCO Global Geopark

Rock Name Game

Grade 5 Lesson Plan

Lesson #1: Rock Name Game

Duration: Two 40 min periods

Subject: Science

Topic: Local Earth Materials

Overview

In this lesson, students investigate the different types of rock that exist around the world and in the Tumbler Ridge UNESCO Global Geopark (TRUGG) through hands-on observation and research activities.

Lesson Objectives

Students will be able to:

- Identify the different types of rock that exist in the TRUGG and around the world
- Observe and classify rock samples
- Make real life connections between rocks we find in the ground and their everyday uses
- Work collaboratively in small groups

Curriculum Connections

Please see the *TRUGG Education Toolkit Curriculum Connections Matrix* for specific connections of this lesson to the B.C. Curriculum for Grade 5.

Materials

- Computer and digital projector
- *Geology in the TRUGG* Slideshow and Teacher Notes
- Teacher-provided rock samples
- Magnifying glasses
- *Rock Inquiry Report* Student Handout
- Slips of paper (for the What am I? game and Exit Slips)

Teacher Prep

- Make sure you have collected different types of rocks that students can touch and observe.
- Lay out a selection of rocks at the front of the classroom for the lesson introduction.
- Review the Background Information (and other resources as needed) to ensure you have a clear understanding of key concepts explored in this lesson.
- Review the *Geology in the TRUGG* Slideshow and Teacher Notes.
- Print and photocopy a class set of the *Rock Inquiry Report* Student Handout.

Background Information

This lesson invites students to explore rocks and gain important tactile and sensory connections to the different types of rock that exist globally and in the TRUGG. There are three types of rocks worldwide, with many different subtypes within each:

1) igneous
2) sedimentary
3) metamorphic

Located where there was once an ancient inland sea (known as the Western Interior Seaway), the TRUGG consists mostly of sedimentary rock. These layered rocks are embedded with fossils and artifacts of the past, such as tyrannosaurus tracks. The TRUGG also has several areas with ancient metamorphic rock, dating back nearly 700 million years. Since there is a lack of past and present tectonic activity near the TRUGG, igneous rock is generally not found within the park.

Students should be able to define and distinguish between each type of rock, and describe their associated geological formations. Moreover, they should be able to describe why the TRUGG is largely composed of sedimentary rock types, with some patches of metamorphic rocks and little to no igneous rocks.

Encourage students to think critically about the geological events of the past and present that lead to rock types and formations in different places on Earth, including where they live.

This lesson also provides a guided inquiry that supports the content in Lesson 2. Students can work in partners or groups on this assignment, as desired, and will need access to the Internet and/or the library.

Note that students may need considerable guidance with regard to the inquiry and research process. You may wish to provide support on specific skills, such as identifying key words and search terms for research, assessing the credibility of sources, and documenting sources to develop a bibliography.

Please see the *Tumbler Ridge UNESCO Global Geopark* Teacher Backgrounder for more background information and details on the Geopark.

Lesson Activities

Introduction/Hook:

1. Draw student's attention to the rock samples at the front of the room. Ask students to think about what we will be learning.
2. Create a web diagram on the board or chart paper with the word 'Geology' in the centre and brainstorm what the students already know about the field.
3. Present the *Geology in the TRUGG* Slideshow (using the Teacher Notes, as needed) and discuss the key concepts as a class.

Activity 1:

1. With students in small groups, distribute a selection of rocks and magnifying glasses to each group. Give students several minutes to explore the rocks.
2. Distribute the *Rock Inquiry Report* Student Handout and review with students.
3. Have students work in their small groups to complete the *Rock Inquiry Report* Student Handout.

Activity 2:

1. Once students are finished their *Rock Inquiry Report* Student Handout, explain that they will create a 'What am I' game with questions based on the knowledge they have gained through their *Rock Inquiry Report* research.
2. Play the Who am I Rock Game:

   A. Set up the game:

      i. Ask students to generate a clue about each of the three types of rocks. The clues should range from easy to medium and hard.

      ii. Distribute slips of paper. Have students write down their clues on the slips and fold them in half. On top, ask them to write E for Easiest, M for Medium and H for Hardest.

      iii. Collect the game slips and place them in three piles: Easiest, Medium, Hardest.

      iv. Divide the class into two (or more) teams.

   B. Play the Game:

      i. Start with the EASIEST pile and ask the first student in the first group the question.

ii. If they respond with the appropriate rock type (Igneous, Metamorphic or Sedimentary), they get a point and the teacher moves onto the first person on team two.

iii. If the student answers the question incorrectly, they can turn around and ask their teammates for help.

iv. Once, the EASIEST pile is done, move on MEDIUM and then the HARDEST.

Closure:

1. Distribute a slip of paper to each student. On this 'Exit Slip', ask students to write 1-2 'hard facts' about what they learned in this lesson. Have them try to include a fact about rocks in the TRUGG for a bonus point.

Assessment/Evaluation

- Observe the students during Activity 1 and 2, and assess their ability to engage in the research process and work collaboratively in groups.
- Review and assess each student's *Rock Inquiry Report* Student Handout.
- Review and assess the student's exit slips.

Extensions

- Students can create a cartoon strip using only 'rock' characters. In their cartoon strip, they must explain at least two characteristics of each of the three types of rock.
- Ask students to bring in rocks from their back yard or favourite local nature area for this lesson. Use them both in the hook and throughout the lesson as a visual and kinaesthetic model for students to learn from.