

Lesson One: Minerals - In the Know

Grade Level: 5th Grade

Time: 45 minutes

Essential Question: How can we be stewards of Wyoming's mineral and energy resources to benefit current and future generations?

Objectives: Students will:

- Learn the definition of stewardship.
- Develop an understanding of the mineral industry in Wyoming.

Purpose: Students apply an understanding of what stewardship is in relation to their own surroundings and how it applies to Wyoming.

Required Materials/Resources:

- Quote: ***"We do not inherit the earth from our ancestors; we borrow it from our children."*** (Source 1)
- *History of the Industry and Overview of Minerals & Energy* (one copy to read to the students) - (Sources: 2-6)
- Sticky notes or notecards

Suggested Teacher Preparation:

- Prepare quote (see step 1).
- Pick an outside location for the lesson or prepare pictures (see step 2).

Standards:

Social Studies: SS5.1.1 (Explicit)

ELA: 5.SL.2 (Practiced/Encountered)

Vocabulary:


- **Ancestor** - person(s) from an earlier generation of your family
- **Inherit** - receive or be left with (a situation, trait, etc.) from a former owner or generation
- **Stewardship** - As Wyoming citizens, we are stewards entrusted with the responsible development, care, and use of our resources to benefit current and future generations.

Instructional Procedure/Steps:

1. Have the following quote written on your board, projected on your Smart Board, or ready for discussion outside: **“We do not inherit the earth from our ancestors; we borrow it from our children.”** Define the words inherit and ancestor as needed. Have students discuss their thoughts in regards to the quote above.
2. If possible, have the following discussion at your local park. If going to a park is not an option, use your school grounds, local area, Google Earth, Google Cardboard, or pictures of your local area. Once at the park, have the following discussion. Say: **“Take a moment and look around you.”** Ask:
 - **“What do you notice about the grounds?”**
 - **“Think about what you envision a park should look like?”**
 - **“How should it be cared for?”**Have students turn to a partner and discuss what they noticed, and their ideas. Then, have a whole group discussion of students' thoughts.

3. Next, ask students the following questions:
- **“What would happen if the lawn was never mowed?”**
 - **“How would you feel if the equipment was broken and never fixed?”**
 - **“Would it matter if the trees and bushes were never trimmed and kept neat?”**
 - **“Would it change how you feel about the park if it was not properly managed and looked after?”**

Ask students to describe and explain their thoughts/ ideas.

4.  Say: **“As citizens of Wyoming, it is our responsibility to also be stewards of our land and natural resources. As great stewards, we are entrusted with the proper care and maintenance of the land and its vast resources. Turn to your neighbor, and discuss the following questions:”**
- **“How can you be a good steward for your local park?”**
 - **“Have you ever been a good steward? What did you do?”**

Once pairs have finished talking, quickly discuss their ideas as a whole group. *It is important that students have a solid understanding of what stewardship means.*

5. Remind students of the quote: **“We do not inherit the earth from our ancestors, we borrow it from our children.”** Say: **“Today, we have taken time to look within our close surroundings to investigate how we can be good stewards to our community. Now, thinking on a larger and historical scale, such as the state of Wyoming, what does the quote mean to you? How does this quote correlate to stewardship of Wyoming? Part of being good stewards in Wyoming is**



In this task, students will be engaged in the higher order thinking skill of synthesis by combining ideas about the quote and their observations of the park to make connections in their personal lives.

being knowledgeable about Wyoming’s minerals and how they impact our daily lives. So, before we get too far, we need to look at the history and development of the mining industry in Wyoming.”

6. Pass out, and have students read, and complete the *History of the Industry and Overview of Minerals & Energy* sheet. When all are finished, discuss student responses from the bottom of the sheet as a whole group.
7. When the class is finished discussing, tie mining back to stewardship by posing the following questions and discuss thoughts as a whole group having students think-pair-share. When the whole group is sharing, be sure to call on every student at least once during this discussion:
 - **“How do you think mines practice good stewardship of Wyoming’s resources?”**
 - **“What would your role be as a steward of Wyoming’s mineral resources?”**

Students might not know the answer to these questions yet, and that is okay. They are presented now just to get students thinking. The purpose of this unit is that students will be able to answer the questions at the end of the unit.

Assessment: At the end of class, give every student a sticky note or notecard. Say: **“You will now write a 12-word summary about what stewardship means to you.”** Once all students are finished, collect the sticky notes or notecards, and display for all to see. Check sticky notes or notecards for student understanding of the meaning of stewardship.

Credits/Sources:

1. Quote Investigator.com. (2013, January 22). *We do not inherit the earth from our ancestors, we borrow it from our children*. Retrieved July 30, 2017, from <http://quoteinvestigator.com/2013/01/22/borrow-earth/>
2. U.S. Energy Information Administration - EIA. (n.d.). *Wyoming State Profile and Energy Estimates: Analysis*. Retrieved July 30, 2017, from <https://www.eia.gov/state/analysis.php?sid=WY>
3. State of Wyoming. (2017). *Wyoming State Geological Survey: Coal Production & Mining*. Retrieved July 30, 2017, from <http://www.wsgs.wyo.gov/energy/coal-production-mining>
4. Wyoming Business Council: Think Wyoming. (2017). *Think Wyoming: Rich in Natural Resources*. Retrieved July 30, 2017, from http://wyomingbusiness.org/Uploads/DocumentLibrary/WBC/2017/wbc_thinkwyo_web.pdf
5. Wyoming Mining Association. (2017). *Coal*. Retrieved July 30, 2017, from <https://www.wyomingmining.org/minerals/coal/>
6. World Population Review. (2018). *US States – Ranked by Population 2018*. Retrieved August 29, 2018, from <http://worldpopulationreview.com/states/>