



Lesson Seven: Follow the Money

Grade Level: 2nd Grade

Time: 2 Parts: 30-40 minutes each

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

Objective: Students will participate in a game and discussions to illustrate the challenges that affect the culture and economy of Wyoming's communities.

Purpose: Students will understand how minerals and energy impact Wyoming's culture and economy. Students will understand what happens when the production of minerals and energy in Wyoming changes. How are minerals and energy used?

Required Materials/Resources:

- Maps from previous lesson
- Video: <https://www.youtube.com/watch?v=-8XXyvDLjsY>
Jeffrey City – A Modern Ghost Town. (Source 1) *Video length: 1 min. 36 sec.*
- Things I Observed observation sheet (one per student)
- Play money: \$5 and \$1 bills, enough for all three industries
- Industry Name Tags (Teacher may add other industries like wind technician, electrician, sawmill, etc., if you would like to.)

- String to create name tags
- Dice (one per group)
- Chart paper
- Sticky notes
- Hats, vests, etc. for the students to wear (optional)
- Mining and the Economy Reflection sheet (one per student)

Suggested Teacher Preparation:

- Assign group roles. (See Part 2: Step 1)
- Print name tags and assemble with string.
- Gather all classroom materials needed for the lesson.
- Assign areas in the classroom for each industry: coal, oil, and trona.
- Decide whether each group will have its own money manager or if you will serve as money manager for all groups.
- Create anchor T-chart titled “Cause and Effect.”
- Create and post Dice Roll Scenario Poster using the listed scenarios below.
 - It is payday. Pay each of your workers \$2.
 - Oh no! There was an accident and one of the dump trucks needs fixed. Pay \$5.
 - There is a new law that requires mines to pay extra fees. Pay \$4.
 - The price of your natural resources has dropped. People are not paying as much. Pay \$3.
 - Your natural resource sold and is leaving on the train! Receive \$10.
 - The price of your natural resource has increased. People are paying more! Receive \$3.

Standards:

Social Studies: SS2.4.1 (Explicit), SS2.3.2, SS2.5.4
(Practiced/Encountered)

ELA: 2.W.8, 2.SL.1, 2.SL.6 (Practiced/Encountered)

Math: 2.OA.2, 2.MD.8 (Practiced/Encountered)

CVE: CV5.1.1, CV5.2.3, CV5.5.2 (Practiced/Encountered)

Vocabulary:

- **Coal** - a black/dark brown rock made from old plant matter found mainly underground. Coal is mined and used as fuel.
- **Conservation** - the careful utilization of a resource in order to prevent waste and leave some for future generations
- **Economy** - financial system of interaction and exchange
- **Industry** - a group of businesses that provide a particular product or service
- **Mine (mining)** - (verb) taking resources from the earth
- **Natural resources** - sources of life, materials, or energy that we are able to get naturally from the earth
- **Nonrenewable resources** - resources that cannot be replenished (made again) in a short period of time
- **Oil** - a natural liquid formed from plants and animals that lived millions of years ago that can be refined into gasoline, diesel fuel, jet fuel, wax, asphalt, and many other valuable products
- **Reclamation** - the act of returning something to a former, better state
- **Renewable resources** - resources that are capable of being replenished
- **Trona** - a gray mineral that occurs as an evaporate in salt deposits and consists of a hydrated carbonate and bicarbonate of sodium

Part 1 – Effects caused by closing mines

Instructional Procedure/Steps:

1. Say: **“Wyoming has many nonrenewable resources that are very important to our state. In our last lesson, we observed and discussed how the locations of coal mines have changed over time in Wyoming. We will now learn how these changes impact the culture and economy of communities and our state.”**
2. Display maps from the previous lesson. Review the changes that have occurred by quickly discussing the past, present, and future maps. Ask: **“Why do you think mines across Wyoming shut down?”** *Mines close for different reasons: the natural resource is all mined, the mines don't follow the laws, the mine doesn't have money.*
3. Have students discuss the following questions as a whole group. Allow students to respond before moving on to the next one.
 - **“How many people do you think work in a mine?”**
 - **“What happens to workers' jobs when a mine closes?”**
 - **“How do you think this affects the worker and his/her family?”**
 - **“How does this affect the community where they live?”**
4. Play the *Jeffrey City, A Modern Ghost Town* video.
5. After the watching the video, pass out the Things I Observed observation sheets, and have students independently complete the first two sections.

TEACHER NOTE: If you cannot access the video, find images of ghost towns, so students can see what happens to a mining town/community when the mine closes.

6. When students have finished, have students discuss the following questions with a partner. Read each question out loud, then allow students to discuss. Encourage students to use their graphic organizers to share their thoughts.

- **“What did you notice about the town in the video and/or pictures?”**
- **“How does a mine closing affect the workers and their families?”** *Workers had to find new jobs and move. The families move.*
- **“How does the mine closing affect the community? What happens when many families have to move from a community?”**

Businesses close because there are less people spending money in that community, schools lose students, teachers, and they close. Explain to students that not all communities will become ghost towns, but there are still strong impacts. Make connections to local mining towns if you have them in your area.

Assessment: Ask the students the following questions: **“How do you think the economy of Wyoming will change in the future? Why is it important to be stewards of our nonrenewable resources?”** Have students discuss their ideas with a partner before recording their answers for the last two questions on the observation sheets. Collect and evaluate student understanding.

Part 2 - Industry Worker Role Play

1. Assign student roles for each group. There needs to be a manager of the coal mine, manager of the oil field, and manager of the trona mine. Divide the rest of the students into the same number of coal miners, oil field workers, and trona miners. If the teacher will not be the money manager, choose a student to serve as the money

TEACHER NOTE:
Avoid calling the “money manager” a banker because students should not have the misconception that all money goes to the bank and never leaves.

Each group can have their own money manager to disburse the money, or the teacher can serve as the money manager for all the groups.

manager for each group. Money managers will need extra money to give out once the game begins. Pass out name tags for designated roles. If there are extra students in a group, have them become extra workers.

2. Once students are assigned to their roles, have all members of the different industries go to a different area within the room.
3. Have the money manager provide each industry manager \$20 to start. This is their “industry money.”
4. To start the game, each industry manager will need to initially pay the money manager for the property to mine or drill. The cost is \$5 for coal, \$3 for oil, and \$4 for trona. Say: **“Different types of natural resources require different amounts of land, and that land costs vary due to location and demand. Each group will receive a dice. The industry manager will roll the dice. For whatever number comes up, refer to the Dice Roll Scenario Poster, and either pay the money manager the amount stated or receive money.”** Before groups start to play, walk the class through all of the scenarios and explain the impact of each one on the industries.
5. Pass out the dice, and have groups play for 10 minutes. When time is up, the mining group with the least amount of money has to close their mine. The group that has the most money wins!
6. Have students return to their seats and discuss the following questions:
 - **“What happens if an industry is not making enough money?”** *Profit loss means loss of jobs or sell out to another company.*
 - **“How does the loss of jobs impact families in the community?”** *If people don't have*

jobs, they have to find new jobs or move to find new jobs.

- **“How does this impact the community itself?”** *If people move, this impacts local stores, schools, public jobs, etc.*
After students have shared, say: **“Besides the community impacts you have already mentioned, when mines produce their product, they pay a portion of their money to the State of Wyoming. The state uses that money to pay to build and repair parks and roads, build and maintain schools, pay individuals who work at schools, police officers, state parks employees, etc.”**
- **“How then do closed mines impact Wyoming as a whole?”** *If people have to move to another state, their money does not come into Wyoming. This money is used to build and care for parks, pools, and other recreation areas many of you use and play on. We lose those opportunities, as well.*
- **“What would happen if nonrenewable resources in Wyoming are limited or run out?”** *We would not have many products we use on a daily basis, many people would lose jobs, and Wyoming and individual communities will lose money.*

7. Say: **“As you can see, the nonrenewable natural resource industry impacts Wyoming's communities as a whole in many different ways. We have discussed the difference between renewable and nonrenewable resources, how they impact Wyoming, and why it is important that we conserve these resources for future generations. In our final lesson, you will work with a group to share what you have learned about**

nonrenewable resources in Wyoming.”

Assessment: Place students into pairs. Give each pair two sticky notes. Pairs record one cause and one effect that industries of natural resources have on communities, and/or individuals in Wyoming. When students are finished, have students post their responses on the Cause and Effect anchor chart. Review notes for accuracy and understanding of the lesson’s concepts. Pass out a Mining and the Economy Reflection sheet to each student. Collect after students have completed them, and review for accuracy and understanding of the lesson’s concepts.

Credits/Sources:

1. University of Wyoming. UWyoExtension. (2013, June 24). *Jefferey City – A Modern Ghost Town*. Retrieved September 30, 2018, from <https://www.youtube.com/watch?v=-8XXyvDLjsY>