



Lesson Six: Making Dollars and Cents

Grade Level: 4th Grade

Time: 45-60 minutes

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

Objectives: Students will:

- Compare and contrast the cost/benefit of crops and livestock as they apply to our state.
- Ensure sound stewardship practices for both the land and livestock of Wyoming.

Purpose: Students gain an understanding of stewardship in agriculture and economy through activities based on cost/benefit.

Required Materials/Resources:

- Wyoming Agriculture Commodity Cards - These MUST be printed back to back to ensure that the correct information on the back lines up with its corresponding crop/livestock. (Source 1)
 - If there are more cards than students, give multiple cards to different students. If there are more students than cards, give one card to every pair of students, or make multiple copies of some of the cards.
 - Beans will be the example that you will model, so do not assign it.
- Commodity posters
- Cost/Benefit recording sheet (one per student)

TEACHER NOTE:
Prices are reported by five-year averages due to the fact there are always fluctuations in market prices. We realize that there are laws, regulations, and other factors that impact the number/amount of livestock or crops per acre. However, students will focus only on the economic revenue. The math was simplified to help students focus on the cost/benefit aspect of this lesson.

TEACHER NOTE:
Save students'
Cost/Benefit
sheets for Lesson
6.

- Media device to play music
- Pencils
- Timer (optional)
- Scratch paper made available to work problems if needed

Suggested Teacher Preparation:

- Preview the Cost/Benefit sheet answer key.
- Decide how you are distributing the Wyoming Agriculture Commodity Cards.
- Print six animal/crop posters.
- Set up the room for Meet in the Middle activity. Place the six Commodity posters on opposite walls of the classroom. Place Bison across the room from Beef; Corn across from Goats; and Hogs across from Sugarbeets. *The Meet in the Middle activity is adapted from the Four Corners activity (Source 2).*

Standards:

Social Studies: 5.3.2 (Explicit)

ELA: 4.RI.1, 4.RI.7, 4.SL.1, 4.SL.2, 4.SL.4 (Practiced/Encountered)

Math: 4.NBT.4 (Practiced/Encountered)

CVE: CV5.2.2 (Practiced/Encountered)

Vocabulary:

- **Benefit** - an advantage or profit gained from something
- **Cost/benefit** - the study of how much money a business earns compared to how much money it spends
- **Overgraze** - a situation where too much of the forage in an area has been eaten, causing a negative effect on the plants
- **Profit** - money that is made in a business after all costs and expenses are paid
- **Revenue** - money that is made by or paid to a business or an organization

Instructional Procedure/Steps:

Day 1:

1. Say: **“Today we are going to study the costs and**

benefits of different crops and livestock.” Ask: “What do you think cost/benefit is?” Let students respond. Say: **“Cost/benefit is the study of how much money a business earns compared to how much money it spends.”** Ask: **“Why do ranchers and farmers need to look at cost/benefit?”** *Ranchers/farmers need to be able to decide what to plant/raise in order to make the most profit on their land. They aren’t going to plant/raise something that is going to cost more to develop than what they are going to potentially earn from the sale of it.*

2. Pass out the Cost/Benefit recording sheet. Show students the Beans Commodity card. Model for students where to locate the information for the Cost/Benefit recording sheet using Beans as an example.
3. Say: **“We will be playing a game called ‘Find Someone Who.’ This game allows you to complete column two and three on the Cost/Benefit sheet. Don’t worry about column 4 right now. We will get to it later. Everyone** (or pair depending on how cards have been distributed) **will receive a card that has two sides: one side has a picture of a type of livestock/crop and the other side has the information needed in order to fill out the Cost/Benefit recording sheet. I will play music. When it stops, find a partner** (or another pair) **and exchange information to fill out columns two and three on your sheet. We will continue this process until everyone has completely filled out columns two and three on your sheets. We will deal with column four in a little bit. Questions?”**
4. Pass out pencils and the Commodity cards. Begin the game. Play music for 15-20 seconds. When the music stops, students stop where they are and find a partner. Give the students 45 seconds to a minute to record the information needed for their Cost/Benefit recording sheet. If necessary, display a timer for each round.

5. Continue playing 'Find Someone Who' until everyone has completed columns 2 and 3 on the Cost/Benefit recording sheet. At the end of the activity, ask: **"Is anyone missing any livestock or crop data?"** If so, have them buddy check with a neighbor to get the information needed.

6. Model how to calculate the profit for the fourth column using the Beans example again. Demonstrate how you need to subtract the cost from the income to find out how much money was made for each livestock or crop. Have students calculate the profit in the fourth column for the benefit/income per head/acre either by themselves or with a partner. You may need to support them with the math. When all students are finished, have them share their findings with a partner (or another pair) to confirm the profit numbers.

7. Have a class discussion about each commodity and allow students to share their thinking about the profit for each crop and livestock. Afterwards, pose the following questions to the students:
 - **If farmers only worry about their profit, is that good stewardship?**
 - **How can farmers be good stewards and still make a profit?**
 - **If ranchers overgraze their pastures to make more profit, is that being a good steward?**
 - **Does the crop or livestock need special conditions to thrive? Think about irrigation, precipitation, topography and other factors we discussed in Lesson 2.**
 - **How can ranchers be good stewards and still make a profit?**

8.  Introduce the Meet in the Middle activity. Draw student attention to the 6 posters hanging around the room. Using the poster choices and the data and concepts from the Cost/Benefit recording sheet and discussion, give students 30 seconds to decide which livestock or crop they would choose to raise.
9. After the allotted think time, students walk to the location of their choice. All students gathered under each poster should discuss their reasoning for their selection including information from the Cost/Benefit recording sheet. For example, students selecting beef, discuss with others that also selected beef.

10.  After 1 minute, students meet the group from the opposite side of the classroom in the middle of the room. Students justify their livestock/crop selection with the opposing group. Allow 1-2 minutes for sharing; all students must share at least one idea.

11.  After the Meet in the Middle sharing is finished, collect the Cost/Benefit recording sheets, and ask the following questions to the whole group:
- **Who would select the same animal or crop? Why?**
 - **Who would make a different choice? What would you choose, and why?**
 - **How does your choice relate to being a good steward?**

Assessment: Assess student understanding of Cost/Benefit during the Meet in the Middle discussions, and check that students' calculations are correct on the Cost/Benefit recording sheets. Save the Cost/Benefit recording sheets because students will use them in the next lesson.



In this task, students will be engaged in the higher order thinking skill of evaluation by comparing ideas, evaluating outcomes, and defending claims in Meet in the Middle activity.

Credits/Sources:

1. Commodity Costs and Returns. (n.d.). Retrieved October 5, 2017, from <https://www.ers.usda.gov/data-products/commodity-costs-and-returns/commodity-costs-and-returns/#Current%20Costs%20and%20Returns:%20All%20commodities>
2. theteachertoolkit. (n.d.). *Four Corners*. Retrieved August 6, 2018, from <http://www.theteachertoolkit.com/index.php/tool/four-corners>
3. Crop Enterprise Budget: Alfalfa Hay Baled, Wheatland Area. (June 1992). Retrieved October 17, 2018 from <http://www.wyomingextension.org/agpubs/pubs/WYMP72-1.PDF>