ACTIVITY 11

Rank for Hank: Cold-Blooded Critters

RANCH LIFE SERIES | BOOK 3 | RANCH WILDLIFE
Chapter 8

Content Area
Science & Social Studies

Topic
Animal Impact on Natural Resources

Objective
Students will study and assign value to animal contributions in a ranch's ecosystem and economic success.

Texas Essential Knowledge and Skills (TEKS)*
3.12A, 5.12AC & 1.9B, 1.16B, 2.7A, 2.15B, 3.15E, 4.11B, 4.19B, 5.12B, 5.23B

Rank for Hank: Cold-Blooded Critters

CONTENT AREA: Science & Social Studies

TOPIC: Animals' Value to the Ecosystem and Economics of a Ranch

ACTIVITY MATERIALS:

- RANK FOR HANK DATA RECORDING SHEET (PAGE A11 - 4): 1 PER STUDENT OR STUDENT TABLE GROUP
- NOTES: RANK FOR HANK (PAGE A11 - 3): 1 PER STUDENT

READING STRATEGY:

- Review the terms "economic value" and "ecosystem value" with your students. Create a word wall or visual reference for students to refer to during the reading.

ECOLOGICAL VALUE: On a ranch, ecological value is determined by the contribution of a species *(plant or animal)* to the healthy preservation of the ecosystem *(how organisims coexist with one another)*.

EXAMPLES: *Healthy grass is EXTREMELY VALUABLE to the ranch's ecosystem because it is needed to nourish and grow wildlife populations, such as cattle. Cattle grub insects would be VERY DESTRUCTIVE to the ranch's ecosystem because they can be fatal to a cattle population.*

ECONOMIC VALUE: On a ranch, economic value is determined by the contribution of a species *(plant or animal)* to the *financial benefit* gained or lost in the business of ranching. Wildlife presence/behavior, the weather, and natural disasters greatly impact this value.

EXAMPLE: *Healthy grass is EXTREMELY VALUABLE to a ranch's economics because it strengthens the goods and services of the ranch (it feeds cattle, improves the landscape, and provides natural wildfire management).*

- The teacher can read aloud or have students read aloud with a group or partner. Every time you read something that has an animal gain or lose value (economic or in the ecosystem), write it down in your notes under that animal.

ACTIVITY INSTRUCTIONS:

1. Read the chapter aloud to your students, or have students read aloud in groups
2. Each student or student group needs a page to write down notes
3. As the teacher/student(s) reads, students record gains and losses of value for each animal on the ranch
4. Students may complete the BOTTOM LINE handout or move on to #5
5. Students will then use their notes to complete a bar graph giving value to each of the animals in the activity

STUDENT SKILLS ASSESSMENT:

- Have students (or student groups) complete THE BOTTOM LINE worksheet at the end of the activity.

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SECURITY BRIEFING –

WORDS OF WISDOM FROM HANK THE COWDOG:

*You did some research on lots of **animals** and it is time to see if you can figure out which ones can help our ranch and which ones can hurt our ranch. Let's calculate their value! Each of these animals can add or subtract **value** to our ranch. All of the animals interact with the **environment** and a healthy ecosystem on the ranch means a healthy herd of cattle! Some of these animals can also cost Sally May and Loper a lot of money. That means the most important part of the ranch (me) might not get food in his bowl. It is time to figure out which animals are the MOST beneficial to the ranch. As Head of Security, it is important to know which animals for me to chase off and which ones I need to protect!*

ACTIVITY MATERIALS:

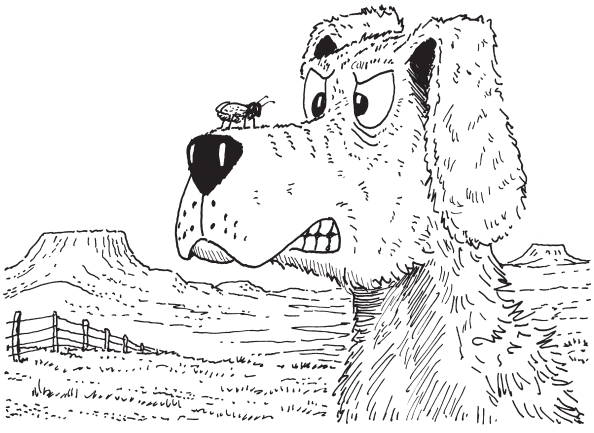
- *RANK FOR HANK DATA RECORDING SHEET*
- *NOTES: RANK FOR HANK*
- *Insert page numbers of each activity page onto the "Game Materials" section of the Educator's Guide Page*

ACTIVITY INSTRUCTIONS:

1. *Each student will need a RANK FOR HANK NOTES PAGE*
2. *Have students write notes on the value of each animal on the ranch. Values should be categorized into Economic Value and Value to the Ecosystem.*
3. *When students are done with their notes, they will fill in the RANK FOR HANK DATA RECORDING SHEET*

WRAP UP:

Fill out THE BOTTOM LINE worksheet after you have completed the activity.



Rank for Hank: Cold-Blooded Critters

NAME: _____ DATE: _____

READING NOTES

As your teacher reads, write down how each animal affects the different values of a ranch.

CRITTER	ECOSYSTEM VALUE		ECONOMIC VALUE	
	List the way(s) this animal HELPS the ranch's ECOSYSTEM.	List the way(s) this animal HARMS the ranch's ECOSYSTEM.	List the way(s) this animal HELPS the ranch's ECONOMICS.	List the way(s) this animal HARMS the ranch's ECONOMICS.
Hog-Nose Snake				
Bullsnake				
Rattlesnake				
Lizards				
Frogs				
Turtles				
Flies				
Mosquito				
Buffalo Gnats				
Yellowjacket Wasp				
Scorpions				

Rank for Hank: Cold-Blooded Critters

NAME: _____ DATE: _____

DATA RECORD

Reference your notes from the reading and the glossary below to compile information about each cold-blooded ranch animal. Assign a number value to each animal that reflects your findings.

ECOLOGICAL VALUE: On a ranch, ecological value is determined by the contribution of a species *(plant or animal)* to the healthy preservation of the ecosystem *(how organisims coexist with one another)*.

ECONOMIC VALUE: On a ranch, economic value is determined by the contribution of a species *(plant or animal)* to the *financial benefit* gained or lost in the business of ranching. Wildlife presence/behavior, the weather, and natural disasters greatly impact this value.

CRITTER	CONTRIBUTION TO RANCH		VALUE TO THE RANCH
	ADDS VALUE *Use a tally mark for each "help"*	SUBTRACTS VALUE *Use a tally mark for each "harm"*	*Compare number of "Helps" to "Harms" to the ranch to* RATE EACH ANIMAL'S VALUE 0 = Very Destructive 1 = Harmful 2 = Neither Harmful or Valuable 3 = More Valuable Than Harmful 4 = Valueable 5 = Extremely Valueable
Hog-Nose Snake			Ecological Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 Economic Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5
Bullsnakes			Ecological Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 Economic Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5
Rattlesnakes			Ecological Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 Economic Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5
Lizards			Ecological Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 Economic Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5
Frogs			Ecological Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 Economic Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5
Turtles			Ecological Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 Economic Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5
Flies			Ecological Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 Economic Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5
Mosquito			Ecological Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 Economic Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5
Buffalo Gnat			Ecological Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 Economic Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5
Yellowjacket Wasp			Ecological Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 Economic Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5
Scorpions			Ecological Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 Economic Value ❑ 0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5

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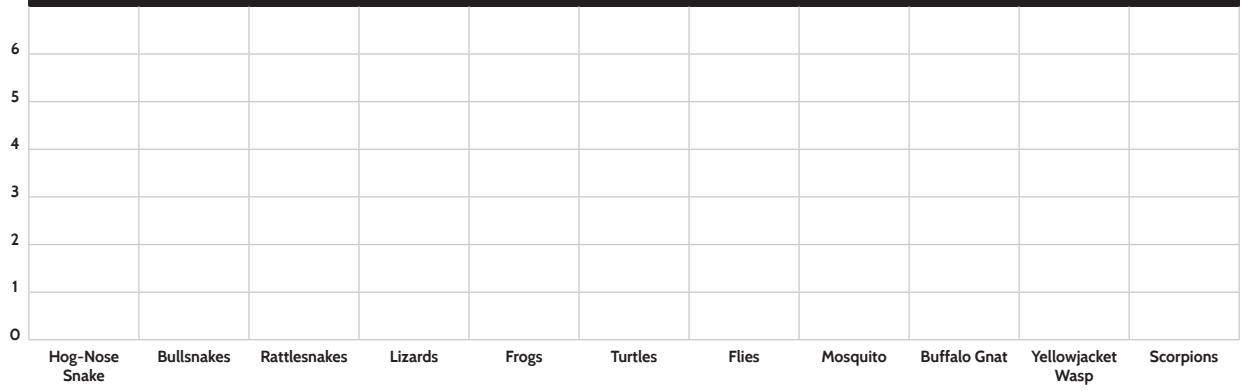
NAME: _____ DATE: _____

THE BOTTOM LINE

Transfer the values you assigned to each animal on your DATA RECORD to the charts below, then answer the questions, giving justifications for your answers.

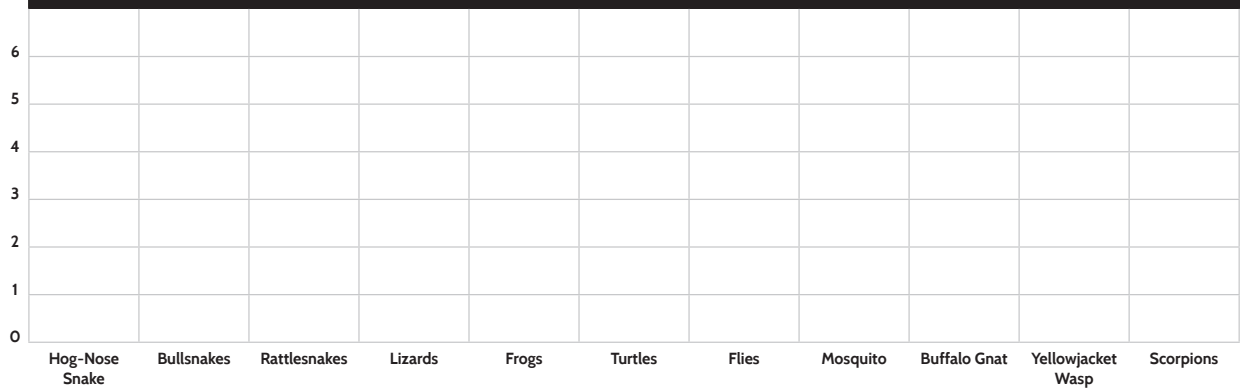
VALUE CHART ~ RANCH'S ECOSYSTEM



I think the _____ brings the MOST value to the ranch's ECOSYSTEM because...

I think the _____ brings the LEAST value to the ranch's ECOSYSTEM because...

VALUE CHART ~ RANCH'S ECONOMICS



I think the _____ brings the MOST value to the ranch's ECONOMICS because...

I think the _____ brings the LEAST value to the ranch's ECONOMICS because...