



## ACTIVITY 2

### Ranch Food Web

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***RANCH LIFE SERIES / BOOK 1 / RANCHING AND LIVESTOCK***

Chapter 2

**Content Area:**

Science

**Topics:**

Food Chains, Food Webs, Flow of Energy

**Objective:**

Students will learn roles of producers, herbivores, omnivores, and carnivores on the ranch.

**Texas Essential Knowledge and Skills (TEKS):**

2.12B, 3.12B, 4.12B, 5.12B

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## Ranch Food Web

**CONTENT AREA:** Science

**TOPICS:** Food Chains, Food Webs, Flow of Energy

### GAME MATERIALS:

- SECURITY BRIEFING (pages A2-2 & A2-3): Copy/Print PDF, 1 per student or student group
- RANCH FOOD WEB - CARDS #1-4 (pages A2-2 thru A2-14): Copy/Print PDF (2-sided), 1 set per student/student group
- THE BOTTOM LINE (pages A2-14): Copy/Print PDF, 1 per student or student group

### READING STRATEGY:

Students will read Chapter 2 (pages 5-7) before playing the game.

### GAME INSTRUCTIONS:

- Deal six RANCH FOOD WEB - CARDS to each player. Put the remaining cards in a draw pile.
- The player to the right of the dealer has the first opportunity to play. They will draw a RANCH FOOD WEB - CARDS from the draw pile and discard a PRODUCER (plant) card in a play pile spot (see illustration below). If the first player does not have a PRODUCER card, the turn passes to the next player.

PLAY PILE	PLAY PILE	PLAY PILE	PLAY PILE	DRAW PILE
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#### EDUCATOR'S QUICK REFERENCE -

##### PRODUCERS

grasses, plants

##### HERBIVORES

grasshopper, quail,  
porcupine, prairie dog,  
rabbit, deer fawn, calf,  
cow, longhorn steer, horse

##### OMNIVORES

ants, mouse, chicken,  
skunk, raccoon, coyote,  
wild turkey, human

##### CARNIVORES

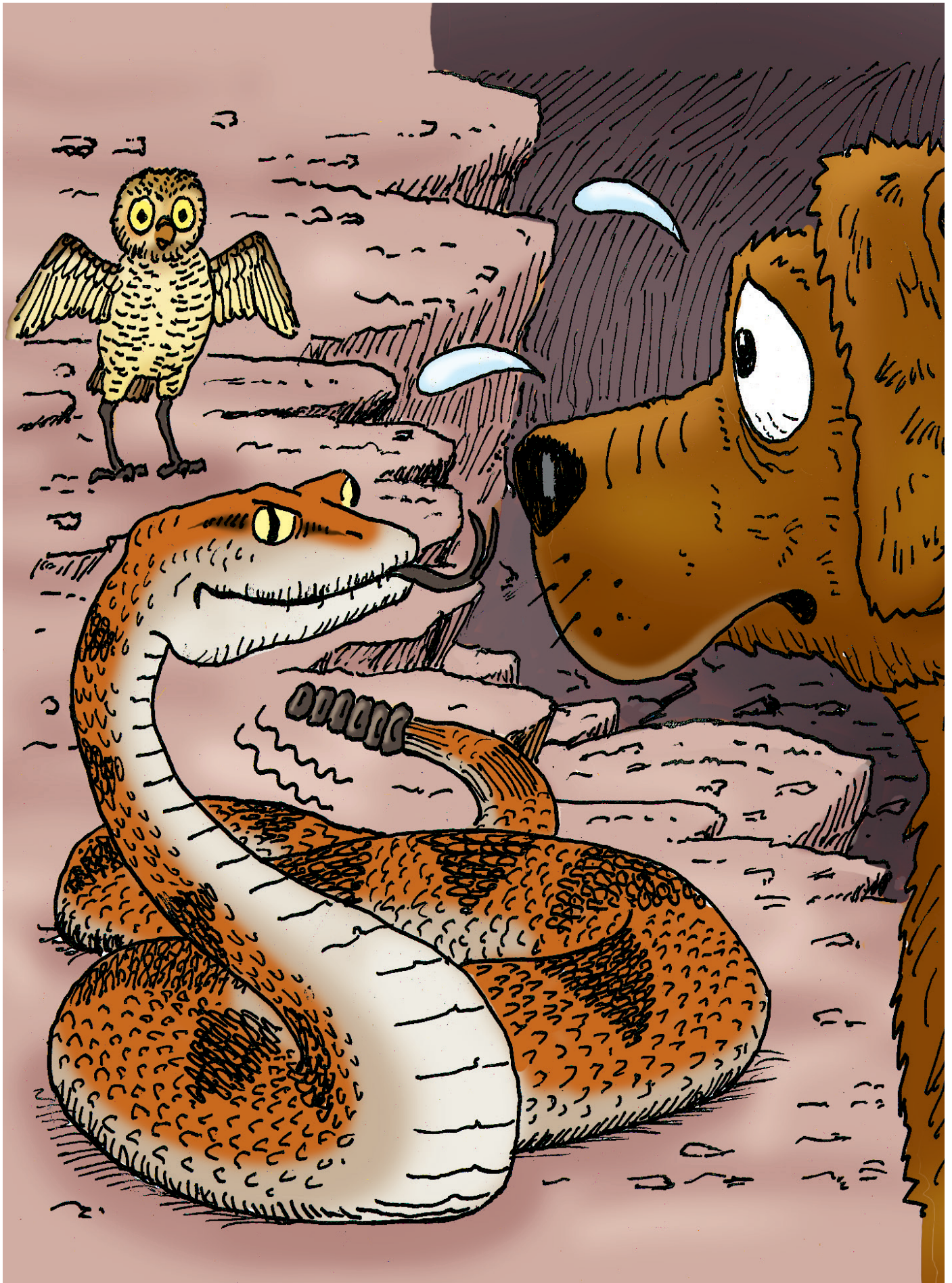
rattlesnake, burrowing owl,  
cat, red tailed hawk,  
buzzard, cowdog,  
coyote, mountain lion

- Once a PRODUCER card has been played, the next player draws a card and can start a new pile with another PRODUCER card or play an HERBIVORE card on top of the PRODUCER card. Players may use up to 4 play piles.
- Play continues until a CARNIVORE card is played and ends the food chain in a play pile. The player who played the CARNIVORE card takes the pile and earns a point. FOOD WEB PLAYING CARDS must be played in the following order: PRODUCER, HERBIVORE, OMNIVORE, CARNIVORE.  
*For example: RANCH FOOD WEB - CARDS 1: Side Oats Grama (PRODUCER), CARD 2: Chicken (OMNIVORE), CARD 3: Coyote (CARNIVORE). The player who played the "Coyote" card will take the entire pile and earn 1 point.*
- Play continues until all RANCH FOOD WEB - CARDS in the draw pile are gone. When the last card is drawn, play will continue until no one else can play.
- Lose a Turn: If a player draws a LOSE A TURN card they may save it or use it. To use the card, place it in front of the player who you want to skip. The skipped player will discard the LOSE A TURN card on their next turn.
- Wild Card: If a player draws a WILD CARD they may save the card or use it to play on any play pile.
- Winner: The person with the most food chains wins!

### STUDENT SKILLS ASSESSMENT:

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







## SECURITY BRIEFING –

### WORDS OF WISDOM FROM HANK THE COWDOG:

*When you get into your higher echelon of cowdogs, brains and breeding and dashing good looks are standard equipment. In order to bring you and Drover up to par, I've designed a game that will help you to understand how animals on the ranch compete for food.*

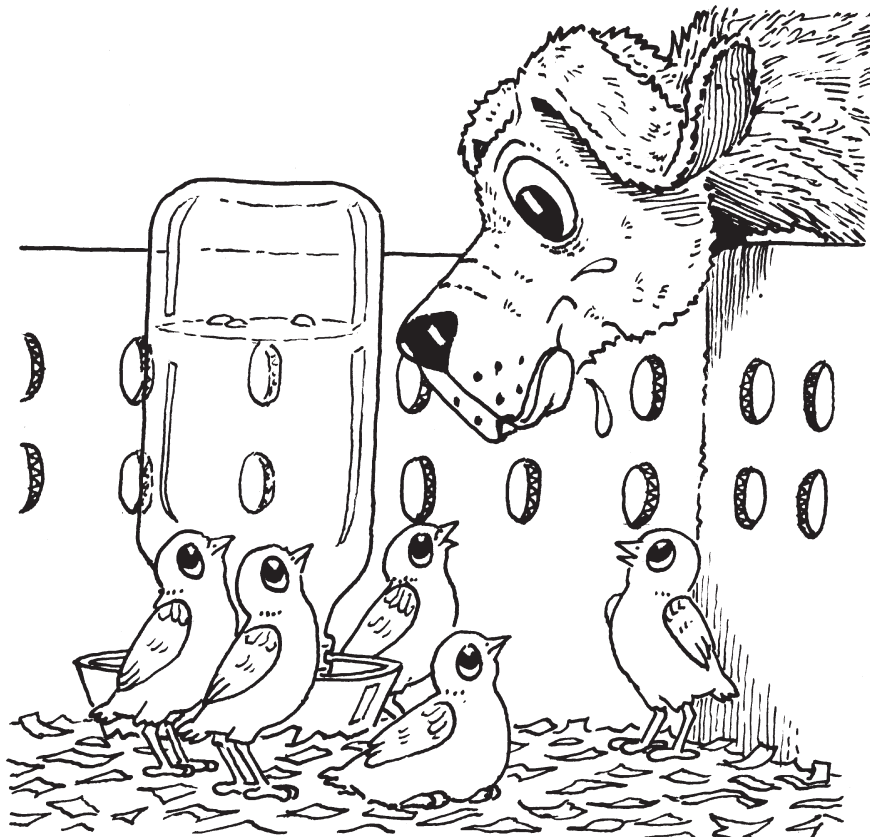
*First, there are a lot of different kinds of **plants** on the ranch, they are called **producers**. I don't happen to eat vegetables. I mean, whoever heard of a dog eating spinach?? But, some **animals** on the ranch eat plants including: cattle, horses, and [slurp] chickens... There are a lot of wild animals who wander on the ranch and eat plants, too: rabbits, deer and porcupines, just to name a few. Animals that eat plants are called **herbivores**.*

*The second category of animals are called **carnivores**. Carnivores eat other animals. I've done a lot of business with coyotes and one thing you ought to know: your average coyote will never pass up a chance to poach a chicken. That's a serious no-no on this ranch, but I must confess ...[slurp]... at certain times... you know, we probably ought to leave this alone. Why? The kids, the little children. I wouldn't want them to get the impression that I.... Now where was I? Oh yes, examples of carnivores are coyotes, bobcats, hawks, and mountain lions.*

*Finally, some animals on the ranch eat both plants and animals. They are called **omnivores**.*

*An example of an omnivore is a skunk. Skunks eat insects, rodents, reptiles, eggs, berries and grasses.*

*Producers, herbivores, omnivores, and carnivores are all part of the **food web**. The game you are about to play will help you learn how all living organisms depend on each other for **energy**.*







## SECURITY BRIEFING –

### GAME INSTRUCTIONS:

1. Deal six RANCH FOOD WEB - CARDS to each player. Put the remaining cards in a draw pile.
2. The player to the right of the dealer has the first opportunity to play. They will draw a RANCH FOOD WEB - CARD from the draw pile and discard a PRODUCER (plant) card in a play pile spot (*see illustration below*). If the first player does not have a PRODUCER card, the turn passes to the next player.



3. Once a PRODUCER card has been played, the next player draws a card and can start a new pile with another PRODUCER card or play an HERBIVORE card on top of the PRODUCER card. Players may use up to 4 play piles.
4. Play continues until a CARNIVORE card is played and ends the food chain in a play pile. The player who played the CARNIVORE card takes the pile and earns a point.  
FOOD WEB PLAYING CARDS must be played in the following order:  
PRODUCER, HERBIVORE, OMNIVORE, CARNIVORE.  
*For example: RANCH FOOD WEB - CARD 1: Side Oats Grama (PRODUCER), CARD 2: Chicken (OMNIVORE), CARD 3: Wild Dogs (CARNIVORE). The player who played the "Wild Dogs" card will take the entire pile and earn 1 point.*
5. Play continues until all RANCH FOOD WEB - CARDS in the draw pile are gone. When the last card is drawn, play will continue until no one else can play.
6. Lose a Turn: If a player draws a LOSE A TURN card they may save it or use it. To use the card, place it in front of the player who you want to skip. The skipped player will discard the LOSE A TURN card on their next turn.
7. Wild Card: If a player draws a WILD CARD they may save the card or use it to play on any play pile.
8. Winner: The person with the most food chains wins!

### WRAP UP:

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





**Side Oats Grama Grass**



**Blue Grama Grass**



**Love Grass**



**Buffalo Grass**



**Wheat Grass**



**Indian Grass**



**Little Bluestem Grass**



**Grass Hay**



**Wheat Hay**



**Alfalfa**



**Sorghum Hay**

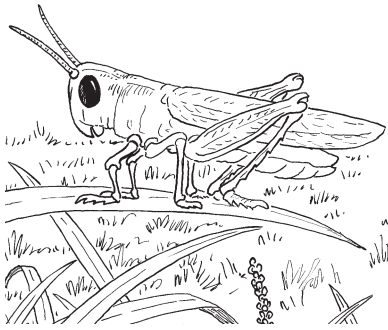


**Oat Hay**









**Grasshopper**



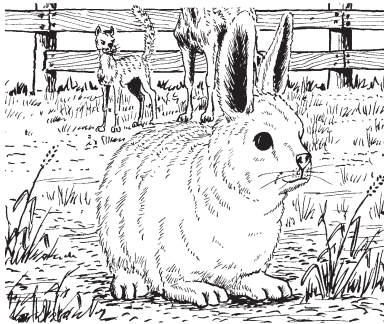
**Quail**



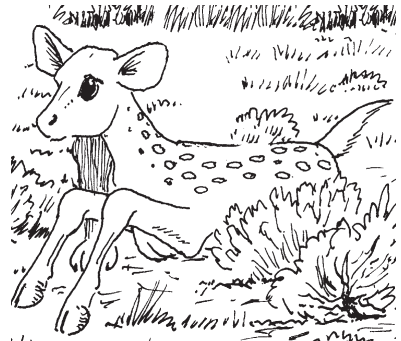
**Porcupine**



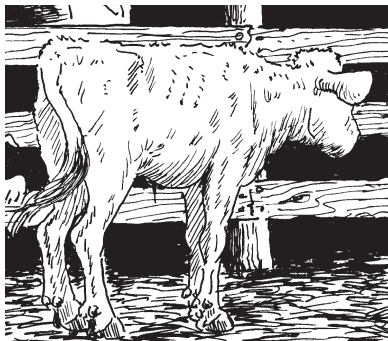
**Prairie Dog**



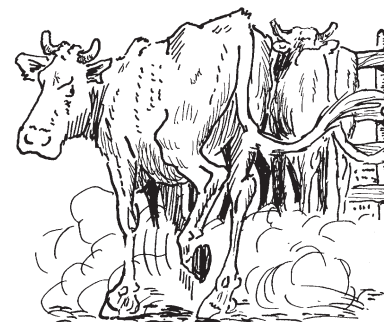
**Rabbit**



**Deer Fawn**



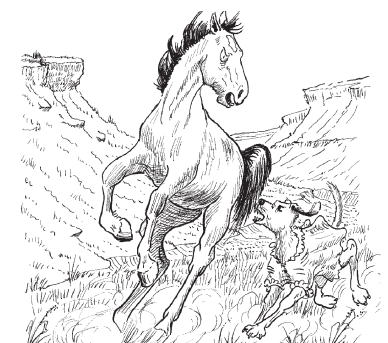
**Calf**



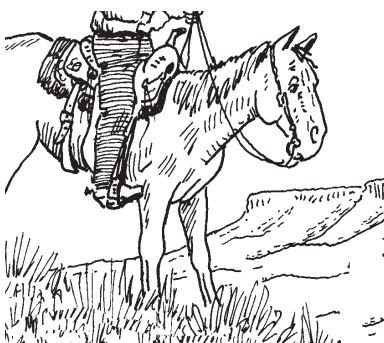
**Cow**



**Bull**



**Horse**



**Horse**



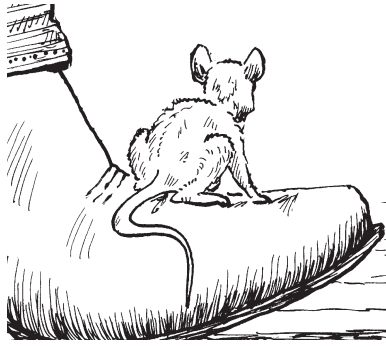
**Horse**



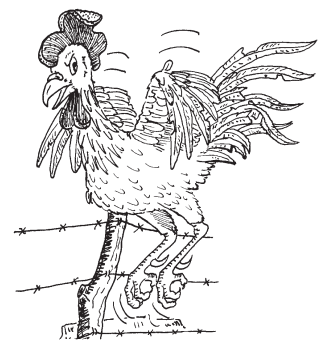




**Ants**



**Mouse**



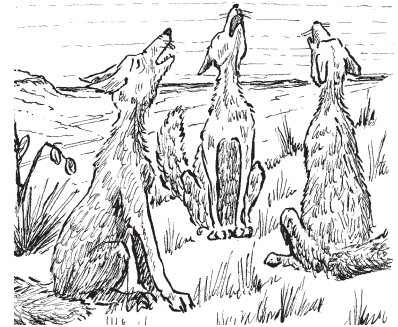
**Chicken**



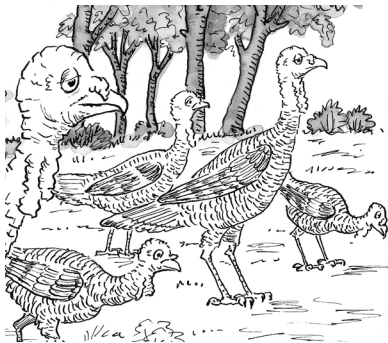
**Skunk**



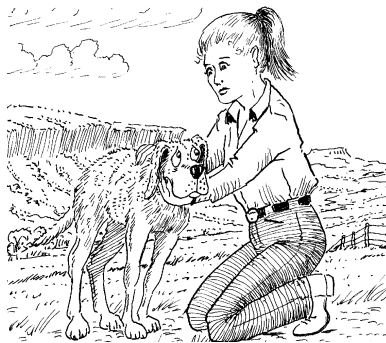
**Raccoon**



**Coyotes**



**Wild Turkey**



**Human (Sally May)**



**Human (Loper)**



**WILD CARD**



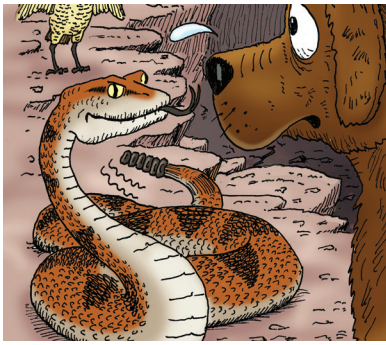
**LOSE A TURN**



**WILD CARD**



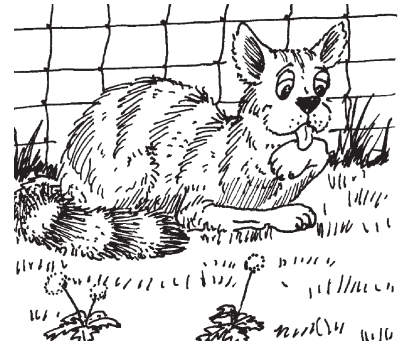




**Rattlesnake**



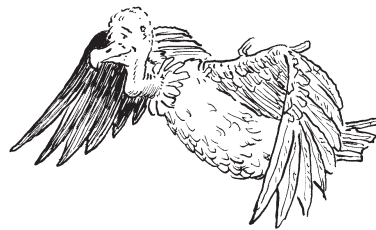
**Burrowing Owl**



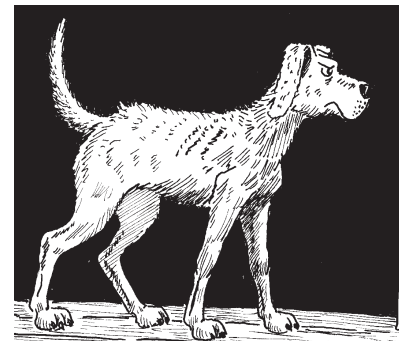
**Cat (Pete)**



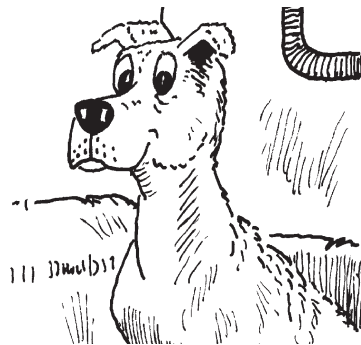
**Red Tailed Hawk**



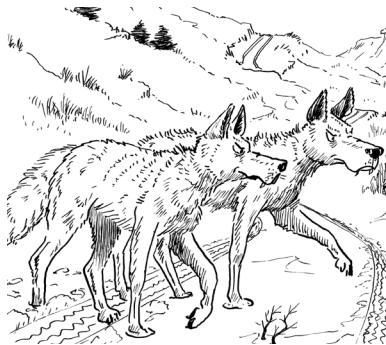
**Buzzard**



**Cowdog (Hank)**



**Cowdog (Drover)**



**Coyotes**



**Mountain Lion**



**LOSE A TURN**



**WILD CARD**



**LOSE A TURN**









NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

## THE BOTTOM LINE

When you played the game, you might have noticed there were a lot of *producer* cards. In a balanced ecosystem, there are many more producers than *herbivores*, *omnivore* and *carnivores*.

*Answer the questions below:*

1. What might happen if there were not very many producers on the ranch?
2. Which type of animals would be impacted the most by a shortage of producers?
3. Draw an example of a food chain on Hank's ranch.

4. What is the difference between a food chain and a food web?

5. Why do you think the ranch has very few carnivores?

