



## Prairie Dog Unit

### Lesson One: Who Lives in the Prairie?

**Objectives:** Students will identify and color in the outlined areas of prairies on a map of the United States and will be able to define “keystone species” and explain the prairie food web.

**Grade Level:** 3-5

**Time Needed:** Approximately 3 class periods

**National Education Standards Addressed:**

Social Studies

NSS-G.K-12.1 The World in Spatial Terms

NSS-G.K-12.3 Physical Systems

NSS-G.K-12.5 Environment and Society

Science

NS.K-4.3 and NS.5-8.3 Life Science

NS.K-4.4 and NS.5-8.4 Earth and Space Science

Language Arts

NL-ENG.K-12.4 Communication Skills

NL-ENG.K-12.7 Evaluating Data

**Character Concepts:** Understanding interdependence of species, building empathy, respect for our environment and those around us

**Materials Needed:**

- Half sheet of paper or scrap paper (one for each student)
- Prairie photo gallery at [blueplanetbiomes.org/prairie\\_photo\\_gallery.htm](http://blueplanetbiomes.org/prairie_photo_gallery.htm)
- Prairie Introduction (see page 3)
- Blank U.S. map, one copy for each student (available at [50states.com/maps/print/usamap.htm](http://50states.com/maps/print/usamap.htm))
- Strips of colored paper (use an 8X11 piece of construction paper and cut so you create enough pieces to frame the prairie states)
- Crayons or colored pencils
- Prairie Food Web Direction Sheet and Rubric (see page 4)
- Laminated photos or pictures of animals found in the prairie. While there are many animals in the North American prairie, you will want to focus on those most important to the food web and keystone species. The prairie animals can include but are not limited to: American toad, badger, black-footed ferret, bison, black-tailed jack rabbit, burrowing owl, California condor, coyote, deer, eagles, Eastern cottontail, elk, ferruginous hawk, fox snake, golden owl, gopher snake, grasshopper, gray wolf, ground squirrels, lady beetle, larks, northern grasshopper mouse, prairie chicken, prairie dog, prairie rattlesnake, antelope, red fox, red-tailed hawk, shrew, skunk, western meadowlark, and white-tailed jack rabbit.
- Tape or magnets
- Prairie animal cards, one for each group. Cards should have the animal on the front and information about the animal on the back. You can create your own cards or find prairie animal cards at [enchantedlearning.com/biomes/grassland/prairie.shtml](http://enchantedlearning.com/biomes/grassland/prairie.shtml). When you click on the name of the animal you will see a page that can be printed containing information such as diet of the animal. (Note: Be sure to include a card for the sun and grasses.)



- [Prairie Dog Workbook](#) pages 10, 11, 12, 13, 14, 15, 16, 17, 19, and 26. (Workbook available at [prairiedogcoalition.org/docs/coloringBbook.pdf](http://prairiedogcoalition.org/docs/coloringBbook.pdf).)
- Poster board
- Art supplies
- Optional: “Home on the Range” song, one copy for each student, found on page 8 of the [Prairie Dog Workbook](#).

## **Procedure**

**Preparation:** Prepare copies, prairie animal cards, and gather materials. Have a large U.S. map available or create a large copy using the blank U.S. map in the materials section.

### **Opening:**

1. Ask students to find a piece of scrap paper or pass out a half sheet of paper to each student. Play the slide show titled “Prairie Photo Gallery” at [blueplanetbiomes.org/prairie\\_photo\\_gallery.htm](http://blueplanetbiomes.org/prairie_photo_gallery.htm) as you read the Prairie Introduction (page 3). Ask them to write down the types of plants and animals they see.
2. Display the U.S. map and use strips of colored paper to outline the area of the United States that contain prairies. (The prairie states are Colorado, Iowa, Kansas, Minnesota, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, and Wyoming.) Using the map on page 26 of the [Prairie Dog Workbook](#), show students the three types of grasses found in prairie regions. If desired and time allows, introduce students to the types of grasses using more detailed photos from a local library or the internet.
3. Pass out a copy of the blank U.S. map to each student. Ask students to label the states that contain prairies.
4. Pass out crayons or colored pencils. Ask students to color or shade the prairie region.

### **Lesson Body:**

1. Ask students to share with the class what animals they wrote down during the slide show. Using the large U.S. map and laminated photos, tape or attach the animals you plan to cover during the unit. Be sure to include the prairie dog and the animals covered on page 13 of the [Prairie Dog Workbook](#). The last photo attached to the class map should be the prairie dog. (You may wish to have students write the names of the animals down on their personal map.)
2. After attaching the prairie dog photo to the large U.S. map introduce the concept of “keystone species.” The prairie dog is a recognized keystone (or integral) species of the prairie ecosystem. They contribute to the lives of the other animals of the prairie, by providing habitat and food. The prairie dog got its name in 1804 when the explorers Lewis and Clark heard and saw what they described as “barking squirrels.” You may wish to show page 19 of the [Prairie Dog Workbook](#).
3. Pass out the prairie ecosystem worksheet (page 14 of the [workbook](#)) and ask students to review the many animals that they see. Review with the students how abandoned burrows are frequently used as homes by burrowing owls, white-tailed rabbits, badgers, weasels, snakes, and even foxes. Prairie dogs' churning activities aerate the soil to allow for more water penetration, while their nitrogen-rich dung improves the quality of the soil and surrounding vegetation. As a prey base, the prairie dog supports a wide variety of species. The swift fox, the coyote, weasels, snakes, hawks, eagles, and the endangered black-footed ferret are just a few of the predators who rely on prairie dogs for food.
4. Ask students to break into groups by having them spell Prairie. The first student will say “P”, the second “R”, and so on, repeating the word as many times as needed. All corresponding letters will become a group.



5. Provide each group with a set of prairie animal cards. Ask them to read the front and back of each card. When the group has completed this activity provide them with a Prairie Food Web Direction Sheet and Rubric. Ask each group to read the directions and create a prairie food web using the cards as well as poster board, construction paper, and any other art materials you wish to include. (This may take one or two class periods.)

**Closure:**

1. Ask each group to place their Prairie Food Web in a prominent location. You may wish to provide magnets, tape, or easels for display.
2. Ask each group to orally describe one or two things they learned about the prairie ecosystem and the keystone species of the prairie.
3. Allow the students to complete an art walk in which they observe the posters of other groups.

**Extension:**

1. Pass out copies of the song "Home on the Range" to each student, explaining that a song is just a poem set to music. Ask the students to read through the song and underline the description of the weather or climate on the prairie and circle the animals that can be found on the prairie. (Optional: Ask the class to sing the song or complete a rhyme scheme for the poem.)
2. Ask the students the following question: "What tone or mood is the writer of this song trying to convey?" Do you think this is how they felt the first time they saw the prairie?

## **Prairie Introduction**

[Read aloud during the opening slideshow.]

In the middle of North America is a huge area of land which was once covered with grasses and colorful wild flowers. A prairie is temperate grassland, plains of grass that get hot in the summer and cold in the winter. Very few trees grow on the prairies and are usually widely scattered.

Most of the interior, or center, of North America was a prairie before European settlement drastically altered the landscape and habitat with farming and building.

Before settlers moved west, the prairies were covered with herds of grazing animals, such as buffalo, elk, deer, and rabbits. These animals helped prairies by adding nitrogen to the soil through urine and feces, and creating open areas for plants that need aeration, or like to have the soil dug up to get air. Prairie dogs dug huge underground tunnel systems which aerated the soil and allowed water to reach several feet below the surface. Let's learn about the prairie and some of the animals who live there.



## Prairie Food Web Direction Sheet and Rubric

Names of Group Members: \_\_\_\_\_

### Prairie Food Web

Directions: Use the Prairie Animal Cards to design a food web showing the interconnectedness of each animal and the landscape of the prairie. Your group can design the food web any way you wish, but please note that certain animals and items such as the sun and grasses may overlap, or be important in the life of more than one animal. Each poster must somehow identify which animal is the keystone species.

#### Rubric:

All Prairie Animal Cards are present on the food web poster:	/4
Accuracy of the food web:	/12
The keystone species is identified and accurate:	/2
Creativity and use of available art materials:	/4
Neatness:	/3
Total:	/25
Extra Credit:	
Neatly identify the prairie states. This can be done in any form:	/2



## Prairie Dog Unit

### Lesson Two: Life in a Prairie Dog Burrow

**Objectives:** Students will identify the importance of a prairie dog burrow and be able to identify the various parts of a burrow. Students will also be able to relate how the burrow helps numerous animals in the prairie.

**Grade Level:** 3-5

**Time Needed:** Approximately 3 class periods

**National Education Standards Addressed:**

Social Studies

NSS-G.K-12.2 Places and Regions

NSS-G.K-12.5 Environment and Society

Science

NS.K-4.3 and NS.5-8.3 Life Science

NS.K-4.4 and NS.5-8.4 Earth and Space Science

Language Arts

NL-ENG.K-12.1 Reading for Perspective

NL-ENG.K-12.5 Communication Strategies

NL-ENG.K-12.8 Developing Research Skills

NL-ENG.K-12.11 Participating in Society

**Character Concepts:** Understanding interdependence of species, building empathy, respect for our environment and those around us

**Materials Needed:**

- [Prairie Dog Workbook](#) pages 2, 4, 11, 15, 25, 27, and optional word search. (Workbook available at [prairiedogcoalition.org/docs/coloringBbook.pdf](http://prairiedogcoalition.org/docs/coloringBbook.pdf).)
- Brown paper bags or bulletin board paper
- Brown or black yarn
- Green and brown construction paper
- Tape
- *Prairie Dog's Burrow* by Trish Kline (Visit [librarything.com/work/1101869](http://librarything.com/work/1101869) to locate a copy.)
- Prairie Dog Burrow Model Rubric, one for each student (see page 8)
- Poster board, one piece for each group
- Various reference materials about prairie dog burrows. You may wish to include pages from the [Prairie Dog Workbook](#), encyclopedias, prairie dog books, and [humanesociety.org/animals/prairie\\_dogs/](http://humanesociety.org/animals/prairie_dogs/).
- Crayons, markers, and other art supplies
- Optional: laminated pictures of animals who benefit from and live around the prairie dog burrow. The prairie animals can include but are not limited to: American toad, badger, black-footed ferret, bison, black-tailed jack rabbit, burrowing owl, California condor, coyote, deer, eagles, eastern cottontail, elk, ferruginous hawk, fox snake, golden owl, gopher snake, grasshopper, gray wolf, ground squirrels, lady beetle, larks, northern grasshopper mouse, prairie chicken, prairie dog, prairie rattlesnake, antelope, red fox, red-tailed hawk, shrew, skunk, western meadowlark, and white-tailed jackrabbit.



## **Procedure**

### **Preparation:**

1. Using the [Classroom Prairie Dog Burrow PDF](#) as a guide, create a large model prairie dog burrow in one corner of the room. Do not label any parts of the burrow. Turn the classroom lights off before students enter to replicate the darkness underground. (If it is not possible to create a 3-D burrow as drawn, it can be replicated on a bulletin board.)
2. Prepare copies and materials.
3. Draw a simple prairie dog burrow on the board, similar to the burrow on page 15 of the [Prairie Dog Workbook](#).

### **Opening:**

1. Meet students at the door to the classroom and provide each student with a copy of The Prairie Ecosystem worksheet on page 15 of the [Prairie Dog Workbook](#). Ask students to quickly scan the worksheet.
2. Set up the next activity by saying, "We have learned a great deal about prairie life above ground, but today we are going underground. As soon as we go through the door I want you to use the back of the worksheet to write down questions, observations, or comments about what you see. You are welcome to look at anything you like, but do not touch. When the lights come on stop writing and return to your seat." (Allow about 4 minutes for observations and writing and then turn the lights back on.)
3. Once students have returned to their seats ask them to share their questions, comments, and observations. Ask students what they believe they saw. Write all answers on the board. If no one guessed prairie dog burrow ask them to look at the front of the worksheet again and try to recall which animal is known a keystone species in the prairie. (The answer, prairie dog, was learned in Lesson One of the unit.)

### **Lesson Body:**

1. Introduce the book *Prairie Dog's Burrow* by showing the cover. Instruct students to make notes about the burrow or draw areas of the burrow that may be missing on the front of their worksheet as they listen to the book.
2. After the story is over ask students to look at the example prairie dog burrow on the chalk board and tell if any rooms or tunnels are missing based on the information they learned from *Prairie Dog's Burrow*.
3. As a class, work to fill in the missing tunnels and burrows so the example on the board replicates the burrow in the back of the room and on page 2 of the [Prairie Dog Workbook](#). Label each section of the example burrow. Pass out copies of the complete burrow (page 2 of the workbook) to each student.
4. Ask the class to list the animals from the story who use the burrows either as homes or for protection. Write the responses on a poster board and hang the poster near the model burrow.
5. Split students into their groups (formed in Lesson One by spelling P-R-A-I-R-I-E) and provide each group with a research topic, rubric, and project expectations. (Research topics should include: Dry Room, Toilet, Nursery, Bedroom, Food Cache, Abandoned Room, and Entrances and Exits. All items can be seen on page 2 of the [Prairie Dog Workbook](#).) The students will be expected to create a placard stating the name of their assigned section, a poster describing for what the item or section of the burrow is used, and pictures of what would be found in their section, plus any other interesting facts or 3-D models.
6. Each group will need a minimum of one day to research and create their poster.



7. Ask each group to share their findings by giving a short oral presentation. Each group member should participate in some way.

**Closure:**

1. After each group has presented their findings each placard and poster should be attached to the large prairie dog burrow model in the back of the room. Any 3-D models should also be attached to or placed in the model.
2. Pass out pages 18 and 27 of the [Prairie Dog Workbook](#) and ask students to work individually or in pairs to complete the worksheet. Allow students about 5-7 minutes to complete the activity. During this time permit them to explore the prairie dog burrows and posters while working to find the correct answers.
3. Review the answers with the class.

**Extension:**

1. Allow students to read up on prairie dogs and prairie dog towns. You may wish to pass out copies of page 9 of the [Prairie Dog Workbook](#) so students can learn about Prairie Dog Day.
2. Place the laminated prairie animals in a folder or box near the model burrow. Allow students to place the animals where they feel they would belong (above or below ground.) You may wish to have a way for students to self-check their answers.



## Prairie Dog Burrow Model Rubric

Names of Group Members: \_\_\_\_\_

Each group will be provided with one room or section of the prairie dog burrow to research. The group is responsible for creating the following:

- A placard providing the title of the assigned room or section
- A poster telling for what the room or section is used and showing pictures of items located in the room or section
- Interesting facts and/or 3-D models of items located in the room or section of the burrow

Points are broken down as follows:

1. Placard stating the room or section	/3
2. Poster states for what the room or section is used and why it is important	/4
3. Poster shows photos or pictures of items located in the room or section	/4
4. Poster is accurate	/4
5. Poster and placard are neatly done	/3
6. The group provides (in any manner they wish) interesting facts about their assigned area and/or provides 3-D models for the large burrow in the back of the room	/3
Total:	/21