

**Grade Level:**

5th

Time:

60 Minutes

Season:

Any

Objectives:

Students will be able to...

- Understand the elements of a map
- Utilize a coordinate grid
- Identify a variety of habitat types

Key Concepts:

- Habitat
- Graphing
- Map elements

Materials:

- Habitat Map
- Habitat animals
- Habitat map worksheet
- Habitat animal coordinates
- Tape
- Containers

Habitat Map

Summary

Wildlife Refuge's are home to a variety of plants and animals. In this lesson students will use map skills to identify a variety of habitat types and learn what types of animals might be seen in each habitat type. They will use a coordinate grid to place the animals in their respective habitats.

Background

The U.S. Fish and Wildlife Service manages a network of lands across the United States through the **National Wildlife Refuge System**. Refuges provide quality habitat where wildlife and plants can thrive. Many refuges are located along rivers, lakes, and wetlands, but they also include deserts, forest, mountain, oceanic and arctic habitats. A single refuge can encompass many different habitat types and provide space for a large variety of species.

This lesson will focus on three primary habitat types found in North Dakota: prairie, woodland, and wetland.

Prairies are large treeless areas covered by grasses and forbs or wildflowers. Tall grass prairie is one of the most threatened ecosystems in the United States.

Woodlands are areas covered with trees. Only 2% of North Dakota is considered woodlands. The remaining area consists of prairies and wetlands.

Wetlands are areas that are covered or saturated with water. Some wetlands are seasonal and may only hold water for part of the year.



Setup

1. Print and cut out habitat animals.
2. Print one habitat map, coordinate sheet, and worksheet for each student.
3. Gather all other materials.
4. Place the animals in separate containers. Students will need one of each.
(Optional: have a scavenger hunt that guides students with habitat clues to locate each container to collect each species.)

Procedure

1. Introduce the students to National Wildlife Refuges.
2. Review the three common habitat types found in North Dakota.
3. Have the students list some of the wildlife they could find at their refuge.
4. Pass out the habitat maps and map coordinates. (Blue Goose National Wildlife Refuge is a fictional Refuge.)
5. Review and identify the map elements: legend or key, compass, scale, x-axis and y-axis, and habitat types.
6. Explain to the students that we will be using a coordinate grid and map coordinates to place the animals in their habitats.
7. Students will walk to each container and collect one animal.
8. They will then tape the top of the animal to their habitat map, by taping the top they will be able to flip the animal up to see what habitat is below it. The top left corner of the animal needs to line up to the top left of the coordinate square.
9. Once they are done, students will fill out their worksheet. If an animal is in more than one habitat be sure to list that on the worksheet.
10. After, go over what the students discovered. Can one species benefit from different habitats? How many animals were found in more than one habitat? Why might these species be in more than one habitat?



Vocabulary

- **Conservation** – careful maintenance and upkeep of a natural resource or area.
- **Coordinate grid** – graph with two axes that are placed perpendicular to each other labelled in specified increments.
- **Habitat** – a place where an organism makes its home. Habitats have four main components: shelter, water, food, and space.
- **Species**– group of organisms that can reproduce with one another.

North Dakota Curriculum Standards

This lesson helps support the following state standards:

Social Studies

G.3_5.3 Use maps, satellite images, photographs, and other representations to explain relationships between the locations of places, regions, and their environmental characteristics.

G.3_5.5 Compare and contrast the three geographical regions of North Dakota.

Science

5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

Mathematics

5.DPS.D.2 Utilize graphs and diagrams to represent, analyze, and solve authentic word problems using information presented in one or more tables or line plots including whole numbers, fractions, and decimals.

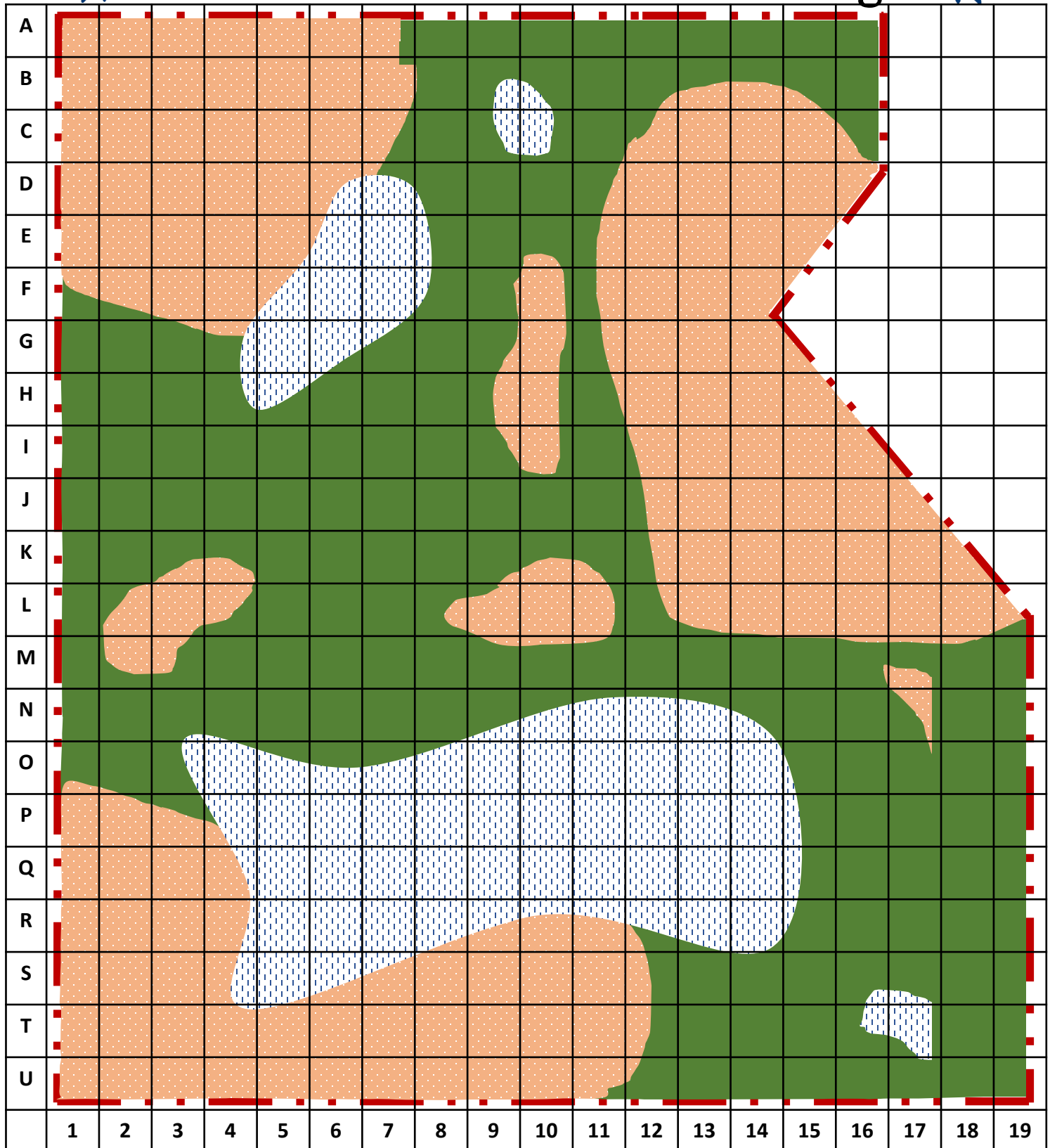
5.GM.G.2 Identify the x-coordinate and y-coordinate to graph and name points in the first quadrant of the coordinate plane.

Resources

- <https://www.fws.gov/story/beginners-guide-national-wildlife-refuge-system>
- <https://education.nationalgeographic.org/resource/habitat/>
- <https://storymaps.arcgis.com/stories/ce3988ed34db4751b0d250875f242fe1>
- <https://www.nps.gov/tapr/learn/nature/a-complex-prairie-ecosystem.htm#:~:text=Today%2C%20the%20most%20fertile%20and,endanger ed%20ecosystems%20in%20the%20world.>



Blue Goose National Wildlife Refuge



Legend

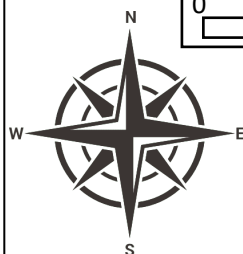
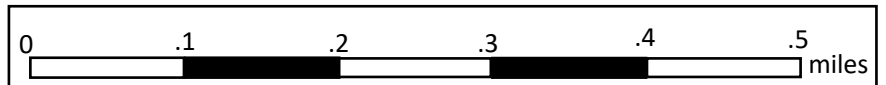
 Refuge Boundary

Habitat

 Prairie

 Woodland

 Wetland



NATIONAL WILDLIFE REFUGE SYSTEM

Habitat Map Worksheet

Name _____

On a visit to the Blue Goose National Wildlife Refuge one day your family hiked the trails and drove on the auto tour. You saw several different animals that inhabit (live in) the area, and you recorded the location of each of the animals on your map. Answer the following questions using your Habitat Map.

1. What does the red line on the Habitat Map represent?

2. List the three habitats represented on the map?

3. Which habitat covers the largest area on the map?

4. Complete the following table by listing all the animals found in each habitat. **Some animals may be found in more than one habitat list.**

Prairie	Wetland	Woodland

5. How many blocks north of the fox did you find the pileated woodpecker?

6. How many blocks east of the chickadee did you find the prairie dog?

7. If you travel 11 blocks north and 6 blocks east of the snapping turtle, what animal will you encounter (meet)?

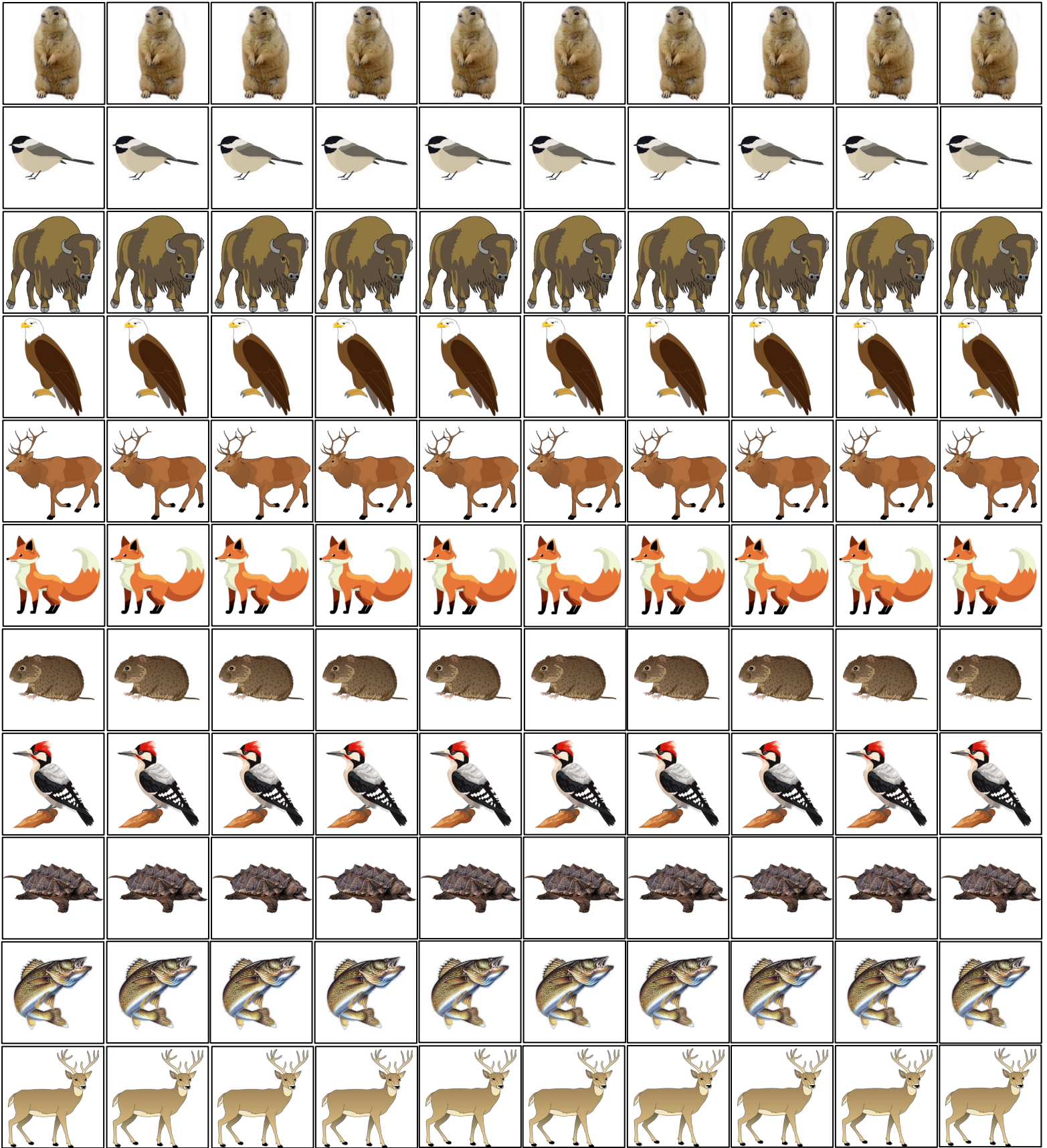
8. If you travel 7 blocks west and 10 blocks south of the bison, what animal will you see?

9. Formulate a possible reason that the bald eagle is found in both woodland and wetlands.

10. Approximately (about) how many square blocks of prairie are shown on the map?

11. Approximately (about) how many blocks in length is the southern boundary of the refuge?

12. Which animals are closest to the south boundary of the refuge?



Map Coordinates

Bald eagle (7, N)

Bison (13, D)

Chickadee (7, B)

Elk (10, H)

Fox (11, S)

Meadow vole (2, R)

Piliated woodpecker (4, J)

Prairie dog (2, C)

Snapping turtle (16, S)

Walleye (10, O)

White-tailed deer (10, H)

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