



### Biodiversity Lesson 1: The Solve

#### Student Handout

#### I. Vocabulary Warmup

1. Using the materials at your table, cut out your vocabulary cards along the **solid lines**. Note: Do not cut the cards at the dotted lines.

2. Fold the cards at the dotted lines.

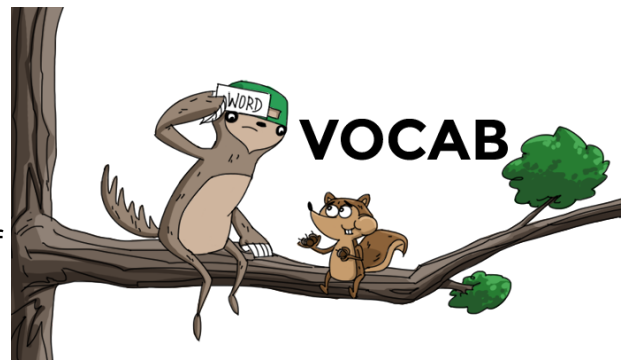
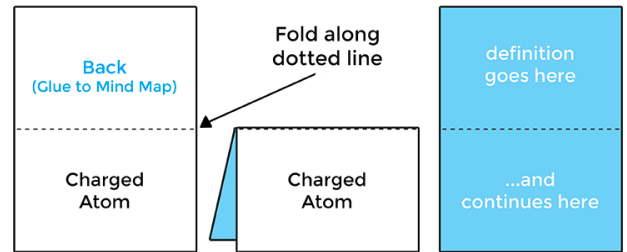
3. Write the definition of the term on the inside of the card using the definitions below.

4. Use the clues from the Mind Map images, definitions, and vocabulary terms to place the cards in the correct location on the Mind Map, explaining your thinking to group members as you go.

5. When you're ready to glue or tape, raise your hand so you can check your Mind Map with your teacher.

6. Use glue or double-sided tape to connect the back of the vocabulary card to the correct place on the Mind Map.

7. Use your completed Mind Map to discuss these questions with your group:
- a. How many organisms (living things) do you see in the area of high biodiversity compared to the area of low biodiversity?
  - b. How does the area of high biodiversity compare to the area of low biodiversity?
  - c. How do you think an ecosystem can be affected if you remove one of the species?

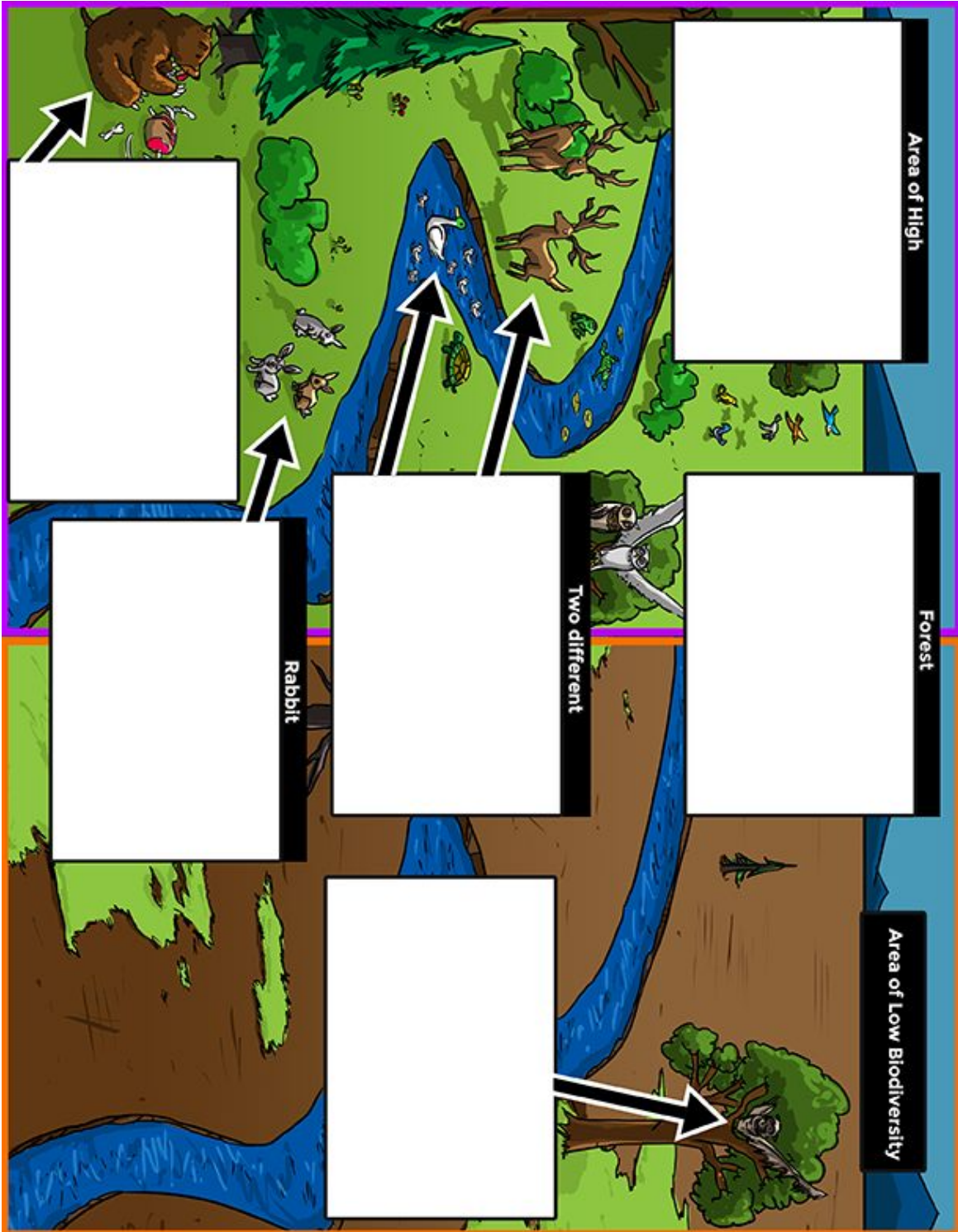




# MOSA MACK SCIENCE

## STUDENT GUIDE

Mind Map:





# MOSA MACK SCIENCE

## STUDENT GUIDE

Biodiversity

Ecosystem

Species

Predator

Population

Endangered Species

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### Vocabulary

- Biodiversity: the variety of species in a certain ecosystem
- Ecosystem: an environment made up of living and nonliving things interacting together
- Endangered species: a species of animal or plant that is seriously at risk of extinction
- Predator: an animal that kills and eats other animals
- Species: a group of living organisms consisting of animals or plants that are similar and which can produce young animals or plants
- Population: all of the individuals of the same species within an ecological community





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## STUDENT GUIDE

6. Now that the wolf population is back up, what are some of the problems the community faces?

7. What are the benefits of having a larger wolf population?

8. What is biodiversity?

9. Which solution should Mosa choose and why? Explain your reasoning behind your choice.



# MOSA MACK SCIENCE

## STUDENT GUIDE

### III. Exit Ticket: Check for Understanding

Complete the exit ticket below *or* you can take the quiz online!

**Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

1. Which problem(s) are currently reported with gray wolves? Check all that apply.
  - a. Wolves could approach campers and could possibly attack campers in Yellowstone
  - b. Wolves compete with hunters for the same prey: the elk
  - c. Wolves kill cattle and sheep in local ranches
  - d. Wolves live in packs and howl at night, disrupting visitors at the park
  
2. Which of the following statements supports how wolves help the Yellowstone environment?
  - a. Wolves attract tourists to the park and attendance at the park has gone up.
  - b. Wolves leave behind scraps of dead animals that they kill, helping to feed scavenger animals in the park.
  - c. Wolves keep elk on the move, allowing more trees to grow, which helps beavers to build their homes and lodges
  - d. All of the above
  
3. Why were the wolves near extinction in the mid-twentieth century?
  - a. Wolves help the living and nonliving parts of the ecosystem
  - b. Humans turned wolf territory into towns and farms
  - c. Wolves eat farmer's cows, sheep, and horses
  - d. Hunters killed them
  
4. True or False: When the wolf population decreases, the elk population increases
  
5. Too many elk can disrupt an ecosystem because:
  - a. Elk eat grasses and plants, which destroys these resources for other animals in the ecosystem
  - b. Elk eat wolves, which disrupts the food chain
  - c. Elk travel in herds and crush plants on the ground below them as they travel
  - d. Elk feed on beavers in the river and can decrease the number of beavers in the environment
  
6. Which action was not put in place to protect the wolves?
  - a. Wolves were brought into the region from Canada
  - b. Hunting was banned in Yellowstone
  - c. Farmers raised wolves on their farms and later released the wolves into the environment
  - d. The government stepped in to help reintroduce the gray wolf back into Yellowstone
  
7. True or False: Today, wolves can be hunted inside of Yellowstone Park.