MOSA MACK SCIENCE
STUDENT GUIDE

Interactions of Organisms Lesson 1: *The Solve*
Student Handout

I. Read/Watch the Mosa Mack Mystery

Either on your own, in a small group, or as a class (your teacher will let you know), read/watch Mosa Mack's Comic Mystery on Interactions of Organisms. Then, fill out the questions below. Include a page number or time code in your answer as evidence of where you found your answer.

Name: _____ **Date: _____**

Episode Questions

1. Why was Mosa Mack called to the scene? What was the initial problem she had to solve?

2. What is the relationship between sea anemones and clownfish? What does it mean for species to have a mutually beneficial relationship?

3. Describe two species (other than sea anemones and clownfish) that have a mutually beneficial relationship that you learned about in the mystery.

4. What do the clownfish and butterflyfish compete over?

5. Describe two other species that have a competitive relationship that you learned about in the mystery.

6. How can a change in water temperature impact species in the coral reef?

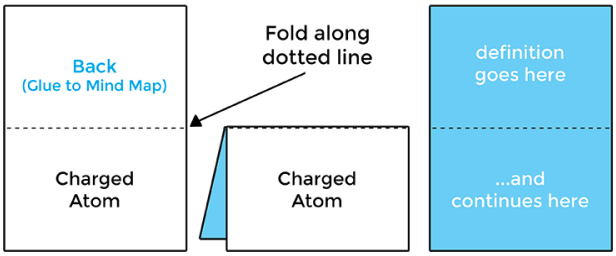
7. What type of relationship exists between the bluestriped fangblenny and the lizardfish?

8. What did Mosa figure out? Who killed the clownfish? Explain your reasoning.

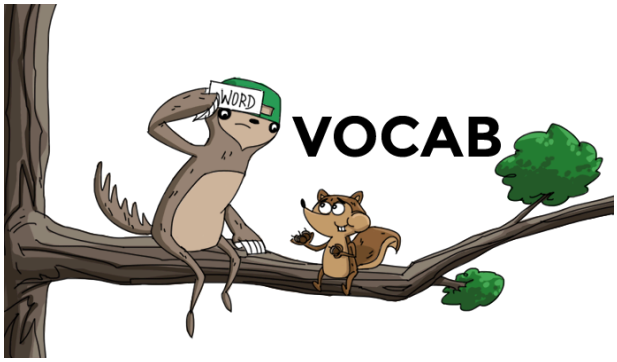
II. Vocabulary Activity

Note: Your teacher will tell you whether you will complete this activity online here, or offline by following the instructions below.

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.

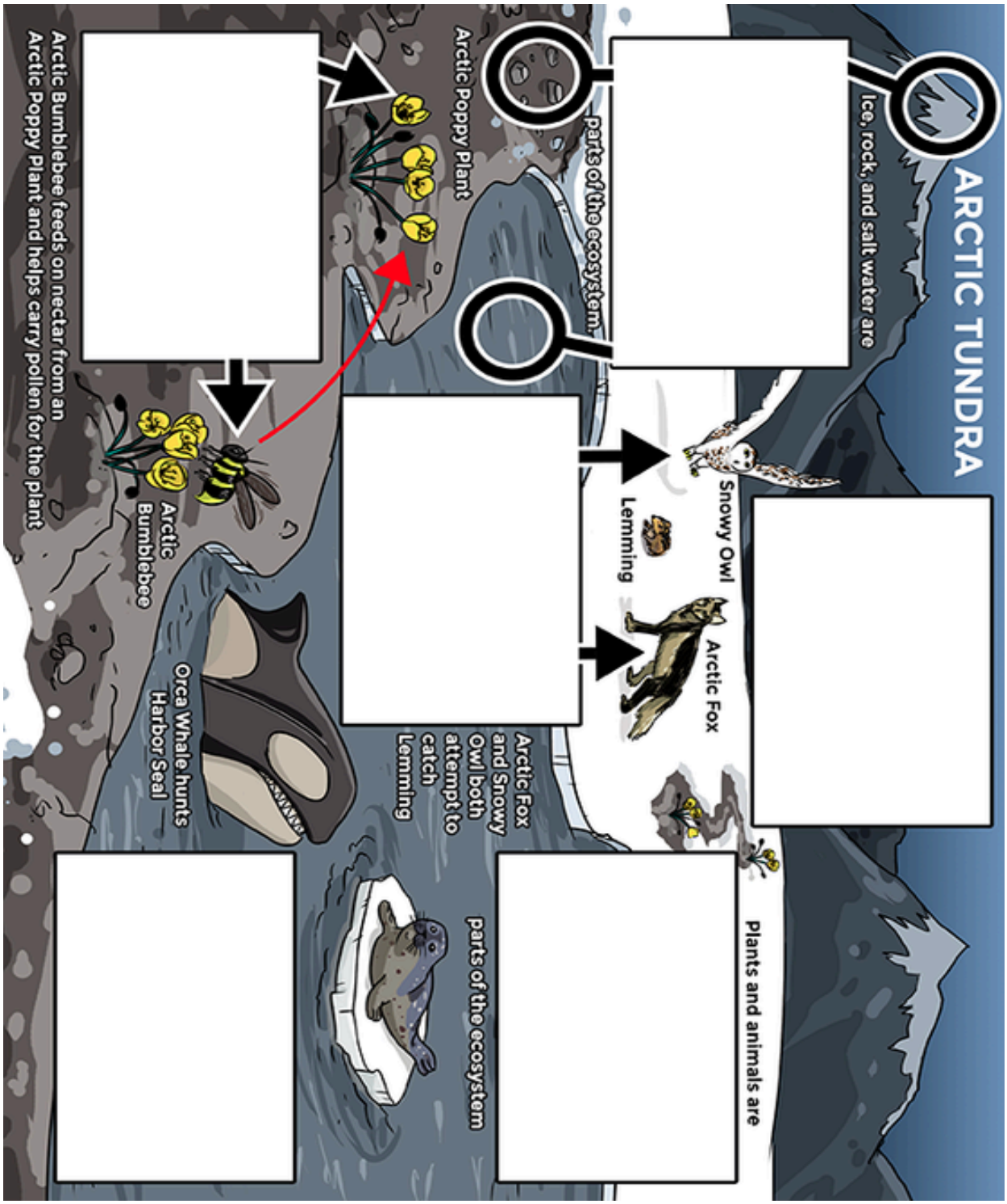


2. Fold the cards at the dotted lines.
3. Write the definition of the term on the inside of the card using the definitions below.
4. Use the clues from the Mind Map images, definitions, and vocabulary terms to place the cards in the correct location on the Mind Map, explaining your thinking to group 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. If all Arctic bumblebees were removed from the ecosystem, how would Arctic poppy plants be impacted?
    b. What are abiotic factors in an ecosystem and why are they important to an ecosystem?
    c. Polar bears also feed on seals in the arctic ecosystem. If a polar bear was introduced to this environment, what type of relationship would it have with the orca whale?

Mind Map



Abiotic	Ecosystem	Biotic
Predation	Mutualism	Competition

Vocabulary

- Ecosystem: The interaction of living and non-living things in a community.
- Abiotic: The non-living parts of an environment such as sunlight and rocks.
- Biotic: The living parts of an environment.
- Competition: A type of interaction that occurs between organisms when they require the same resource to survive.
- Mutualism: A type of interaction that occurs between organisms in which each individual benefits from the activity of the other.
- Predation: A type of interaction that occurs between organisms in which one organism (predator) hunts the other for food (prey).

III. Exit Ticket: Check for Understanding

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

Name: _____ **Date: _____**

1. The "stalks" of a sea anemone are:
   a. Tentacles that sting and kill, helping the sea anemone protect itself
   b. Eyes of the sea anemone
   c. Intestines of the sea anemone that help to digest food
   d. Mouth parts that help the sea anemone to capture food

2. In a mutually beneficial relationship:
   a. Species compete for resources in the environment
   b. One species hunts another for food
   c. Species help one another; each benefits the other in some way
   d. One species benefits while the other is neither helped nor harmed

3. True or False: Animals are considered competitors if they compete for the same food source.
   a. True
   b. False

4. Which of the following relationships would be considered competitive in the ocean ecosystem?
   a. Clownfish and sea anemone
   b. Lizardfish and bluestriped fangblenny
   c. Clownfish and butterflyfish
   d. Jellyfish and algae

5. Which factor does NOT significantly impact the ocean environment of a coral reef?
   a. The temperature of the water
   b. The amount of sunlight hitting the coral reef
   c. The amount of salt in the water
   d. The height of waves crashing on the shore

6. Which of the following describes a predatory relationship?
   a. Clownfish hiding in the sea anemone for protection
   b. Hermit crab finding shelter in the shell of a dead triton
   c. Ghost crabs and hermit crabs competing for dead fish
   d. Sharks feeding on smaller fish in the ocean

7. True or false: species of plants and animals that live in the ocean can interact in a variety of ways: killing one another, being friendly with one another, or even being enemies of one another
   a. True b. False