

53m

# Eco-Trekkers



## Student Data and Answer Booklet

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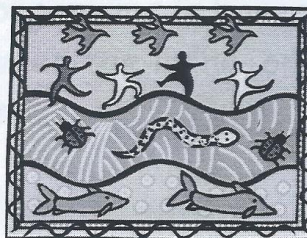
## Eco-Trekkers

### Activity 1

#### Engagement

The fourth grade teachers at your school will be teaching their students about habitats this year. Your science class will be studying some of the **ecosystems** (the living, once living, and non-living factors of an area that interact with each other) of Maryland; therefore, the fourth grade teachers may ask for your help with teaching their students about the habitats you have found in these ecosystems. Specifically, you are being asked to gather as much information as possible about ecosystems so that you can create an Eco-chamber to use for this purpose.

First, you will gather and examine background information about ecosystems. You will then go on a field study to make observations and gather data from different ecosystems. At the end of your scientific studies, you will submit a proposal for an Eco-chamber based on your new knowledge. After your teacher approves the proposal, you may create the Eco-chamber, which you will then present to and/or display for the fourth graders.

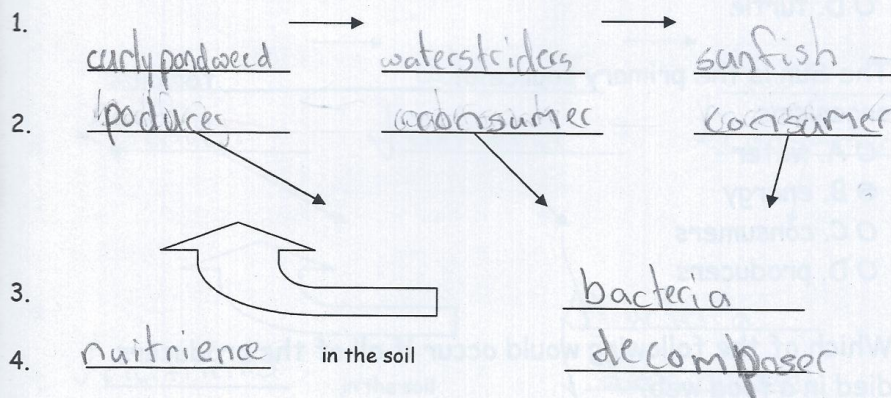


### 1a. Eco-Trekkers Pre-assessment

Directions: Circle T for true or F for false for each statement *before* you begin the *Eco-Trekkers* unit and *after* you return from the field study.

Before	Statement	After
<input checked="" type="radio"/> T <input type="radio"/> F	1. A <i>food chain</i> is the order in which organisms pass energy from one organism to another.	T F
T <input checked="" type="radio"/> F	2. <i>Producers</i> are organisms that eat other organisms for food.	T F
T <input checked="" type="radio"/> F	3. <i>Consumers</i> are organisms that make their own food.	T F
<input checked="" type="radio"/> T <input type="radio"/> F	4. When a community/group of organisms interacts with its environment, it is called an <i>ecosystem</i> .	T F
T <input checked="" type="radio"/> F	5. <i>Food webs</i> are used by hunters.	T F
<input checked="" type="radio"/> T <input type="radio"/> F	6. <i>Nutrients</i> are different types of structures in an organism's body.	T F
<input checked="" type="radio"/> T <input type="radio"/> F	7. An <i>organism</i> is a living thing.	T F
T <input checked="" type="radio"/> F	8. In an ecosystem, <i>competition</i> among organisms always involves trophies and ribbons.	T F
T <input checked="" type="radio"/> F	9. A <i>predator</i> is an organism that is killed and consumed by another organism.	T F
T <input checked="" type="radio"/> F	10. A <i>prey</i> is an organism that kills and consumes another organism.	T F
<input checked="" type="radio"/> T <input type="radio"/> F	11. <i>Salinity</i> describes a concentration of dissolved salt in a body of water.	T F
<input checked="" type="radio"/> T <input type="radio"/> F	12. A <i>decomposer</i> is an organism that is able to break down dead plants and animals into simple substances called nutrients which are used by plants.	T F
T <input checked="" type="radio"/> F	13. A <i>food chain</i> better represents how an ecosystem functions than a <i>food web</i> .	T F
<input checked="" type="radio"/> T <input type="radio"/> F	14. <i>Living, once living, and non-living</i> factors of an ecosystem constantly interact.	T F

1h. As you just read, food webs are composed of many interconnected food chains. As a class, use the food web diagram to identify one of the many possible food chains. Write the name of the food chain organisms you chose on rows 1 and 3. *Be sure to start with a plant.* Then, use the terms **producer**, **consumer**, **decomposer** or **nutrients** to correctly label each part of the food chain on rows 2 and 4.



### Extension/Evaluation

2j. Examine the illustration of the "Wetland Ecosystem" and choose any three pairs of organisms that are in competition with each other.

For **each** pair of organisms, identify and explain the resource for which they are competing.

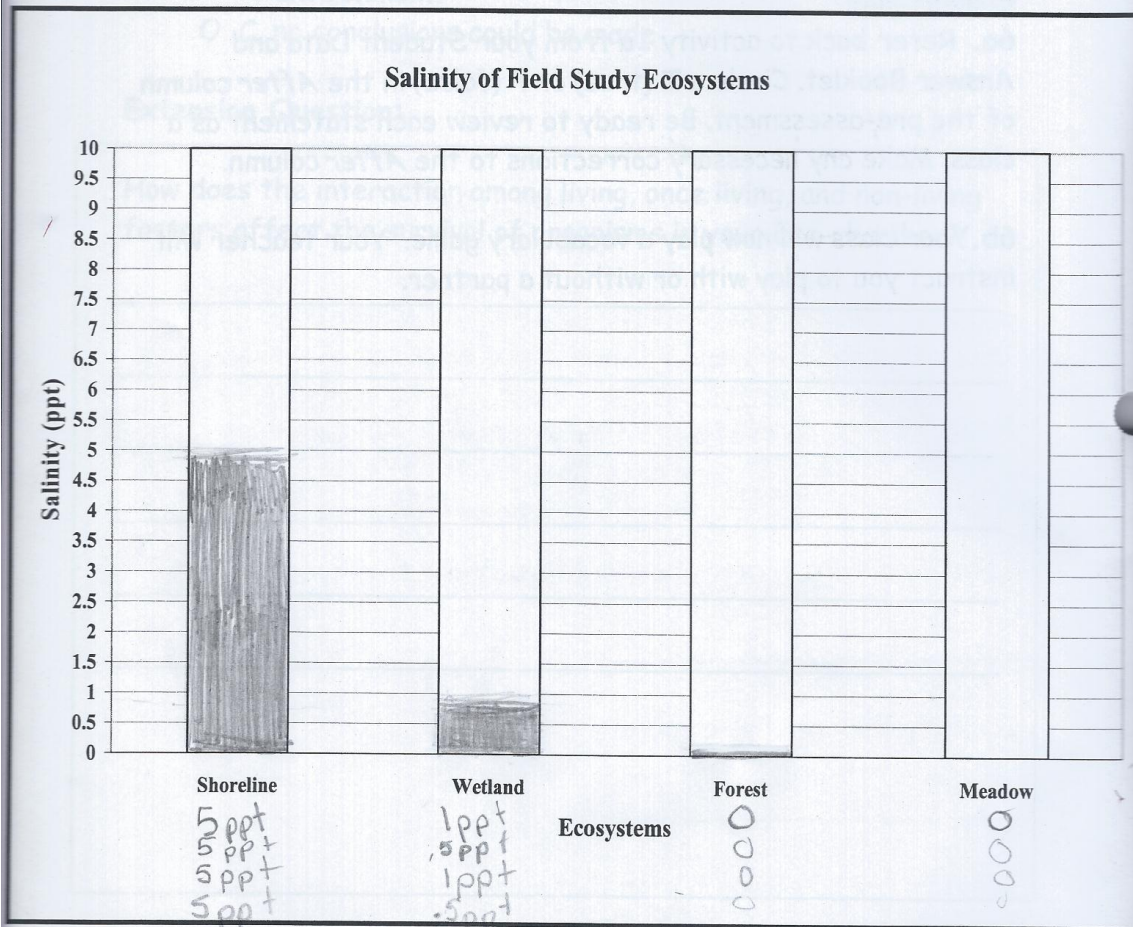
red maple - sweetgum • water  
• sunlight • space  
canada geese - mallard • food  
• space • water  
tadpoles - dragonfly nymphs • space • food

### Scoring Tool

3 points - Response correctly identified three pairs of organisms that might be in competition with each other. Identified a specific resource for which **each** pair might be competing and a clear explanation of the competition.

**Exploration**

6c. You measured the salinity of four different ecosystems on your field study. Use the salinity data from your science log to graph each of the four ecosystems on the bar graph below. Use rounding to plot your data on the bar graph.



### Eco-chamber Proposal

Add the living, once living, and the non-living factors needed for the organisms in your Eco-chamber to survive.

