

Supplemental Material

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1.1 Environmental Education Outline



A PROJECT FOR A CLEANER & GREENER PE

ENVIRONMENTAL EDUCATION OUTLINE

ECOLOGY

Students will be introduced to the different ecosystems around them and the species that make up these ecosystems. After this unit, students will be able to identify different ecosystems and their components as well as be able to describe them in detail.



DIVERSITY AND INTERDEPENDENCE



Students will learn about the different ways in which species interact through the food chain and about the flow of resources within ecosystems. At the end of this unit, they will be able to explain how diverse populations are connected with and depend on one another.

WATER

Students will be introduced to water's essential role to all life on earth. The water cycle and how it relates to local ecosystems will be examined. Students will also gain an understanding of humans' use of water as well as be guided through the complex social and environmental issues surrounding water.



SOIL & FOOD



Students will understand how food can be grown and the essential components of a vegetable garden. They will be introduced to soil and its role in the garden and other ecosystems. Students will be able to identify what resources are needed to cultivate food and the relationship between healthy soil and a productive garden.

SOLID WASTE MANAGEMENT

Students will explore how solid waste moves through nature. Solid waste management will be critically examined. Waste management practices such as reducing, reusing, recycling, and composting will be discussed. After this unit, students will be able to describe how waste is negatively impacting the environment they live in and ways that they can help address this problem.

CLIMATE CHANGE



Students will be introduced to natural and man-made climate change. The greenhouse effect and its impact on local ecosystems will be discussed, as well as possible actions to reduce greenhouse gas emissions from human actions.

2.1 Scavenger Hunt Infographic

La Búsqueda Del Tesoro



Mangles



Piedra



Zafacón



Coco



Bicicleta



Lagarto



Pollo



2.2 Scavenger Hunt Lesson Plan

Materials: Check list (pictures), pencils, & clipboard
Location: COPI
Topic(s): Ecology, Interdependency
Objectives: Have students identify different living and nonliving aspects of an ecosystem
Concepts: What is a living thing? What is a nonliving thing? How do they interact?
Required Time: 20 minutes
<i>Engagement:</i> Step 2- Ask questions to get the children thinking about the wildlife around them
<i>Exploration:</i> Step 4- Scavenger hunt: students are free to explore the area behind the COPI building
<i>Explanation:</i> Discuss what has been found with the children, make connections, and answer clarifying questions
<i>Elaboration:</i> Ask questions to get children to make connections between items on list and in the environment
<i>Evaluation:</i> Note the use of key words: Names of various organisms, plastic, trash, relationship, interaction

Lesson Instructions

1. Introduce the COPI community center building and surrounding mangrove forest ecosystem.
2. Ask children:
 - a. What is your name?
 - b. What is your favorite animal?
 - c. What is the last animal you have seen?
3. Give out scavenger hunt sheets, clipboards, and pencils to children. Optionally, children can work in groups.
4. Start scavenger hunt. Children are free to explore around COPI for 10 minutes.
 - a. Supervise and answer any questions they may have.
5. After the hunt is done, bring everyone together and discuss the items found. Also discuss the difference between living and nonliving things that they have found.
6. Ask children:

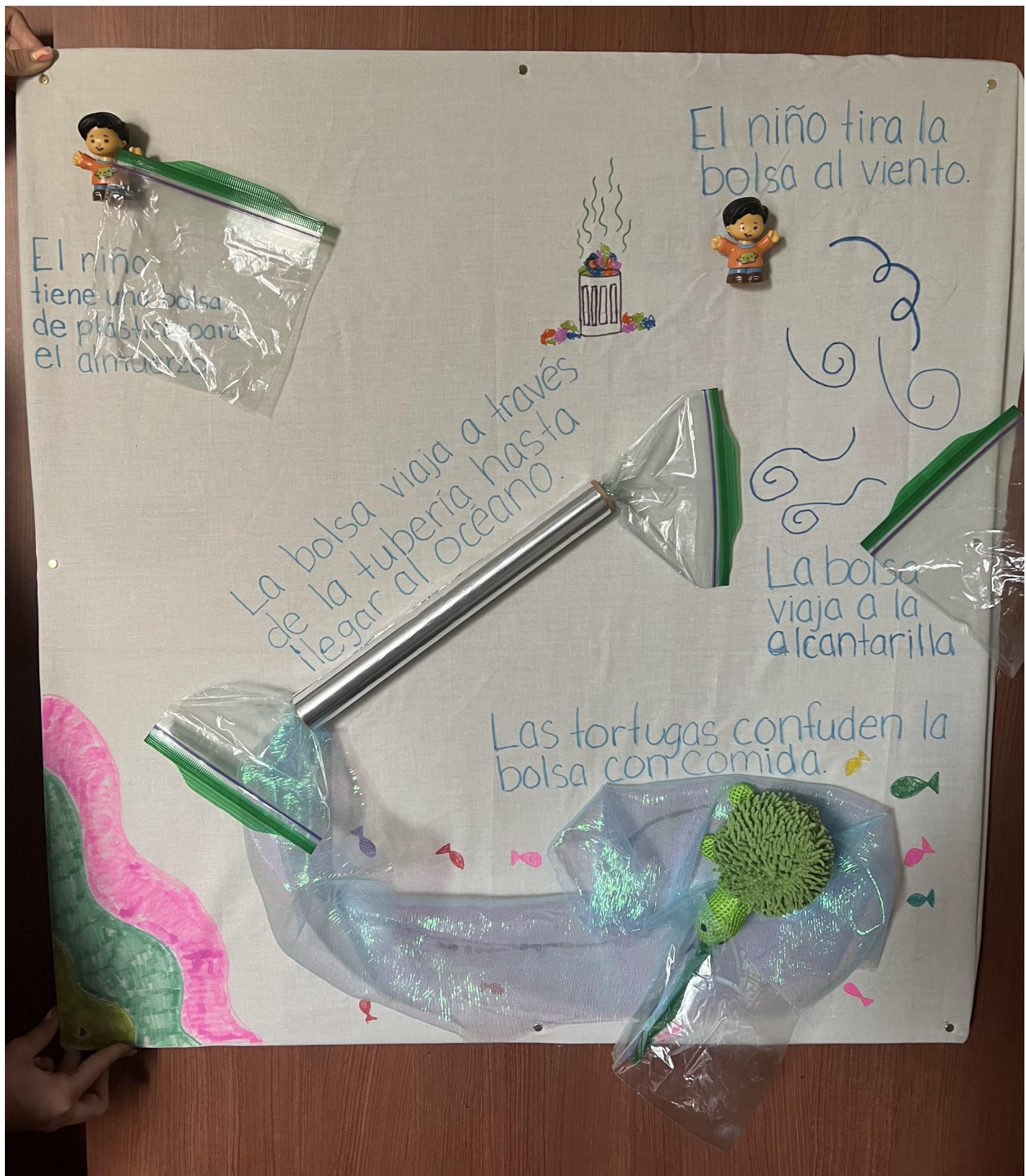
- a. Can you think of a relationship between a living thing and a nonliving thing from the list?
 - b. Can you think of a living and nonliving thing that is not on this list and could be found in the forest(scavenger hunt location)?
7. Pay attention to student answers and their discussion of the questions, noting the use of vocabulary words related to the concepts mentioned above.
 8. Collect all materials at the end of the lesson.

3.1 How Does Trash Travel Infographic

¿CÓMO VIAJA LA BASURA?



3.2 How Does Trash Travel Poster



3.3 How Does Trash Travel Lesson Plan

Materials: “How Does Trash Travel” Infographic
Location: N/A
Objectives: Have students consider their actions and how they can affect the environment
Concepts: Solid Waste Management
Required Time: 10-15 minutes
<i>Engagement:</i> Step 1 and 2: Children are introduced to the topic of waste and the infographic
<i>Exploration:</i> Step 3a: Children can view and interact with different parts of the infographic
<i>Explanation:</i> Step 3b: Discuss the steps of the infographic in detail
<i>Elaboration:</i> Step 4: Ask questions to get children thinking about where trash goes when it’s disposed and how to reduce waste
<i>Evaluation:</i> Note the use of keywords: litter, single-use, plastic, improper disposal, trash

Lesson Instructions

1. Ask children:
 - a. How do they dispose of waste?
 - b. What do they think happens to the waste if it is not disposed of properly?
2. Introduce the infographic to the children.
3. Explain each step of how the plastic bag travels from human hands to a turtle’s mouth.
 - a. Let the children touch the different components as you move along the trash’s path.
4. Ask children:

How can we ensure that trash doesn’t end up in the ocean?

Where does trash go when it is properly disposed of? (Think: landfills + the negative consequences involved)

What ways can we avoid producing this waste entirely? (Reusable bags/utensils, etc.)

4.1 How Does Organic Matter Cycle Infographic



4.2 How Does Organic Matter Cycle Poster



4.3 How Does Organic Matter Cycle Lesson Plan

Materials: Organic Matter Cycle Infographic Poster, Composting Bucket
Location: N/A
Objectives: Students will be introduced to the topics of food, organic matter, composting, and solid waste management.
Concepts: Soil and Food, Solid Waste Management
Required Time: 20-30 min
<i>Engagement:</i> Steps 1 and 3- Introduce composting bucket and infographic
<i>Exploration:</i> Steps 1 and 4- Students can dig through bucket and interact with infographic
<i>Explanation:</i> Steps 2 and 3- Discuss composting and matter cycle with children
<i>Elaboration:</i> Step 5- Ask children about compostable items to deepen their understanding of composting
<i>Evaluation:</i> Note the use of keywords: organic, compost, cycle, nutrient-dense, worm

Lesson Instructions:

1. Introduce students to the composting bucket. With gloves, let them dig through the bucket to see its contents.
2. Explain how composting works, including the role of worms.
3. Introduce the infographic and explain the cyclical aspect of organic matter.
 1. Go into detail on each step of the cycle.
4. Take each piece of paper off its Velcro spot and rearrange them in a random order. Make the children put them back into the correct order.
5. Ask children:
 1. What different types of things can be composted?
 2. What cannot be composted?
6. Throughout discussions, note use of pertinent vocabulary words and connections between concepts that students make.