

The Environment Resource Package

STEM Activity Ideas and Lesson Plans

Area 1: Activity Ideas

This is a sampling of ideas; additional activity ideas are available with the teacher tools included with individual videos in this resource package.

- ❖ Have students research what the issues are for oil pollution in water and different ways to separate and remove oil from water and keep it away from animals. Have students determine which methods they find most effective and defend their choices in an oral presentation.
- ❖ Trace one recyclable product from the manufacturer to the recycling center. Look at each step and its real cost and compare that real cost to its environmental cost (the effect on the environment). Create a chart or graph to show the comparison.
- ❖ Design an eco-friendly home. Research options and what is needed for a family of four, such as, heating and cooling ideas, appliances to use, materials to be in which for the home to be built, and how to recycle or reuse waste products. Design the best size also for being eco-friendly. To get ideas about eco-friendly building practices, check out any of the following Educate.Today videos: Sample Video-27, Environment-13, Environment-14, Environment-15, Environment-21, and Environment-26.

Area 2: Lesson Plans

This is a sampling of lesson plans. Additional activity lesson plans are available with the teacher tools included with individual videos in this resource package.

Sample Lesson 1: Good Bye Plastic Bags

Type of Teacher Tool: Small Group

Targeted Grade Level(s): 3-8

Targeted Curriculum Areas: Environment

Learning Objectives:

The learner will:

1. discover the problems with plastic bags for the environment.
2. design an idea to help the school/community reduce the use of plastic bags and plastic.

Featured National Standards:

1. CCSS.ELA-LITERACY.RST.6-8.8

Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.

2. 5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

3. RI.5.7 Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently. (5-ESS3-1)

4. MP.2 Reason abstractly and quantitatively. (5-ESS3-1)

5. 3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

Additional State and National Standards related to the content of our videos listed below for this lesson are also provided on the Educate.Today page where you find the video.

Resources/Materials Needed:

1. Environment 51: What can we do to reduce stores using plastic bags.
2. Environment 68: Repurpose Your Waste and Help the Environment
3. **One Plastic Bag: Isatou Ceesay the Recycling Women of the Gambia** by Miranda

Teacher Instructions:

1. List in your group how many times in a day all the times you use plastic. Multiply that by how many people are in the group. Discuss the problem for the environment this might cause.
2. Read **One Plastic Bag** and watch Environment 51.
3. Research what the plastic does to the land and oceans and how long it takes to decompose. Research how many are recycled and how they are recycled.
4. Brainstorm different ideas to reduce the use of plastic bags or other plastics.
5. Choose one idea to encourage the students in your school or your community to do. Design posters with information to hang in the school.

Assessment/Evaluation Options:

1. Students should develop a reasonable idea for reducing the amount of plastic or plastic bags.
2. They should show an opinion that is supported by facts. Examples:
 - Pack lunches in bags or containers that can be used over and over.
 - Hold on to, instead of tossing, a recyclable item to take to a place to recycle.
 - Bring own bags to shopping
 - Choose to buy things that are in recyclable packaging or no packaging at all.
 - Use used plastic items to make something new.
 - Petition the school to add a recyclable can in the cafeteria.