

Lesson Activity Bank

Lesson Title: What Pollutant Am I?

Rationale:

One of the most important parts of maintaining a planet that is healthy for all life forms is reducing the amount of waste that is created by humans. This waste has a huge negative impact on the natural environment. Recycling waste and reducing the waste produced is important for conserving raw materials, reducing pollution, conserving energy, and preserving natural resources.

Goals:

- Environmental Literacy Scope & Sequence benchmark: Social and natural systems may not function as well if parts are missing, damaged, mismatched, or misconnected.
- Key systems concepts and supporting concepts: parts and objects (abiotic factors, biotic factors, individual), interactions and relationships (cause and effect, population, reciprocity), inputs and outputs (resources, waste), change over time (climate, knowledge, population)

Teacher Resources:

Community POWER – www.rethinkrecycling.com

Minnesota Pollution Control Agency – www.pca.state.mn.us

Minnesota Office of Environmental Assistance – www.pca.state.mn.us/oea/index.html

Minnesota Department of Natural Resources - www.dnr.state.mn.u

Carver County Environmental Center – www.co.carver.mn.us/departments/LWS/env-svc/envirocenter.asp

Carver County Environmental Services – www.co.carver.mn.us/departments/LWS/env-svc

Pollution reports

Just a Dream by Chris Van Allsburg

The Lorax by Dr. Seuss

The Wump World by Bill Peet

Shelburne Farms Project Seasons by Deborah Parrella

50 Simple Things Kids Can Do to Save the Earth by The EarthWorks Group

Earth Book for Kids by Linda Schwartz

Air Pollution by Rhonda Lucas Donald

Water Pollution by Rhonda Lucas Donald

Accommodations for Learners:

Buddies

Books in native languages about pollution

Read along tapes

Group work

Parent supervisors/volunteers

Allow more time
Shorter lengths of assignments

Field Trip/Guests:

Visit a dump or landfill

Visit the Carver County Environmental Center and Rain Garden (Contact: Bill Fouks, (952) 361-1842 or visit www.co.carver.mn.us/departments/LWS/env-svc/envirocenter.asp)

Complete a community trash pick up (vests and bags can be obtained from Carver County Public Works by calling (952) 466-5200 or visiting www.co.carver.mn.us/departments/PW/)

Speaker from the Minnesota Astronomical Society to talk about light pollution

Garbage man

Student Reading/Literature:

Textbooks (Social Studies/Science)

National Geographic

Websites

Storybooks on pollution:

- *Just a Dream* by Chris Van Allsburg
- *The Lorax* by Dr. Seuss
- *The Wump World* by Bill Peet
- *The Berenstain Bears Don't Pollute (Anymore)* by Jan and Stan Berenstain

Oral Language:

Students tell stories and experiences

Sing

Poetry

Daily P.A. announcements

Written Language:

Letters to the principal or school board

Letters to the editor

Poems

Songs

Campaigns

Stories

Journal Entries

Social Skills:

Group work

Pair share

Presentations

Debates

Social Studies:

What is pollution?
How does it affect our environment?
How has technology changed our environment?
How does our population affect pollution?
What are the statistics of pollution in Carver County?
How does recycling reduce pollution?
How can we reduce pollution?
What are different kinds of pollution?

Art:

Posters
Collages
Brochures
Book illustrations
Draw pictures about what the world would look like if we didn't throw away garbage.

Music:

Revise lyrics to *Yakety Yak* by the Coasters (i.e. "Take out the paper and the trash...")
Put on Your Green Shoes CD by Various Artists
Mother Earth CD by Tom Chapin
Songs about our world/the United States/communities
Songs about nature

Science:

Environmental effects
What are the different kinds of pollution?
How does this affect our ozone layer?
How does this affect our water?
Medical repercussions
How much trash do we put in our world?

Math:

Statistics
Computing averages
Reading charts/graphs

Physical Education/Movement Health:

How does pollution affect our physical and mental health?
What are the effects of swimming/drinking polluted water?
How does it affect an animal's health and survival?

Technology:

Go to websites on pollution
Watch videos

Assessment:

Peer assessment review
Read journals
Reflect on lesson plans and make modifications
Use a rubric
Observe students and record actions
Tests
KWL chart understanding
Have students explain and respond

Follow-up activity #1

Pollutant Twister

You can check out this game from the Carver County Historical Society, or the museum staff member who visits your classroom can bring it and leave it. This game can be checked out for two weeks at a time (extensions are available if there is not a waiting list for the game), and you are responsible for returning it to the museum when you are finished with it.

Spread the “Pollution Twister” mats on the ground or floor. There is one mat per every four students (you can check out up to 8 mats from the museum). Have one student stand on each side of the mat (maximum of four students per mat). Ask the volunteer to spin the spinner and call out the body part and type of pollution to which the arrow points, i.e. “Left hand, noise pollution.” The student must then find a picture on the mat depicting noise pollution and move his/her left hand to that picture. Each type of pollution also has a corresponding color, so for younger students you can call out the color as well as the type of pollution. If your called-out hand or foot is already on a picture of the called-out pollution, you must try to move it to another picture of the same pollutant. You may never have more than one of your own limbs on the same picture. Never remove your hand or foot from a circle unless you're directed to by the spinner after a spin. Exception: You may lift a hand or foot to allow another hand or foot to pass by, as long as you replace it on its circle immediately afterward.

Follow-up activity #2

Once-ler vs. the Lorax Debate

(<http://teacherlink.ed.usu.edu/tlresources/units/byrnes-literature/alleman.html#Sharing%20or%20Choosing%20Volunteers>)

Assign half of the class to speak on behalf of Once-ler (who was responsible for all the trees being cut down) and the other half of the class to speak on behalf of the Lorax (who tried to save the trees). Have each half of the class break into groups of four or five. In these groups have them write down ideas that defend their assigned position. The Once-ler groups should prepare ideas to convince others that cutting down the trees was not wrong. The Lorax groups should prepare evidence that cutting down the trees was wrong. After working in small groups, students should meet with their half of the class and share the ideas gathered. The teacher directs the debate. One group is given the chance to share one point and then the floor goes to the other group. They can respond to that point or present a new point from their view. Debate continues until both sides have presented all ideas. Conclude the debate by having the class members vote for which

view they side with. They do not have to agree with the side they were assigned to defend.

Evaluation: Circulate during the debate activity and determine if students are on task. Listen as the views are presented during the debate and identify if the students have gathered sufficient evidence.

Follow-up activity #3

Writing extension

Discuss the last page in The Lorax (there is one tree seed left and it is up to the reader to decide what will be done with it). Have students write a story that tells what is done with the last seed. Students should create these stories independently.

Evaluation: Read the stories that the students write about the last tree seed. Identify if the students have presented a probable outcome to the problem.