

Lesson Title:	School yard clean up and recycle
Grade(s):	4
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Appropriate Science Areas:	Ecology
Science Concept(s):	Ecology: Cycles of Matter and Flow of Energy
Lesson Objective:	Discuss causes and possible solutions to reduce pollution. Identify types of pollution (air, water, noise) and discusses how increasing human populations contribute to pollution.
Georgia QCC Standards:	<p>Grade 4</p> <ul style="list-style-type: none"> • Ecology: Cycles of Matter and Flow of Energy: Discusses causes and possible solutions for pollution. Identifies types of pollution, such as air pollution, water pollution and noise pollution, and discusses how overpopulation contributes to pollution. Formulates ideas for solutions to existing pollution problems. • Ecology: Cycles of Matter and Flow of Energy: Discusses the importance of recycling and identifies examples of recycled products. Identifies and collects examples of materials that can be reused or recycled and those that cannot. Shows examples of products and materials that are biodegradable and those that are nonbiodegradable
Background:	<p>Humans produce pollution every day. Pollution comes in forms of chemicals, trash, noise, heat and many other forms. It affects the land, air, and water in undesirable ways.</p> <p>Some forms of air pollution include carbon dioxide from automobiles, smog and smoke from factories, chlorofluorocarbons from the coolant used in refrigerators and air conditioners and many more. Air pollution can cause breathing problems for people with allergies. Acid rain can alter the water chemistry of lakes and ponds.</p> <p>Another form of pollution is water pollution. Many people improperly dispose of their waste (trash, gasoline and oil, fertilizers, etc.) which end up in our lakes, streams and ponds. This makes our drinking water unfit to drink as well as destroys aquatic life. If the water is polluted, boating and swimming activities may not be permitted.</p> <p>Land pollution is the most visible type of pollution. Consumable products are packaged, and the packaging must be disposed of</p>

	<p>somewhere. Products that are not harmful need to go to a sanitary landfill or are burned in an incinerator. Others must be placed in special holding sites. Glass, paper, aluminum, plastic, etc. can be recycled. Food scraps and yard clippings can be composted and used in a yard or garden.</p> <p>Noise pollution is any unwanted sound such as horns honking, loud music, low flying airplanes, air conditioners, lawn mowers, etc. Constant loud (elevated decibel level) noise is considered noise pollution.</p>
Materials:	<ul style="list-style-type: none"> • Paper grocery sacks (1 per child) • 5 large plastic yard bags • 1 black marker for each child
Preparation Time:	Time to gather materials
Teaching Time:	One hour
Procedures:	<ol style="list-style-type: none"> 1. Divide class into groups of 4. 2. Give each group 4 paper grocery sacks and 4 black markers. 3. Explain to students that they will be looking and listening for: land, noise, air, and water pollution sources. Put land pollution in their sacks, and write the sources of noise and air pollution on their sack. 4. Send half of the groups to one area and the other half to another area. The teacher will monitor one area while the teacher's assistant or a chaperone monitors the other. Allow 10-15 minutes for gathering data. 5. When students return, hold a group discussion on noise and air pollution. List their findings on the board under the appropriate category. 6. Each group will sort and deposit their collected items in the correct plastic bags. Weigh the bags after all students are done.
Key Questions:	<ol style="list-style-type: none"> 1. Why do we need to protect the land, air and water around our school? Community? World? 2. What are the items we can recycle at home? 3. Why is keeping our earth clean so important?
Student Evaluation:	Participation in activity and discussion.
Helpful Hints:	
Related Activities:	<ul style="list-style-type: none"> • Duplication (as a warm up)

**Suggested
Extensions
into
Other
Curriculum
Areas:**

Language Arts: Write to different Environmental Agencies asking them ways you can help keep the earth clean.
Social Studies: How has recycling helped our environment?
Art: Poster drawing of rules on how to KEEP OUR EARTH CLEAN!