



Exploring Environmental Issues: Municipal Solid Waste

#1: The Waste Stream

Students will develop an understanding of municipal solid waste (MSW) management and its importance to community health. Through historical examples, students will learn how people have managed waste throughout time and how it affected their lives. Students will discover connections between what types of natural resources are found in products and what is thrown away. They will also investigate the waste stream in their school by collecting, analyzing, and graphing data.

Subjects: Environmental Science, History, Language Arts, Math, Social Studies.

#2: Source Reduction

Students will look at ways to prevent and reduce waste and will learn the connection between reducing waste and conserving natural resources. They will learn some of the factors used to determine the environmental impact of a product over its lifespan. They will also look at household hazardous waste (HHW) and ways to reduce the use of toxic products at home.

Subjects: Environmental Science, Social Studies, Visual Arts.

#3: Recycling and Economics

The activity is designed to familiarize students with recycling and the various economic factors that influence municipal solid waste (MSW) management. Students will conduct field research to determine the extent of recycled and recyclable products in their community. They will learn how supply and demand affects the recycling market.

Subjects: Economics, Environmental Science, Math, Social Studies.

#4: Composting

This lesson will help students understand the chemical processes that occur in the decomposition process. By creating their own compost containers, collecting compostable organic waste, and creating actual compost, students will apply their knowledge in hands-on, practical experiments. They will record data and make observations pertaining to the decomposition process, thereby helping them understand the process and value of composting.

Subjects: Agriculture, Biology, Chemistry, Environmental Science, Industrial Arts, Visual Arts.

#5: Waste-to-Energy

Students will learn how a waste-to-energy (WTE) facility functions. Through a role-playing activity, they will participate in a democratic decision-making process and will discover the many factors involved when a community makes decisions regarding the development of new solid waste management facilities. After having considered the

research, students will defend specific positions and learn from other class members who advocate different positions.

Subjects: Environmental Science, Language Arts, Social Studies.

#6: Landfills

Students will create "miniature landfills" to simulate the movement of leachate in a landfill and to demonstrate the importance of liners. Students will experiment with different soil types and liners to discover the most effective barrier. In addition, students will learn about the many considerations that must be taken into account when identifying a landfill site.

Subjects: Earth Science, Environmental Science, Social Studies, Visual Arts.

#7: Where Does Your Garbage Go?

The activity will familiarize students with the practical terminology and issues of municipal solid waste (MSW) at the community level. Students will consider the solid waste program of a municipality, then will study their own community's program. Through exchanging data with students in another community, they will gain additional insight into the management of MSW.

Subjects: Environmental Science, Math, Social Studies, Visual Arts.

#8: Take Action: Success Stories and Personal Choices

Students will develop an understanding of the great strides municipal solid waste (MSW) management has made through source reduction, recycling, and composting programs. In addition to finding ways to improve waste management in their school, students will analyze and try to improve their own waste generation habits.

Subjects: Environmental Science, Language Arts, Math, Social Studies.

