

## Student Instructions

### Designing a Solid Waste Management Plan

**Project Description:**

The average American consumes 120 pounds of resources every day. About five pounds of this ends up in a landfill. A good portion of the rest goes to sewage treatment facilities. Other parts are recycled or end up back in natural cycles (for instance, water used on our lawns). What to do with waste is an ongoing problem in society. Landfills are filling up, producing pollutants that get into our air and water. In addition, materials put into landfills are not reused, thus using up natural resources. People who design landfills and solid waste treatment facilities are using a number of techniques to try to solve some of these problems.

You will work with a partner to research solid waste and to design a solid waste facility that uses better methods of garbage disposal. You will identify several problems that are associated with landfills and then you will design a new landfill that effectively addresses the problems that you identified. You should be sure to include at least two cycles in your landfill (for instance, the water cycle, rock cycle, carbon cycle, nitrogen and other nutrient cycles or recycling).

**The General Process:**

After discussing types of garbage and what happens to it and after watching the video clips, you will conduct research about solid waste disposal. You may use the library, personal interviews, on-site visits or the Internet to get your information. Some keywords to try include: landfills, solid waste, garbage or garbage dumps. Find at least four resources.

Then you will want to identify three to five problems associated with solid waste disposal and determine solutions to these problems. Your solutions should include the concept of cycling of materials (at least two cycles). Finally, design a landfill incorporating your solutions. Make a poster and prepare a presentation that explains your design.

Thus you will:**Research:**

- 3-5 problems associated with solid waste disposal/landfills
- at least one solution to each problem
- how cycles and cycling of materials are incorporated into your solutions

**Turn In:**

- A poster
- A presentation
- A bibliography (see your teacher for format)