

# School Garden



Topic: Waste  
Grade: 4  
Duration: 2 x 45 minutes

*Students will examine the area around the school to determine if there is any erosion occurring and what is causing it. They will locate the best place for a school garden and pond based on their research. They will discover the value of planting on areas where there is soil erosion. Students should work with members of the EarthCARE Team as a larger plan for the garden is developed.*

## **Curriculum Expectations**

- 4s101: Demonstrate an understanding of the physical properties of rocks and minerals and the effects of erosion on the landscape
- 4s119: Determine positive and negative effects of human alteration of the landscape
- 4s120: Identify ways in which soil erosion can be controlled or minimized, and create a plan for reducing erosion of soil in a local field or plot
- 4s121: Design, build, and test a system to control the effects of soil erosion
- 4s123: Conduct their investigations of the outdoor environment in a responsible way and with respect for the environment
- 4e1: Communicate ideas and information for a variety of purposes and to specific audiences
- 4e41: Begin to develop research skills
- 4a43: Produce two- and three-dimensional works of art (i.e., works involving media and techniques used in drawing, painting, sculpting, printmaking) that communicate thoughts, feelings, and ideas for specific purposes and to specific audiences

## **Background Information**

The weathering effects of temperature, wind and water break down the rocks of the earth's surface to produce mineral particles that are the basis of soil. Tiny plants grow on these rock particles, die and decompose to form organic matter called humus. This mixture of mineral particles and organic matter is what makes up soil. Soil also contains water and air, trapped between the particles and millions of microscopic organisms. Soil supplies many of the essential needs of most green plants. It is their source of water, the minerals they need to develop and gives them a solid base in which their roots can grow.

Most of the earth's surface is covered by a layer of soil, ranging from a few millimetres in thick mountainous regions to over 10 metres in cultivated areas. We depend on this thin layer for our food supplies but this layer is threatened by soil erosion. Soil erosion is the process by which vital topsoil is lost, mainly blown away by wind or washed away by rain. It is due to such things as intensive farming, deforestation and poor methods of irrigation.

### ***Accountability***

Students will determine if there is soil erosion around the school and develop a plan for creating a school garden to reduce it.

### ***Teacher Notes***

1. Use a scenario approach to this activity. Present the following scenario to the students:

As part of the EarthCARE program, your class would like to create a special garden. The exact location of this garden has not been decided. You hope to plant trees and flowers that will take into account the natural surroundings. You also want to create a small pond that will be used for aquatic plants and animals. Since you live in an area that has extreme changes in temperatures, you want to make sure that the location of the garden will be the most suitable.

2. Discuss the best location of the garden. Consult with landscape gardeners in your community. Ask them to come to the school to discuss the issue with the students.
3. Research to find the best type of plants for garden for your climate.
4. Create a diagram to indicate where the ideal location of the garden should be. Note where the plants should be located.
5. Create a model of the garden to be put on display in the foyer of the school.
6. Develop a questionnaire to gather opinions and feedback on the plan. Post the results.
7. This will be a school activity and your section will form one part of the plan. Consult with the members of the EarthCARE Team at the school and show them your ideas.
8. Look at various methods of creating a pool for the garden. What material should be used that will promote animal and plant growth?

### ***Home Extension***

Examine gardens at home and ask family members to come to the class to talk about the best way to develop this plan. Encourage family and community members to become involved in the garden so that it becomes a community activity and everyone has a stake in making the school more attractive.

### ***Lesson Comments***

Teachers, feel free to add in your own comments for this lesson.