Subject: Science Grade: Third

Standard: #4 The Living Environment

Key Concept: Living things require an environment that meets their needs; living things in an environment are interdependent.

Generalization: Plants need soil, sunlight and water in order to grow.

Background:

The students are beginning a unit on living things, their needs, and interdependence. This activity introduces the unit as students discover what is necessary for plants to grow. Students who need step-by-step directions and more structure should work in Tier I. Tier II is less structured and Tier III is the least structured.

All groups will be investigating the needs of plants. Available materials should include soil, water, cups, milk cartons or pots, seeds (radish, beans, or the Wisconsin FastPlants work well), metric ruler, metric measuring cup, markers.

This lesson is tiered in ***process*** according to ***readiness***.

Tier I: ***Basic***

These students will grow plants in soil; soil and water; and soil, water and sunlight to determine what they need to live. Most science books will have a detailed step-by-step experiment with plants that can be used or the teacher may choose to write-out directions instead.

Tier II: ***Grade Level***

These students will investigate the needs of plants by experimenting with the amount of water needed by the plants. Provide directions for the students to begin the investigation (materials, how to plant, amount of soil to use,

number of seeds per cup, etc,) but have them determine how to vary the water in each cup and the number of cups they will use.

Tier III: ***Advanced***

These students will read The Empty Pot, ISBN:0-8050-049008. Students need to design and carry out an experiment based on the story. Provide assistance when needed.

Assessment:

Teacher observation and student interview during the design and implementation of the investigations are used as formative assessment. Science journals which include the information necessary to replicate the investigation plus the data tables and conclusions serve as summative assessment. Appropriate results (plants grew, plants didn't grow) based on experimental conditions also serve as summative evaluation. Assessment may also be completed through a rubric.