



## TEACHER'S GUIDE

GLE# GRADE

**Objective:** The students will study the germination of a seed and observe and record the life cycle of a plant.

**Materials:** Two orange plates, black marker, green yarn cut one arm's length, brown, green, black, yellow, orange, construction paper, hole punch, stapler, scissors, and a magnifying glass, lima beans that have been soaked overnight, small zip lock cellophane jewelry bags or small clear cups, cotton balls, water, potting soil.

**Introduction:** The teacher will explain the term germinate and instruct the students that they are going to observe a plant grow and change from a seed that they will plant. Each student will be given a small zip-lock bag with a hole in the top made with a small hole punch, a pre-soaked lima bean, a small black piece of construction paper cut to fit the zip-lock bag, a wet cotton ball, a pre-cut piece of yarn that will be large enough to put around the student's head.

**Procedure:** The teacher will instruct the students to place the black construction paper in the zip-lock bag (a small clear plastic cup may be used). Next, the students will place the water soaked cotton ball behind the black paper and then place the soaked lima bean in the front of the black paper. Zip the bag together, place the yarn through the hole in the top of the bag, and let the student wear it around their neck as a necklace. Explain that the lima bean will need sunlight as well as water (the water soaked cotton ball) in order to germinate. The teacher may wish to place soaked lima beans in small, clear, plastic cups containing black paper and soaked cotton balls for the students to observe as well as the bean necklaces. The students will make a chart to record the time it takes for the lima bean to sprout. Then have the students transfer the seedling into a clear, small cup filled with potting soil. The students will continue to observe and record the growth of the bean recording what was needed (water, sun, nutrients, etc.) for each growing cycle. Students will observe the roots, stem, and leaves with a magnifying glass as the plant develops. The teacher may want to bring in a small sprouting acorn or weed from the playground and shake the dirt loose to observe the roots with a magnifying glass.