

UNIVERSITY OF MINNESOTA

K-12 Education

Germination of Soy Boy

Adapted by

Susan Anderson

K-12 Education Specialist - Life & Natural Science

Objective: To help students understand seed germination and the basic needs of a plant.

Introduction: Read the book, “Cloudy with a Chance of Meatballs” by Judi Barrett ISBN 0-689-30647-4, and discuss where our food does not come from. Then read, “If It Weren’t for Farmers” by Allan Fowler ISBN 0-516-46009-9, and discuss where our food does come from. Plants surround us, and a great deal of our food comes from plants. Look at the soybean plant on the commodity card from MN Ag in the Classroom. Observe the root system, the stem, the bean pods etc. Share some information about the soybean from the card. Talk about some of the foods they eat that contain soybeans. Discuss what germination means, and explain that they will experience it first hand as they germinate their own “Soy Boy.” (This activity is called “Soy Boy” simply because it rhymes. It could also be called “Soy Girl,” “Plant Pal,” “Corn Kid,” etc.)

Input and Activities: Punch a hole in the top of a small baggie (jeweler size). Bags can be purchased from craft stores, on line, or might even be free from a jewelry store. Dip a cotton ball in water. Give it three “flat” squeezes. Place a cotton ball inside the small baggie. Place two soybean seeds, one on each side, in contact with the dampened cotton ball. Tie a string through the hole punched in the top of the small baggie. Using the string and baggie like a necklace. The soybean should soon swell up from the moisture and germination should take place in about three days. Once one of the soybeans has germinated remove the other seed. There is really only enough room and moisture to support the growth of one seed. The soybean plant can be transplanted into soil by cutting off the bottom of bag, pulling out the plant – cotton ball and all, and transplanting to a container with soil.

Closure: Have the students predict what they think might happen with their seed or “Soy Boy.” Discuss some ways that they could record the results such as drawing a picture of their “Soy Boy” each day in a journal. Talk about inquiry activities they could do with this lesson such as inside the shirt, outside the shirt, more moisture, less moisture etc. Look for graphing possibilities with this activity. What happens if they transplant the germinated “Soy Boy” in soil? Will it grow in the classroom? What are soybeans used for? This task can lead to so many other activities. (See the extension activities)

Extension Activities: Experiment with germination of the soybean at different temperatures. Is body temperature best for germination? As a class, record data and determine percent germination. Discuss the nutrients necessary for plants to grow. Review the parts of a plant. Have students measure the growth of the shoot. If used with older students, have students research the origin of soybeans. When were they introduced into this country? What did George Washington Carver have to do with soybeans? On maps, locate where soybeans are grown.

Discuss how transportation has affected the types of foods available to consumers. This activity could be done with corn or other seeds as well.

Materials Needed:

Jeweler size baggies

Cotton balls

Soybeans

MN Ag in the Classroom commodity cards

Paper punch

Yarn, string, or ribbon

Partnering:

University of Minnesota

College of Agricultural, Food and Environmental Sciences

Research and Outreach Centers*

Minnesota Ag Education Leadership Council

Extension Service

Minnesota Ag in the Classroom

Minnesota Pork Board

Minnesota Soybean Research and Promotion Council

Midwest Dairy Association

Martin County Corn and Soybean Growers

Redwood Area Schools

* Centered at Southwest Research and Outreach Center