

# Soybeanie Baby

## GROW A SOYBEAN IN A PLASTIC BAG

### Background Information

Soybeans are sometimes called the “magic bean” because they can be used to make many things. Soy products are found in hundreds of items we buy at the grocery store. Soy milk, soy flour, textured vegetable protein, and lecithin are all ingredients that come from soybeans and are found in frozen foods, baked items, cake and cookie mixes, candies, cereals, and many other items. Check out this short [video](#) from America’s Heartland – Agriculture 101 about the uses of soybeans.

### Materials Needed

- Jewelry size resealable bag (found in craft stores)
- Crystal soil (found at most garden centers)
- Hole punch
- Water
- Measuring spoons
- Soybean plant (optional)
- Soybeans
- Yarn



**What is Crystal Soil?** Crystal soil (a.k.a. soil moist) is water absorbent polymer beads, which can absorb and hold up to 80-150 times of its volume of water for a long period of time. As a reservoir, crystal soil stores water and releases the water whenever the plant needs it. Crystal soil can be used for potted plants, both indoor and outdoor. It is non-toxic, odor free, and environmentally safe.

### Procedure

1. Show stalks of soybeans (if available) to the class and pass around a bag of ripe soybeans. Explain that soybeans are a “renewable resource,” which means they are never “all used up” because more can always be grown.
2. Explain that soybeans are a valuable source of many vitamins and minerals that our bodies need every day. These include calcium, phosphorus, iron, vitamin A, thiamin and riboflavin. People all over the world need these vitamins and minerals, so we ship (export) soybeans grown in our country to countries that can’t grow enough soybeans to provide for their people. Not only are they used in food products but hundreds of other products that are used on a daily basis. Show America’s Heartland Soybean Product Video
3. Ask students if they have ever helped plant a garden and lead a discussion about what is needed for seeds to grow (germinate).
4. Explain the objective and complete the soybeanie baby activity with the class.

## **Activity Directions**

1. Punch a hole in the top of your bag (above the seal).
2. Place ¼ teaspoon of crystal soil into the bag.
3. Add one tablespoon of water.
4. Gently push in two soybeans.
5. Seal your bag firmly.
6. Insert the yarn to make a necklace.
7. Wear your Beanie Baby around your neck and under your shirt to keep it in a warm, dark place.
8. Check your Beanie Baby each day for germination and record the growth.

**\*\*NOTE\*\*** If crystal soil is not available, a cotton ball can be used.

## **Extension Activities**

- Using the scientific method, students can determine variables and create an experiment. Scientific method chart and plant observation sheets are included with this activity.
- If discussing soybean products, have a list of products and let students decide whether or not the product does or does not include soybeans.

## **Additional Resources**

### Books:

*Coolbean The Soybean* by Shawn Conley (ISBN 0891186174)  
*Auntie Yang's Great Soybean Picnic* by Ginnie Lo. (ISBN 1600604420)  
*From Seed to Plant* by Gail Gibbons. (ISBN 0823410250)

### Websites:

[coolbeanthesoybean.org](http://coolbeanthesoybean.org)  
[getsoybeansmart.com](http://getsoybeansmart.com)

### Soybean Science Kit

The Soybean Science Kit and curriculum, designed by researchers at Purdue University, uses soybeans to introduce students in grades 4-9 to science and its fundamentals, highlighting the principles of using biological, renewable resources. The kit includes everything necessary for 30 students to participate in 21 hands-on experiments and exercises. It also includes two new biotechnology lessons, an interactive CD-ROM and an instructional DVD.

Want to know if there is a Soybean Science Kit in your area? [Find one near you!](#)

### Soybean Ag Mag

Ag Mags are 4-page, colorful agricultural magazines for kids. They contain information about agriculture, bright pictures, classroom activities and agricultural careers. Ag Mags come in classroom packs of 30 and can be purchased from [wisagclassroom.org](http://wisagclassroom.org)

## **Education Standards**

Common Core: W.2.2, W.3.2, W.4.2

Next Generation Science: 2-PS1-2, 2-LS2-1

AFNR: BT2.a.1.e, BT2.a.4.e, PS1.a.1.e, PS1.d.1.e, PS2.a.1.e, PS3.a.2.e, PS3.e.1.e

# Scientific Method

**Observe**



**Ask A Question**



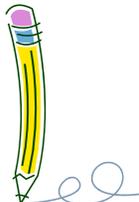
**Make a Prediction**



**Develop A Plan**



**Record the Results**



**Draw a Conclusion**



# Plant Growth Observations



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