

# Soybean seed necklace

Do you know what a seed needs to germinate and grow?

## Supplies

- 2–3 soybeans per student
- 1 2" × 3" bag per student
- 1 cotton ball per student
- Scissors
- Yarn
- Ruler
- Hole punch
- Plastic cup full of water
- Pipettes/dropper

**WATER** **SOIL** **SUN** **HEAT** (after germination)

## Directions

1. Place a cotton ball in a small plastic bag.
2. Add one or two soybeans.
3. Use the pipette/dropper to dampen the cotton ball.  
Too much water will cause the seed to rot.
4. Seal the bag. Punch a hole at the top.
5. Cut a piece of yarn long enough to fit around your neck like a necklace. Put the seed necklace inside your clothes—seeds need warmth to grow. (Alternative idea: safety pin the bag inside clothing.)
6. Take good care of your seed necklace — it is fragile!

Watch your soybean seed germinate; it will begin to grow roots, stems and leaves within three to five days. Chart your soybean's growth; draw a picture each day.

Day 1	Day 2	Day 3	Day 4	Day 5

## Idea

- Give your seed a name like "Sam Soybean."
- Plant your soybean in soil after it germinates.  
Keep the soil damp and place in a sunny window or under a grow light and watch it grow.



# Bean buddy

**Need a friend? Design your very own buddy!**

## Supplies

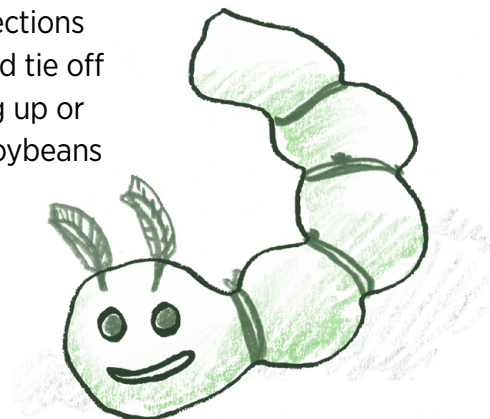
- Soybeans
- Dental floss
- Scissors
- Sock or glove
- Assorted decorations: yarn, feathers, plastic eyes, felt, curly ribbon, etc.
- Glue gun

## Directions

Use dental floss to tie the tube sock into 2–3 sections (soybean caterpillar) or fill the sock halfway and tie off the top (sock sits flat with a “pony tail” sticking up or lies flat with a “tail” behind). Fill a glove with soybeans to make spider-type Bean Buddy.

## Ideas

Give your bean buddy a name.  
Create a menagerie of many buddies.



# Soybean stress balls

**Under stress? Squeeze some beans and make a stress ball.**

## Supplies

- Soybeans
- Dental floss
- Scissors
- Sock or glove
- Assorted decorations: yarn, feathers, plastic eyes, felt, curly ribbon, etc.
- Glue gun

## Directions

Fill 3–4 large bowls with soybeans and many students can work together at the same time. Hold the balloon neck open and “feed” the soybeans into it. Kids might need help tying the balloon full of beans. Hint: It does not help to blow up the balloon first!

## Ideas

Keep a stress ball in your jacket pocket and squeeze it when needed.  
Give a stress ball to someone who needs it—maybe your mom or dad!

# Ohio drum

**Feel the beat? Make music with an Ohio bean.**

## Supplies

- 9 inch balloon
- Soybeans
- Plastic cups
- Scissors

## Directions

1. Cut the neck off the balloon.
2. Put 3–5 beans in plastic cup.
3. Stretch balloon over mouth of cup.

## Ideas

How many ways can you make music with your Ohio drum? Organize an Ohio drum corps.



# Biodegradable soy plastic

## Supplies

- 1 tablespoon corn starch
- 1 teaspoon soybean (vegetable) oil
- 2 drops food coloring (any color)
- Microwave (use with adult supervision)
- 1 tablespoon water
- 3-oz plastic small cup
- Stir stick
- Small soap forms

*Alternative:* use a plastic bag to hold the contents and knead the mixture. Microwave in the bag. The resulting plastic is moldable.

## Directions

1. Place the cornstarch in the small plastic cup.
2. Add the soybean oil and the water.
3. Stir the mixture.
4. Add food coloring.
5. Mix again.
6. Heat the cup in the microwave for 20–25 seconds. Caution: the cup will be hot!

What products could be made from biodegradable soy plastic?

**What's the science?** Heat helps the vegetable oil and corn starch to form a polymer. Polymers are long chains of repeating structures (think paper chain) that bond together to form a flexible structure.

# Soy lip balm

**Chapped lips? Sooth with soy lip balm.**

## Supplies (for 20 students)

- 20 lip balm containers
- 1 cup of soy wax flakes
- ¼ cup sweetened (4 Stevia packets in a 32 oz bottle of oil) vegetable oil
- Shaved soy crayons (for color)
- Shaved cocoa butter (for extra moisturizing)
- Hot plate and/or candle warmer
- Hot pad
- Glass beaker
- Stir sticks
- 3-oz plastic cups
- Optional: flavoring oils

## Directions

1. Heat the soy wax and sweetened vegetable oil in a glass beaker on the low setting of a hot plate, until melted. Stir to mix. Use a hot pad to remove the glass beaker (use candle warmers to keep wax as a liquid while students make their lip balm).
2. If students want to color differently, pour a small amount into a 3 oz. plastic cup, and allow students to add a pinch of shaved Prang crayon of their color choice (if included, one drop of flavoring) and a pinch of cocoa butter shavings for extra moisturizing. Fill tubes about half full with melted material. Let cool for 5–10 minutes until solid.

