



Soybean Shirt Shout-Outs

Suggested Grade Level: K-2

Time: 60 minutes

Subjects: Science, Biology, Ecosystems, English Language Arts, Informational Reading, Writing, Speaking and Listening, Agriculture, Plant Science, Food to Table

Overview: In this cross-curricular lesson, K–2 students investigate soybeans and their role in everyday life through hands-on exploration, discussion, and application of knowledge. Students begin with an engaging introduction and read-aloud to build background understanding, then contribute to a class anchor chart. They closely observe soybeans using magnifying tools to develop descriptive skills, participate in a scavenger hunt to identify soy-based products, and apply their learning by designing a soybean-themed t-shirt that includes illustrations and facts. Students conclude by planting soybean seeds and discussing plant needs, reinforcing understanding of plant life cycles and agriculture. Throughout the lesson, students practice observation, classification, informational comprehension, and communication skills while connecting agriculture to real-world uses.

Objectives:

- Observe and describe physical characteristics of soybeans using appropriate vocabulary and detailed observations (Science: Observation; ELA: Speaking & Listening).
- Identify and classify products that come from soybeans based on evidence gathered during a scavenger hunt (Science/Social Studies: Classification; Critical Thinking).
- Explain how soybeans are used in everyday life using information from texts, discussions, and activities (ELA: Informational Reading; Social Studies: Goods & Services).
- Represent understanding through visual and written communication by creating a labeled t-shirt design that includes accurate facts and illustrations (ELA: Writing; Representation of Knowledge).
- Describe basic plant needs and growth through participation in planting and discussion of the soybean life cycle (Science: Life Science Concepts).

Background Information:

What are soybeans? Soybeans are small, round or oval beans that grow in protective Pods. Because soybeans are high in protein and contain lots of dietary fiber, vitamins, minerals, and plant sterols (compounds found in plants that help lower cholesterol), and are a good source of unsaturated fat, they are a popular choice for animal feed and

food. Soybeans are grown on a farm by farmers. Soybean plants grow in the ground and usually reach about 3.3 feet tall. In Kansas, soybeans are planted in May and harvested in October – but planting and harvesting times vary by climate. Soybeans are grown throughout the United States, but they prefer warmer climates with moist, well-drained soils (Kansas Foundation). According to the Kansas Soybean Commission, the main soybean-producing area is in the Corn Belt and the lower Mississippi Valley, and the three top-producing states in 2024 were Illinois, Iowa, and Indiana. In Kansas, soybeans are primarily grown in the eastern part of the state.

Economically, soybeans are the most important bean in the world. According to the Kansas Soybean Commission, soybeans have hundreds of uses. Soybeans are sold as whole foods (for example, edamame and roasted soy nuts) and are processed into products such as tofu, soy beverages, and textured vegetable protein used in vegetarian meat substitutes. Approximately 97% of soybean meal is used in livestock and poultry feed, making it a key source of protein for animal agriculture. Soybean oil is a primary source of vegetable oil used in many food products, including cookies, cakes, chocolate, and salad dressings. In addition to food and feed, soybean oil can be converted into biodiesel, a renewable, lower-emission alternative to petroleum diesel, and soy derivatives are used in a variety of nonfood products, such as candles, cosmetics, wood stains, and industrial sealants (Kansas Soybean).

Soybeans can also be used to make fabric. According to US Soy, several fabrics are made from soybeans. Some are made from soy protein, which creates a soft, stretchy, and breathable material. Soy can also be mixed with cotton or wool. These soy-based fabrics are good for the environment because they are biodegradable. They are also known for being gentle on the skin, breathable, and protecting against UV rays (U.S.).

Kansas Connections:

Soybeans are one of the most widely grown crops in Kansas. In fact, according to the Kansas Soybean Commission, there are over 12,000 soybean farmers in Kansas. That's one soybean farmer in every group of about 250 Kansans! In 2024, soybeans made up one-fifth of the total amount of money made from all major crops grown in the state (such as wheat and corn). While soybeans are grown all over Kansas, they are much more common in the eastern third of the state, where more rainfall helps them thrive. The top soybean-producing counties are Brown, Nemaha, Clay, Atchison, and McPherson. Soybeans are an important part of Kansas agriculture!

Materials:

Engagement

- Soybean t-shirt
<https://smile.amazon.com/Soybean-Farmer-Funny-Soybeans-T-Shirt>
- Scrap of silk fabric



- Prang crayons <https://smile.amazon.com/Prang-Crayons-Assorted-Colors>

Discussion

- Large chart paper
- Markers
- Post-It notes
- “Soybeans A to Z” by Susan Anderson

Activity 1: Examining Soybeans

- Soybean plant/s (if possible)

Per Student

- A cup of soybeans for each student
- Magnifying lens for each student

Activity 2: Soy Scavenger Hunt

- Items for a soybean product scavenger hunt, such as: candy, cookies, cake and cake mixes, cereal, chicken (processed with broth), meat and vegetable broths, chocolate, energy bars, margarine, mayonnaise, peanut butter, protein powders, sauces, soups, veggie burgers, vitamin pills, and waxed fresh fruit (like apples)

Per student

- List of scavenger hunt items, written or pictured

Activity 3: Soybean T-Shirts

- Light blue bulletin board paper
- Scissors
- Pencils/colored pencils
- Crayons (preferably Prang)
- Yarn/string
- 2 wrapping paper tubes

Activity 4: Planting Soybeans

- Potting Soil

Per student

- Cardboard milk carton

Instructional Format:

1. Review Background Information and Kansas Connections.
2. Conduct engagement exercise.
3. Lead a class discussion.
4. Complete Activity 1: Examining Soybeans.
5. Complete Activity 2: Soy Scavenger Hunt.
6. Complete Activity 3: Soybean T-Shirts.
7. Complete Activity 4: Planting Soybeans.
8. Review vocabulary.

Engagement:

Wear a soybean-themed t-shirt to spark curiosity and set the tone for the lesson.

Prepare a Prang crayon and a silky fabric item (e.g., scarf or shirt). *Note: Soy-based*



fabric is expensive and hard to come by; silk is used here as a close substitute in texture and appearance. Hold up the crayon and the fabric. Ask students: “What do these two items have in common?” Share that both items can be made from soybeans. Explain briefly that soybeans are used in manufacturing products like crayons and fabric. Transition by saying: “Today, we’re going to explore how soybeans are more than just food—they’re part of our everyday lives.”

Procedures:

Discussion

1. Before the lesson, create a class anchor chart with the word “SOYBEANS” in the middle. Using post-it notes, students will add ideas to the chart throughout the lesson.
2. Read “Soybeans A to Z” by Susan Anderson aloud to the class. Have students add information to the class anchor chat as you read. Also available as a read-aloud on YouTube – Arizona Farm Bureau Ag in the Classroom AZFB AITC: Soybeans A to Z <https://www.youtube.com/watch?v=eNaTmoJMxsQ>.
3. Lead a class discussion using the guiding questions below:
 - Where do soybeans grow and why?
 - What is special about a soybean plant that allows it to survive in dry and hot climates?
 - What are some of the uses of soybeans?
 - What are the steps of the soybean’s life cycle?
 - Why are the soybeans enclosed in pod cases?
4. After the discussion, play this short video for the class. Virginia Farm Bureau: Virginia Farm Bureau - ABCs of Agriculture - The Incredible Soybean <https://www.youtube.com/watch?v=nQJdKyCgKMU>

Activity 1: Examining Soybeans

1. Transition into the activity by saying, “Let’s learn a little bit more about the soybean and its many uses. Today, we’re going to become plant scientists!” Read the Career Information section aloud to students before beginning.
2. Give each student (or pair) a small cup of dried soybeans.
3. Provide magnifying lenses to help them observe closely.
5. If available, display a real soybean plant or pass around a sample for students to examine.
6. Invite students to use their magnifying lenses to examine the soybeans closely.
7. Encourage them to crack open a few beans to see what’s inside.
8. Prompt them to describe what they notice.

Activity 2: Soy Scavenger Hunt:

1. Before beginning this activity, hide items that contain or are made from soy throughout the room for students to find (while they are occupied with Activity 1).



For younger students, you can hand them a card with a picture and have them find the same item hidden around the room.

2. To introduce the activity, say: "Soybeans are in lots of things we use and eat every day. Let's go on a scavenger hunt to find out where soy is hiding in our classroom!"
3. Students will search the room for items that contain or are made from soy. They should check off each item on their list or match their picture card to the hidden item. Allow students 10–15 minutes to explore and find items.

Activity 3: Soybean T-Shirts

1. After students have settled back into their seats, introduce the third activity. Say, "We're going to teach others about soybeans by designing our own paper t-shirts. These shirts will show what a soybean plant looks like and share cool facts about how soybeans are used!"
2. Using a large t-shirt pattern, instruct students to trace and cut out a t-shirt on blue bulletin board paper. (16" high and 19 ½" wide)
3. Play this video for the class to give students a guide on how to draw soybeans. Azz Easy Drawing: How to draw Soybean
https://www.youtube.com/watch?v=t3r9_jC9Hkc. Stop at each step to allow time for your students to draw.
4. Instruct students to color in their soybeans using Prang crayons.
5. Next, have your students add soybean facts (written or pictured) from the anchor chart to the t-shirt.
6. After students are done decorating their t-shirts, hang them on a bulletin board with yarn/string attached to wrapping paper tubes to look like laundry hanging outside on a clothesline. In large letters, write "HANGING OUT WITH SOYBEANS!" on the bulletin board. Alternatively, use large cut-out letters.





Activity 4: Planting Soybeans

1. To introduce the wrap-up activity, say: “Now that we’ve learned all about soybeans and their many uses, let’s plant our own soybean seeds and watch them grow!”
2. Help students rinse and dry their recycled milk containers.
3. Cut the tops off to create open planting pots.
4. Label each container with the student’s name.
5. Guide students to fill their containers about $\frac{3}{4}$ full with potting soil.
6. Have them plant 1–2 soybean seeds about 1 inch deep.
7. Gently pat the soil over the seeds.
8. Let students lightly water their containers using watering cans or spray bottles.
9. Remind them not to overwater—just enough to moisten the soil.
10. Lead a class discussion on what plants need to grow. Use guiding questions like:
 - “What do you think our soybean seeds will need to grow strong and healthy?”
 - List responses: sunlight, water, air, soil, space, and time.

Vocabulary:

- **Soybean:** a small, round bean that grows in a pod and is used to make many foods and products.
- **Pod:** the shell that holds the beans on a soybean plant.
- **Crop:** a plant that farmers grow for food or other products.

- **Product:** Something that people make or use.

Kansas Standards:

Next Generation Science Standards

Kindergarten

From Molecules to Organisms: Structures and Processes

K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.

2nd Grade

Ecosystems: Interactions, Energy, and Dynamics

2-LS2-1. Plan and conduct an investigation to determine if plants need sunlight and water to grow.

Language Arts

Kindergarten

Reading: Informational

Key Ideas and Details

RI.K.1 With prompting and support, ask and answer questions about key details in a text.

RI.K.2 With prompting and support, identify the main topic and retell key details of a text.

RI.K.3 With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.

Language in Reading: Informational

RI.K.11 Determine or clarify the meaning of unknown and multiple-meaning words and phrases in reading and content to expand language comprehension.

Speaking and Listening

Comprehension and Collaboration

SL.K.1 Participate in collaborative conversations with diverse partners about topics and texts with peers and adults in small and larger groups to expand language comprehension.

Presentation of Knowledge and Ideas

SL.K.5 Add drawings or other visual displays to supply additional detail to descriptions.

1st Grade

Reading: Informational

Key Ideas and Details

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RI.1.2 Identify the main topic and retell key details of a text.

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Language in Reading: Informational

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Speaking and Listening

Comprehension and Collaboration

SL.1.1 Participate in collaborative conversations with diverse partners about topics and texts with peers and adults in small and large groups to expand language comprehension.

SL.1.2 Ask and answer questions about key details in a text read aloud, information presented orally or through media.

Presentation of Knowledge and Ideas

SL.1.4 Use relevant details to describe people, places, things and events, expressing ideas and feelings clearly.

SL.1.5 Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.



2nd Grade

Reading: Informational

Language in Reading: Informational

RI.2.11 Determine or clarify the meaning of unknown and multiple-meaning words and phrases to expand language comprehension.

Writing

Research to Build and Present Knowledge

W.2.8 Recall information from experiences or gather information from provided sources to answer a question.

Speaking and Listening

Comprehension and Collaboration

SL.2.1 Participate in collaborative conversations with diverse partners about topics and texts with peers and adults in small and larger groups to expand language comprehension.

SL.2.2 Recount or describe key ideas or details from a text read aloud, information presented orally or through media.

SL.2.3 Ask and answer questions about what a speaker says to clarify comprehension, gather additional information or deepen understanding of a topic or issue.

National Ag Literacy Standards

Agriculture and the Environment

- Describe how farmers/ranchers use land to grow crops and support livestock (T1.K-2 a.)
- Describe the importance of soil and water in raising crops and livestock (T1.K-2 b.)

Plants and Animals for Food, Fiber, and Energy

- Explain how farmers/ranchers work with the lifecycle of plants and animals (planting/breeding) to harvest a crop (T2.K-2 a.)
- Identify examples of feed/food products eaten by animals and people (T2.K-2 c.)

Food, Health, and Lifestyle

- Identify healthy food options (T3.K-2 a.)
- Recognize that agriculture provides our most basic necessities: food, fiber (fabric or clothing), energy, and shelter (T3.K-2 b.)

Culture, Society, Economy & Geography

- Identify places and methods of exchange for agricultural products in the local area (T5.K-2 c.)
- Identify plants and animals grown or raised locally that are used for food, clothing, shelter, and landscapes (T5.K-2 d.)
- Identify the people and careers involved from production to consumption of agricultural products (T5.K-2 e.)
- Trace the sources of agricultural products (plant or animal) used daily (T5.K-2 f.)

Supporting Resources

“Cool Bean the Soy Bean” book:

<https://smile.amazon.com/COOLBEAN-The-Soybean-Shawn-Conley>

Kentucky Farm Bureau: Kentucky Farm Bureau | Kentucky Farms Feed Me | Soybeans

<https://www.youtube.com/watch?v=ESMgOxLrlmM>

Kids Connection Magazine Super Soybeans

<https://ksagclassroom.org/resource-center/connection/>



Missouri Soybeans coloring book:

<https://mosoy.org/check-off-at-work/consumer-education/>

Soybean Byproducts

<https://ksagclassroom.org/supporting-resources/soybean-byproducts/>

Soybean Fun Facts <https://ksagclassroom.org/supporting-resources/soybean-fun/>

Soybean Growth Cycle

<https://ksagclassroom.org/supporting-resources/soybean-growth/>

Soybean Plant Part Labeling

<https://ksagclassroom.org/supporting-resources/soybean-plant/>

Career Information: Plant Scientist

A plant scientist studies plants (like soybeans!) in a lab and outside in fields. They look at the plant's structure and environment to learn how to make them healthier and stronger in different weather conditions. Plant scientists are important because they help farmers grow and improve crops like soybeans, wheat, and corn.

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References:

Kansas Foundation for Agriculture in the Classroom. (n.d.). *Kids Connection: Super Soybeans*. Retrieved October 31, 2025, from <https://ksagclassroom.org/resource-center/connection/>

Kansas Soybean Commission & Kansas Soybean Association. (n.d.). *Frequently Asked Questions*. Retrieved October 31, 2025, from <https://kansassoybeans.org/news/faq/>

U.S. Soy. (2023, August 9). *Beyond food: Soy-based, sustainable fashion*. Retrieved October 31, 2025, from <https://ussoy.org/beyond-food-soy-based-sustainable-fashion/>

