



The Book Planter



Ag in the Classroom

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My Family's Soybean Farm

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. The busy days and many jobs of a farm family, the life cycle of a soybean plant, and its life as a crop getting to market are all detailed in *My Family's Soybean Farm*, a picture book on what it takes to grow soybeans, and how the crop becomes the many products we use every day. Each spread walks

readers through the many steps of planting and growing the crop throughout the seasons, with extensive text features placed beside the story offering range of additional information for readers, from STEM concepts to illustrations of farm equipment, diagrams, and more.

Activity 1: Needs and Seeds¹

1. Use the sample T chart (*Needs and Seeds Handout 1*) or draw a similar example on a whiteboard or shared classroom space. Have students brainstorm things that humans and plants need to survive and record items on the T chart.
2. Read the book *My Family's Soybean Farm* by Katie Olthoff out loud to the class. After finishing the story, ask students to recall what the soybean plants needed to survive in the book. Allow students to expand beyond plant basics (water, soil, sun) to include items like reduced pests, nutrients in the soil, etc. Add new items to the T chart as they are mentioned.
3. Compare and contrast what humans need to survive versus what plants need to survive. Finish the discussion with a focus on plant needs.
4. Show the students a soybean seed. Using the illustrations near the beginning of the book, review how a soybean seed sprouts, grows bigger, blooms and produces a pod, and then is harvested.
5. Explain that students will be able to build a soybean plant lifecycle. Give each student a copy of *Needs and Seeds Handout 2*. Have students cut out the picture circles and match the pictures to the text. (Younger students may just cut and use the pictures for the lifecycle.) Glue the pictures around the soybean lifecycle.
6. Extensions and Variations:

- Grow soybeans! Put a few soybeans in a clear sandwich-sized bag along with a damp paper towel. Tape the bag in a bright window. Observe every day to note changes in the seed. Once seeds have sprouted, transfer to a cup of soil and continue growing.
- Have students create a Venn Diagram with the information gathered about human and plant needs on the T-chart.

Activity 2: Soy Around the World¹

Materials

- 4 pennies for each student
- Scissors for each student
- *Soy Around the World Handout 1* for each student

Procedure

1. Read the book *My Family's Soybean Farm* by Katie Olthoff out loud to the class. After finishing the story, ask students to recall where soybeans go after they are harvested at the farm. (Students may talk about what items are made from soybeans. Guide discussion until students talk about selling soybeans to other countries. If students need a reminder, use the page with the world map as a prompt.) Tell students that soybeans are just one of the many products that are sold or traded around the world.
2. Define the terms **buy** (to get a product in exchange for money) and **trade** (an equal exchange of products) for students. Demonstrate the concept of buying and trading. Explain that some countries have too much of an item, and some have too little, which is what prompts a purchase or trade.
3. Divide students into pairs or small groups up to 4. Give each student one picture strip of the *Soy Around the World Handout 1* (if students are working in a group of less than 4, divide the extra picture strips between them). Also give each student 4 pennies. Have students cut out the four squares in their picture strip.
4. Explain that students have items as well as money. Students must decide how to buy and trade what they each have in order to satisfy their personal needs and wants. The end result of the activity is that students will not have the same items (i.e. more chickens than another student, less playgrounds, or perhaps more money and less items) to demonstrate that in buying and trading goods, the final result is **not** that everyone gets the same thing.
5. Set a timer for 5 minutes. At the end of the time, see if students have come to an agreement in their group. Discuss the challenges and opportunities with buying and trading goods.
6. Extensions and Variations:
 - Direct students' attention to a large world map or globe. Give students the *Soy Around the World Handout 2* and have them find the United States. Explain that the U.S. grows a lot of soybeans and can't use all of them, so they sell them to other countries. Have students color the U.S. red. Help students find the country of Brazil and color it red as well. Tell students that Brazil also has to sell soybeans because they grow so many. Draw a red arrow coming out of the countries that sell soybeans. Tell students that

some countries don't have enough soybeans, so they have to buy them or trade for them. Show students where Mexico and China are on the map. Have students color those countries blue, denoting that they import soybeans. Draw a blue arrow coming into the countries that purchase, or import, soybeans.

- 2nd grade: Introduce the terms import and export. Have students research more countries that import and export soybeans and soybean products. Expand the detail on the map that they began in the lesson. For up to date trade data, visit this website: <https://www.ers.usda.gov/topics/crops/soybeans-oil-crops/>.

Activity 3: From Here to There – Soybeans¹

Materials

- *From Here to There – Soybeans Handout 1*, one per student
- Scissors
- Glue
- Construction Paper
- Examples or pictures of raw products with their finished product mate (Examples: a log and paper, tomato and ketchup, egg and mayonnaise, cotton and sock, etc.)

Procedure

1. Read the book *My Family's Soybean Farm* by Katie Olthoff out loud to the class. After finishing the story, ask students to describe and define a **raw product** and a **finished product**. Record answers on a shared classroom space. Guide discussion to the following definitions.
 - Raw product = unprocessed material or natural resource
 - Finished product = final product that has had value added and is ready for sale
2. Ask students:
 - What kind of product did Alexander grow on his family's farm? How do you know?
3. Briefly review the process that takes place in the book, from planting the soybean seed to making soy products.
4. Pass out the *From Here to There – Soybeans handout* to each student. Explain to students that Alexander's farm is all mixed up! Students will cut out the sentence strips and glue them into the correct order.
 - Answers:
 1. First, we plant the soybeans.
 2. Then, the soybeans grow.
 3. We check the soybeans for pests and to make sure they are healthy!
 4. We use a combine to take the dried soybeans off the plant.
 5. The beans are put in wagons and taken to grain bins.
 6. The beans stay in the grain bins to dry.
 7. We sell the soybeans to a processor.
 8. The processor makes the beans into the final product.

5. To close the lesson, review the definition of a raw and a finished product. Show students other examples of raw and finished product pairs.
6. Extensions and Variations:
 - Kindergarten – 1st grade: Have students choose a raw and finished product pair from the examples presented to the class. Students can draw or write about how the raw product becomes the finished product.
 - 2nd grade: Have students research one raw product and a finished product made from it. Students can write a short narrative or essay on the process and present it to the class.

Sources

1. American Farm Bureau Foundation for Agriculture. *My Family's Soybean Farm Educator's Guide*; 2020.

K-5 Subject Areas: English Language Arts, Social Studies and Science

English Language Arts (Reading and Writing)

- 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.
- RI.1.1 Ask and answer questions about key details in a text.
- RI.1.2 Identify the main topic and retell key details of a text.
- RI.1.3 Describe the connection between two individuals, events, ideas, or pieces of information in a text.
- RI.1.4 Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
- RI.1.5 Know and use various text features to locate key facts or information in a text.
- RI.1.6 Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.
- RI.1.7 Use the illustrations and details in a text to describe its key ideas.
- RI.2.4 Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.
- RI.2.5 Know and use various text features to locate key facts or information in a text efficiently.
- RL.2.7 Explain how specific images contribute to and clarify a text.
- RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- RI.3.2 Determine the main idea of a text; recount the key details and explain how they support the main idea.
- RI.3.4 Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
- RI.3.5 Use text features and search tools to locate information relevant to a given topic efficiently.
- RI.3.7 Use information gained from illustrations and the words in a text to demonstrate understanding of the text.
- RI.4.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
- RI.4.2 Determine the main idea of a text and explain how it is supported by key details; summarize the text.
- RI.4.4 Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a grade 4 topic or subject area.
- RI.4.5 Describe the overall structure of events, ideas, concepts, or information in a text or part of a text.
- RI.4.7 Interpret information presented visually, orally, or quantitatively and explain how the information contributes to an understanding of the text in which it appears.
- W.4.5 Conduct short research projects that build knowledge through investigation of different aspects of a topic.
- RI.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
- RI.5.4 Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.

Social Studies

- K.B.1 Understand cultural practices in local communities and around the world.
- K.E.1 Analyze basic economic concepts.
- K.G.1 Apply simple geographic representations, tools, and terms to describe surroundings.
- K.G.2 Understand the interaction between humans and the environment.

- 1.C&G.1 Understand how people engage and participate in the community.
- 1.E.1 Understand the role of basic economic concepts in the decisions people make.
- 1.G.1 Apply geographic representations, tools, and terms to describe surroundings.
- 1.G.2 Understand interactions between humans and the environment in different places and regions around the world.
- 2.E.1 Understand how the availability of resources impacts economic decisions.
- 3.E.1 Understand how economic decisions and resources affect the local economy.
- 4.E.1 Understand how economic decisions and resources affect the economy of North Carolina.
- 4.E.2 Understand the impact of personal financial decisions.
- 5.E.1 Understand how economic decisions have impacted the United States in terms of consequence, growth, and trade.
- 5.E.2 Understand the impact of personal financial decisions.
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Science

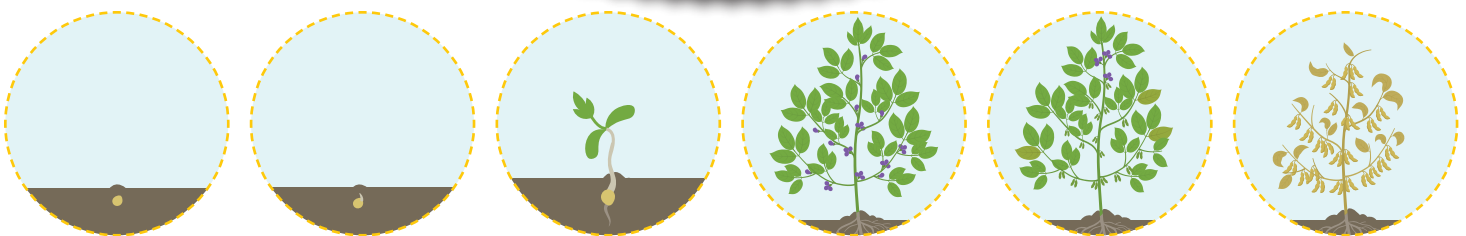
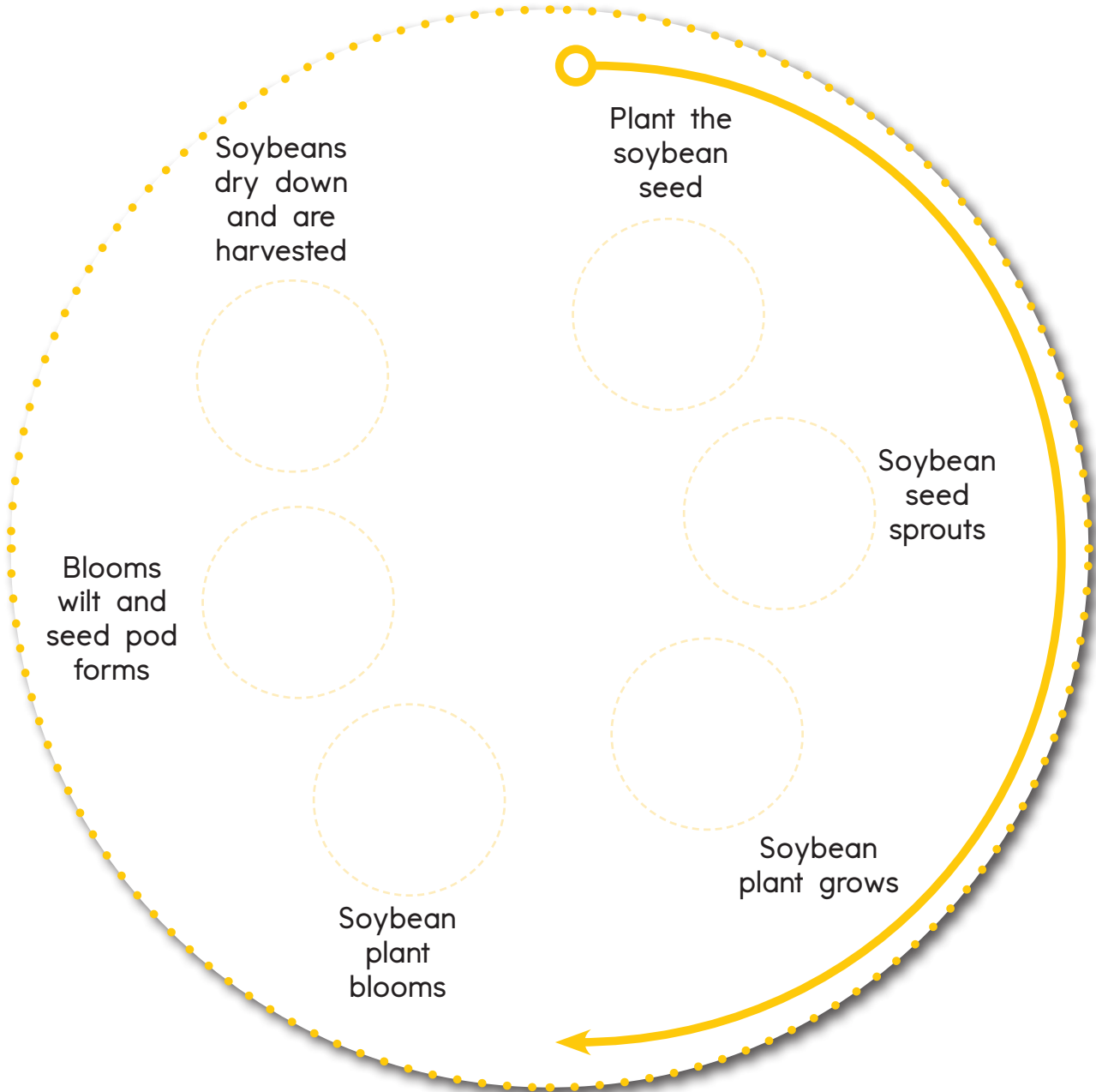
- LS.K.1 Understand the characteristics of living organisms and nonliving things.
- LS.K.2 Understand characteristics of organisms that make them alike and different.
- LS.1.1 Understand characteristics of various environments and behaviors of humans that enable plants and animals to survive.
- LS.2.2 Understand that organisms differ from or are similar to their parents and other offspring based on the characteristics of the organism.
- LS.4.1 Understand the effects of environmental changes, adaptations and behaviors that enable animals (including humans) to survive in changing habitats.
- LS.5.3 Understand some characteristics of an organism are inherited and other characteristics are acquired.



Name: _____

ACTIVITY 1: NEEDS AND SEEDS

Handout 2





Name: _____

ACTIVITY 1: NEEDS AND SEEDS

Handout 1

HUMANS

PLANTS

A large grid for notes, divided into two columns by a vertical dotted line. The left column is under the heading 'HUMANS' and the right column is under 'PLANTS'. A horizontal dotted line is positioned above the grid, and a vertical dotted line runs down the center. The grid area is currently blank.



Name: _____

ACTIVITY 3: SOY AROUND THE WORLD

Activity Sheet: Handout 1



1,000 bags of soybeans



1,000 bags of soybeans



1,000 bags of soybeans



Clothes/shoes for 1,000 people



500 Chickens



500 Chickens



500 Chickens



500 Chickens



500 Chickens



1,000 bags of soybeans



Clothes/shoes for 1,000 people



Clothes/shoes for 1,000 people



Clothes/shoes for 1,000 people



100 Playgrounds



100 Playgrounds



100 Playgrounds



Name: _____

ACTIVITY 3: SOY AROUND THE WORLD

Activity Sheet 2A. North America and South America





Name: _____

ACTIVITY 3: SOY AROUND THE WORLD

Activity Sheet 2B. Africa, Europe, Asia, Australia





ACTIVITY 6: FROM HERE TO THERE - SOYBEANS

Activity Sheet Part A

Help Alexander put his family's soybean farm back in order! Cut the sentence strips and glue them into the correct order on page 16.

We sell the soybeans to a processor.

We use a combine to take the dried soybeans off the plant.

The beans stay in the grain bins to dry.

Then, the soybeans grow.

We check the soybeans for pests and to make sure they are healthy!

The beans are put in wagons and taken to grain bins.

First, we plant the soybeans.

The processor makes the beans into the final product.

Name: _____

ACTIVITY 6: FROM HERE TO THERE - SOYBEANS

Activity Sheet Part B

1

2

3

4

5

6

7

8