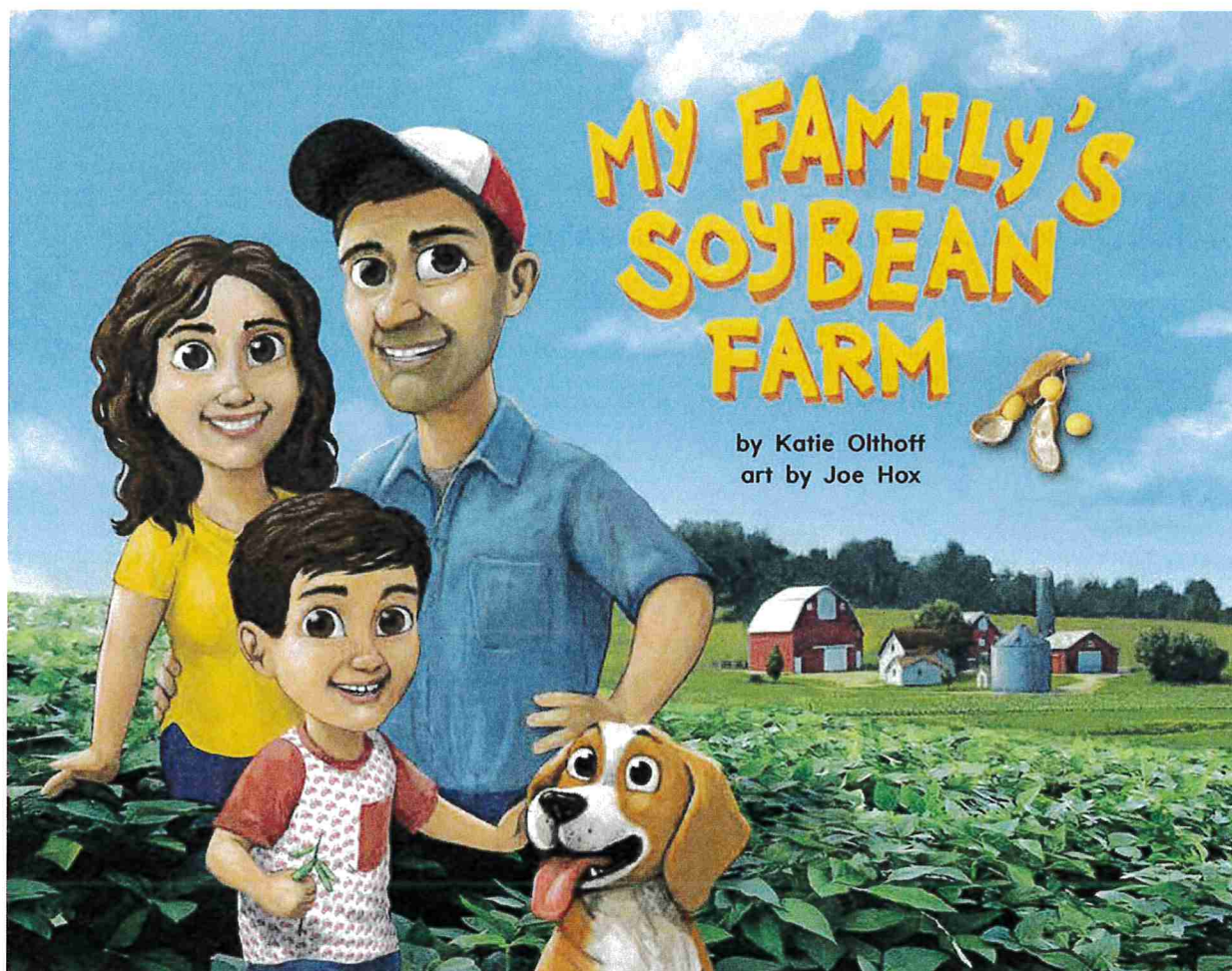


IFB Indiana Farm Bureau®
2022 Book of the Year



Educator Guide

Indiana Agriculture in the Classroom
An educational outreach program of Indiana Farm Bureau, Inc.

<https://www.infarmbureau.org/INFBAgEd>



What is Agriculture in the Classroom?

Agriculture in the Classroom is a grassroots program coordinated by the United States Department of Agriculture (USDA). The USDA established Agriculture in the Classroom in 1981. Its goal is to help students gain a greater awareness of the role of agriculture in the economy and society, so that they may become citizens who support wise agricultural policies. The program is carried out in each state, according to state needs and interests, by individuals representing farm organizations, agribusiness, education and government.

In Indiana, the Ag in the Classroom program is coordinated by the Indiana Farm Bureau. Members of the organization who are interested in teaching our youth about agriculture serve as volunteers and are provided program materials and lessons to use within their counties. The Indiana Ag in the Classroom program offers lessons and materials to schools, community groups, and other non-profit organizations.

Each year, registered volunteers all across Indiana visit classrooms to teach more than 50,000 students about agriculture through in-class lessons, hands-on activities, educational events, on-farm experiences and field trips.

The Indiana Ag in the Classroom program offers standards-based lessons and materials; to schools, community groups, and other non-profit organizations that wish to integrate agriculture into their curriculum.

National Agriculture in the Classroom Mission:

To increase agricultural literacy through K-12 education.

National Agriculture in the Classroom Vision:

Agriculture is valued by all.

Book of the Year Ag Literacy Program

Program Purpose:

- To increase understanding, build awareness and develop a positive public perception of Indiana agriculture through education.

Student Goals:

- Understand how food, fiber and renewable resource products are produced
- Realize that science plays an important role in our food supply and that the scientific advancements in food production are safe, proven and necessary
- Acknowledge and consider career opportunities in the agriculture, food, fiber and renewable resource industries

What is Agricultural Literacy?

- *A person who understands and can communicate the source and value of agriculture as it affects our quality of life. (National Agricultural Literacy Logic Model, 2013)*

The Importance of Ag Literacy

- An increased knowledge of agriculture and nutrition allows individuals to make informed personal choices about diet and health.
- Informed citizens will be able to participate in establishing the policies that will support a competitive agricultural industry in this country and abroad.
- Agriculture is too important of a topic to be taught only to the small percentage of students considering careers in agriculture and pursuing vocational agricultural studies.
- Agricultural literacy includes an understanding of historical and current economic, social and environmental issues that affect all Americans. This understanding includes being knowledgeable about food and fiber production, processing and domestic and international marketing. Employment opportunities abound in agriculture.
- Career choices include:

- | | |
|--------------------------|-----------------------------|
| ○ Agricultural Economist | ○ Horticulturist |
| ○ Agronomist | ○ Hydrologist |
| ○ Animal Nutritionist | ○ Molecular Biologist |
| ○ Aquaculturist | ○ Nanotechnologist |
| ○ Biochemist | ○ Nematologist |
| ○ Biological Engineer | ○ Plant Pathologist |
| ○ Biometrician | ○ Remote Sensing Specialist |
| ○ Climatologist | ○ Soil Scientist |
| ○ Ecologist | ○ Toxicologist |
| ○ Entomologist | ○ Turf Scientist |
| ○ Florist | ○ Veterinarian |
| ○ Food Process Engineer | ○ Viticulturist |
| ○ Food Scientist | ○ Wildlife Biologist |
| ○ Forest Engineer | |

My Family's Soybean Farm

Meet the Author- Katie Olthoff

Katie Olthoff lives on an Iowa farm and has written several agricultural themed children's books. To learn more about Katie visit her website: <http://www.katieolthoff.com>

Meet the Illustrator: Joe Hox

Joe Hox grew up on a family farm in Iowa. To learn more about Joe and to view his work, visit his website: <https://www.joehox.com>

Book Overview: Alexander welcomes readers to his farm. On his farm, Alexander and his family raise pigs, corn and soybeans. The book highlights how soybeans are planted and harvested. Alexander shares problems and solutions during a crop season. He shows every day uses of soybeans.

Publishing Date: January 5, 2021

Published by Feed Minds Press, American Farm Bureau Foundation

Publisher: Feeding Minds Press

American Farm Bureau Foundation for Agriculture started a project to publish accurate agriculture books to engage readers about where their food comes from and the producers who grow it. Feeding Minds Press strives to cultivate growth and positive understanding of agriculture. Books are an essential tool for children to help understand concepts of everyday life. Accurate ag books inspire young minds to learn where their food comes from and encourages to make healthy food choices.

My Family's Soybean Farm

Discussion Questions

Prior to reading

Connect: What is one fact you already know about soybeans?

Compare/Contrast: Have you ever read, watched, or heard anything about soybeans?

Predict: What do you think the book will be about based on the title? What do you think the book will be about based on the pictures?

Evaluate: Why do you think soybeans are important to learn about?

During the reading

Summarize: What is the most interesting detail in the book? Why do you think it is interesting?

Connect: What is a fact that you have read within the book that you already knew about?

Compare/Contrast: Does the book remind you of any other books you have read? How is this book similar? How is this book different?

Visualize: Pick a picture from the book, why do you think the author chose to include it within the book?

Infer: What do you think the author believes but does not actually state within the book? What makes you think that she believes that?

Identify: Identify a word you are unfamiliar with. Use context clues to write a definition.

Evaluate: Can you find any opinions within the book, or is it just facts? Do you agree with this opinion? Why?

After the reading

Purpose: What was the author's purpose in writing this book? Do you think the author was persuading, informing, or entertaining?

Summarize: What is the main point of this book? (use one sentence)

Connect: How do chores relate to your everyday life?

Compare/Contrast: What is another topic you have read that has something in common with *My Family's Soybean Farm*?

Predict: Form a question about soybeans; What would happen if...?

Infer: Why do you think it was important to read about soybeans?

Identify: Is there a problem identified by the author? What are some solutions to this problem?

Evaluate: What could be a new title for this book? Why do you think this new title would work for this book? If you could ask the author one question, what would it be?

My Family's Soybean Farm

Related Activities

Activity: Beano Bingo

Grade Level: Kindergarten-2nd grade

Goal: To focus on key vocabulary terms and main theme from the book, *My Family's Soybean Farm*

Indiana Academic Standards:

Kindergarten	1 st Grade	2 nd Grade
English/Language Arts		
<p>Reading: Literature K.RL.2.1 With support, ask and answer questions about main topics and key details in a text heard or read.</p> <p>Vocabulary K.RV.2.4 Recognize frequently occurring inflections (dairy, dairy farmer)</p> <p>Speaking and Listening K.SL.2.4 Ask questions to seek help, get information, or clarify something that is not understood. K.SL.4.3 Give, restate, and follow simple two-step directions.</p>	<p>Reading: Literature 1.RL.2.1 Ask and answer questions about main idea and key details in a text</p> <p>Vocabulary 1.RV.2.1 Demonstrate understanding that context clues and text features may be used to help understand unknown words 1.RV.2.4 Recognize and use frequently occurring affixes, and roots and their inflections, as clues to the meaning of an unknown word.</p> <p>Speaking and Listening 1.SL.2.4 Ask questions to clarify information about topics and texts under discussion 1.SL.4.3 Give and follow three- and four-step directions</p>	<p>Reading: Literature 2.RL.2.1 Ask and answer questions (who was the story about; why did an event happen; where did the story happen) to demonstrate understanding of main idea and key details in a text.</p> <p>Vocabulary 2.RV.2.1 Use context clues and text features to determine the meanings of unknown words 2.RV.2.4 Use a known root word as a clue to the meaning of an unknown word with the same root and identify when a common affix is added to a known word. 2.RV.2.5 Consult reference materials, both print and digital, to determine or clarify the meanings of words and phrases</p> <p>Speaking and Listening 2.SL.2.4 Ask for clarification and further explanation as needed about the topics and texts under discussion 2.SL.4.3 Give and follow multi-step directions.</p>
Social Studies		
<p>Standard 4 — Economics K.4.2 Identify and describe different kinds of jobs that people do and the tools or equipment used in these jobs. K.4.4 Give examples of work activities that people do at home</p>	<p>Standard 4 — Economics 1.4.1 Identify goods that people use. 1.4.2 Identify services that people do for each other. 1.4.3 Compare and contrast different jobs people do to earn income.</p>	<p>Standard 4 – Economics 2.4.1 Define the three types of productive resources. 2.4.2 Identify productive resources used to produce goods and services in the community 2.4.3 Identify community workers who provide goods and services for the rest of the community and explain how their jobs benefit people in the community.</p>

Materials:

- The book: *My Family's Soybean Farm*
- Beano BINGO cards (Print enough for students in class) (found in resource section)
- Beano BINGO game pieces (to cover answers) (found in resource section)
- Beano BINGO call pieces – teacher to randomly call possible answers (found in resource section)

Directions: This is a fun class activity to review key vocabulary and sight words from the book.

1. Print, cut out, and laminate the Beano BINGO materials. There are bingo cards, game pieces and call-out pieces.
2. Make enough copies of the Beano BINGO game cards for your students.
3. Make several game pieces for students to use to cover their answers.
4. Key questions prior to the game:
 - a. What is the main idea of the book?
 - b. What tools do the characters use?
5. Review with students key vocabulary:
 - a. What context clues do you use to help define new words from the book?
 - b. What are frequently used words?
6. Directions for Beano BINGO
 - a. Teacher will call out a vocabulary word
 - b. Display word on board for students to see and hear proper word (for younger grades)
 - c. Students will cover listened word using a game piece
 - d. Once a student has five in row, call out BEANO
7. Speaking and listening are important skills to recognize with a Beano BINGO approach:
 - a. Give, restate, and follow simple directions
 - b. Have students repeat your directions

My Family's Soybean Farm

Related Activities

Activity: Soybean Growth Experiment and Observation

Grade Level: Kindergarten-2nd grade

Goal: To discover the impact of light, temperature, moisture and drainage of plants

Indiana Learning Standards:

Kindergarten	1 st Grade	2 nd Grade
English/Language Arts		
<p>Reading: Literature K.RL.2.1 With support, ask and answer questions about main topics and key details in a text heard or read. K.RL.2.3 Identify important elements of the text K.RL.4.1 With support, describe the relationship between illustrations and the story in which they appear.</p> <p>Speaking and Listening K.SL.2.4 Ask questions to seek help, get information, or clarify something that is not understood. K.SL.4.3 Give, restate, and follow simple two-step directions.</p>	<p>Reading: Literature 1.RL.2.1 Ask and answer questions about main idea and key details in a text 1.RL.2.3 Using key details, identify and describe the elements of plot, character, and setting. 1.RL.4.1 Use illustrations and details in a story to describe its characters, setting, or events.</p> <p>Speaking and Listening 1.SL.2.4 Ask questions to clarify information about topics and texts under discussion 1.SL.4.3 Give and follow three- and four-step directions</p>	<p>Reading: Literature 2.RL.2.1 Ask and answer questions (who was the story about; why did an event happen; where did the story happen) to demonstrate understanding of main idea and key details in a text. 2.RL.2.2 Recount the beginning, middle, and ending of stories, including fables and folktales from diverse cultures, and determine their central message, lesson or moral 2.RL3.1 Describe the overall structure of a story, including describing how the beginning introduces the story and the ending concludes the action. 2.RL.4.1 Use information gained from the illustrations and words in a print or digital text to demonstrate understanding of it characters, setting, or plot</p> <p>Speaking and Listening 2.SL.2.4 Ask for clarification and further explanation as needed about the topics and texts under discussion 2.SL.4.3 Give and follow multi-step directions.</p>

Materials:

- The book: *My Family's Soybean Farm*
- Soybean Growth Experiment and Observation Directions and Worksheet

My Family's Soybean Farm

Related Activities

Activity: Soybean Beanie Baby

Grade Level: Kindergarten-2nd grade

Goal: Investigation of how soybeans germinate

Indiana Academic Standards:

Kindergarten	1 st Grade	2 nd Grade
English/Language Arts		
<p>Reading: Literature K.RL.2.1 With support, ask and answer questions about main topics and key details in a text heard or read.</p> <p>Vocabulary K.RV.2.4 Recognize frequently occurring inflections (dairy, dairy farmer)</p> <p>Speaking and Listening K.SL.2.4 Ask questions to seek help, get information, or clarify something that is not understood. K.SL.4.3 Give, restate, and follow simple two-step directions.</p>	<p>Reading: Literature 1.RL.2.1 Ask and answer questions about main idea and key details in a text</p> <p>Vocabulary 1.RV.2.1 Demonstrate understanding that context clues and text features may be used to help understand unknown words 1.RV.2.4 Recognize and use frequently occurring affixes, and roots and their inflections, as clues to the meaning of an unknown word.</p> <p>Speaking and Listening 1.SL.2.4 Ask questions to clarify information about topics and texts under discussion 1.SL.4.3 Give and follow three- and four-step directions</p>	<p>Reading: Literature 2.RL.2.1 Ask and answer questions (who was the story about; why did an event happen; where did the story happen) to demonstrate understanding of main idea and key details in a text.</p> <p>Vocabulary 2.RV.2.1 Use context clues and text features to determine the meanings of unknown words 2.RV.2.4 Use a known root word as a clue to the meaning of an unknown word with the same root and identify when a common affix is added to a known word. 2.RV.2.5 Consult reference materials, both print and digital, to determine or clarify the meanings of words and phrases</p> <p>Speaking and Listening 2.SL.2.4 Ask for clarification and further explanation as needed about the topics and texts under discussion 2.SL.4.3 Give and follow multi-step directions.</p>

Materials:

- Soybean Beanie Baby Worksheet

My Family's Soybean Farm

Related Activities

Activity: Soybean Plastic Lab Activity

Grade Level: Kindergarten-2nd grade

Goal: To observe the changes from liquid to a solid

Indiana Academic Standards:

Kindergarten	1 st Grade	2 nd Grade
English/Language Arts		
<p>Reading: Literature K.RL.2.1 With support, ask and answer questions about main topics and key details in a text heard or read.</p> <p>Vocabulary K.RV.2.4 Recognize frequently occurring inflections (dairy, dairy farmer)</p> <p>Speaking and Listening K.SL.2.4 Ask questions to seek help, get information, or clarify something that is not understood. K.SL.4.3 Give, restate, and follow simple two-step directions.</p>	<p>Reading: Literature 1.RL.2.1 Ask and answer questions about main idea and key details in a text</p> <p>Vocabulary 1.RV.2.1 Demonstrate understanding that context clues and text features may be used to help understand unknown words 1.RV.2.4 Recognize and use frequently occurring affixes, and roots and their inflections, as clues to the meaning of an unknown word.</p> <p>Speaking and Listening 1.SL.2.4 Ask questions to clarify information about topics and texts under discussion 1.SL.4.3 Give and follow three- and four-step directions</p>	<p>Reading: Literature 2.RL.2.1 Ask and answer questions (who was the story about; why did an event happen; where did the story happen) to demonstrate understanding of main idea and key details in a text.</p> <p>Vocabulary 2.RV.2.1 Use context clues and text features to determine the meanings of unknown words 2.RV.2.4 Use a known root word as a clue to the meaning of an unknown word with the same root and identify when a common affix is added to a known word. 2.RV.2.5 Consult reference materials, both print and digital, to determine or clarify the meanings of words and phrases</p> <p>Speaking and Listening 2.SL.2.4 Ask for clarification and further explanation as needed about the topics and texts under discussion 2.SL.4.3 Give and follow multi-step directions.</p>

Materials:

- Soybean Plastic Worksheet and Directions

My Family's Soybean Farm

Related Activities

Activity: Soybean Coloring Crayons

Grade Level: Kindergarten-2nd grade

Goal: To observe how to make products from soybeans

Indiana Academic Standards:

Kindergarten	1 st Grade	2 nd Grade
English/Language Arts		
<p>Reading: Literature K.RL.2.1 With support, ask and answer questions about main topics and key details in a text heard or read.</p> <p>Vocabulary K.RV.2.4 Recognize frequently occurring inflections (dairy, dairy farmer)</p> <p>Speaking and Listening K.SL.2.4 Ask questions to seek help, get information, or clarify something that is not understood. K.SL.4.3 Give, restate, and follow simple two-step directions.</p>	<p>Reading: Literature 1.RL.2.1 Ask and answer questions about main idea and key details in a text</p> <p>Vocabulary 1.RV.2.1 Demonstrate understanding that context clues and text features may be used to help understand unknown words 1.RV.2.4 Recognize and use frequently occurring affixes, and roots and their inflections, as clues to the meaning of an unknown word.</p> <p>Speaking and Listening 1.SL.2.4 Ask questions to clarify information about topics and texts under discussion 1.SL.4.3 Give and follow three- and four-step directions</p>	<p>Reading: Literature 2.RL.2.1 Ask and answer questions (who was the story about; why did an event happen; where did the story happen) to demonstrate understanding of main idea and key details in a text.</p> <p>Vocabulary 2.RV.2.1 Use context clues and text features to determine the meanings of unknown words 2.RV.2.4 Use a known root word as a clue to the meaning of an unknown word with the same root and identify when a common affix is added to a known word. 2.RV.2.5 Consult reference materials, both print and digital, to determine or clarify the meanings of words and phrases</p> <p>Speaking and Listening 2.SL.2.4 Ask for clarification and further explanation as needed about the topics and texts under discussion 2.SL.4.3 Give and follow multi-step directions.</p>

Materials:

- Soybean Coloring Crayons Directions

My Family's Soybean Farm

Related Activities

Related Lessons and Activities

Search the National Agriculture in the Classroom Curriculum Matrix for these great resources! www.agclassroom.org/teacher/matrix/ or click on the title of each if viewing online.

MY FAMILY'S SOYBEAN FARM

B E A N O



PAINT



TIRES



INK



SOY OIL



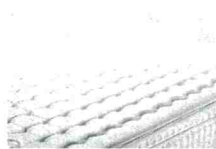
ASPHALT



SHOES



SOY SAUCE



MATTRESS



MARGARINE



CANDLES



POP TARTS



CRAYONS



SPACE



GLUE



FUEL



CHAIRS



CRACKERS



FISH FOOD



SOUP



PANCAKES



CEREAL



BREAD



SHAMPOO



GRAVY



CHOCOLATE

MY FAMILY'S SOYBEAN FARM

B E A N O



DOG FOOD



EDAMAME



CAT FOOD



COOKIES



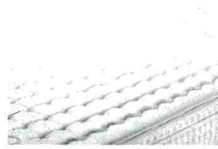
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SALAD DRESSING



CLEANERS



MATTRESS



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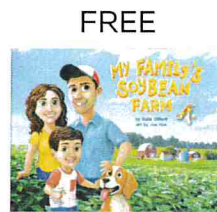
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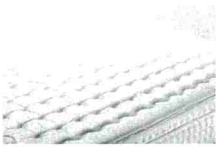
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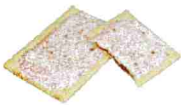
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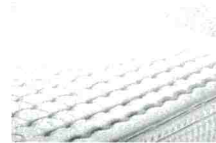
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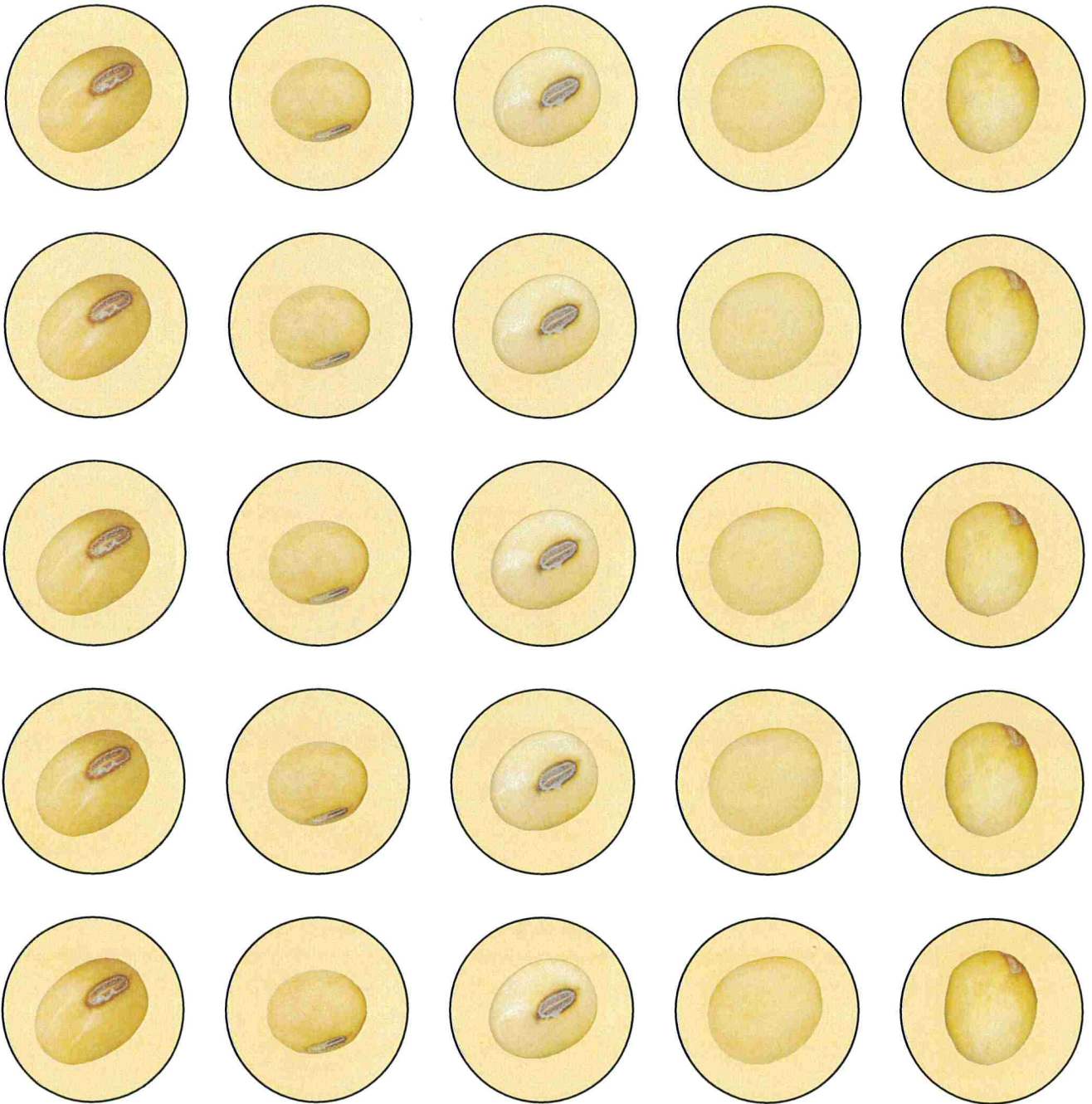


FISH FOOD

MY FAMILY'S SOYBEAN FARM

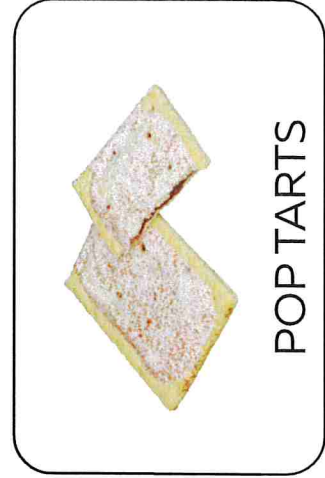
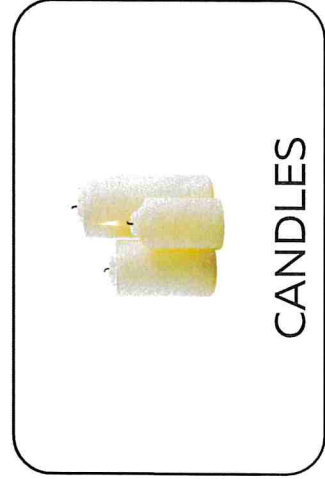
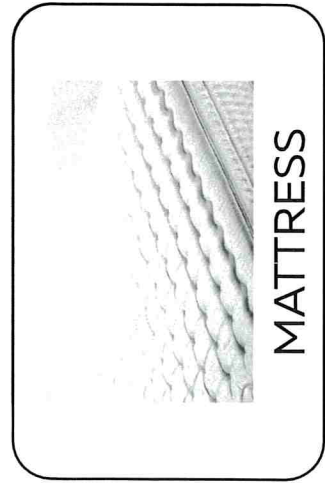
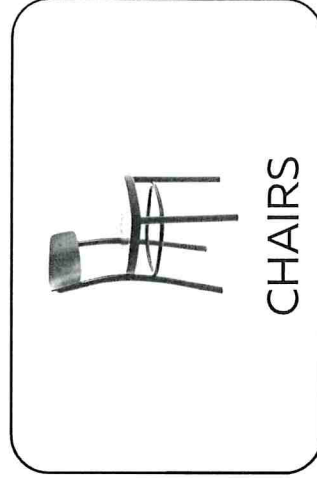
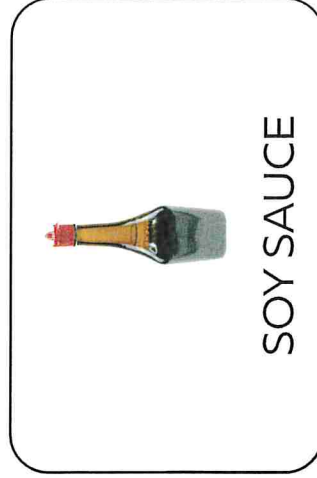
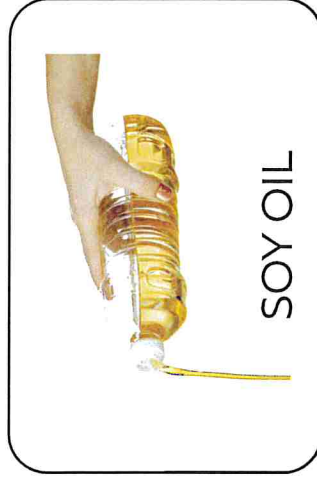
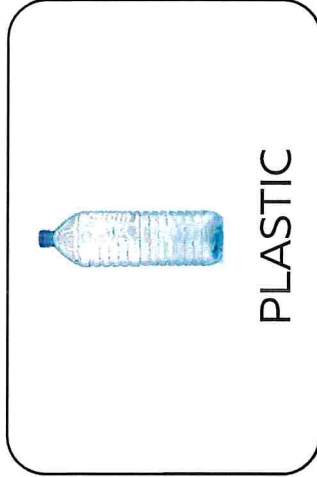
BEANO

GAME PIECES



INSTRUCTOR CALL OUT CARDS

B E A N O





CRAYONS



INK



GLUE



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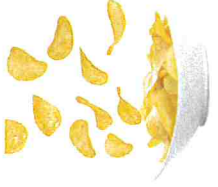
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FISH FOOD



PLYWOOD



Indiana Farm Bureau
Agriculture in the Classroom

MY FAMILY'S SOYBEAN FARM

SOYBEAN BEANIE BABY ACTIVITY

Materials:

- Small re-sealable plastic bags
- Potting soil
- Hold punch
- Water
- Measuring spoons
- Soybeans
- Yarn

Procedures:

1. Punch a hold in the top of a small plastic bag, above the seal.
2. Place $\frac{1}{4}$ teaspoon of the crystal soil into the bag.
3. Add one tablespoon of water
4. Gently place two soybeans in the bag.
5. Seal the bag firmly.
6. Insert the yarn to make a necklace.
7. Encourage the students to wear the Soybean Beanie Baby around their necks and under their shirts to keep in a warm, dark place.
8. Check your Soybean Beanie Baby each day for germination and record the growth.
9. In you desire, transplant the sprout to a soil-filled cup and continue to watch the growth.



MY FAMILY'S SOYBEAN FARM

SOYBEAN GROWTH EXPERIMENT AND OBSERVATION

Teacher Activity Worksheet

Background information:

1. Soybeans will germinate in 7-10 days when the soil is above 50 degrees at 2 inches deep; ideal temperature for germination is 77 degrees. At low temperatures, it can take 3 or more weeks for germination to occur.
2. Soybeans also need sunlight, but sunlight is not required for germination. Once the plant has emerged from the soil, sunlight is needed to carry out photosynthesis.
3. All living things need water. Soybeans need water and will absorb water through their roots. If the plant is not watered, it will not be able to grow and will die.

Experiment:

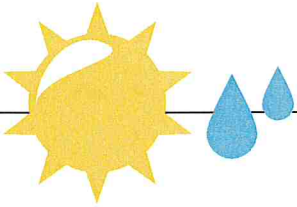
1. Set up the "ideal" environment in the classroom with all requirements for successful soybean germination and growth.
2. Encourage the students to think where the "test" soybeans should be placed. Examples are:
 - a. In a cold, dark closet, or basement.
 - b. On a north/south/east/or west window sill.
 - c. With a grow light nearby, the soybeans will receive light all day long.
 - d. With a limited amount of water given to certain plants.
 - e. By using different soils to plant soybeans (peat, potting soil, no soil, just water or a moist cotton ball).
 - f. Others:
 - Have students help think about other environments to test soybean growth.
3. For each test soybean, use a clear cup to plant soybeans. A clear cup will help students view germination and growth during the experiment.
4. Use the student page as a guide as observations are made throughout the experiment.
5. Use this as a supplemental classroom activity; discovering what plants need!



MY FAMILY'S SOYBEAN FARM

SOYBEAN GROWTH EXPERIMENT AND OBSERVATION

Name: _____



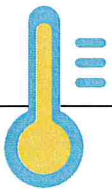
Soybeans need sunlight and water. What else do soybeans need?

If soybeans don't receive sunlight, what will the plant look like?

BEFORE



AFTER



How can temperature affect plants?

SOYBEAN PLASTIC LAB ACTIVITY

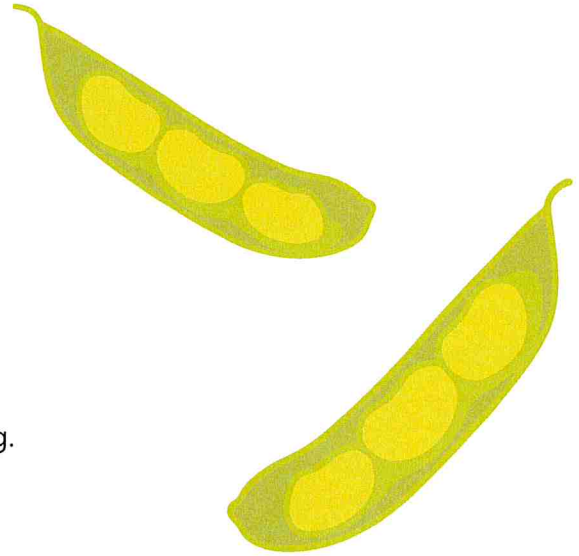
Name: _____

Materials:

- Measuring spoon
- 1 tablespoon cornstarch
- 2 drops (about 1/8 teaspoon) of soybean oil
- 1 tablespoon water
- 2 drops food coloring
- Resealable sandwich-sized bag
- Microwave
- Kitchen scale (optional)

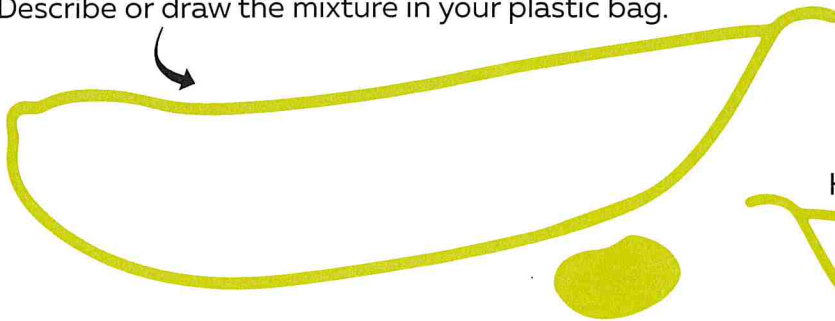
Procedures (Part 1):

1. Place 1 tablespoon of cornstarch into the plastic bag.
2. Add 2 drops of soybean oil.
3. Add 1 tablespoon of water
4. Close the bag and knead it with fingers, mixing the contents.
5. Add two drops of food coloring.
6. Seal the bag and mix remaining contents.
7. Open the bag slightly so it can vent.

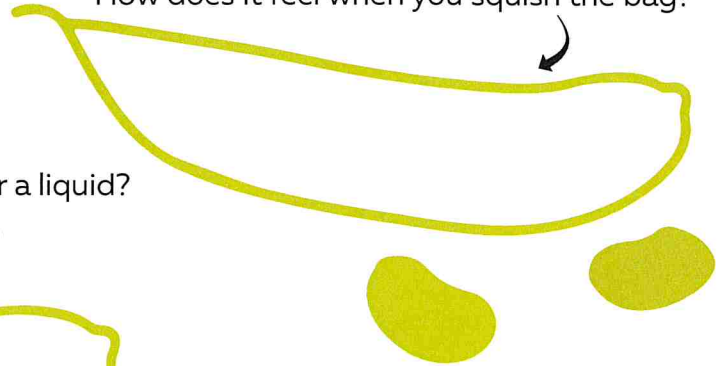


Observation questions:

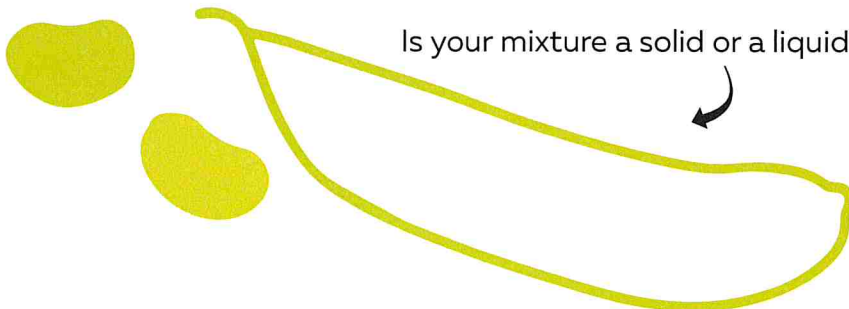
Describe or draw the mixture in your plastic bag.



How does it feel when you squish the bag?



Is your mixture a solid or a liquid?



SOYBEAN PLASTIC LAB ACTIVITY

Optional steps:

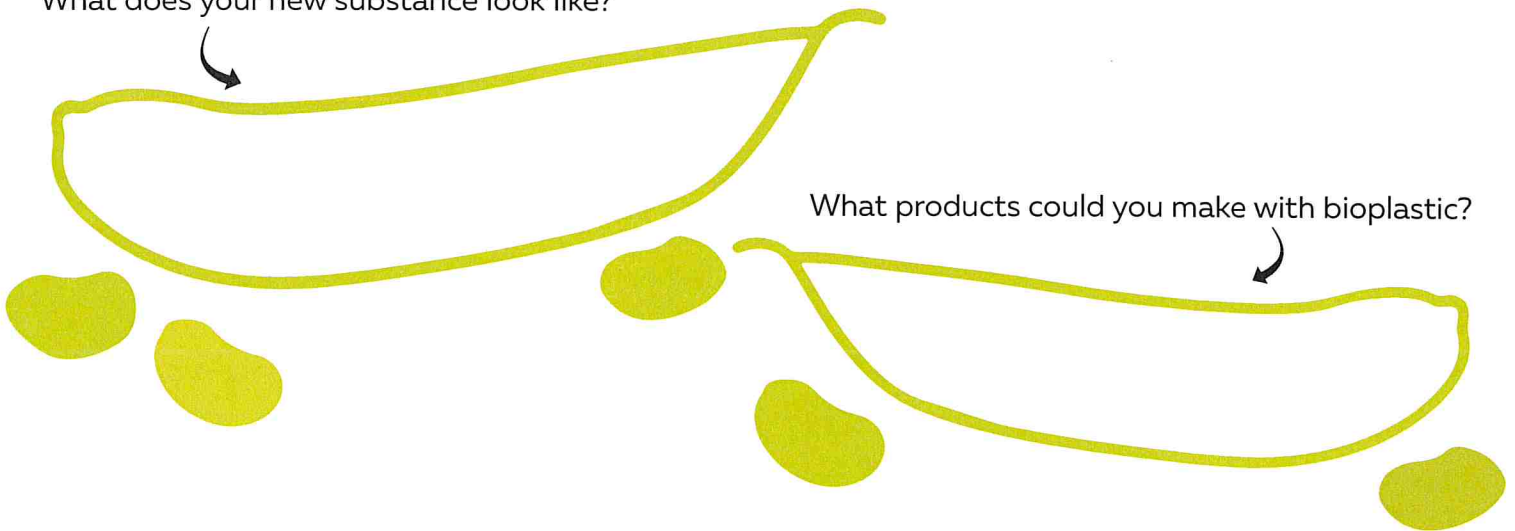
1. Weigh the contents of the bag on a kitchen scale, prior to heating in the microwave.

Procedures (Part 2):

1. Heat the bag in the microwave for 20-25 seconds. Do not seal the bag all the way. Leave the bag unsealed so the contents can vent, and steam can escape.
2. Remove the bag from the microwave and let the plastic cool. Be careful, the bag and contents will be hot.

Observation questions:

What does your new substance look like?



Optional steps:

1. How many grams does your bioplastic weigh? _____
2. Is it the same weight as before? _____
3. Why or why not? _____



SOYBEAN SONG BY COWBOY DAN AND ERIC MAUPIN

Do you like to eat cookies, cakes and pies?

Do you like soy sauce, Chinese stir fry?

Soybean flour, soybean oil

No, you just can't go wrong.

When you sing, my soybean song.

Na, na, na, na, na,

Na, na, na, na, na,

Na, na, na, na, na,

Na, na, na, na, na

Soybean, soybean, singing,

Sing, my soybean song.