

Jobs Farmers Do

A Lesson on the responsibilities of growing a plant



A lesson based on the book, Jobs Farmers Do, by Dan Yunk.

This book was financed by the Kansas Farm Bureau Foundation for Agriculture on behalf of Kansas Farm Bureau, The Voice of Agriculture. It was written to educate young people, parents and teachers about where our food comes from.

America's food supply is safe, affordable and abundant but also vastly misunderstood by the consuming public. It is the intention of Kansas Farm Bureau to improve the public's knowledge about the importance farming and ranching plays in our quality of life.

BACKGROUND INFORMATION:

After reading Jobs Farmers Do, you learned that a farmer is very busy every single day, performing a lot of different jobs. We all might think that a farmer just takes care of animals, but they do far more than that. Today we are going to learn about how farmers grow food for us to eat.

Today's activity will help us to appreciate all the hard work that goes into producing food for us to eat. In Kansas farmers produce wheat, corn, soybeans, sorghum grain and much more. Kansas ranks number one among states for their wheat production. This means Kansas farmers are very busy every single day growing crops. Do you know how to grow a crop or a plant? Well today you are going to find out.

ACTIVITY 1:

Discuss with students the different responsibilities of a farmer that were discussed in the book. A farmer has to take care of the land, animals, plants, and equipment. A farmer uses technology and GPS to help them farm and sell their crops and animals. Farmers have many jobs besides just producing crops and caring for animals, they also have to be businesspeople and weather people. Explain to the students that they are going to perform several jobs of a farmer to grow beans. Ask them if they know what makes a plant grow.

Use worksheet 1 to explain the requirements for growing a plant. They are water, soil (food), time, light, air, temperature and room to grow. Have the students fill out the worksheet as the teacher discusses each requirement.

LEVEL:

Kindergarten– 2nd Grade

SUBJECTS/STANDARDS:

Subject: Science

Standard 3: The student will begin to develop an understanding of biological concepts.

Benchmark 1: The student will develop an understanding of the characteristics of living things.

Indicator 1: The student discusses that organisms live only in environments in which their needs can be met.

Indicator 2: The student observes life cycles of different living things.

ACTIVITY DESCRIPTION:

Students will learn about the importance of farming and the many responsibilities that a farmer has. Students will plant seeds and monitor their growth.

Room to grow - A plant needs the right size container to grow. They also need their own space and do not like a lot of other plants taking up their space.

Temperature - Plants grow best between the temperatures of 55 degrees F to 75 degrees F. They do not like it too cold or too hot.

Light - Plants need light to grow they especially like sunlight. They should have 7-12 hours of light each and everyday.

Water - Plants need water to grow, without water the plant will wilt and die. The roots take up the water so it is important that you do not give them too much water.

Air- Plants need air to breath but they do not breathe like people, they breathe through their leaves and roots.

Soil (food)- Plants need to be planted in soil so they can get the right amount of nutrients or food to help them grow strong.

Time - Time is needed for a plant to grow, you must be patient. Your plant also needs your time everyday so you can care for it.

After explaining the requirements for a plant to grow, discuss the different jobs that each requirement uses. They are listed under each picture. Inform the students that they are going to be farmers today and perform many different jobs when they are planting their seeds and helping them grow. Ask them if they know what any of these jobs are.

Mechanic:

The students will have to perform a job of a mechanic. They will have to get a container so the plant will have **room to grow**. Also as a mechanic they will have to take **time** to check the plant everyday and make sure everything is working correctly. They will have to check the lights and containers. Students will also have to **clean up** the messes they make like a mechanic.

Soil Scientist:

The student will have to be a soil scientist and gather the **potting/soil** mix and place the appropriate amount of potting mix in their containers or cups. They should fill their containers 3/4 of the way up with the soil mix.

Plant Scientist:

Students will each get two bean seeds and as a plant scientist they will **plant their bean seeds**. They should plant their beans seeds about an inch deep in their potting mix and then cover them with potting mix.

Businessperson:

They are going to be a business person and keep a **journal** over their bean plant's life. Each day they have to record in their journal. They will record any observations they see, the plant height, and a drawing of their bean plant.

STUDENT LEARNING

OUTCOMES:

Student will be able to explain the different jobs of a farmer. Students will be able to discuss what is needed for crops to grow.

ESTIMATED

TEACHING TIME:

60 MINUTES

NEW VOCABULARY:

Soil
Farmer
Seed
Weatherperson
Businessperson
Mechanic
Scientist
Temperature

MATERIALS NEEDED:

Jobs Farmers Do

Potting Soil
2 beans seeds per student
Styrofoam cups
Water
Worksheet 1
Handout 1
Additional website: <http://urbanext.illinois.edu/gpe/>

PREPARE AHEAD:

Gather materials and have materials set-up and organized.
Soak seeds in water 24 hours prior to planting.
Moisten potting mix with water.

Weatherperson:

They will have to be a weatherperson and **water** the plants almost everyday. They will have to check the soil everyday and make sure it is not too dry or too wet. They will do this by placing their finger in the soil and feeling the soil or by lifting up the cup and feeling the weight of the cups. If it is heavy, it does not need water and if it is light it does need water.

They will also have to be a weatherperson and make sure the plants/seeds are getting the correct amount of **light** everyday. Beans like sunlight so they need at least 7-12 hours of light a day to grow and germinate. If it is cloudy outside they can put lights above the plants.

Air is also a requirement for a plant to grow, as a weatherperson they really do not need to do anything because there should be the correct amount of air in the room to grow the plant.

Everyday they will have to check the **temperature** of the room as a weatherperson and make sure it is not too hot or too cold because if it is the plant will not grow. The temperature should be between 55-75 degrees F.

ACTIVITY 2:

Explain to the students, since they have learned all about the different jobs of a farmer and the requirements of a plant, it is time they actually plant and grow beans like a farmer.

STEPS IN PLANTING BEAN SEEDS:

(EXPLAIN AND SHOW EACH STEP TO THE STUDENT BEFORE ALLOWING THEM TO PERFORM THE STEP, IT WILL BE A LOT LESS CHAOTIC. ENGAGE THEIR MIND BEFORE THEIR BODY.)

1. Be the mechanic and gather a container/cup.
2. Be a soil scientist and place potting mix in cup. Fill 3/4 full.
3. Be a plant scientist and place bean seeds 1 inch deep in the potting mix and cover with potting mix. **(NOTE: Teachers make sure bean seeds are soaked in water 24 hours prior to planting bean seeds. This is needed for germination of the bean plant.)**
4. Be a weatherperson and water the seeds and moisten the potting mix. (NOTE: Will help students to water the seeds if prior to class teacher moistens the potting mix with water.)
5. Place the container in an area where it will receive the right amount of light and the correct temperature.
6. Be a business person and record what you see.

After they plant their bean seeds tell the students excellent job they were a farmer for just one day but they will have to continue to be farmer by checking seeds everyday and recording information in their journal's (handout 1). *Teacher note: Use the journal to help the students see the growth of their seeds. The journal can be used to expand their writing skills.*

ADDITIONAL TEACHER ACTIVITY:

This is an additional activity to aid in students understanding on how a seed germinates.

Materials: 2 Bean seeds, clear plastic cup, water and two moist paper towels

Instructions: Soak beans in water for 24 hours. Dampen paper towels (do not soak them) and fold paper towel in half or thirds and place on the inside lining of the cup. Scrunch up and place other paper towel in the middle of cup to keep other paper towel in place. Place bean seeds between the cup and paper towel on the inside of the cup. Place cup in a sunny spot.

<http://www.celebralaciencia.org/BeanSprout.htm>

Visit this site for a picture and additional information.

What Plants Need

Name: _____

Directions: Write the correct word from the word bank on the line under the correct picture.

Word Bank:

water

air

room to grow

soil

time

light

temperature



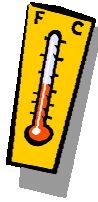
Job: Weatherperson

Job: Mechanic



Job: Weatherperson

Job: Weatherperson



Job: Weatherperson

Job: Mechanic



Additional Jobs:

Plant Scientist: Plant Seeds

Businessperson: Keep Records



Job: Soil Scientist

NAME

Journal over The Life of a Bean



Day 1

Height of bean plant:

How many more days until you can see the bean plant?

What do you see?

Day 2

Height of bean plant:

How many more days until you can see the bean plant?

What do you see?

Day 3

Height of bean plant:

How many more days until you can see the bean plant?

What do you see?

Day 4

Height of bean plant:

How many more days until you can see the bean plant?

What do you see?

Day 5

Height of bean plant:

How many more days until you can see the bean plant?

What do you see?

Day 6

Height of bean plant:

Can you see the bean plant?

What do you see?

Day 7

Height of bean plant:

Can you see the bean plant?

Observations:

Day 8

Height of bean plant:

What do you see?

Day 9

Height of bean plant:

What do you see?

Day 10

Height of bean plant:

What do you see?

Day 11

Height of bean plant:

What do you see?

Day 12

Height of bean plant:

What do you see?
