

GROW YOUR PALS PROGRAM GUIDE



THE NATIONAL FFA MENTORING PROGRAM

Sponsored by



LESSON 52

Growing Potatoes

Unit:
PLANT SCIENCE

PRECEPTS

- G. Physical Growth
- G2. Respect one's body

NATIONAL STANDARDS

NS.K-4.3 Life Science



Lesson Type:
One-on-One

STUDENT LEARNING OBJECTIVES

As a result of this lesson, the student will ...

1. Propagate a potato.
2. Identify what is needed for plant growth.





TIME

Instruction time for this lesson: **15 minutes**.
(Follow-up time 5 days later.)



RESOURCES

None



TOOLS, EQUIPMENT AND SUPPLIES

- ✓ **two brown paper sacks**
- ✓ **1 potato, cut into cubes** (each should have at least 1 eye)
- ✓ **seeds of any type**
- ✓ **potting soil**
- ✓ **6-inch pots** (4 of them)
- ✓ **markers or crayons**
- ✓ **white, unlined paper or card stock**

KEY TEAMS



The following term is presented in this lesson and appears in ***bold italics***:

None

INTEREST APPROACH

Place the potato chunks in one of the bags and fold over the top. Place the seeds in the second bag and fold over the top. Allow the little PALS to listen to, lift, and smell the contents of the bags without looking inside.



There are two different items in these two bags. What do you think is inside bag #1? There are many chunks, or pieces of potatoes in this bag. What do you think is inside bag #2? There are many seeds in this bag. Which one do you think could grow a plant and produce potatoes?

Discuss with your PALS the two items. Discuss that seeds are things we know make plants. We can also get new plants from existing plant parts. The eyes on the potato pieces will sprout new plants.



Look at the sprouts on the potato. What would happen to those sprouts if we planted this potato in the soil?

SUMMARY OF CONTENT AND TEACHING STRATEGIES

OBJECTIVE 1. | Propagate a potato.



Have your PALS plant four pre-cut/pre-callused potato pieces (from the bag) in four separate 6-inch pots. Use a potting soil mix to plant the potatoes.



As they are planting, talk about the properties of a well-planted plant. Avoid packing the soil too tightly, preventing oxygen from getting to the roots, and be sure to water it well to prevent it from drying out. This is much like the requirements we have for maintaining ourselves with a healthy lifestyle.

OBJECTIVE 2. | Identify what is needed for plant growth.



Begin a discussion about things that people need to survive and how this relates to similar items that a potato needs to survive.



What are some things that we, as people, need to survive?

If you placed these potato plants in a dark closet, what do you think would happen to them?

After discussing what you think are the three most important things our potato plants need, share with your PALS the following growth requirements for plants.



Items needed for plant growth include:

- A. Water: Plants outside get their water from the rain.
- B. Sunlight: Plants get this from the sun.
- C. Nutrients: Plants get these from the soil.



Knowing this, we are going to see what happens when some of our potatoes do not get the things they need. Our first plant, we will give everything. It will be watered, given food and placed in the sun. For our second plant we will give it no water. For the third plant, we will give it no sunlight. Finally, for our fourth plant, we will give it no food or nutrients. When we meet next, we will see if all four plants grew.



REVIEW/SUMMARY/EVALUATION

Use the *Picasso Moment* to have your PALS illustrate the three most important things your potato plant needs.



Without using words, how can we draw a picture that represents water, sunlight and nutrients that our potato plant needs? Let's take a few minutes to draw our picture.

Now, we have a visual way to help us remember the three requirements that our potato plant needs.

APPLICATION



Large Group Suggestion: Work with the entire class to plant potatoes and determine the growth requirements. The class could be divided into four groups, with each group having one growth requirement taken away from their plants, or one student within each group could meet the needs of one of the growth requirement examples.



Continued One-on-One Discussion/Activity: Identify other plants that can reproduce asexually; you can take cuttings from a geranium plant.