



K-2 Life Science

Southern Nevada Regional Professional Development Program

Growing a Potato



INTRODUCTION

“How can you get a new plant?” This seems like a simple question but try posing it to first and second graders. You are likely to get responses like, “You can get a new plant from a seed.”, or “You could go to the store and buy one.” Even many adults have a hard time thinking of the variety of ways we can grow new plants. Do you remember growing a potato in a glass jar? Well, what you were doing was growing a new plant from part of an old one. Actually a potato is a modified stem.

WHERE’S THE SCIENCE?

Plants can reproduce **vegetatively**, without sharing genetic material. One way some plants do this is by growing roots on stems. When you grew your new potato plant you were growing a new plant using the stem of an old plant. A potato doesn’t really fit our conventional image of a stem. The potato has **nodes** or “**eyes**”. The **eyes** are actually buds, where new stems or leaves grow from. Therefore the potato is a **modified** stem, also known as a **tuber**, not a root, since roots don’t have buds. So you see it is possible to get a new plant from something other than a seed or a store.

MATERIALS

- Six white potatoes
- Small bag of potting soil
- Small clear plastic cups
- Hand lens
- Science notebook

PROCEDURES

Note: It is important to give students hands-on experience to help build their understanding. With experience, students will have the opportunity to make predictions, record their observations, results and conclusions, and generate additional questions in their science notebooks. Purchase six white potatoes and set them aside in a dark location for a week or two. The older the potatoes, the quicker they'll grow.

1. Pose the following question: "How can you get a new plant?" Record student responses on a sheet of chart paper and post.
2. Share the potatoes with the class. Ask the students if they have ever seen a potato before? If so, where?
3. Pass out the potatoes and provide time for the students to closely observe them.
4. Students will notice "bumps". Tell them those are the "eyes" or "**nodes**", and are really buds where new leaves and stems grow. Explain that you are going to cut the potatoes apart giving each student a piece of the potato containing a node.
5. Next, model for the students how they will plant their potato piece in soil with the eye facing sideways, making sure the potatoes are covered completely with soil. After planting they will add one small vial of water to the container or about 3 oz. of water.
6. Set up a planting center at the back of the classroom and call groups of 3 or 4 students back to plant. While students are

- planting, the other students at their seats should record a sketch of their potato prior to planting.
7. Once everyone is finished planting have the students record a second sketch in their science notebooks of their planted potato.
 8. Over the next three weeks allow children to observe their potato plants and record observations in their science notebooks. Water the potatoes when the soil is dry.
 9. Send the plants home at the end of three weeks and encourage students to continue their observations at home.

Extensions

If you have a place to plant a few of the potato plants at your school site this is a wonderful extension activity. Students can continue to observe the plants growing and eventually they can pull up the potato plant and find potatoes growing once again, completing the lifecycle. L2A1

Read the book *Potatoes* by Joyce Bentley as a wonderful addition to your lesson. Focus on the following sections, “Planting Potatoes” and “Growing Potatoes”.

Additional Resources

<http://www.backyardnature.net/stemtype.htm>

<http://www.thepotatostory.co.uk/default.aspx?section=lifecycles>

The potato story is an interactive website about potatoes.

FOSS *New Plants*

Potatoes by Joyce Bentley, Chrysalis Education, July 30, 2005

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Nevada State Standards

L2A1 Students know animals and plants have offspring that are similar to their parents. E/S

L2C1 Students know plants and animals need certain resources for energy and growth. E/S

L2C3 Students know living things are found almost everywhere in the world. E/S

N2A1 Students know how to make observations and give descriptions using words, numbers and drawings. E/S