GrowingGreat Veggies & Fruits

A National STEM Education Program

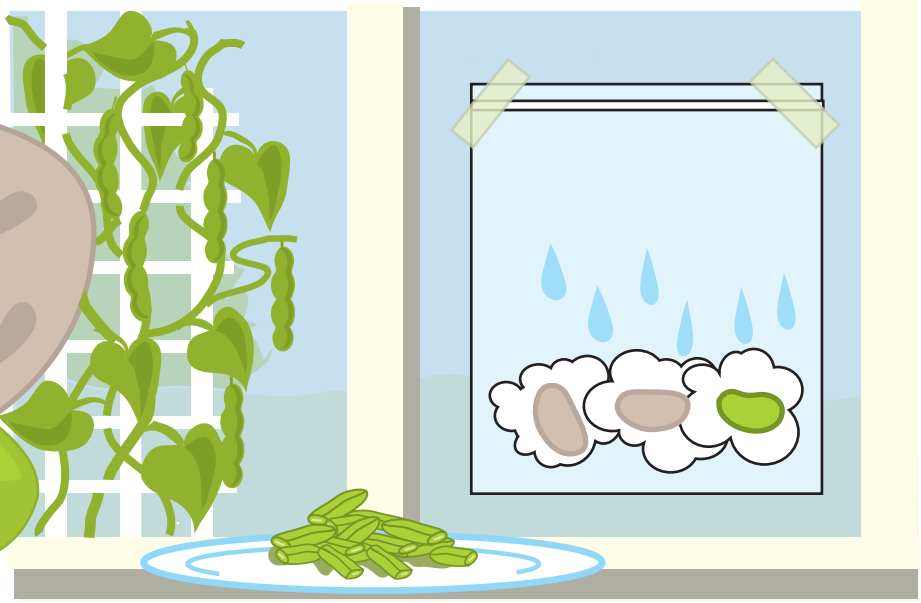
sponsored by Del Monte Quality

GrowingGreat Inspiring Healthy Eating

BEANS IN A BAG

You will Need:
(enough for all of the children)
dried pinto beans
green bean seeds
cotton balls
water
resealable bag
sunny window
tape
paper plate

Snacks for Tasting:
raw green beans, steamed
canned green beans, drained
sugar snap peas



1. Discuss how the seeds are different from green beans you've eaten.
2. Have each child dampen 3 cotton balls with water and put the balls, along with 3 seeds, into a bag, sealing the bag shut.
3. Give each child a plate with green beans to sample. Look inside the beans. Taste and discuss.
4. Tape the bags on to a sunny window.
5. Check the bag once a day. What changes do you observe?

WONDER

-What kinds of vegetables have you eaten today?
-What do you need to grow up healthy? What do the beans need?
-What's inside the green bean?
-What happens to the water inside the bag? How does the sun affect the cotton balls and seeds?
- How would you apply your ideas to make a "greenhouse" where you could grow vegetables all year round?

Sing

The Green Grass Grew All Around

Verse 1: There was a hole (repeat)
In the middle of the ground (repeat)
The prettiest hole (repeat)
That you ever did see. (repeat)
OOOOH, the hole in the ground, ...

Chorus: And the green grass grew all around, all around, and the green grass grew all around.

Verse 2: And in that hole there was some soil, the prettiest soil that you ever did see.
OOOOH, the soil in the hole and the hole in the ground, ... (Repeat Chorus)

Verse 3: And in that soil there was a seed...
Verse 4: And from that seed there grew a vine...
Verse 5: And on that vine there was a bean...

For the tune and other verses, search for "The Green Grass Grew All Around" on youtube.com.

READ

Stone Soup
retold by Heather Forest.
August House, 1998.

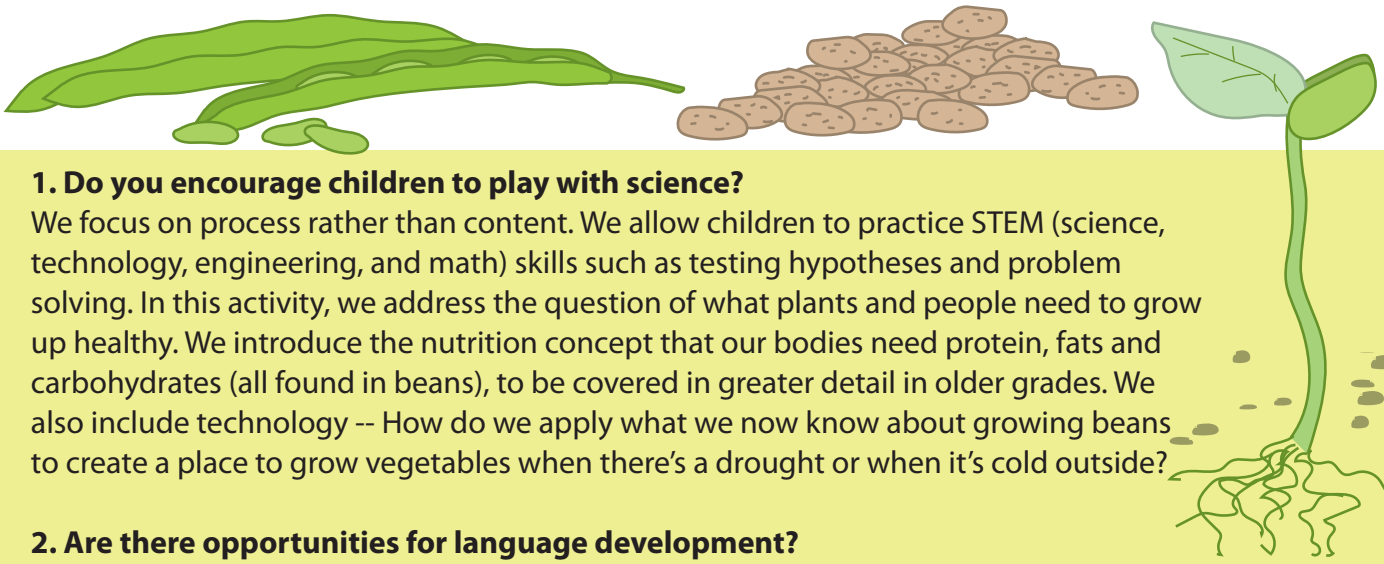
DISCOVER

People feel better and are healthier when they eat a variety of colorful, whole foods, close to the source and minimally processed. When you pick beans from a vine, they are as "close to the source" as you can get. You can't see it happening, but when you eat beans, your body gets 2 of the fuels you need -- proteins and carbohydrates.

GrowingGreat is a 501(c)3 nonprofit with the mission to empower children to make healthy food choices through hands-on science and garden education. For further information, please visit growinggreat.org.

Teaching Tips

GrowingGreat activities encourage children and adults to learn and play together. We suggest you alternate between quiet, focused time and moving and playing together. We usually start by reading the story, then get up and do the song and hand motions, and finish with the hands-on science and nutrition activity. Whenever we teach, we think about these five questions and we hope you will too.



1. Do you encourage children to play with science?
We focus on process rather than content. We allow children to practice STEM (science, technology, engineering, and math) skills such as testing hypotheses and problem solving. In this activity, we address the question of what plants and people need to grow up healthy. We introduce the nutrition concept that our bodies need protein, fats and carbohydrates (all found in beans), to be covered in greater detail in older grades. We also include technology -- How do we apply what we now know about growing beans to create a place to grow vegetables when there's a drought or when it's cold outside?

2. Are there opportunities for language development?
We read stories, ask questions and sing to connect with students and teach vocabulary. We stop frequently during story time to discuss what we're reading. You can teach language, nutrition and math by studying labels on 2 cans of refried beans – one with lots of (unhealthy) ingredients and one with very few. Heather Forest's Stone Soup can be a role play using real vegetables.

3. Are the experiences open-ended?
We offer more than one way to engage with materials in a setting where there can be more than one correct result. We ask open-ended questions and listen to children's answers. We include a range of content to be customized to your students' grade level, knowledge and interests.

4. Do your environment and materials include a mixture of familiar and new things? We provide authentic, real-life experiences that encourage children to ask "why," using edible materials from the garden. You can find dried pinto beans at the grocery store and green bean seeds at a nursery. Add a "kitchen chemistry" component to observe the dried beans become soft and edible when boiled in water.

5. Are you a co-explorer with the children, not an expert?
We allow children time for self-directed experimentation. We can play and be messy too.

GrowingGreat's mission is to empower every child to grow up healthy through science-based garden and nutrition education. Does your school have a garden or nutrition education program? Email info@growinggreat.org for more information.

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