

Experiential Activities Grades 3-5





Build Your Own Smoothie

During the winter, you can still make delicious smoothies using frozen produce!

- On the image below, circle all the fruits and vegetables that you can buy (or preserve fresh to frozen) in frozen form. These are the ones that will make your smoothie icy cold!
- As a class, brainstorm (what does “brainstorm” mean? Talk about this word too!) some healthy smoothie recipes that you could make and then sample.
- What nutrients are in the smoothie recipes you created?
- List them, by recipe ingredient, on a separate page!!

Build Your Own Smoothie

Pick your fruits:

• Bananas	• Raspberries	• Pears	• Apricots
• Apples	• Oranges	• Cherries	• Plums
• Strawberries	• Pineapple	• Kiwi	• Cantaloupe
• Blueberries	• Mango	• Watermelon	• Melon
• Blackberries	• Peaches	• Grapefruit	• Grapes

Kick up the nutrition:

• Spinach	• Avocados	• Celery	• Swiss Chard
• Kale	• Carrots	• Cucumber	• Bok Choy

Add a base:

• Lowfat Milk	• Almond Milk	• Rice Milk	• Coconut Milk
• Water	• 100% Juice	• Lowfat Yogurt	• Coconut Water

Throw in some add-ins (optional):

• Peanut Butter	• Chia Seeds	• Oatmeal	• Agave Nectar
• Nut Butter	• Walnuts	• Vanilla Extract	• Cinnamon
• Flax Seed	• Almonds	• Honey	• Ginger

**Place all ingredients in blender,
blend & enjoy!**

Visit produceforkids.com for more smoothie recipes.



Dancing Raisins Science Experiment

Raisins are a healthy **dried fruit** snack for children! Try this fun raisin science experiment to impress kids and demonstrate some basic chemical reaction concepts!

Materials:

- A clear drinking glass half-filled with water
- About 1 Tbsp. baking soda
- Enough vinegar to fill the remainder of the glass
- 3 raisins, cut or ripped in half
- A spoon

Instructions:

1. Use your spoon to place about a tablespoon of baking soda into the glass half-filled with water.
2. Stir the baking soda until it is dissolved in the water.
3. Drop the 6 raisin halves into the glass.
4. Pour some vinegar into the glass until it is about $\frac{3}{4}$ full, *watch the raisins start dancing!*
5. You may need to jostle the raisins with your spoon to get them going. If this doesn't work, try adding a little more vinegar. If this still doesn't work, try cutting the raisins into smaller pieces to make them even lighter.
6. Watch in amazement as your raisins slowly rise to the surface, then fall back down, over and over again.
7. For an explanation of the science behind what you see, please read page 2.



Adapted from: <http://www.123homeschool4me.com/2016/01/dancing-raisins-science-experiment.html>



Experiment Explanation:

This experiment uses the same **chemical reaction** behind the well-known homemade volcano project. When vinegar (an **acid**) reacts with baking soda (a **base**) one of the **products** of the chemical reaction is carbon dioxide, a **gas**. In the volcano, the gas creates a bubbly solution which comes oozing out of the volcano. In this raisin experiment, the effect is subtler, but still impressive.

Basically, by adding **baking soda and vinegar** to another liquid, like water, the liquid becomes filled with many **bubbles** which rise to the surface and pop. If a light object is placed inside the liquid, such as raisins or peanuts, the bubbles stick to the surface of the light objects, **increasing their buoyancy**, and causing them to rise to the surface with the bubbles. When the bubbles pop at the surface of the liquid, the objects, which on their own are **more dense** than the liquid, then fall back to the bottom. On the way down and while sitting on the bottom, they collect more bubbles, causing the process to repeat for several minutes. Eventually, either enough of the **reactants** will be used up to stop the process or enough air bubbles will get trapped inside the raisins to make them remain floating on the surface.



Finding Nemo!

Make your own Finding Nemo snacks like the ones pictured with dried apricots and a few easy steps!

Materials:

- Dried apricots
- Toothpicks (or other safer item if working with young children)
- Yogurt
- New small paint brush or thick stick of some kind
- Miniature chocolate chips



Directions:

1. Cut a dried apricot in half.
2. Put a half of an apricot on the stick (this is your Nemo tail).
3. Add a whole apricot to the toothpick as Nemo's body.
4. Using the new paintbrush or stick, add stripes and an eye with the yogurt, decorate with the chocolate chips.

You now have a fun treat that is as good as candy using **dried fruit!**

Adapted from: <http://www.lovethefamily.com/category/the-crafts/page/2/>



Fresh Fruit vs Dried Fruit!

One-fourth cup of dried fruit is equivalent to one-half cup of fresh fruit. Have children wash their hands before this activity! Do the following activity so children can practice dry measurements, while you discuss the differences between fresh fruit and dried fruit! Once finished, encourage them to try the fresh fruit and the dried fruit used in the activity (or bring more for tasting that has not been handled by the children!

Materials:

- Measuring cup (1 cup)
- Enough fresh cut plums for 1 cup (or apricots, or mangos, or other fruit!)
- Enough dried prunes for 1 cup (or apricots, or mangos, or other fruit that is the same fruit as the fresh fruit you are using)
- Paper plates

Activity:

1. Measure 1 cup of fresh plums, and 1 cup of prunes.
2. Pour the fresh fruit onto one paper plate.
3. Pour the dried fruit onto one paper plate.
4. Count each piece of fruit that is on each plate, record the number on a piece of paper for each type of fruit.
5. Compare the number of fresh and dried plums that make up 1 cup. Which plate has more fruit pieces?

Discussion Questions:

- What is a prune? (*A dried plum*)
- Why can more prunes than plum fresh cut pieces fit into a one cup measure? (*The water was dried out of the plums, making them smaller*)
- How do you think you can make your own prunes or dried fruit? (*2 common methods are using an oven or dehydrator*)
- What does dehydrated mean? (*to lose water or moisture*)
- If you could “dehydrate” any fruit which would you choose? (*grapes, cranberries, strawberries, peaches, blueberries, mango, apricots, etc.*)
- What are some ways we can enjoy dried fruits? (*by themselves as a nutritious snack, in trail mix, on salads, in bars, in granola, on cereal, etc.*)
- Do you think fresh fruit or dried fruit contains more sugar? (*they both contain about the same amount of sugar per serving; ¼ cup of dried fruit = 1 cup of fresh fruit*) For the older children, remind them that some dried fruits, like the popular raisins, have LOTS of added sugars and some even have food dyes, so read the ingredient lists and buy the dried fruits without anything but the fruit in the package!



Community and Home Gardening Kid-Friendly Fun

Adapted from: <https://idph.iowa.gov/Portals/1/Files/INN/LP3%20-3%20Focus%20on%20Fruits%20Final%207.13.12.pdf>



Kale Chips!

Dried veggies can be a great snack or side dish! Try some kale chips with your child by following the recipe below. Remember to not do it all alone and to let your child help as much as possible. Give your child a talk before about the importance of listening carefully and how to be safe in a kitchen.

Materials:

- Oven Mitts
- Bowl
- Grown Up
- Spatula
- Baking sheet
- Parchment Paper

Ingredients:

- ½ bunch washed kale
- 2 Teaspoons olive oil
- Pinch of salt

Instructions:

1. Heat oven to 275° F.
2. Tear kale into small pieces.
3. Add olive oil and salt.
4. Mix and massage.
5. Line with parchment paper and spread ½ kale onto baking sheet.
6. Bake for 15 minutes.
7. Toss kale around for even cooking and bake 5-10 minutes longer.
8. Let cool & enjoy! Repeat with remaining ½ kale.



Adapted from: <http://teentinyfoodie.com/lets-make-kale-chips-toddler-recipe/>



Ladybugs on a Log!

Raisins can be a healthy snack for your kids! Try this recipe below with them.

Prep Time:
5 minutes

Yield:
Makes 8 servings (2 celery sticks each)

Ingredients:

- 1 cup creamy peanut butter or cream cheese
- 16 (4 inch) pieces celery
- ¼ cup raisins

Directions:
Spread peanut butter or cream cheese down the center of each celery stick. Top with raisins.

Makes 8 servings (2 celery sticks each)

TIP: For extra flavor, place a row of raisins down the center of each celery stick before the peanut butter or cream cheese, then a second row on top!



Adapted from: <http://www.oceanspray.com/Recipes/Corporate/Desserts-Snacks/Ladybugs-on-a-Log.aspx#>



Plant Needs: Sunlight

Set up an experiment to test whether plants need light to grow.

Materials:

- Grass seeds
- Paper towels
- Plastic sandwich bags
- Paper plate
- Water source

Key Science Concepts:

- Plants need light to grow.

Vocabulary:

Emphasize science process words like *experiment*, *test*, *compare*, *describe*, *observe*, and *prediction*.

Directions:

Ask children, *What do you think plants need to grow and stay healthy?* Then say, *Let's set up an experiment to find out if plants need light to grow.* Have the group set up one experiment together.

1. Fold two wet paper towels and add each to two plastic bags. Add grass seed to the bags and seal.
2. Put a paper plate on top of one of one of the bags, blocking light from reaching the seeds. Leave the other bag exposed.
3. In a week check on the plants and remind the children that it's been about a week since you set up your experiment, testing whether seeds need sunlight to grow. Gather around the sunlight experiment and ask for a volunteer to explain the experiment, *what they did, what they expected would happen during the experiment, Why is one plate of seeds uncovered and one covered by a paper plate? What will this show us?*
4. Then take the plate off the covered seeds and ask children to compare the grass seeds on the two plates:
 - 4a. *What do you notice about the grass seeds?*
 - 4b. *How would you describe the seeds that got sunlight? How would you describe the ones that didn't?*
 - 4c. Have children look very closely at the seeds that were covered and ask if they see any signs of growth.
 - 4d. *What do you think we learned from this experiment?*

Adapted from: <http://www.peepandthebigwideworld.com/en/educators/curriculum/center-based-educators/plants/activity/stand-alone/503/plant-needs-sunlight/>



Plant Needs: Water

Plan and set up and experiment to test if plants really do need water to grow.

Materials:

- Grass seeds
- Soil
- Cups
- Spray bottle

Key Science Concepts:

- Plants need water to grow.

Vocabulary:

Emphasize science process words like *experiment*, *test*, *regimens*, and *prediction*, and plant words like *seed*, *sprout*, and *soil*.

Directions:

1. Ask children, “*What do you think plants need to grow and stay healthy?*”
2. If children mention water, ask, “*How could we find out whether a plant needs water to stay healthy? What experiment could we do using grass seeds?*”
3. Have the group decide on an experiment and set it up (if you need an idea, see the simple experiment on the next page).

Reflect and Share:

Discuss the experiment you set up together. Ask:

- *What do you predict will happen to the seeds? Why do you think so?*
- *How will our experiment show if plants need water to grow or not?*
- *Why do you think we set up two different watering regimens (also, ask what does “regimens” mean?) for the two sets of seeds? What does it show us to do it both ways?*

In a week, check on the plants and remind the children that it’s been about a week since you set up your experiment testing whether seeds need water to grow. Explain that it’s now time to look at the results. As you observe the results, ask someone to explain the experiment. One cup of seeds received water and the other did not. Ask:

- *What do you notice about the grass seeds?*
- *What happened to the seeds that got water?*
- *What happened to the ones that didn’t?*
- *What do you think we learned from this experiment?*

Adapted from: http://www.peepandthebigwideworld.com/en/educators/curriculum/center-based-educators/plants/activity/stand-alone/504/plant-needs-water/?node_context=564



Community and Home Gardening Kid-Friendly Fun

Water Experiment:

1. Fill each cup $\frac{3}{4}$ full of the soil.
2. Using a marker, write “watering” on one cup, this is the cup that will be watered throughout the experiment.
3. Make a shallow hole in each cup (only as deep as the size of a pencil’s eraser).
4. Place a few seeds in each hole.
5. Gently brush a thin layer of soil over the seeds to cover them.
6. Using a spray bottle, gently water the cup with “watering” on it, watering enough to make the soil moist, but not saturated. (Note: Do not add too much water. The cup will not drain excess water, which may cause the seeds to drown if too much water is added).
7. Place in area where they will receive plenty of sunlight.
8. Keep watering the cup that is designated as the one that is to be watered every few days, ensuring that the soil does not dry out.
9. After a week, the plants should have started to sprout and you should be able to observe the stem and leaves, and the differences between those watered and those not watered!