



Nutrition and Food Activities for Kids

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Food experiments are a wonderful way to get children excited about science. Following are some food experiments to try at home. Most of the experiments come from the 4-H Food and Nutrition project resources. If you are interested in 4-H contact the Salt Lake County 4-H office at 801-468-3180 or [Salt Lake County 4-H](#).

Bone up on Calcium

You will need:

2 chicken bone legs
2 cups water
2 cups vinegar
2 jars

Place a chicken leg bone in each jar. Add 2 cups of water to one jar and 2 cups of vinegar to the second jar. Put the lids on the jars and leave for at least three days. Remove the bones and rinse them with water. Compare how flexible the bones are. Try to bend the bones.

Discussion: Vinegar, which is an acid, dissolves the calcium in the chicken bone. While the chicken bone soaked in water retains the calcium. Through this experiment you see how calcium is important in maintaining strong bones. Without calcium bones are weak and cannot support your body. Calcium is a mineral found in your body. Calcium keeps bones and teeth healthy and is important for other functions such as blood clotting. Most milk and dairy products are high in calcium. You can also get calcium from broccoli and foods such as cereals and juice that have calcium added.

Where is the Starch?

You will need:

Iodine
Eye dropper
Paper plates
Various foods such as potatoes, apples, ripe and unripe bananas, macaroni, carrot

Place food samples on a paper plate. Using an eye dropper, drop a couple drops of brown iodine on the food samples. Observe the color changes of the iodine.

Discussion: If a food is high in starch the iodine will turn from a reddish brown color to a dark blue or purplish black color. If the food does not contain much starch, the iodine will remain brown. As bananas ripen the starch turns to sugar so you should see a darker change on unripe bananas than on a ripe banana. Note: Make sure children do not eat iodine or the foods with iodine on them.

Vitamin C

You will need:

1/2 teaspoon cornstarch

1 cup water

iodine

More water

Eye dropper

Medium sized bowl

Several smaller bowls

Crushed vitamin C tablet dissolved in 1 cup water

Various beverages orange juice, orange soda, cranberry juice, grapefruit juice, punch, etc.

Mix 1/2 teaspoon cornstarch into 1 cup cold water; dissolve mixture by heating. Measure 1 cup water into a bowl add 1 teaspoon of the cornstarch mixture. Using an eye dropper add 4 drops of iodine and stir. The mixture should be a pale blue. Put 2 Tablespoons of the mixture into several small bowls. Using a clean eye dropper add the vitamin C solution to one of the blue mixtures. In another bowl add orange juice, another orange soda, etc. Make note of how many drops it takes before the blue color to disappear.

Discussion: Only foods with vitamin C will make the blue color disappear. The punch and orange soda do not have vitamin C. If a food does not have vitamin C the solution will not change color.

Curds and Whey

You will need:

Milk

Vinegar

Small jars

Measuring spoons

Fill jars with milk. Add 2 tablespoons and stir. Let the jars sit for 2 or 3 minutes and then observe what happens.

Discussion: Vinegar causes small dissolved particles to clump together. These solid clumps are called curd; the liquid part is whey.

Shining a penny

You will need:

Several dull pennies
Salt
Vinegar
Eye dropper
Paper towels

Place penny on paper towel. Cover the penny with a layer of salt. Pour a few drops of vinegar on the salt. What happens to the penny?

Discussion: The acetic acid (vinegar) mixing with salt forms another acid – hydrochloric acid. This strong acid removes the dull coating on the copper penny.

Making Carbon Dioxide

You will need:

Baking soda
Vinegar
Jar
Measuring spoons

Put enough vinegar in the bottom of the jar to cover the bottom about 1/4 of an inch deep. Add a few teaspoons of baking soda to the vinegar. What happens?

Discussion: The mixture will begin to bubble and fizz. The mixture is producing carbon dioxide gas; as the gas escapes it makes the mixture bubble.

Finding fat in food

You will need:

Brown paper bag cut into 5 X 7 inch pieces
Pen/pencil
Toothpicks
Various foods – potato chips, potatoes, water, frosting, butter, peanut butter, milk, etc.

For each food draw a circle on the brown paper bag. Label each circle with the name of the food. Use a toothpick or rub food to smear a small amount of the food in its corresponding circle. Wait 5 to 10 minutes for food to dry. Hold the paper up to light to find greasy spots showing which food contain fat.