Playing with our Food Afternoon Activities

Activity 1: Popcorn Science!

Is anybody able to name the 3 states of matter? They are solid, liquid & gas. Did you know that making popcorn requires all 3 of these states? What a scientific snack!

How do you get from a tough popcorn kernel, to the popcorn that you eat? Well, first you have the solid popcorn kernels. Each of these little kernels have a tiny drop of liquid water inside of them. When you put your bag of popcorn into the microwave, this drop of water heats up, and becomes gaseous steam. As this steam builds up pressure, it expands, and when it runs out of space — pop! That’s how you get popcorn!

When you’re making popcorn, most of the time there will be some hard, un-popped kernels left over in the bottom of the bag. However, if you microwave your popcorn for too long, it’ll get burnt! To make the perfect popcorn, you must find that happy medium between too many kernels, and burnt popcorn!

Materials
- Popcorn kernels
- Brown paper bags
- Vegetable oil
- A pen/pencil/marker
- (Optional) Salt, butter, and/or your seasoning of choice!
**Procedure**
To make the perfect popcorn, there are plenty of things you can change, to test and see what you like best. When you perform a scientific experiment, these are called **variables** — things you can change that may affect the outcome of your experiment! Changing the ingredients and amounts when cooking and baking can greatly change your result. Making good food is just like a science experiment!

To determine what preparation and characteristics make for a yummy snack of popcorn, we first must prepare 4 different samples, of about ¼ cup of kernels each. First, you will have a control sample — this is the sample that has nothing special done to it. Then, take two samples of the popcorn, and choose one to soak in water, and one to soak in oil for about an hour beforehand.

You should end up with 4 popcorn samples, with 2 pre-soaked, and 2 dry. With 1 of the dry samples, you’ll pre-heat the popcorn in the microwave for 40 seconds. Once you’ve preheated 1 sample, you are ready to perform the experiment!

Place each of your prepared kernels into brown paper bags. Label each bag with a marker or pen, so that you keep track of which set of kernels you are microwaving. Fold the top of the bag over and microwave each sample individually for 2 minutes each.

Once all 4 samples are ready, it’s time for a taste test! Try each of your 4 different popcorn samples.

**Extend Your Learning**
Think about the results of your experiment:
- Which popcorn tasted the best? Which tasted the worst? Why?
- Which popcorn had the most kernels left over that didn’t pop? Which popcorn had the most successfully popped kernels?

Though this may have just seemed like a fun popcorn activity, what you performed here was a scientific experiment! You altered the variables, being how you treated the popcorn, and got different results. You then analyzed the results, which made for a successful experiment! Science is all around us, especially in the food we eat!
Activity 2 Propagating Vegetable Scraps

Propagating is making new plants from mature existing plants. So, it is a process of increasing your number of plants.

Propagation can be done in 3 ways:

1. Planting seeds: this is the method of propagation with which we are all most familiar. You would simply plant a seed in soil and give it sunlight and water to help it grow!
2. Dividing, from the roots up, an existing plant into two or more plants: for this you need a parent plant that you could split in two at the root level, repotting the two halves of the plant.
3. Cutting a piece from a parent plant: this is a great way to bring home part of your favourite plant! You may propagate plants using cuttings from the stems or from the roots. To take a cutting, you should cut the branch where it divides from the main stem, so that it doesn’t cause a lot of disturbance to the plant, and where there is a bud close to the tip of your cut. Roots will start growing at a leaf node – the bump on the branch where leaves branch off, so cut with a node close to what will be the bottom of your plant.

Now let’s think about propagating from the foods we eat!

Fruits have seeds in them, so to propagate from fruit, you would cut the fruit open, and plant the seeds inside.

But vegetables and spices are different parts of plants – they don’t have seeds inside them, so we would need to propagate a different way. In this activity, we will take you through propagation by cutting for carrots and ginger.
**Roots**

Many root vegetables, like carrots, turnips, and parsnips, will root easily and send up fresh leaves. This project works well with all root vegetables; our suggestions is to use carrots.

**Materials**

- ☉ A carrot
- ☉ A sharp knife
- ☉ A shallow dish with some small pebbles or marbles

**Method**

1. Cut about 5 cm (2 inches) from the leaf end of the carrot.

2. Fill the bottom of the dish with pebbles and add enough water to cover the pebbles. Place the carrot top on the pebbles. Place you dish with carrot top in a sunny spot, and keep the dish topped up with water.

**What you will see**

Green leaves should appear on top of the carrot top within a week of setting it in a shallow dish of water.

Eventually, little roots will appear from the bottom of the carrot top, and you can plant it in some potting soil.

**Extend Your Learning**

Continue to let the carrot grow in soil. Carrots are biennials, meaning they live for two years. Like most biennials, they will flower and set seed in their second year only. We eat first year carrots, so by planting one, you must to wait one season for it to set seed.

You can also try this activity with turnips or parsnips. Propagation by cutting is very common in NL for potatoes. New potatoes can also grow from pieces of potato with an “eye,” which is a node or place where new growth begins.
**Stem**

Powdered ginger is used to flavour ginger ale and make gingerbread, but did you know that it comes from a rhizome, a type of underground stem? You can find fresh ginger in most grocery stores and sprout it yourself so that you can always have fresh ginger on hand.

**Materials**

- Fresh ginger - choose the plumpest, healthiest-looking piece possible
- Glass jar or drinking glass
- 3 toothpicks
- Sharp knife

**Method**

1. Cut a piece of ginger about 8 cm (4 inches) long.

2. Poke the toothpicks into the piece of ginger like the spokes of a wheel.

3. Put the ginger in the glass so that the toothpicks rest on the rim and support it, and fill the glass with water.

4. Place in a well-lit spot out of direct sun, and keep the water level topped up.

**What you will see**

Green shoots will soon sprout, and small roots will grow downwards.

If you wish, you can then transplant the ginger to a large pot filled with rich potting soil. After several months, the original rhizome will grow new fat parts. You can dig this up and slice off some of the new section, and use it in cooking.