MAKE YOUR OWN POPCORN

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About the Activity

Who doesn’t love popcorn?! In this activity, kids will learn about the nutritional value of whole grains as they make their own delicious popcorn. Through this process they will learn about corn and the benefits of other whole grains.

Tucson Village Farm (TVF) is an urban farm built by and for the youth of Pima County Arizona. It was developed in partnership with the Pima County Cooperative Extension and the University of Arizona. A great way to start this activity is by watching the TVF Whole Grains Video.

Supplies

These simple supplies are all you’ll need:

• Microwave
• Paper bag
• Popcorn kernels
• Vegetable oil
• Butter (optional)
• Salt (optional)
• Other seasoning (optional)

Grades: Pre-K - 5

Topic: Food Security, Agriculture, Healthy Living

Time: 10 minutes
Activity Steps

You’re about to make popcorn with kernels of corn – each kernel is a single whole grain of corn. Whole grains are grains of any kind that have all three of their parts (more on that below); that’s compared to refined or processed grains that have broken down those whole grains to include just one part of the grain. Eating whole grains on a regular basis is associated with lower rates of disease and a generally healthier diet and lifestyle.

Okay, let’s get popping!

1. Pour 1/2 cup of popcorn kernels into your paper bag, and fold your bag over, crimping the paper so it will stay closed while the popcorn cooks.

   **DID YOU KNOW?** The three parts of a whole grain are the bran, the endosperm, and the germ. The bran is a fiber-rich outer layer; the endosperm is a starchy middle layer; and the germ is a nutrient-rich core. Together, these three components are rich in vitamin B, vitamin E, and other minerals, proteins, and healthy fats.

2. Set the microwave to cook for 2 minutes, and turn it on.

   **DID YOU KNOW?** How does popcorn become popcorn? The kernels of corn have water in them; the heat of the microwave melts the starch or the corn and vaporizes the water inside. The vaporized water and melted starch build up in pressure, then burst through the hull of the corn in the shape of a starchy foam that then cools into the fluffy popcorn we know and love!

3. While your popcorn pops, take a look around your kitchen and check out some of the ingredients on various packages of food – cereal, crackers, chips, etc. If an item says it is made from whole grains or whole grain flour, that’s healthier for you than products that say they are made from enriched flours. The more whole-grain products in your kitchen, the better!

   **DID YOU KNOW?** So-called enriched flours are refined grains (those that have only the endosperm) that have vitamins added back into them to try to retain the nutrition lost from the process of breaking down the whole grain.

4. Once your popcorn is done cooking, take it out of the microwave, let it cool, and enjoy! You can add salt, butter, or other seasonings to make your popcorn just the way you want it.
Test Your Knowledge

See how much you’ve learned about whole grains!

**QUESTION 1**
Whole grains are rich in ____________.
  a. Fiber  
  b. Vitamin B  
  c. Vitamin E  
  d. Other minerals and proteins and healthy fats  
  e. All of the above

**QUESTION 2**
Enriched flours ________________.
  a. Have nutrients added back to make up for what was lost in processing  
  b. Have just one of the three parts of a whole grain  
  c. Not as healthy as whole grains  
  d. All of the above

**QUESTION 3**
True or false? Popcorn is a whole grain.
  a. True  
  b. False

**QUESTION 4**
True or false? Corn kernels have water stored inside.
  a. True  
  b. False

Reflection Questions

Bonus questions to inspire wonder:

- What food items in your kitchen are made with whole grains? Which are not?
- Are there any food items in your kitchen that might not be as good for your body as you thought they were?
- Popcorn is a whole grain, which is healthy for you? But once we add lots of butter or salt to our popcorn, is it still very healthy for you? What are some healthier toppings you could put on?
Investigate & Explore

Take your new knowledge to the next level.

Whole grains are how wheat and corn naturally grow, of course. But the industrialization movement of the 19th century, and the rise of processed foods in the 20th century, more grains were milled to remove the germ and the bran so that those products could stay on shelves longer without spoiling. While that seemed like a good idea at the time, the result was that people across the world increasingly ate grain products with less and less nutritional value.

Today, we better understand the importance of eating whole grains and less-processed foods, but highly processed foods continue to be widely available and are still central to many of our diets. But the more whole grains we eat, the better for our bodies!

Bonus Activity:
For some more whole-grain fun, print out the crossword puzzle attached to this activity and find all of the grain words in the word bank.
Grains
Word Search

Find the grain words from the word bank in the box and highlight them! Words can be vertical or horizontal.

Word Bank:
Popcorn  Pasta  Oatmeal  Cracker
Rice      Cereal  Bread    Tortilla

| G | D | S | H | R | C | R | A | C | K | E | R | P | H | T | C | G | E | I | L |
| R | Q | V | B | N | D | V | Y | K | L | O | W | O | A | T | M | E | A | L | P |
| U | D | P | A | E | G | H | N | J | T | D | T | I | L | O | P | G | S | N | D |
| R | T | O | E | Q | F | B | J | Y | W | B | O | U | I | T | E | Q | W | H | F |
| A | D | P | R | H | R | I | C | E | R | H | R | S | W | A | C | X | Z | H | C |
| Y | U | C | C | F | H | K | E | X | B | J | T | K | L | X | A | R | G | J | E |
| M | T | O | T | V | K | O | E | S | V | K | I | G | R | F | C | S | W | G | R |
| H | G | R | N | H | R | Q | D | C | V | T | L | T | B | R | E | A | D | V | E |
| J | H | N | Y | G | H | E | W | S | X | V | L | N | M | J | T | E | W | R | A |
| P | A | S | T | A | V | E | H | G | Q | D | A | L | I | W | Q | V | U | H | L |