Colorful Tortillas

Transform your kitchen into a learning laboratory. Use everyday materials, common ingredients and simple kitchen tools to help young learners develop important life skills and explore the wonders of science.

Encourage cultural awareness and diversity at home by exposing your child to foods from different cultures. Learning about new cultures can arouse their curiosity and inspire exploration to understand and appreciate diverse ways of living. One way to do this is by building connections between foods you might eat at home, such as bread (pancakes, sliced bread, biscuits), and introducing bread from other cultures, such as naan, sweet buns or pandesal, and talking about the culture and the people who eat them.

Making tortillas is a fun opportunity for your family to learn about and explore the rich culture of Mexico. This iconic food staple is made with Mexico’s most important food — *maize* (corn). Tortillas are a type of thin flatbread that are filled with foods such as beans, meat and vegetables. Practice the traditional process of making tortillas by hand and use this opportunity to build cultural awareness and science knowledge together as a family. For a colorful twist, use food coloring or natural ingredients to add festive colors to your edible tortillas!

**What They’ll Learn**

- Through conversations, young children will explore similarities and differences between their culture and other cultures by examining and tasting different cultural foods.
- This activity benefits young learner’s cognitive development by encouraging problem-solving skills and following instructions.
- Young learners build science knowledge as they experiment with the phases of matter, discover the physical properties of materials, and observe physical and chemical changes in the ingredients.
- Through inquiry, investigation and experimentation, children will practice important mathematical concepts such as counting, measuring and sequencing.
- Physical movements such as measuring, pouring and mixing provide young learners with an opportunity to develop large and fine motor skills.

**What You’ll Need**

1 cup of instant corn masa flour
1/2 cup of warm water, plus extra if needed
1 tsp of salt
Tortilla press (if you don’t have one you can use a rolling pin)
Plastic wrap
Nonstick pan or skillet
1 large bowl
Food coloring

This activity is made possible thanks to funding from Cognizant through the Making the Future education initiative.
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Paper towels
Vegetable or cooking oil (optional)
Spatula (optional)

What to Do

1. Ask your child to measure 1 cup of corn masa flour and pour it into the bowl.
2. Measure 1 teaspoon of salt and add it to the bowl.
3. Measure 1/2 cup of warm water and gradually pour it into the bowl.
4. Add the food coloring of your choice. If you prefer to use natural ingredients for coloring, try:
   > turmeric = yellow
   > butterfly pea tea = blue
   > spirulina = green
   > beet powder = pink/red
5. Blend all the ingredients with your hands. Knead well until the dough is soft and has a texture like play-dough. (Add more corn masa flour if it’s too wet; add more warm water with a spoon if it’s too dry.)
6. Cover the dough with a damp paper towel and let it rest for 15 minutes.
7. In the meantime, cut two pieces of plastic wrap and set aside. The dough will be placed in between both plastic pieces to prevent the dough from sticking to the tortilla press or rolling pin.
8. Lightly oil a pan or skillet and set on low heat.
9. Separate the dough into one-inch thick balls.
10. Put a ball of dough in between both plastic pieces. Press the dough flat using the tortilla press or rolling pin.
11. Peel the plastic off the tortilla and gently drop it into the pan or skillet. Be careful! An adult should help with this step because the pan or skillet will be hot.
12. Cook the tortilla until the edges begin to dry out (about 1 – 2 minutes). Use a spatula to flip the tortilla and cook it until the other side becomes brown.
13. Flip the tortilla again and cook it until it begins to puff (about 2 minutes).
14. Stack the cooked tortillas on a plate and enjoy them with your favorite stuffing!

What’s Happening?

There is a lot of science in a tortilla! The corn used to make corn masa flour needs to undergo a process called nixtamalization. During nixtamalization, an ingredient such as lime is added to the corn as it soaks in water. This process changes some of the chemicals in corn which not only makes tortillas tastier, but also healthier and easier for the body to digest.
A visible difference also happened between the ingredients. When you mix the corn masa flour with water, it goes through a physical change. A physical change is a type of change where the form of matter (in this case, the corn masa flour) is altered and takes on a different appearance (in this case, the dough). Finally, when you add the flattened dough onto a pan or skillet you’re applying energy (in this case heat). This energy (heat) is what changes the dough into the delicious tortillas we eat!

Questions to Ask

• What plant is used to make tortillas?
• What other foods that you eat come from corn?
• How does the corn masa flour feel? What does the smell remind you of?
• When is it corn masa flour, and when is it dough?

Tips

• Cut the tortillas into triangles to make crispy tortilla chips.
• Listen to some Mexican or world music while making tortillas to enhance the diversity experience.
• Use the tortilla as a canvas to paint on! Place a few drops of food coloring in water and mix well. Use herbs or lettuce as the paintbrush.

Let’s Read Together

*The Tortilla Factory* by Gary Paulsen
*The First Tortilla: A Bilingual Story* by Rudolfo Anaya, Amy Cordova, et al.
*The Day it Snowed Tortillas* by Joe Hayes and Antonio Castro Lopez
*Tortillas Para Mama and Other Nursery Rhymes* by Margot C. Griego, Betsy L. Bucks, et al.
*Round is a Tortilla* by Roseanne Thong and John Parra
*Corn is Maize* by Aliki