

Bake for Family Fun Month Activity

Preschool Activity

“I CAN’T BELIEVE MY EYES.....THE WONDER OF SCIENCE”

MATERIALS NEEDED:

- Copy of the recipe
- Chocolate chip package to read the ingredient label.
- Ingredients for recipe
- Microwave oven
- Large tray, waxed paper
- Candy or insta-read food thermometer



ACTIVITIES:

- **Ask family members to name things in the room that they see.** Tell if what they see is a solid, liquid or gas. Explain that each and every thing they’ve named is made of “matter.” The matter is made of tiny atoms. Heat and changes in pressure can change the state of matter. Ex: water (liquid) to steam (gas) to ice (solid)
- **Place the recipe ingredients in front of the family members.**
*Which of the ingredients are **solid**?* (All of them)
Which ones do they think would melt if placed in heat. (chips, shortening)
Does the apple melt when it is cooked? (No—the water in the apple cooks and the fibers just soften—it turns to sauce.)
Why do the chocolate and shortening melt? (Both contain **fat**—fat that is solid at room temperature. When the fat heats, the atomic bonds soften and it becomes liquid. When they cool, they become solid again. They do not lose or gain any atoms so they are not permanently changed.)
How hot do the chips have to be to melt? (Let’s find out--measure temperature when chips begin to soften. Chocolate’s melting point is 78 degrees)
What temperature are they solid? (Room temperature—60-70 degrees F.)
- **Read the recipe together.** Prepare the Chocolate Drizzled Butterscotch Apples as directed—showing how the solids melt and get solid again. Take the temperature of the melted chips and shortening using the food thermometer.
- **For more great chocolate information visit www.chocolateusa.org.**
- **Enjoy eating your experiment.**

BAKING ACTIVITY:

- **Let's Make: "Chocolate Drizzled Butterscotch Apple Slices"**
Makes 8 apple slices

Ingredients

- 1 large apple
- 1 cup butterscotch chips
- 3 teaspoons shortening (no substitutes), divided
- ¼ cup semi-sweet chocolate chips

Instructions:

1. Line tray with wax paper. Wash apple; dry thoroughly. Remove core; cut into 8 slices. Blot dry with paper towels.
2. Place butterscotch chips and 2 teaspoons shortening in medium microwave-safe bowl. Microwave at HIGH (100%) 30 seconds or until chips are melted when stirred.
3. With fork, dip each slice completely into mixture. Tap fork and gently shake to remove excess; place slices on prepared tray.
4. Place chocolate chips and remaining 1 teaspoon shortening in small microwave-safe bowl. Microwave at HIGH 15 seconds or just until chips are melted when stirred. With tines of clean fork, drizzle over top of apples. 8 coated apple slices.

* Note: If coating mixture begins to thicken and tighten, stir in additional shortening, 1/2 teaspoonful at a time. Microwave at HIGH 15 seconds until smooth and fluid when stirred.

BAKE FOR FAMILY FUN EXPLORATION:

Chocolate Factoid:

- ***"The cacao bean and chocolate have their roots in ancient Central America and Mexico. It was as favorite of the Aztec and Inca Indians.***
- ***Spanish explorers discovered it from the Aztecs and introduced it in Spain around 1500.***
- ***Chocolate was first made in the United States in 1765. Home bakers used to chip their own chocolate before chocolate chips were made!***
- **Basics (about) Matter**
Every object you can think of (shoes, flowers, rocks, orange juice...) is made up of matter.
All matter takes up space
Matter can be solid, liquid or gas.
Temperature and pressure affect matter.
Atom=smallest unit of matter.

Baking for Success. p. 3. Lesson guide and video. Home Baking Association, 1998. www.homebaking.org

- **Want more Kitchen Science Experiments?**
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VOCABULARY:

Matter: that which makes up all physical objects.

Melt: to change or be changed from a solid to a liquid by heat

BOOKS FOR READING TOGETHER

Chocolate from Start to Finish. Samuel G. Woods. 1999.

365 Science Projects and Activities. Phyllis Perry, EdD., Peter Rillero, Ph.D.
and Joseph Peters, Ph.D. 1997.

The International Chocolate Cookbook. Nancy Baggett. 1993.
www.kitchenlane.com

365 Science Projects & Activities. Perry, Rillero and Peters. P.33.