



SUPER FAB LAB INVESTIGATION:

Applesauce



Episode: The Perfect Pancake

Cycle: Transformation & Change

Purpose (What We're Going to Explore and Learn)

- We're exploring irreversible change.
- We'll contrast apples that have been changed by heat with apples that haven't been changed.

Materials (The Stuff We Need)

- 8 apples, peeled and cut into chunks. (Double this amount and the amount of water and sugar if you are cooking for a lot of children.)
- ½ c. water
- measuring cups and spoons (for water, sugar, and cinnamon)
- ½ c. sugar (optional)
- cinnamon (also optional)
- heat source—stove or slow cooker
- two bowls
- wooden spoon and/or potato masher

Procedure (What to Do)

1. Put half of the apples into one bowl. Put the other half into a stove pot or the slow cooker, depending on how you will heat the apples.
2. Add the same amount of water to each container of apples.
3. Leave the bowl of apples alone. Heat the other container of apples until the apples are soft. This should take about 10-12 minutes on a burner set to medium or 2 ½ hours in a slow cooker set on high.
4. When the heated apples are soft, remove them from the heat and put them into the second bowl.
5. Have children stir and mash each bowl of apples. (Be careful with the hot bowl.) How are the heated apples different from the unheated apples? What happened to them? Describe the changes.
6. Once the applesauce has cooled enough, add sugar and cinnamon to taste. Enjoy the applesauce. If the unheated apples haven't browned, you can drain the water from them and eat them, too. How do they contrast with the heated apples? You'll probably use words like crispy, crunchy, and mushy.

Other Stuff You Might Want to Know or Do

- Why do we have you make a bowl of unheated apple chunks? We do this so that the investigation is a true experiment, with a test (heated apples) and a comparison (unheated apples). Because we treat the two bowls of apples exactly the same except for the heating step, we know that it's the heat—and not some other difference—that caused the change in the soft apples.
- Ask your child to think about other examples of irreversible change—things that can't go back to the way they were. If your unheated apples turned brown, that's one example! The Perfect Pancake episode includes descriptions of lots of these, and there are plenty more all around us.

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