

Name:

Date:

Class:

Teacher Tips

Safety Tips

- Use food-safe equipment and materials if students will eat the treats.
- Check for food allergies before beginning the activity.
- Provide nut-free or allergen-safe alternatives as needed.

Soap Motor Phenomenon Activity Tips

- Watch this [video](#) to get an idea of the process.
- There are templates for the boat you can cut out of paper ahead of time, or have students cut them out as part of the activity.
- You could also use small leaves or aluminum foil folded into a boat shape as a boat.

Cake Pops

- To make the cake pops, bake a boxed cake according to the package directions and allow it to cool completely.
- Once cooled, tear the cake into small pieces and mix in frosting until the mixture reaches a dough-like consistency.
- Melt the candy melts according to package instructions.
- Roll the cake mixture into balls approximately 2.5 cm (1 inch) in diameter.
- Dip the end of each cake pop stick into the melted candy coating and insert it into the cake ball.
- Allow the coating to set, which helps “glue” the stick to the cake.
- Next, dip the entire cake pop into the melted candy coating, ensuring it is fully covered.
- Allow the coating to set by placing the cake pops on wax paper or inserting the sticks into a cake pop stand or floral foam.

Alternative Treat Ideas

- fun-sized chocolate candy bars
- cupcakes fully covered with icing (dip the iced portion only and allow excess to drip off before setting upright to dry)
- ice cream bars
- marshmallows
- chilled or dried fruit

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Candy Melts for Dipping

- Use candy melt colors of your choice and melt according to package directions.
- Have students test variations of candy melts mixed with small amounts of coconut oil, food-grade lecithin, or vegetable oil to thin and adjust the coating consistency.
- Transfer the candy melts into squeeze bottles labeled with their compositions.
- Candy melts may solidify inside the bottles over time; use a warm water bath between class periods or briefly microwave them to maintain fluidity.

Trough

- If working with larger groups and sharing troughs, use larger containers and assign each group a designated area to decorate.
- The same corn syrup bath can be reused if the surface is skimmed several times with a spoon, though repeated use will result in increased mess and reduced effectiveness.
- If the candy melts sink instead of floating, instruct students to apply thinner lines on the surface.
- If squeeze bottle nozzles clog, provide toothpicks to clear them and to drag across the candy melt–corn syrup interface to create additional surface designs.

Cleanup:

- Have students work over wax paper, baking paper, or other disposable surface coverings.
- Candy melts should not be disposed of in sinks.
- To dispose of the candy melts and corn syrup bath, skim or filter out as much of the candy melt as possible and discard it in the trash.
- Wash containers with warm, soapy water.
- Alternatively, have students empty their troughs into a common disposal container before washing.
- Students may eat their finished treats if permitted.

Instructional Tip

- While students' hydro-dipped treats are drying, lead a discussion of their observations and introduce the concept of surface tension.

Solution Prep

Corn syrup and water bath stock solutions:

- 33%: To make 1 L of solution, measure 330 mL of corn syrup and stir in 670 mL of water. If you are using the [Ziplock deep mini storage containers](#), 200 mL is enough to dunk the fun-sized treats listed in this activity. You can prep five containers.

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- 66%: For 1 L of solution, measure 660 mL of corn syrup and stir in 340 mL of water until uniform consistency is reached.
- For extension: Prep other concentrations of corn syrup baths, or have students prep their own solutions based on the concentration they want to test.

Candy Melt Mixtures:

- 10% coconut oil: Melt your candy melts as directed by the package. Mix in 10% by mass of the coconut oil until the melts are uniform. For example, if you melt 90 g of candy melts, add 10 g of coconut oil to the mix for a 10% coconut oil mix.
- 1% lecithin: Lecithin will really thicken the melts. You may want to prep 0.01% for students to try first.
- Candy melts should stay fluid for the duration of the activity, but if they do solidify, you can use a warm water bath to keep them from stiffening. If you have the budget, a [sous vide](#) is handy for this.

Expected Data Outcomes

Criteria	Goals
Surface tension	Lower values mean better spread
Spread diameter	Wider means better wetting
Coating mass	Higher mass means better adhesion
Drips/smears	Fewer means cleaner coating
% Coverage	Higher means better transfer

Oil lowers the candy melt surface tension.	Improves spread, may make the coating thin
Lecithin improves interaction.	Improves adhesion and coating uniformity
Higher syrup concentration has higher density and viscosity.	Improves the support of the candy melt