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10TH ANNIVERSARY



ACTIVITY

By Erica K. Jacobsen

Chemistry Cupcakes

What would you think about inviting several hundred people to a party?

What if, even if they said "yes," most of them wouldn't be in the same party location as you?

The American Chemical Society's (ACS) ChemClubs did just that with a "Virtual Party" last November to celebrate the 10th anniversary of the ChemClub program.

A live presentation with "Hacking Your Taste Buds" activities was videotaped in the ACS building with students and teachers from two local Clubs attending in person. Other Clubs attended the party by joining in the fun virtually. The clubs that participated virtually each received a box filled with party materials to do the same activities in their locations. Among the unusual items in the box were nose clips for the "Figure Out the Flavor" taste activity.

Cupcakes were part of that day's celebration. Instead of "Hacking Your Taste Buds," as they did at the party, try this baking activity to "Hack Your Cupcakes" with an ingredient change. The recipe below is taken from the ACS ChemClub Cookbook (p. 80).

Presenter Sally Mitchell and two students explore the link between smell and flavor with nose clips.



Partygoers enjoyed cupcakes during the ChemClub 10th anniversary celebration.



SAFETY

This activity must be done in a food-safe environment rather than in a chemistry laboratory, because participants will be eating and tasting food products. Students with food allergies should confirm they are able to safely perform this activity with the foods used.

- 1 Preheat oven to 350 °F.
 - 2 Mix the first four ingredients in a bowl.
 - 3 Mix the remaining ingredients in a second bowl.
 - 4 Stir the ingredients from the second bowl into the first. Mix well.
 - 5 Pour the mix into six holes of a muffin pan. Bake for 15–18 minutes.
 - 6 Now, brainstorm your recipe for cupcakes 2.0! Choose one ingredient to adjust. Some ideas are: (a) replace baking powder with the same amount of baking soda; (b) increase the amount of baking powder; (c) use sour cream instead of milk; (d) use oil instead of butter; (e) or make another change of your choice. Predict the effect of your change.
 - 7 Repeat steps 1–5, but adjust your selected ingredient.
- How did your first cupcakes compare with the second batch? Did they look different? Taste different? Consider the role that the ingredient you changed plays in the recipe. Why did it change the resulting product?



Missed the ACS ChemClub 10th Anniversary Virtual Party? Watch the "Chemistry—Hacking Your Taste Buds" presentation online (<http://acschemclubs.org/hack-your-taste-buds/>) and download the activities to try yourself!

