Chocolate Crystals Video Activity
Primary Audience: Any

Video:
www.youtube.com/watch?v=uyQwPsxRx6g&list=PLSX0OpzlvPuX0cizdUISUrS6bHpLAkxRo&index=9

Description: Do you have chocolate in your cupboard? Maybe chocolate chips or even candy bars? Then you can explore the science of chocolate!

Keywords: Crystal Structure

Concepts: Making observations, following experimental protocol, modifying an experiment

Part 1: Observe

Materials:
- Any chocolate you have in your cupboard

Instructions:
Carefully observe it to see if you can sort based on whether it is tempered or not.

- Tempered chocolate should have a glossy, smooth surface. It should snap when you break it and should melt in your mouth.
- Chocolate that is not tempered will have a duller look to it, have a rougher texture, may be soft and crumble rather than snapping when you break it, and may even have “blooms” on the surface.

Try to sort your chocolate based on whether or not it is tempered. You may also want to cut a piece of chocolate in half to see if the chocolate looks the same throughout!

Possible Interactive Questions:
- What senses did you use to observe the chocolate? Usually, we don’t use our sense of taste in the lab… but in this case it’s alright!

Part 2: Experiment

Materials:
- Chocolate
- Bowl
Microwave

Instructions:
If you have a lot of chocolate, you can try tempering it yourself! You can find many different tempering recipes online. Here’s one easy recipe from America’s Test Kitchen:

1. Chop your chocolate into fine shards.
2. Melt chocolate in a bowl in the microwave at 50% power until it is mostly, but not fully, melted.
3. Add the remaining chocolate and stir until melting
4. Microwave again for no more than 5 seconds at a time until it is fully melted.
5. Spread onto a surface to cool and harden.

Video for chocolate tempering recipe - https://www.youtube.com/watch?v=p5_kheJtQO4

Further Exploration:
- How did it go? Are there ways in which you could modify the recipe to make it better?

Additional Resources:
Reach out to the COSI Department of Science Content by emailing sciencequestions@cosi.org if you have any questions or comments!