

Creating with Chocolate

Overview:

Chocolate is a delicious and versatile food, and a great way to get kids thinking about pollination, fermentation, geography, culture, and more! While kids have fun designing and creating their own chocolate bars, you can offer them insights into this fascinating food.



Materials:

- Milk, semi-sweet, or dark chocolate (bars are best, because chips often have a coating)
- Double boiler: a small pot and a heat-safe bowl (glass works great) that will rest on top of the pot without touching the bottom of the pot
- Hot plate or stove
- Spatula
- Silicone mold (or cookie cutters on a baking sheet lined with parchment paper)
- Toppings of your choice: nuts, dried fruits, pretzels, potato chips, sprinkles, sea salt, tiny marshmallows, cinnamon, etc.

Approximate Time to Complete: 1 hour

Location: Indoor

Ages: All ages

Season: Any season

Background Information: Chocolate is derived from the cacao plant, which is indigenous to what is today southeastern Mexico, and it first became popular throughout Mesoamerica more than 3000 years ago. The word chocolate stems from the Aztec word "xocolatl," the name of a bitter drink brewed from cacao that was often mixed with chilis, special herbs, honey, and flowers. Ancient civilizations revered the drink and used it in ceremonies and celebrations, and the Aztecs even used cacao beans as currency! The history of how chocolate was introduced to other cultures around the world isn't fully known; however, by the 1500s chocolate had become a favored drink in Spain, following European contact with the Americas. Today cacao trees grow in many warm places on Earth, including the Americas, Africa, Polynesia, and Asia.

Chocolate starts off as seeds (also called beans) that develop in pods on cacao trees. The process of producing chocolate requires multiple steps. Once the cacao beans are freed from their pods, the beans and surrounding white pulp are covered and left to ferment. During the fermentation process, chemical changes occur that develop the chocolate flavor. The beans are then dried and roasted at a low temperature to further develop the flavor. The outer shells are cracked so the cocoa nibs inside can be removed and ground into a paste called cocoa mass. Cocoa mass is then heated to

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make cocoa liquor, and pressed to make cocoa butter and powder. These three products are combined with sugar and sometimes milk to make the chocolate bars and chips that we eat. Cocoa powder is used to flavor a number of foods and drinks, both sweet and savory. Cocoa butter is used as both a food and an ingredient in many body products and cosmetics.

Cacao trees cannot self-pollinate; the flowers depend on chocolate midges (tiny insects) to move pollen from one flower to another. You can learn more about cacao trees and chocolate midges by checking out their [pollinator profile](#).

Instructions:

1. Brainstorm with kids what type of chocolate bar they would like to create. Discuss their options for type of chocolate, toppings, and shapes and decide on design.
2. Gather ingredients and assemble the double boiler. All you need is a pot and a bowl that fits nicely on top. The upper bowl needs to be heat safe (glass works great), and should not touch the bottom of your pot.
3. You can scale this recipe for as much chocolate as you'd like! Just make sure you have a bowl big enough for all the chocolate you intend to melt.
4. Add a small amount of water in the bottom pot, about 1" deep. Place the bowl on top of the pot and turn your burner on low. Don't set the temperature any higher than low or low/medium or your chocolate will split; that is, the fat will separate from the solids, yielding a grainy result.

[Safety Tip: Kids can help with adding the right amount of water to the pot, but adults should handle the pot once the heat is turned on.]

5. Place your chocolate in the bowl of your double boiler. When it starts to melt, stir occasionally. Engage kids with observational assessments: "Do you think it's ready? Is all the chocolate melted?" Once all chocolate is melted, turn off the heat.



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6. Pour the chocolate into your mold of choice. Silicone molds like the one pictured are great for shaping your chocolate into snappable bars, but you can also create fun shapes by placing cookie cutters on top of a parchment paper-lined baking tray and pouring the chocolate into them. Just keep in mind that it will be tough to bite or snap a piece off of any shape that's thicker than 1/3 inch.



7. Once your chocolate is poured, sprinkle toppings on top and gently press them into the chocolate.

[Safety Tip: Chocolate should be hot but not scalding if all melting was done on low heat, but do a quick temperature test before letting kids add toppings.]

There are so many possibilities! Candied or freeze-dried fruits, chopped nuts or salty snacks, spices or sprinkles, let the kids decide! They can also try getting creative with mixed toppings, and topping placement.



8. Place chocolate into the refrigerator for around thirty minutes to set, and then carefully take off molds and enjoy!



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