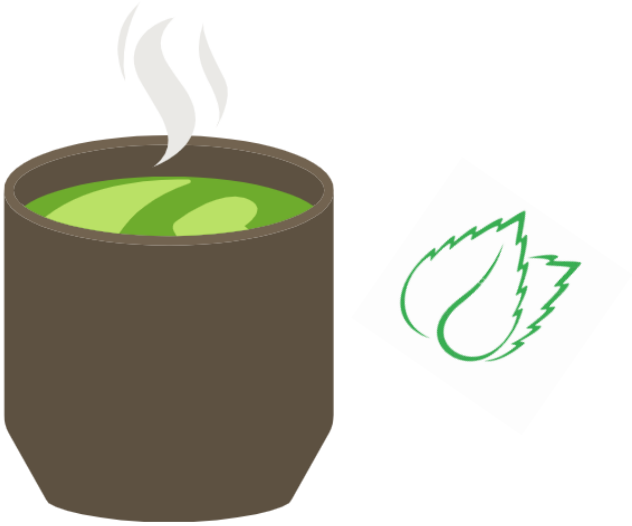
Carry Out Science: Mint Tea

Description: Make a “cool” tea and learn about the science behind mint!



Grades: 4 and up
Ability Level: Easy
Time: 5-10 minutes
Servings: 1-2 cups of tea

Tools:

- Pot to boil water (or electric kettle)
- Stove
- Spoon for stirring
- Mug
- Strainer (optional)

Ingredients:

- 10-15 fresh mint leaves (spearmint or peppermint)
- 2 cups water

Instructions:

1. Bring 2 cups of water to a boil (either on the stove or using an electric kettle).
2. Remove from heat and add mint leaves.
3. Let steep for 3-5 minutes. Stir with spoon.
4. Strain mint leaves (optional).
5. Pour into mug and enjoy!

Play with your Food!

Try adding a sweetener to your tea, such as sugar, stevia, or honey. Or experiment by adding other plants to the mix, such as lemon or orange juice, lavender, or ginger root. For iced tea, let cool and add some ice cubes or store your tea in the fridge for up to 2 days.

A Useful Herb

Although it’s unclear exactly how many species of mint (*Mentha*) exist, some estimate between 15-20 species. Spearmint and peppermint are the most commonly grown species in the West. These species have many culinary uses and are included in various beverages, jellies or sauces, desserts such as ice cream, and as flavoring in products like toothpaste or chewing gum. Mint also has some medicinal uses. For example, large concentrations of mint have shown promising results in reducing gastrointestinal pain after surgery, relieving tension headaches, and helping patients with breathing issues.

Cool Facts

Thermoception refers to our ability to detect changes in temperature. We detect a "cool" sensation from mint when the active ingredient in mint – called **menthol** – interacts with TRPM8 proteins in our body. As menthol molecules bind to the TRPM8 proteins, the proteins send signals to our brain that the temperature has dropped. This signal is intended to prevent you from eating something dangerous, but minty and spicy foods use this signal as a way to defend themselves (to avoid being eaten). This defensive strategy is so effective that humans and **tree shrews** (pictured below) are the only known mammals that will intentionally eat spicy food.

Menthol's cooling effect is the result of confusion to our senses, not an actual temperature change.

Explaining: Why does mint taste 'cold' and spice taste 'hot'?

Click here to learn more about **thermoception.**

https://www.youtube.com/watch?v=gwUN8XK3ZO8

Minty Questions

What questions do you have? Can you develop one for each of the categories below?

Noticing: _____?

Example: What do you notice about the fragrance of the mint leaves? Try rubbing the leaves between your fingers or tearing the leaves to release the scent.

Comparing: _____?

Example: What is different about the smell of the leaves before and after they are put into the hot water?

Predicting: What do you think would happen if (fill in the rest)

_____?

Experimenting: How could you test to see how the mint leaves are affected by different temperatures of water?

Food for Thought

Share your experience! Scan the code on the left with your smart phone's camera to take a brief survey that will help us improve this recipe for families like yours!

https://kent.qualtrics.com/jfe/form/SV_401gFT0z9eogZox