



## Activity Guide

# Olfactory Adaptation

### Module

Smell

### Materials required

- One or more scents. We suggest food items such as onions, citrus fruits or ground coffee
- Many buildings have policies against strong artificial fragrances, such as perfume
- Knife to cut the onion or fruit in half
- Optional: Parachute Brain Waves Student Activity Booklet

### Preparation instructions

You do not need to prepare any materials in advance for this activity.

### Activity instructions

1. If using onions or fruit, cut them in half.
2. Distribute the items around the classroom.
3. Right away, ask participants to rate the strength of the smell on a scale from 1 to 10. If using the Activity Booklet, have participants record their rating in their booklets.
4. Discuss why the ability to smell is important, and why losing this sense might be dangerous. (E.g., Smell helps us know when food is rotten or when we are danger, such as smelling gas or smoke)
5. Explain what **anosmia** is. Anosmia is the inability to smell. It can be caused by head injuries and some diseases like Parkinson's disease. Ask participants: What scent would you miss if you couldn't smell?
6. Now that some time has passed, ask participants to rate the strength of the smell again. They should rate the scent lower than before, as they have adapted to the smell.

### Reinforce these learnings

- Adaptation happens when a stimulus (such as food or fresh paint) is present for a long time. Essentially, your brain stops paying attention to a smell after a while so that you can detect new smells. If we smelled everything all the time, we would be overloaded with stimulants.
- When the stimulus is removed (for example, you leave the room), you eventually become sensitive to the smell again. Adaptation is different from anosmia, which is the permanent loss of smell.

### Reinforce these injury prevention messages

- Protect your sense of smell by protecting your brain! Wear your helmet, wear your seatbelt, follow safety rules, etc.