



Grade Levels: Grades 7 and 8

Duration: About 1 Hour

Lesson Plan - Addiction in the Brain

Created through a collaboration between the School for Science and Math at Vanderbilt and the Vanderbilt Center for Addiction Research

Key Topics Addressed:

- Brain Development in Adolescents
- Addiction as a Brain Disorder
- The Reward System

Components of Lesson:

- Interactive presentation which uses Google Slides and Mentimeter
- Kahoot

Tennessee Science [Standards](#) Addressed:

- LS1: From Molecules to Organisms: Structures and Processes
 - A. Structure and Function
 - B. Growth and Development of Organism
- Science Values Declaration
 - Consider trade-offs among possible solutions when making decisions about issues for which there are competing alternatives.

Intended Learning Outcomes:

Students will be able to answer the following questions:

- What is addiction? Is it a disease? Why?
- What parts of the brain does addiction impact?
- How does addiction impact the development of the adolescent brain?
- How does nicotine impact neurotransmitters in the brain?
- What is withdrawal?
- What is the reward system and its role in addiction?

Preparation:

- *Mentimeter:* Slides 5 and 11 of the presentation include questions that refer to Mentimeter.
 - If you are intending to use this resource, please create a free Mentimeter account at [mentimeter.com](https://www.mentimeter.com).

- Then, access the questions using the following link:
<https://www.menti.com/bets9b12g3>. For students to participate in the Mentimeter, they will enter the code located at the top of the Mentimeter slide at menti.com and note their responses in the browser.
 - Their responses will show up anonymously on the presenter's screen in real-time.
- *Presentation:* Please use the following link to access the presentation: [What is Addiction? - Presentation](#)
- *Kahoot:* If you are intending to use the Kahoot as a part of your lesson, first create a free Kahoot account at kahoot.com. Then, access the Kahoot game using the following link:
<https://create.kahoot.it/share/2022-vcar-kahoot/9c4bb4b0-473b-4e5c-be54-d9c7a1433af3>.
 - For students to participate in the Kahoot, they will visit kahoot.it and plug in the code located on the presenter's screen. Then, they will be able to take part in the quiz controlled by the presenter.
 - Note: Using a free Kahoot account, only 10 participants can play the game at one time. If you intend to have more than 10 players, consider having students play the game in groups.