

# Understanding THE OPIOID EPIDEMIC



## How Opioids Change the Brain

Grades 7-8

1 class period

### Program Segment(s)

- Dealing with Addiction (approximately 15 minutes)

### Objectives

Students will be able to:

- Explain why addiction is medically classified as a disease.
- Define the function of the related brain structures.
- Understand the physical changes that occur in the brain following drug use.
- Understand how the chemical changes in the brain pave the road for relapse.
- Describe the causes of transition from prescription opioids to heroin use.

### Instructional Resources

- *Understanding the Opioid Epidemic*
- Video: *The reward circuit- How the brain responds to natural rewards and drugs.*  
<https://teens.drugabuse.gov/videos>
- Disease definition poster (included)
- Parts of the brain posters (included)
- <https://teens.drugabuse.gov/drug-facts/brain-and-addiction> - to share with students
- Loose leaf paper
- Pencils, highlighters, colored pencils

### Procedures

1. Prior to watching segments from *Understanding the Opioid Epidemic*, the teacher will post the following focus questions on the board:
  - a. **Why do you think addiction is medically classified as a disease?**
  - b. **What are some reasons for the common transition from prescription drug use to heroin use?**
2. Students will watch the program segments and take notes related to the focus questions.
3. Teacher will encourage students to share their notes and answers to the focus questions.
  - a. Teacher will display the disease definition poster and prompt students to refine their answers to question 1 if necessary.

- b. Answers to question 2 should encompass the following: *Once a script runs out, users still feel a need for the high. Heroin gives a similar feeling and can be acquired much easier off the streets for a lesser cost.*
4. Teacher will display the Parts of the Brain posters around the room. As the teacher reads the definitions, students should move and stand next to the structure being defined. Explain to students that these definitions occur in a non-users brain normally.
  - a. **Limbic system**-the portion of the brain which is responsible for the basic emotions (fear, pleasure, anger) and motivations (hunger, sex, dominance, care of offspring)
  - b. **Dopamine**-a natural chemical in the brain which creates a sense of euphoria and signals the body to repeat a behavior
  - c. **Neuron**-specialized cells in the brain which communicate and send nerve impulses throughout the body
  - d. **Dopamine Receptors**-proteins on the receiving neuron which bind with dopamine and send a signal to repeat the behavior
  - e. **Dopamine Transporters**-proteins on the sending neuron which pump dopamine to the receiving neuron and take back any excess dopamine
5. Students will watch the 2 minute video The Reward Circuit  
<https://teens.drugabuse.gov/videos> (from NIDA for Teens).
6. Teacher will go to the webpage: <https://teens.drugabuse.gov/drug-facts/brain-and-addiction> and review with students being sure to point out details such as brain function and risks of addiction. Students should take notes while reviewing the webpage.

## Assessment

Using all of their notes and the information learned from the videos, students will be given the rest of class to write a 1 page response to the following question:

### ***How does opioid use physically change your brain function?***

### Adaptations (Grades 9-12)

- Students will also create his/her own “Did You Know?” poster which highlights the changes in the brain caused by opioid use. Posters should be colorful and visually appealing. After grading, students must find a place in their community to post their work. (Their school, library, church, community center, etc.) OR
- Students will engage in a writing contest to create a PSA which highlights the changes in the brain caused by opioid use. The winning PSA can be used on the morning announcements or on local radio if possible.

## National Health Standards

- Standard 1 - Students will comprehend concepts related to health promotion and disease prevention to enhance health.
- Standard 5 - Students will demonstrate the ability to use decision-making skills to enhance health.

- Standard 7 - Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.
- Standard 8 - Students will demonstrate the ability to advocate for personal, family, and community health.