The Science of Addiction

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- A message from Dr. Nora Volkow,
Director of NIDA

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 Why drug addiction is a disease

In This Installment

- How drug addiction changes the brain
- The latest research

Assessment Tools

Use the Activity
Reproducible on the back
of this page as an
Assessment Quiz to
determine what your
students have learned
about drug addiction.

More Information

For access to more information for teens on addiction research, visit www.teens.drugabuse.gov.

For help with a drug problem, call the National Addiction Treatment Hotline at 1-800-622-HELP or go to www.findtreatment.samhsa.gov.

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Dear Teacher:

The National Institute on Drug Abuse and Scholastic realize that teachers can have a major impact on protecting children from becoming addicted to drugs of abuse. That is why we continually strive to provide you and your students with science-based facts about drugs and their dangers.



Over the course of the next few months, we will bring you a series of articles about addiction that will help students understand the effect of addiction on teen brains and bodies.

We appreciate all your efforts in helping your students get the real facts about addiction and how it can affect them.

Sincerely,

Nora D. Volkow, M.D. Director of NIDA

Lesson Plan & Reproducible

Preparation: Before displaying the lesson, make two photocopies of the Student Activity Reproducible for a pre- and post-lesson quiz.

Lesson 1: Heads Up: What Do You Know About the Science of Addiction?

OBJECTIVE To test students' self-knowledge about drug addiction before and after reading the article.

NATIONAL SCIENCE EDUCATION STANDARDS

Life Science; Science in Personal and Social Perspective

WHAT YOU WILL DO

- Ask students, What do you think addiction is? and How do drugs affect the brain to cause addiction? Give students time for discussion.
- Distribute copies of the Student Activity Reproducible. Tell students to write their name on the paper, and answer the questions.
- Have students silently read the article "The Science of Addiction" in their magazine. When they have finished, begin a discussion by asking: Why is the teen brain especially susceptible to the effects of drug abuse? What are some of the risk factors that lead to drug abuse and addiction? How can prescription drugs be just as dangerous as street drugs?
- After the discussion, tell students you are going to find out if they know more about drug addiction and their brains than they did before.
- Wrap up the lesson by asking students: Why are drugs addictive? What can you do to prevent drug addiction?

ANSWERS TO REPRODUCIBLE:

1. c & d; 2. d; 3. b & c; 4. a, b, & c; 5. a; 6. a; 7. a, b, & c; 8. true; 9. true; 10. true.

For printable past and current articles in the **HEADS UP** series, as well as activities and teaching support, go to **www.drugabuse.gov/parent-teacher.html** or **www.scholastic.com/HEADSUP**.



CTIIDENT	ACTIVITY	REPRODUCIBLE	\cap	\bigcirc	\bigcirc

What Do You Know About the Science of Addiction?

Answer the questions below to find out what you know about drugs and drug addiction. For multiple choice questions, there may be more than one answer.

- 1. Drug addiction can be defined as
 - a. a bad habit.
 - b. the use of illegal drugs.
 - c. a chronic, relapsing disease.
 - d. a complex and developmental disease.
- 2. Which of the following are characteristics of the disease of drug addiction?
 - a. compulsive drug seeking
 - b. neurochemical changes in the brain
 - c. molecular changes in the brain
 - d. all of the above
- 3. The brain recognizes the prescription drug OxyContin in the same way that it recognizes
 - a. caffeine.
 - b. heroin.
 - c. Vicodin.
 - d. water.

- 4. The disease of drug addiction is associated with
 - a. HIV/AIDS.
 - b. viral hepatitis.
 - c. mental disorders.
 - d. none of the above.
- 5. The prefrontal cortex—located just behind the forehead—is the part of the brain that governs
 - a. judgment and decision-making.
 - b. speech.
 - c. vision.
 - d. movement.
- 6. The PET in "PET scans" stands for
 - a. positron emission tomography.
 - b. proton emulsion tomography.
 - c. positron emission temperature.
 - d. proton-electron temperature.

- 7. Which of the following is a factor in whether someone becomes addicted to drugs?
 - a. genes
 - b. environment
 - c. age of first use
 - d. none of the above
- 8. Exposure to drugs during the teen years may affect the likelihood of someone becoming an addict in the future.
 - a. true
 - b. false
- 9. Anyone who sells medications prescribed to them could be called a drug dealer and is subject to criminal prosecution.
 - a. true
 - b. false
- 10. People, places, and things related to a particular drug experience can, at a later time, trigger another drug experience.
 - a. true
 - b. false