



## DRUGS 301

### DESCRIPTION

Ancient remains studied by anthropologists show us that humans have been using plants as medicine for thousands of years. Why are there so many deaths from prescription medications today? Learn the science behind chemical addiction and find out what physical consequences arise from the use of different categories of drugs. Modeled and preserved animal organs will impress upon students the powerful effect drugs have on specific human organs, and our lives.

### OBJECTIVES

- Identify specific chemical actions of different drugs (inhalants, stimulants, depressants, hallucinogens, cannabis, narcotics, and steroids)
- List physical effects drugs can have on specific organs of the body
- Describe how drugs interrupt normal brain activity by changing the communication pathways between neurons and affect neurotransmission

## OHIO'S LEARNING STANDARDS

Grade (Grades 7 - 12)

### National Health Education Standards

**Grades 7-12:** Standards 1, 2, 3, 5, 6

- **Standard 1:** Students comprehend functional health knowledge to enhance health
- **Standard 2:** Students analyze the influence of family, peers, culture, social media, technology, and other determinants on health behaviors.
- **Standard 3:** Students demonstrate health literacy by accessing valid and reliable health information, products, and services to enhance health.
- **Standard 5:** Students demonstrate effective decision-making skills to enhance health.
- **Standard 6:** Students demonstrate effective goal-setting skills to enhance health.





## How You Can Help Us Make This Virtual Field Trip A Success

- If your students are joining us from your classroom computer, please arrange your room and projection screen so everyone can see us clearly.
- If you and your students are joining us from your homes, we will have an educator monitoring the Chat feature for questions. We request that you or another staff person serve as a Co-Host to help monitor students for any inappropriate Chat or camera behavior.
- If you have a hybrid class (some at school, some joining from home), our educator will monitor the Chat and camera behavior, and we reserve the right to temporarily move any disruptive students to our Waiting Room so we or school staff can correct the undesired behavior. Please have student desks clear before the program begins.

## VOCABULARY

**addiction** – psychological or physical dependence on a substance, in which unpleasant or life-threatening symptoms of withdrawal are felt if the substance is removed from the body.

**alcohol** – ethanol, or ethyl alcohol, is the kind that can be ingested and processed by the body. Other types (isopropyl, rubbing alcohol, denatured alcohol, etc.) are poisonous.

**barbiturate** - a group of drugs in the class of drugs known as sedative-hypnotics, which generally describes their sleep-inducing and anxiety-decreasing effects. They bind to the same receptors as the neurotransmitter GABA.

**benzodiazepines** - enhance the effect of the neurotransmitter gamma-aminobutyric acid (GABA) resulting in sedative, hypnotic (sleep-inducing), anxiolytic (anti-anxiety), anticonvulsant, and muscle relaxant properties.

**cannabis** - short for *Cannabis sativa (or indica)*, the scientific name for marijuana.

**depressant** – drug that lessens or slows nervous system activity.

**dopamine** – A neurotransmitter responsible for feeling pleasure and reward for behaviors your brain deems “good,” like eating, or socializing.



# TEACHER GUIDE



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**drug** – any chemical substance that, when put into the body, causes some change to occur. This change may be in mental state or bodily functions.

**drug abuse** – the use of a drug in a manner not intended by the prescribing doctor or manufacturer. Also, a term for using much more of a drug than is recommended, or the use of illegal street drugs.

**GABA** - *gamma*-Aminobutyric acid, a neurotransmitter that typically has relaxing, anti-anxiety, and anti-convulsive effects, and also regulates muscle tone in humans.

**hallucinate** – to perceive sights, sounds, or other sensations that are not actually present.

**inhalants** – drugs that are breathed into the lungs for effect, also other substances not specifically defined as drugs that have drug-like effects when inhaled.

**Naloxone** – a drug that is administered by injection or as a nasal spray to reverse the effects of opioids, especially in the emergency treatment of opioid overdose. One of the trademarked names of this drug is **Narcan**.

**narcotics** – addictive drugs, such as opium, that reduce pain, alter moods and behavior, and usually induce sleep or stupor. Natural and synthetic narcotics are used in medicine to control pain.

**norepinephrine** – also known as *adrenaline*, is a neurotransmitter that is responsible for feeling arousal and alertness.

**opium** - a bitter brownish addictive narcotic drug that consists of the dried latex obtained from immature seed capsules of the opium poppy.

**opiates** - a drug (such as morphine or codeine) containing or derived from opium and tending to induce sleep and alleviate pain.

**opioids** - A substance used to treat moderate to severe pain. Opioids are like opiates, such as morphine and codeine, but are not made from opium. Opioids bind to opioid receptors in the central nervous system. Opioids used to be called **narcotics**.

**serotonin**- works as a neurotransmitter in the brain, often associated with maintaining mood balance.

**steroids** - any of a group of synthetic derivatives of testosterone that promote muscle and bone growth. These drugs also have effects on skin, bone, and sexual health.



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**stimulants** – chemicals that cause increased activity of systems in the body.

**withdrawal** – the process of giving up use of a narcotic drug, typically accompanied by distressing physical and mental effects.

## EXTENSION ACTIVITIES

### What's on the KidsHealth.org website?

- a. Pair up or work individually to search the "Teens" section of [www.KidsHealth.org](http://www.KidsHealth.org) for more information on drugs and alcohol. If this activity is done at home, please encourage them to do this with their parents, or guardians.
- b. Try and locate information on a specific drug or class of drugs and how they affect the body, especially information that is new, and write a brief summary to share with the class. What are some other resources for accurate information on drug use?
- c. Use the information to create a "Real Cost of Drugs" advertisement.

### Does popular music encourage drug use?

- a. Play popular songs that are currently being streamed that mention drug use.
- b. As a class or in small groups, play the music and have the students read the lyrics to these songs. While you listen, discuss the following questions:
  - a. Are drugs mentioned directly, indirectly or metaphorically in the song?
  - b. Does the song suggest or promote drug use in any way? Explain.
  - c. What type of message does this song send concerning drug use? Why?
  - d. What attitudes do the writers and performers of this music have towards drug use? Does this influence the attitudes of the listeners to drug use? Why or why not?

