The Real Risks of Marijuana

More and more states have made it legal for adults to use marijuana—but this drug still poses serious dangers for teens.

As of 2019, 11 states and the District of Columbia have passed laws that legalize the recreational use of marijuana for adults. These new laws may make you think that the drug is safe. But marijuana poses very real risks—especially to teens.

Marijuana contains a chemical compound called THC (delta-9-tetrahydrocannabinol). Like other drugs, THC changes the way the brain functions by altering communication between nerve cells, or neurons. The presence of THC in the brain can impact coordination and reaction time—making it dangerous to drive, ride a bike, or play sports.

THC use is also associated with

problems with attention, memory, learning, and decision-making. These effects can last for days or weeks, which may depend on how often someone uses marijuana.

Another danger: Marijuana is far more potent than it used to be. The average amount of THC in marijuana today is more than triple the amount found in marijuana 30 years ago. Inhaling or ingesting too much THC can land you in the emergency room with severe symptoms like increased heart rate, extreme shaking, and hallucinations.

Using drugs—including marijuana—in adolescence may have long-lasting impacts on brain function.

Teens at Risk

Your teen brain is still developing, and won't be fully formed until your mid-20s. Everything you do during this critical time can affect your brain. Learning a new skill, such as playing the guitar, can strengthen connections between your brain's neurons that help hand-eye coordination. But using drugs—including marijuana—can negatively impact your brain development. The brain changes that lead to memory and learning problems may become permanent and last through adulthood.

Since the teen brain is still developing, adolescents have a higher risk of developing an addiction than adults. THC causes the brain to release the chemical dopamine, which is connected to the development of cravings and addiction. Studies show that people who begin using marijuana recreationally before age 18 are four to seven times more likely to develop what is called *marijuana use disorder.* The most severe forms of this disorder are considered *addiction*, a disease where the user has a hard time quitting, even if they experience negative consequences from their drug use.

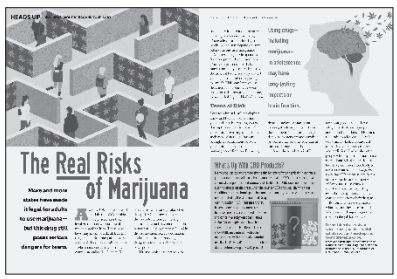
Bottom line: It doesn't matter what the state laws are for adults. Marijuana is dangerous (not to mention illegal) for teenagers.

What's Up With CBD Products?

Many products today promote the health benefits of the chemicals in cannabis (another name for marijuana). For example, so-called **CBD** products contain a chemical compound called **cannabidiol**. Unlike THC, CBD does not have mind-altering effects on the brain. Over-the counter CBD products claim to treat conditions such as chronic pain, insomnia, and anxiety. But these products are not regulated by the U.S. Food and Drug Administration (FDA). This means they haven't gone through rigorous testing to make sure they are safe and effective and contain exactly what their labels claim. For example, some have been shown to contain THC. Research also shows CBD may interact with other medications—with potentially harmful results. That's why it's critical to talk to a doctor before taking any CBD product.

For additional facts about science and your health, visit **scholastic.com/headsup** and **teens.drugabuse.gov**.

From Scholastic and the scientists of the National Institute on Drug Abuse, National Institutes of Health, U.S. Department of Health and Human Services



The Real Risks of Marijuana

As many states legalize the recreational use of marijuana for adults, teens may be getting the message that the drug is safe. While marijuana is the most commonly used illicit drug among middle and high school students, the drug poses serious health risks to teens. By sharing the student article "The Real Risks of Marijuana," teaching the lesson, and engaging students with the activity sheet, you'll help students understand the dangers of marijuana use.

Reading Comprehension Questions

1 How does marijuana affect the brain? *(The chemical compound THC alters the communication between neurons. This can affect coordination and reaction time, and is associated with problems with attention, memory, learning, and decision-making.)*

2 Why are teens more vulnerable to the harmful effects of marijuana? *(The brain continues to develop until the mid-20s. Using drugs—including marijuana—can negatively impact brain development. Since the adolescent brain is still developing, these changes may be long-lasting.)*

3 Why may CBD products not have the health benefits they claim? *(CBD products are not FDA-regulated, so they have not been rigorously tested by an independent agency to make sure they are safe and contain exactly what their labels claim.)*

Critical-Thinking Writing Prompts

Grades 6–8 Use your own words to explain how marijuana use can cause changes to a person's brain.

Grades 9–10 Describe at least two ways marijuana use may negatively impact a person's life in the long term.

Grades 11–12 Imagine that you have a friend who is using marijuana. What would you say to them to convince them to stop?

Paired Reading

"The Science of Marijuana: How THC Affects the Brain" (http://headsup.scholastic.com/students/the-science-of-marijuana)

Writing Prompt Explain why using marijuana could have a negative impact on a student's performance. Use evidence from "The Science of Marijuana: How THC Affects the Brain" and "The Real Risks of Marijuana" to support your reasoning.

Student Activity Sheet

Distribute the activity sheet before students read the article and direct them to record their answers in the Before Reading section. Then have them complete the activity after reading the article. Answers:

1. False. Supporting evidence may include: Marijuana today contains roughly three times the concentration of THC than the drug did 30 years ago. People can end up in the emergency room with severe symptoms after taking too much THC.

2. False. Supporting evidence may include: Teens who use marijuana recreationally are four to seven times more likely than adults to develop what is known as marijuana use disorder.

3. False. Supporting evidence may include: Marijuana is associated with problems with attention, memory, learning, and decision-making. Using marijuana can cause people to develop marijuana use disorder. The severe types of this disorder are considered addiction. Inhaling or ingesting too much THC can result in people ending up in the emergency room.

4. True. Supporting evidence may include: Marijuana can lead to problems with attention, memory, and learning. These effects may last for days or weeks.

5. True. Supporting evidence may include: Marijuana (specifically, the presence of THC in the brain) can impact a person's coordination and reaction time, making it dangerous to drive a car.

6. False. Supporting evidence may include: Teens are more susceptible to the effects of drugs like marijuana because their brains are still developing. Drug use during the time of adolescent brain development may have long-lasting impacts on brain function. Because their brains are still developing, teens also have a higher risk of becoming addicted to marijuana.

Subject Areas

- Science Literacy
- English Language Arts
- Health/Life Skills

Standards

Common Core State Standards (CCSS)

RST.6-8.1 / RST.9-10.1

- Cite specific textual evidence to support analysis of science and technical texts

Next Generation Science Standards (NGSS)

Practice Obtaining, Evaluating, and Communicating Information

Cross-Cutting Concept Cause and Effect: Mechanism and Prediction

Core Idea LS1.A: Structure and Function

National Council for the Social Studies (NCSS)

8. Science, Technology, and Society

Additional Lesson Resources

- Tiered Vocabulary Tools: Visit **scholastic.com/headsup/realrisksofmarijuana** for a vocabulary list to support this article.
- **headsup.scholastic.com/teachers**
- **teens.drugabuse.gov**

NIH National Institute on Drug Abuse

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Learn the Truth About Marijuana

Directions: Before reading "The Real Risks of Marijuana," read the statements below and note whether you think they are true or false in the column to the left. Then, read the article.

After you have finished, reread the statements and record the correct answers based on what you learned. In the right-hand column, record at least one piece of evidence from the article that supports your answer for each statement.

BEFORE READING	CLAIM	AFTER READING	SUPPORTING EVIDENCE
○ TRUE ○ FALSE	**1.** Marijuana is safer today than it was in the past.	○ TRUE ○ FALSE	
○ TRUE ○ FALSE	**2.** Marijuana is not addictive.	○ TRUE ○ FALSE	
○ TRUE ○ FALSE	**3.** Using marijuana is now legal in many states because, unlike other illicit drugs, it is completely safe.	○ TRUE ○ FALSE	
○ TRUE ○ FALSE	**4.** Using marijuana could affect a person's performance in school.	○ TRUE ○ FALSE	
○ TRUE ○ FALSE	**5.** Using marijuana can affect a person's ability to drive.	○ TRUE ○ FALSE	
○ TRUE ○ FALSE	**6.** Teens are less susceptible to the effects of marijuana than adults.	○ TRUE ○ FALSE	

For more information, visit **scholastic.com/headsup**

From Scholastic and the scientists of the National Institute on Drug Abuse, National Institutes of Health, U.S. Department of Health and Human Services

VOCABULARY LIST

The Real Risks of Marijuana

HEADS UP

The Real Risks of Marijuana

More and more states have made it legal for adults to use marijuana—but this drug still poses serious dangers for teens.

Using drugs—including marijuana—in adolescence may have long-lasting impacts on brain function.

Teens at Risk

What's Up With CBD Products?

Find the article at:
scholastic.com/headsup/realrisksofmarijuana

addiction *(noun)*: a brain disorder or illness associated with compulsive (uncontrollable) behavior, such as drug use, despite negative consequences

adolescent *(noun)*: a young person who is developing into an adult

alter *(verb)*: to make different

CBD *(noun or adjective)*: abbreviation for cannabidiol; name given to products that contain the chemical compound cannabidiol. CBD is a chemical compound found in the hemp plant that does not have mind-altering effects (like marijuana).

chemical compound *(noun)*: a substance that is a mix of elements made by a chemical process

chronic *(adjective)*: occurring over a long period of time or repeatedly

dopamine *(noun)*: a chemical in the brain that helps send signals between nerve cells and is associated with feelings of pleasure

hallucination *(noun)*: the perception of objects that are not real

ingest *(verb)*: to take in the body for digestion

insomnia *(noun)*: inability to get enough sleep over a long period of time

marijuana *(noun)*: dried leaves and flowers of the hemp plant that can be used as a drug

marijuana use disorder *(noun)*: a brain disorder associated with a physical dependence on marijuana, so that when a person tries to stop using it they experience symptoms such as cravings

neuron *(noun)*: a specialized cell that is part of the nervous system in the body and sends out and receives nerve signals. Also called a nerve cell.

potent *(adjective)*: having a powerful effect

rigorous *(adjective)*: very strict