

Say “YES” to a Healthy Lifestyle



Discovery
EDUCATION



GRADE
RANGE
5–7

RISKY BEHAVIOR | CLASSROOM ACTIVITY

ASK, LISTEN, LEARN MARIJUANA AND ADOLESCENT HEALTH

Learning Objectives

Students will:

- **Analyze** scientific and health data on medical and recreational cannabis
- **Evaluate** government involvement in protecting health
- **Create** a piece of legislation that proposes a strategy for government regulation in favor of or opposed to mandatory comprehensive health education requirements in public schools

Overview

In this activity, students explore the evolution of federal and state regulations around medical and recreational cannabis. Using science and health data, students will delve into the recommendations for minimum age requirements for cannabis use and why this is important and leads to legislation. They will then simulate the role of elected officials that must state their position on another topic that is also often discussed and debated: the importance of health education in schools. They will use their learnings to develop a piece of legislation that makes a recommendation and/or validates their position.

Target Audience

Grades 5–7

Activity Duration

60 minutes

Essential Questions

- Why is it legal to use some substances but illegal to use others?
- Why do we have public health regulations?
- Why are there minimum age restrictions in general? For instance, legal age to drive or rent a car, obtain a marriage license, drink alcohol, and enroll in the military
- Should the government also place regulations on education and wellness-related issues such as health education in schools?

Materials

- Computers with access to the internet
- Index cards
- Writing utensils
- *Drugs and Adolescent Health* student handout
- *Fast Facts: Marijuana* student handout and capture sheet
- *Become a Legislator* student capture sheet

Optional Resources

- [National Institute on Drug Abuse Teacher's Guide: The Real Risks of Marijuana](#)
- [Proceedings of the National Academy of Sciences of the United States of America: Long-Term Effects of Marijuana Use on the Brain](#)

- **ADD THE ALL LESSON PLAN WHEN WE'RE READY TO LAUNCH**

Teacher Preparation

Prepare for this activity by reviewing the [brain, body, and behavior](#) activities from *Ask, Listen, Learn* in partnership with Discovery Education. Be sure to preview the [National Institute on Drug Abuse for Teens: Marijuana Drug Facts](#) page, which students will use to learn more about marijuana and how it affects the developing brain.

Procedure

1. Engage students with a pre-assessment. Give each student an index card and ensure that everyone has a writing utensil. Instruct students to number their index card A through D. Now, ask the following questions and have the students record their answers on their card:
 - a. What is the minimum legal age for using tobacco? **21—this was just changed! Prior to recent legislation, the legal age of use was 18**
 - b. What is the minimum legal age for using alcohol? **21**
 - c. What is the minimum legal age for using caffeine? **None—legal at all ages**
 - d. What is the minimum legal age for using marijuana? **It depends—marijuana is illegal at the federal level, but legal in some states. You have to be 21 in states that have legalized marijuana for recreational use. Some states allow children under 18 with extreme medical conditions to be treated with marijuana.**
2. When students have completed their pre-assessment, read the answers to the questions aloud one by one. Ask students what was surprising about the questions. Did the recent change in legal age for tobacco use stump anyone? How about the complexities of marijuana?

3. Give students a quick overview of the United States’ public health structure¹:
 - a. The U.S. Department of Health and Human Services (HHS) was formed in 1954, but the United States has developed public health legislation since 1798, when the government passed an act for sick and disabled sailors. This was the very early beginning of the U.S. Public Health Service.
 - b. HHS is comprised of 11 agencies. These include the Center for Disease Control, Food and Drug Administration, National Institutes of Health, and so on. The Food and Drug Administration (FDA) is the agency responsible for setting rules around legal drug use.
 - c. The 11 agencies create regulations, or “rules,” under the authority of Congress. These rules work like laws.
 - d. The Secretary of Health and Human Services is appointed by the President of the United States and serves in the cabinet. Depending on the target audience, you may want to include all of these talking points or focus on statements b and c.
4. Explain to students that legislation can be informed by health data. Scientists work together with legislators to help us make laws that protect people based on their findings and recommendations. Sometimes laws have age restrictions to protect your developing brains and growing bodies. Students will be evaluating different health data to see how they have driven laws.
5. Divide students into pairs. Hand out the *Drugs and Adolescent Health* student handout, giving one to each student. Instruct each pair to review the information on the handout about the health information for alcohol and marijuana. Provide pairs with approximately five minutes to read the handout.
6. Make sure that each pair of students has access to a computer. Direct students to navigate to the website teens.drugabuse.gov/drug-facts. Instruct them to click on the “marijuana” section of the website. Guide students to review the website and identify five short-term and five long-term health effects of marijuana use on teens. After 5–10 minutes, ask 1–2 student pairs to share the effects they have identified with the class. If computers are not available, there is a handout, *Fast Facts: Marijuana* with key information below.
7. Watch [this video](#) from *Ask, Listen, Learn* that talks about the effects of underage cannabis use on the developing brain.
8. Invite students to reflect on their learning by asking the following question:
 - a. Why is it important we investigate the difference between the health impacts on teens and adults? What does that have to do with writing and enforcing laws?
 - b. In addition to preventing underage drinking and underage marijuana use, should the government also play a role by creating legislation that enforces health education standards in public schools?
9. Distribute the *Become a Legislator* student capture sheets, providing one to each student.

¹ <https://www.hhs.gov/about/agencies/hhs-agencies-and-offices/index.html>

10. While creating legislation that sets a minimum age for activities such as drinking alcohol or using marijuana, legislators must do research and present their arguments to help their position move forward to become a law. Explain to the students that this is what is happening in many states in regard to marijuana.
11. Invite students to take on the roles of legislators who are working on another important issue that is affecting today's youth: health education in public schools. Their statement must include:
 - a. The purpose of the legislation for or against having mandatory health education for students
 - b. At least three facts about the health risks associated with underage marijuana use or underage drinking and why they should be taught in schools
 - c. The intended effect of the law
 - d. A justification for why this law is the best response to prevent health risks associated with living an unhealthy lifestyle
 - e. A plan for implementing the law
12. Give students 20–30 minutes to draft their legislation. When they are finished, direct students to share their health education standards suggestion. Record these in a place where the class can easily see them. When all students have shared their recommendations, analyze any patterns in the data.
13. Guide students through a reflection of their learning by asking the following: how can the government encourage health education?

Additional Resources for Students

- [Tobacco 21 \(U.S. Food and Drug Administration\)](#)
- [High-Risk Substance Use Among Youth \(Centers for Disease Control and Prevention\)](#)
- [A Chronology of Public Health Milestones \(World Health Organization\)](#)
- [Ask, Listen, Learn: Kids and Alcohol Don't Mix](#)

National Standards

C3 Framework for Social Studies State Standards

D2.Civ.3.6-8. Examine the origins, purposes, and impact of constitutions, laws, treaties, and international agreements.

D2.Civ.5.6-8. Explain the origins, functions, and structure of government with reference to the U.S. Constitution, state constitutions, and selected other systems of government.

D2.Civ.12.6-8. Assess specific rules and laws (both actual and proposed) as means of addressing public problems.

D2.Civ.13.6-8. Analyze the purposes, implementation, and consequences of public policies in multiple settings.

D3.2.6-8. Evaluate the credibility of a source by determining its relevance and intended use.

D3.4.6-8. Develop claims and counterclaims while pointing out the strengths and limitations of both.

D4.1.6-8. Construct arguments using claims and evidence from multiple sources, while acknowledging the strengths and limitations of the arguments.

D4.6.6-8. Draw on multiple disciplinary lenses to analyze how a specific problem can manifest itself at local, regional, and global levels over time, identifying its characteristics and causes, and the challenges and opportunities faced by those trying to address the problem.

Drugs and Adolescent Health

| TOBACCO | ALCOHOL | Other Notes |
|---|--|-------------|
| <p>Illegal if under 21.</p> | <p>Illegal if under 21.</p> | |
| <p>Short-Term Effects Tobacco contains nicotine, which is an addictive drug. When nicotine enters the body, it causes the adrenal glands to release a hormone called adrenaline. The rush of adrenaline provides the feeling of an energetic kick. Adrenaline also causes the following:</p> <ul style="list-style-type: none"> ● increased blood pressure ● increased heart rate ● fast breathing <p>Long-Term Effects Nicotine is an addictive, or habit-forming substance. Nicotine is found in tobacco. That means that the more people use tobacco, the more likely they are to become addicted. Additionally, tobacco contains many toxic chemicals: carbon monoxide, tar, formaldehyde, cyanide, and ammonia. These chemicals are linked to serious health problems like cancer, lung problems and heart disease.</p> | <p>Short-Term Effects Alcohol affects the developing frontal lobe, impairing judgment, which means that a person using alcohol has a harder time making good decisions. Impaired judgment could lead to risky behavior.</p> <p>Long-Term Effects Drinking during the teen years could permanently interfere with brain development by:</p> <ul style="list-style-type: none"> ● Negatively impacting the brain’s ability to process and learn information ● Increasing the risk of developing an alcohol use disorder later in life <p>With long-term misuse, alcohol can increase the risk of developing various cancers and liver disease.</p> | |

² All information on capture sheet sourced from teens.drugabuse.gov/drug-facts

Fast Facts: Marijuana

Marijuana consists of more than 500 chemicals. THC is one of the chemicals and is responsible for many of the drug's mind-altering effects. When marijuana is smoked or vaporized or ingested, THC enters into the bloodstream, which carries it to organs throughout the body, including the brain. Its effects begin almost immediately and can last from 1 to 3 hours, but it stays in your system even longer. The effects of marijuana on attention, memory, and learning can last for days or weeks.

As THC enters the brain, it attaches to cells, or neurons, with specific kinds of receptors called cannabinoid receptors. This system is important in normal brain development and function.

The teen brain is actively developing and often will not be fully developed until the mid-20s. Marijuana use during this period may harm the developing teen brain.

Short-Term Effects

- altered senses (such as seeing brighter colors)
- altered sense of time
- changes in mood
- slow reaction time
- problems with balance and coordination
- increased appetite
- trouble thinking and solving problems
- memory problems
- hallucinations (seeing things that aren't really there)
- delusions (believing something that is not true)
- psychosis (having false thoughts) (risk is highest with regular use of high potency marijuana)

Long-Term Effects

Research shows that marijuana use affects adolescents more than adults. Adolescence is an important time in development when young people's brains are building the connections to improve life-long functioning in areas like problem-solving and planning. This negatively impacts the development of self-control, creative thinking, and decision-making skills.

Other effects can include:

- changes to the brain's structure (including size and how areas are connected)
- lower quality of brain connections
- Less blood flow to parts of the brain
- difficulty thinking and problem solving
- problems with memory and learning
- impaired coordination
- difficulty maintaining attention

MARIJUANA

List five ways marijuana impacts the brains and bodies of teens in the **short term** and **long term**:

Short-Term Effects

- 1.
- 2.
- 3.
- 4.
- 5.

Long-Term Effects

- 1.
- 2.
- 3.
- 4.
- 5.

Why is it important we investigate the difference between the health impacts on teens and adults?

What does that have to do with laws?

Become a Legislator

Now it's your turn!

Based upon what you learned about how legislation is made, write a public health law that is focused on comprehensive health education in the school system. You can address points about how important it is for kids to learn about things like marijuana's impact on teen health and the effects of underage drinking.

(Full title of your bill goes here)

In the House of Representatives

Date: _____

(Your name here)_____ introduced the following bill; which was read twice and referred to the Committee on

_____.

(Repeat the full title of your bill here)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled.

Short Title: Your bill will have an official title, but this is where you put the title you actually want your bill to be called (i.e. JOBS Act, PATRIOT Act, etc.) _____

Explanation of terminology—Which terms need to be defined in order to understand the bill? What scientific vocabulary would be helpful for the reader?

What is the act going to do?

| | |
|--|--|
| <p>The purpose of the legislation</p> | |
| <p>At least three facts about the health risks associated with marijuana use and why we need education about it in schools</p> | |
| <p>The intended effect of the law</p> | |
| <p>A justification for why this law is the best response to teen health risks</p> | |
| <p>A plan for implementing the law</p> | |