

Marijuana (THC/Cannabis) Information for Middle School Students

Marijuana (THC/Cannabis): Information for Middle School Students was created by the Chippewa Valley Coalition for Youth and Families, a school-community coalition in mid-Macomb County, Michigan. It provides research-based information from national sources, including the Centers for Disease Control and Prevention (CDC) and others. This lesson takes approximately $1-1\frac{1}{2}$ hour to present, depending on activities and discussion.

It was reviewed by Sara Orris, School Health Consultant at the Macomb Intermediate School District, and found to be compatible with the Michigan Model for Health.

A Message to Teachers and Others Using this lesson:

Many children and adolescents today have significant misperceptions and much misinformation about marijuana.

National drug survey data, Monitoring the Future 2023, shows progressive declines in the perception of adolescents that marijuana use can be harmful.

The intention of this power point lesson, with video, is to provide accurate, research-based information to educate youth about the real dangers of marijuana use, especially during adolescence.

This power point lesson is intended to be used as an instructional unit for students in middle school health or other classes and/or for educational presentations to youth groups in other settings, e.g., churches, recreational centers, etc.

When some young people are provided with information about the dangers of marijuana use, they may respond with adamant disbelief, given their lack of fact-based information and the likelihood that some are marijuana users. Expressions of disbelief can lead to stimulating and helpful discussions.

We have also found it constructive to take the following positions, in presenting this information:

- I am not trying to convince you of anything. I am providing you with research-based information to consider.
- You might do some research yourself to see what you discover, however, there is much misinformation about marijuana on the internet. I can give you some reliable and research-based resources to review.
- Be careful to separate opinion from research-based facts.

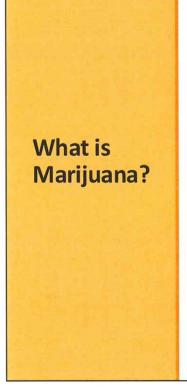
Information to assist in using this lesson:

Many of the slides have accompanying information.

Some slides may have **Teacher Comments**, statements found useful during the piloting of the curriculum to enhance student learning. Some Teacher Comments are purposefully informal to be "student friendly".

Some slides include **Teacher Notes** that provide supplemental information for teachers. In addition, some slides provide suggested **Group Activities** to promote discussion. Health Education Standards were considered during the creation of this lesson and can be found at: https://www.shapeamerica.org/MemberPortal/standards/health/default.aspx

This presentation was updated during August 2024.



Can be referred to as cannabis, THC, dabbing, shatter, sparking up, weed, pot, 420

The active ingredient is **THC, delta 9-tetrahydrocannabinol,** the addictive chemical in marijuana.

A mixture of the dried and shredded leaves, stems, seeds, and flowers of the cannabis plant.

Centers for Disease Control and Prevention (CDC)

NIDA

A Reminder – some of the following slides have TEACHER COMMENTS, statements that may be used in class to enhance the lesson, and/or TEACHER NOTES, supplemental information for teachers.

Teacher Notes:

Cannabis can be used in a number of ways.

The most common ways include:

- Smoked in joints (like a cigarette), in blunts (cigars or cigar wrappers that have been partly or completely refilled with cannabis) or in bongs (pipes or water pipes)
- · Vaped using electronic vaporizing devices (like vape pens) or other vaporizers
- Mixed or infused into foods or drinks (called edibles) like cookies, cakes, or brownies, or tea, cola, or alcohol

https://www.cdc.gov/cannabis/about/index.html

Not All Plants Are Safe!

Not all plants are safe to smoke or eat. (Tobacco is a plant.)

There are dozens of household plants that can poison people and pets (like Aloe Vera and Daffodils).

Heroin, cocaine, cyanide and strychnine are all dangerous substances made from plants.



CDC

Some students might argue that marijuana is safe because it is a plant and is "natural".

Teacher Comments:

- Consider that poison ivy is a plant and even touching it has negative effects.
- •Some of you that have pets at home know that there are dozens of house plants that can harm your pet.

Centers for Disease Control and Prevention http://www.cdc.gov/niosh/topics/plants/https://www.cdc.gov/

Marijuana (THC/Cannabis) as Medicine

You may have heard that some people use cannabis and cannabis related products to help relieve depression, anxiety, and some physical health conditions.



SCHOLASTIC, NIDA, NIH, U.S. DEPARTMENT OF HHS

Scholastic, NIDA, NIH, Department of HHS. Real News About Drugs and Your Body, 2023

https://nida.nih.gov/sites/default/files/NIDA_YR20_INS1_StudentMagazine.pdf

Marijuana (THC/Cannabis) as Medicine

All prescription medication used in our country needs to be approved by a government agency, the Federal Drug Administration (FDA).

The FDA makes sure that medications are safe and effective AND that the benefits are greater than the risks.

The FDA has NOT approved the cannabis plant itself for any health condition.

There are real health risks associated with using cannabis products.

SCHOLASTIC, NIDA, NIH, U.S. DEPARTMENT OF HHS

Teacher Notes:

The study of marijuana in clinical trial settings is needed to assess the safety and effectiveness of marijuana for the treatment of any disease or condition:

https://www.fda.gov/NewsEvents/PublicHealthFocus/ucm421168.htm#notapproved

The Federal Government currently considers marijuana to be a controlled substance with "no currently accepted medical use." Federal Law states that it's illegal, under any circumstances, to grow, use, possess, or transport marijuana.

What's the latest on medical marijuana?

- Research has shown that some chemicals in marijuana including THC and cannabidiol (CBD) could have medical uses.
- Clinical trials are ongoing to develop and test medications that contain THC and/or CBD for pain relief or seizure disorders.
- The Food and Drug Administration (FDA) will evaluate the results to determine if these medications are safe and effective for treating these conditions. Scholastic, NIDA, NIH, Department of HHS. Real News About Drugs and Your Body, 2023 https://nida.nih.gov/sites/default/files/NIDA_YR20_INS1_StudentMagazine.pdf http://www.scholastic.com/smp/pdfs/Nida/NIDA-YR10-Stu_Comp.pdf



Teacher Comment:

Even if the laws are changing to allow adult marijuana use, scientific evidence shows that using cannabis poses real, and potentially serious, health risks for teens.

Michigan Legalization of Marijuana Law

https://www.legislature.mi.gov/(S(1bdtv43vras3vz5ifnhdd52n))/mileg.aspx?page=get Object&objectName=mcl-Initiated-Law-1-of-2018

Scholastic, NIDA, NIH, Department of HHS. Real News About Drugs and Your Body, 2023

https://nida.nih.gov/sites/default/files/NIDA_YR20_INS1_StudentMagazine.pdf

Teacher Note:

Michigan legalized adult use of marijuana in 2018.

Marijuana (THC/Cannabis)



You may have seen billboards advertising cannabis along main roadways in the state.

This has led some to believe that cannabis use has no dangers.

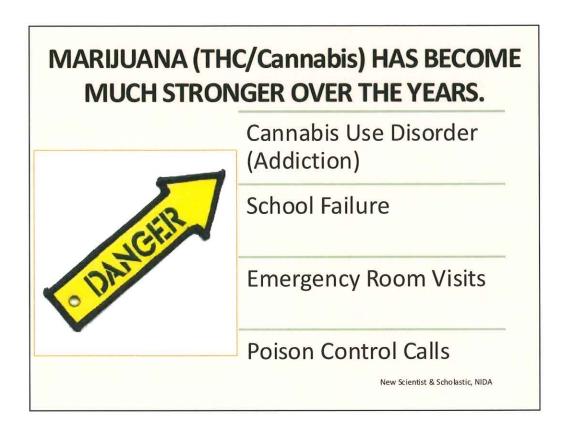
*Use of cannabis is unsafe for youth.

This is why it is so important to learn the FACTS and educate your friends.

*SCHOLASTIC, NIDA, NIH, U.S. DEPARTMENT OF HHS

Scholastic, NIDA, NIH, Department of HHS. Real News About Drugs and Your Body, 2023

https://nida.nih.gov/sites/default/files/NIDA YR20 INS1 StudentMagazine.pdf



Teacher Comments:

Cannabis Use Disorder (Addiction) is a strong urge to keep taking marijuana, even when it is causing harm (problems in relationships, with academics, legal issues, emotional problems, etc.). Further explanation of Cannabis Use Disorder (Addiction) is provided later in this power point.

In some cases, marijuana has been linked to severe symptoms that may require emergency care, such as vomiting, anxiety, shaking, and even seizures and psychosis. In some parts of the country, the number of marijuana-related hospital visits and calls to poison control have been increasing in recent years.

Scholastic, NIDA, NIH, Department of HHS. Real News About Drugs and Your Body, 2023 https://nida.nih.gov/sites/default/files/NIDA_YR20_INS1_StudentMagazine.pdf

Teacher Notes:

THC, the addictive element in marijuana, has increased significantly over time. The data shows a clear trend: over the last 50 years, the average amount of tetrahydrocannabinol (THC) in cannabis – the plant's main psychoactive component – has increased more than tenfold. Cannabis Use Disorder has come to replace the term addiction when talking about the inability to stop using cannabis even after it causes problems for the user.

New Scientist. *Is cannabis to day really much more potent than 50 years ago*?11 October 2023 <a href="https://www.newscientist.com/article/2396976-is-cannabis-today-really-much-more-potent-than-50-years-ago/#:~:text=The%20data%20shows%20a%20clear.has%20increased%20more%20than%20tenfold

https://www.cdc.gov/

https://nida.nih.gov/publications/drugfacts/cannabis-marijuana-concentrates on 2024, June 19



- Smoked
- Vaped
- Eaten
- In a Drink

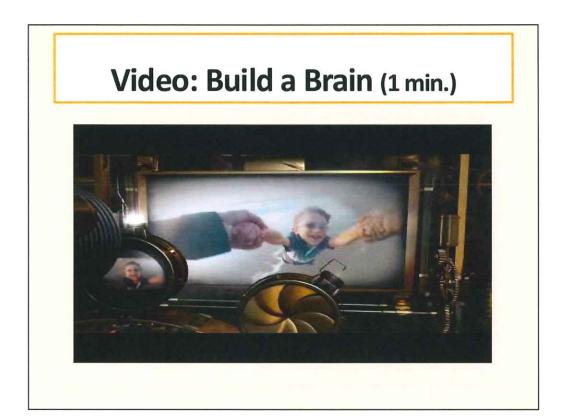




CDC

Centers for Disease Control and Prevention

https://www.cdc.gov/cannabis/about/index.html



Video: Click on the black box.

Teacher Comment:

Now we will watch a video that provides information about brain development and how it can be disrupted by marijuana use.

https://www.youtube.com/watch?v=HLYIDpJxxqs

What Happens When Someone Uses Marijuana (THC/Cannabis)?

Potential Short-Term Problems

Marijuana use can interfere with:

Heart Rate

Coordination and balance

Memory

Driving

Thinking

Decision making

Concentration & Learning

Motivation

School and athletic performance

Scholastic, NIDA, NIH, Department of HHS NIDA

Teacher Comments:

- No one can control the effects marijuana will have on him/her.
 Effects for the same person using marijuana may also be different over time.
- •Some effects such as concentration/learning problems, motivation problems, and paranoia/panic can last for days after marijuana is used.
- Every time a drug is used, there is a risk.

Scholastic, NIDA, NIH, Department of HHS. Real News About Drugs and Your Body, 2023

https://nida.nih.gov/sites/default/files/NIDA_YR20_INS1_StudentMagazine.pdf

Marijuana Drug Facts, December 2019, National Institute on Drug Abuse (NIDA) http://www.drugabuse.gov/publications/drugfacts/marijuana

Teacher Notes:

Users are not likely to experience ALL of these effects EVERY time marijuana is used.

What Happens When Someone Uses Marijuana (THC/Cannabis)?

Potential Long-Term Problems

- √ Risk of Cannabis Use Disorder (Addiction)
 - ✓ School failure and drop out
 - ✓ Permanent brain changes
 - ✓ Depression, suicidal thoughts
 - ✓ Eating and sleeping problems
 - ✓ Breathing problems

Scholastic, NIDA, NIH, Department of HHS CDC, UPI

Teacher Comments:

There can be many negative long-term problems when someone uses marijuana.

Marijuana use in teenage years may hinder brain development, study finds - UPI.com

Scholastic, NIDA, NIH, Department of HHS. Real News About Drugs and Your Body, 2023

https://nida.nih.gov/sites/default/files/NIDA YR20 INS1 StudentMagazine.pdf

Centers for Disease Control and Prevention

https://www.cdc.gov/cannabis/health-effects/brain-health.html

Is Vaping Marijuana (THC/Cannabis) Safe? NO!

- When marijuana is vaped, dangerous chemicals can be inhaled.
- THC used in vaping often contains additives or is contaminated with other substances.
- Scientists continue to study the risks of vaping marijuana and nicotine.

Scholastic, NIDA, NIH, Department of HHS CDC

Scholastic, NIDA, NIH, Department of HHS. Real News About Drugs and Your Body, 2023

https://nida.nih.gov/sites/default/files/NIDA_YR20_INS1_StudentMagazine.pdf

Centers for Disease Control and Prevention

https://www.cdc.gov/cannabis/health-effects/brain-health.html

Are Marijuana (THC/Cannabis) Edibles Safe? NO!

- Marijuana is sometimes mixed into food (brownies, cookies, and candy, etc.), called *edibles*, or into drinks (soda and tea, etc.).
- The potency (strength) of edible marijuana is often very high.
- The negative effects of edible marijuana can be strong and unpredictable.
- Some people that use edible marijuana have to be treated in hospital emergency rooms.

Scholastic, NIDA, NIH, Department of HHS CDC

Scholastic, NIDA, NIH, Department of HHS. Real News About Drugs and Your Body, 2023 https://nida.nih.gov/sites/default/files/NIDA_YR20_INS1_StudentMagazine.pdf

Centers for Disease Control and Prevention https://www.cdc.gov/cannabis/health-effects/poisoning.html

Teacher Notes:

A Rise in Marijuana's THC Levels

The amount of THC in marijuana has been increasing steadily over the past few decades.

When people begin to use marijuana, they have a greater chance of harmful reactions to high THC levels.

The availability of edibles increases the chance of harmful reactions.

Edibles take longer to digest and produce a high.

Therefore, people may consume more to feel the effects faster, leading to dangerous results. Higher THC levels can result in a greater risk for Cannabis Use Disorder.

https://www.cdc.gov/cannabis/health-effects/cannabis-use-disorder.html

Marijuana (THC/Cannabis) is Addictive

The EARLIER marijuana use begins, the GREATER the risk of addiction.

1 in 6 teens that use marijuana become addicted.



SAMHSA

Teacher Notes:

It is estimated that 10% (about 1 in 10) of adults who use marijuana will become dependent on it and develop a Cannabis Use Disorder.

The number goes up to about 1 in 6 in those who start using in their teens.

Learn About Marijuana Risks, SAMHSA 2023 https://www.samhsa.gov/marijuana

A Cannabis Use Disorder (Addiction) is...

Some people who use cannabis will develop a cannabis use disorder, meaning that they are unable to stop using cannabis even though it's causing significant problems in their lives.

CDC

Click on this slide to bring up definition

https://www.cdc.gov/cannabis/health-effects/cannabis-use-disorder.html

Stopping Marijuana (THC/Cannabis) Use Can Be Very Difficult.





When people try to stop using marijuana they often:

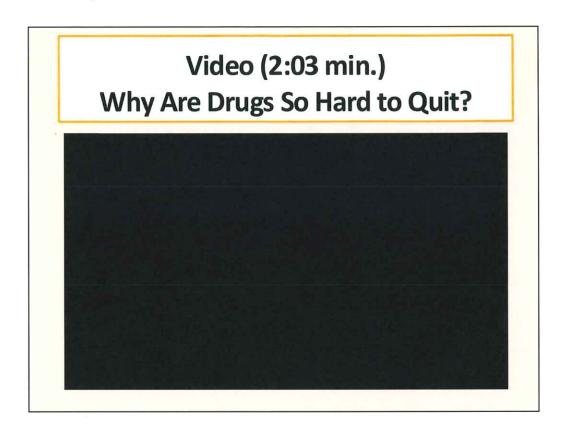
- ✓ Are irritable & angry
- ✓ Are stressed & nervous
- √ Have problems eating & sleeping
- √ Have urges to keep using it

American Psychiatric Association

American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed., text

rev.). https://doi.org/10.1176/appi.books.9780890425787





Video: Click on the black box.

Teacher Comments:

This brief video provides information regarding addiction.

After showing the video, ask the following questions.

Discussion Questions:

• What is the definition of addiction in the video?

Answer: Feeling a strong urge to keep taking a drug even when it is causing harm.

• When someone becomes addicted to marijuana or other drugs, what problems can they have?

Answers can include poor grades, problems with friends and family, legal problems, difficulty playing sports, etc.

Why Do Some Teens Try Marijuana (THC/Cannabis)?

Pressure from friends

Boredom

Lack of confidence

Influence of media

To "fit in"

To do something you are not supposed to do Curiosity

To deal with feelings

Belief it's safe

The Partnership to End Addiction

STOP THIS SLIDE AFTER THE QUESTION "Why Do Some Teens Try Marijuana?".

Group Activity:

Ask students the question more specifically, "Why do you think some teens try marijuana after they have been given information about how risky marijuana use is?"

- > Brainstorm and write their answers on the board.
- Discuss their answers.
- ➤ Resume showing the complete slide.
- >STOP at "Believe it's safe" to prevent going to the next slide.
- Discuss any reasons teens might try marijuana that haven't already been mentioned.

Partnership to End Addiction

Why Teens Drink and Experiment with Drugs, April 2024

https://drugfree.org

Marijuana (THC/Cannabis) & the Body

Using Marijuana (THC/Cannabis) can damage a person's:

- **√**Heart
- **√Lungs**
- **√Brain**

CDC

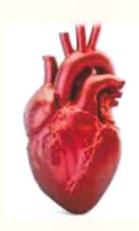
Teacher Comments:

Marijuana use can, over time, damage parts of the body.

Centers for Disease Control and Prevention https://www.cdc.gov/cannabis/health-effects/index.html

Marijuana (THC/Cannabis) & the Heart

- Marijuana can make the heart beat faster and raise blood pressure immediately after use.
- Marijuana use can also lead to increased risk of stroke and heart disease.



CDC

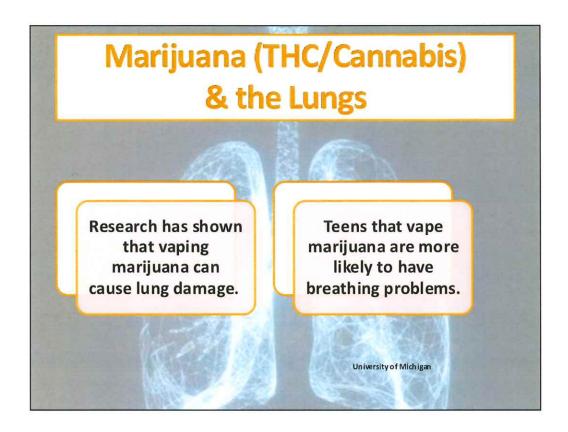
Teacher Notes:

Heart attack risk may be related to increased heart rate, as well as the effects of marijuana on heart rhythms, causing quick and irregular heart beats.

This can be a frightening experience for the person using marijuana.

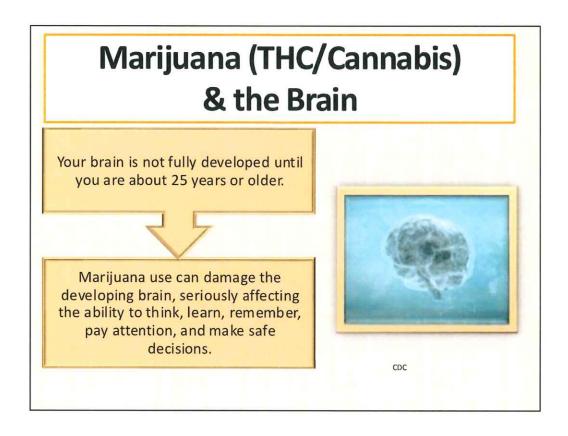
Centers for Disease Control and Prevention

https://www.cdc.gov/cannabis/health-effects/heart-health.html

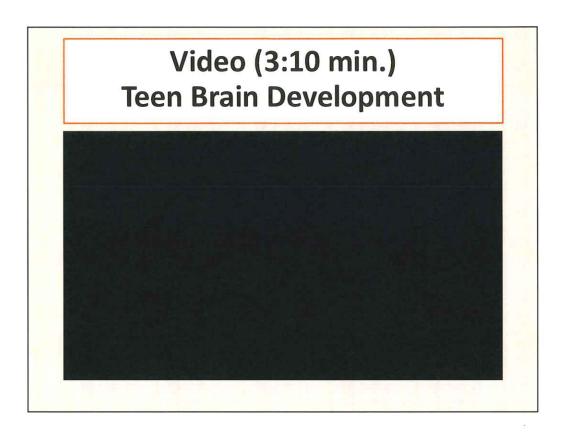


Vaping marijuana associated with more symptoms of lung damage than vaping or smoking nicotine

https://news.umich.edu/vaping-marijuana-associated-with-more-symptoms-of-lung-damage-than-vaping-or-smoking-nicotine/



https://www.cdc.gov/cannabis/health-effects/brain-health.html



Video: Click on the black box.

Teen Brain Development (3:10 minutes)

https://www.youtube.com/watch?v=EpfnDijz2d8 (link to video if needed)

NIDA explores in this video the intriguing similarities between the processes of brain development and computer programming.

The analogy helps us understand why toxic environmental factors like drugs, bullying, or lack of sleep can have such a long-lasting impact on a teenager's life and can be used to empower your children or students with information they need make better decisions.



Classroom Activity:

Click on the photo in the slide to access the activity about the effects of marijuana on the brain.

When each of the red dots turn blue, you know you have completed each section of the brain.

For easy reference, the parts of the brain are summarized below.

Cerebrum - area that controls the ability to think, plan, solve problems, and make decisions

Basal Ganglia – area involved in movement, thinking, and emotion.

Limbic System - area involved in memory and emotion processing.

Brain Stem – area involved in vital life functions.

Cerebellum – area involved in motor skills, such as balance and coordination, and plays an important role in the perception of time.

When the screen says GREAT JOB, return to this power point.

This link can also be used to get to this activity.

https://nida.nih.gov/themes/custom/solstice/interactive/cannabis/

Marijuana (THC/Cannabis) & School

Marijuana's negative effects on thinking, learning, memory, and attention can last for days and sometimes weeks—especially if marijuana is used often.



Teacher Notes:

Someone who smokes marijuana daily may be functioning at a reduced intellectual level most or all of the time, interfering with learning.

A <u>recent analysis</u> of previous research on the impact of <u>cannabis on young's people's cognition</u> found that many of the known learning and memory difficulties — such as slowed processing speed, and difficulties in focusing — could linger for weeks. Verbal learning, retention and recall were especially affected for longer periods when the person was no longer high, researchers from the University of Montreal found.

https://www.nbcnews.com/health/health-news/marijuana-use-may-cause-cognitive-impairment-even-no-longer-high-rcna 13542

https://onlinelibrary.wiley.com/doi/abs/10.1111/add.15764

Evidence on the acute and residual neurocognitive effects of cannabis use in adolescents and adults: a systematic meta-review of meta-analyses

Laura Dellazizzo, Stéphane Potvin, Sabrina Giguère, Alexandre Dumais

First published: 19 January 2022 https://doi.org/10.1111/add.15764

Addiction

Volume117, Issue7

July 2022 Pages 1857-1870

Cognitive function deficits remain following a period of abstinence in individuals who initiated use in adolescence

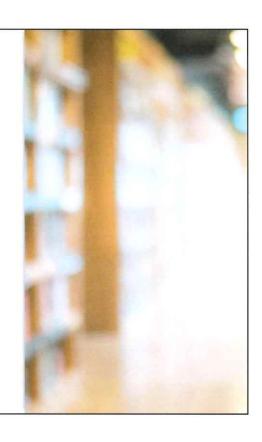
(Volkow et al., 2016; Sachs, McGlade, & Yurgelun-Todd, 2015).

Marijuana (THC/Cannabis) & School

Because of the effects on the developing brain, marijuana (THC/cannabis) users:

- · Have a harder time learning
- Are more likely to get lower grades
- Are more likely to drop out of school than non-users.

CDC



Centers for Disease Control and Prevention
https://www.cdc.gov/cannabis/health-effects/cannabis-and-teens.html



 $\frac{https://www.ncaa.org/news/2019/10/10/emerging-science-on-cannabis-marijuana-implications-for-student-athletes.aspx}{}$

Ware MA, Jensen D, Barrette A, Vernec A, Derman W. Cannabis and the Health and Performance of the Elite Athlete. *Clin J Sport Med*. 2018;28(5):480-484. doi:10.1097/JSM.0000000000000050 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6116792/

https://www.samhsa.gov/marijuana

Teacher Comments:

Marijuana use:

- Decreases eye-hand coordination
- Slows reaction time
- · Reduces motor coordination
- Slows reflexes
- Impairs tracking ability and perceptual accuracy
- Impairs concentration, and time appears to move more slowly
- · Causes short and long-term memory loss, "I can't remember the plays, coach"
- Difficulty in thinking and problem solving, "They changed their defensive formation, I can't figure out what to do"
- · Decreases motivation to perform and/or give maximum effort

Marijuana (THC/Cannabis) & Feelings

Regular use of marijuana (THC/cannabis) significantly increases a teen's risk of depression and anxiety.

Marijuana (THC/cannabis) use can make depression, anxiety, and other emotional problems worse and has been linked to suicidal thoughts and psychosis (loss of touch with reality).

Marijuana (THC/cannabis) use can take away the desire to participate in activities and succeed in school.

CDC

Teacher Comments:

- Psychosis means that someone cannot tell the difference between what is real and what is not.
- It is a very serious mental health problem that can be brought on by marijuana use in some circumstances.
- Those that use in their teens are more likely to develop psychosis. Use of high potency marijuana/THC products can produce strong fears and loss of touch with reality (delusions/hallucinations/panic). This can be frightening and dangerous.

Teacher Notes:

Cannabis use can cause disorientation and sometimes unpleasant thoughts or feelings of anxiety and paranoia.

People who use cannabis are more likely to develop psychosis (not knowing what is real, hallucinations, and paranoia) and long-lasting mental disorders, including schizophrenia (a type of mental illness where people might hear or see things that are not really there).

Cannabis use is also associated with depression; social anxiety; and thoughts of suicide, suicide attempts, and suicide.

Centers for Disease Control and Prevention https://www.cdc.gov/cannabis/health-effects/mental-health.html

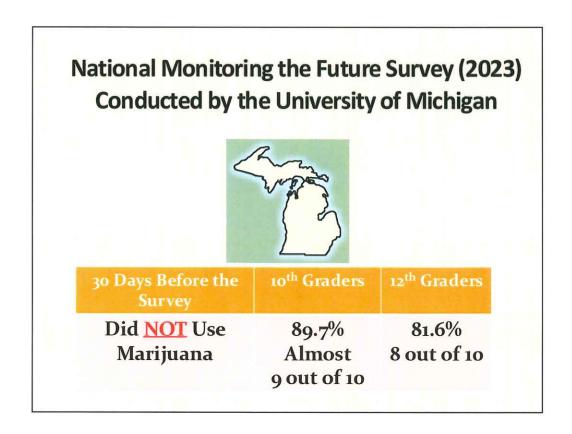
MOST teens DO NOT use Marijuana (THC/Cannabis).

Teacher Notes:

Students typically believe that "everyone" uses marijuana, even though research does not support that perception.

Group Activity (preparing students for next slide):

- Ask students "If you have 10 high school students, estimate how many of them DO NOT use marijuana?"
- · Write the estimates on the board.
- · Go to the next slide



Teacher Comments:

Almost 9 out of 10 tenth grade students that took the national Monitoring the Future Survey in 2023 reported that they **DID NOT** use marijuana in the month prior to the survey.

A little over 8 out of 10 twelfth graders that took the survey said they **DID NOT** use marijuana in the last 30 days.

How does this compare to your guess? Many people your age overestimate the number of teens that use marijuana.

MOST TEENS DO NOT USE MARIJUANA.

Teacher Notes:

Tenth and twelfth grade students in the U.S. that took the Monitoring the Future Survey in 2023

reported past 30-day marijuana use of 10.3 for 10th grade and 18.4% for 12th grade.

The Monitoring the Future Survey is funded by the National Institute on Drug Abuse (NIDA), part of the National Institutes of Health (NIH). The survey is conducted by the University of Michigan.

To view full survey data, visit https://www.drugabuse.gov/drug-topics/trends-statistics/monitoring-future

Marijuana (THC/Cannabis) & Driving

- Driving under the influence (DUI) laws are not just for alcohol. Driving under the influence of drugs, including cannabis, is also dangerous and illegal.
- Marijuana use before driving has resulted in serious auto accidents across Michigan.

University of Michigan Injury Prevention Center, 2020

Impact of Recreational Cannabis Legalization in Michigan: A Baseline Report. University of Michigan. Ann Arbor, MI. May 2020.

https://thenmi.org/reports/2020 IPC Cannabis Report Michigan.pdf

Teacher Comments:

After alcohol, cannabis is the substance most often associated with impaired driving.

Centers for Disease Control

https://www.cdc.gov/cannabis/health-effects/driving.html

Marijuana (THC/Cannabis) & Driving

Driving is a complex task that requires your full attention to stay safe and alert

Marijuana use negatively affects skills needed to drive safelyalertness, concentration, coordination, and reaction time.

After using marijuana, it is hard to judge distances and react to signals and sounds on the road.

It is NOT safe to ride with someone who's been using marijuana in any form.

NIDA

Marijuana Drug Facts 2021

https://www.drugabuse.gov/publications/drugfacts/drugged-driving#references

REMEMBER...

Someone who uses drugs, including marijuana (THC/cannabis), risks hurting themselves physically and emotionally.

Marijuana (THC/cannabis) use can have significant negative effects on the developing brain, family relationships, friendships, and the ability to perform well in school and sports.

It's important to find ways to manage feelings, deal with stress, and have fun without using marijuana, alcohol, and other drugs.

Teacher Notes:

This slide presents a summary of key issues related to teen marijuana use.

REMEMBER...

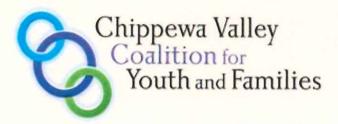
MOST teens DO NOT use Marijuana.



Teacher Notes:

Encourage students to go to one or more of these websites to check out the cool games, fact sheets, blogs, and interactive quizzes for teens.

Information Provided By:



The Chippewa Valley Coalition for Youth and Families joins *School, Family, and Community* in a partnership to promote healthy, resilient, and drug free youth and to prevent youth suicide.

www.cvcoalition.org