



OPERATION PREVENTION

Brain-Based Science + Your Curriculum:
Helping Our Students Prevent Drug Misuse



Agenda

Introduction

- Your Host
 - Your Need
 - What is Operation Prevention
-

Refresher

- Digital Lessons
 - VFTs
 - Student Videos
 - Self-Paced Module
-

What's New?

- Multi-Drug Prevention Resources
 - Video Topic Series, Activities + Educator Guide
 - American Indian + Native Alaskan Resources
-

Questions?

Your Host



Catie Drew, M.A.T.

Sr. Prevention Program Manager
Drug Enforcement Administration - DEA
Cathleen.R.Drew@usdoj.gov

The Partnership



- Began as a program aimed at combatting a growing epidemic of prescription opioid misuse and heroin use nationwide and has expanded to include prevention resources for all drug categories.
- Content sourced from National Institute of Drug Abuse (NIDA) and the Substance Abuse & Mental Health Services Administration (SAMHSA) Center for Substance Abuse Prevention
- Workplace resources and turn-key resources for elementary, middle, and high school classrooms
- No cost

Your Need

- Make a list.
- Be as specific as possible.
- In your experience, which topics need better resources?
- Anything else you can think of?





Opioid Misuse Prevention Resources—Refresher

- Interdisciplinary Lessons (Elementary School)
- Digital Lesson Bundles (Middle & High School)
- Virtual Field Trip Series
- Student Videos
- Self-Paced e-learning Module*
- Parent Resource Toolkit*
- Educator Webinar (On-Demand)

*offered in English and Spanish

Standards-Based

- Next Generation Science Standards
- Social & Emotional Learning Standards
- CCSS English language arts
- National Health Education Standards

<https://www.cdc.gov/getsmart/community/materials-references/abasics.html>

<https://www.fda.gov/ForConsumers/ConsumerUpdates/ucm092810.htm>

<http://www.drugabuse.gov/publications/drugfacts/prescription-over-the-counter-medications>

<http://www.addictioncenter.com/painkillers/over-the-counter-drugs/>

<https://www.cdc.gov/drugoverdose/data/statedeaths.html>

<http://kidshealth.org/ny/teens/meds.html>

<http://nhs.uk/health/how-to-take-medicines/drugs-in-the-body/01.html>

<https://healthfinder.gov/HealthTopics/Category/everyday-healthy-living/safety/use-medicines-safely>

<http://www.foxnews.com/health/2013/05/21/pacific-yew-potent-cancer-fighting-agent.html>

<https://www.nlm.nih.gov/exhibition/romdatobae/exhibition-interactive/illustrations/penicillin-alternative.html>

Next Generation Science Standards
LS1.C: Organization for Matter and Energy Flow in Organisms
Food provides animals with the materials they need for body repair and growth and the energy they need to maintain body warmth and for motion. (secondary to 5-PS3-1)

National Health Standards
Grades 3-5
Students will comprehend concepts related to health promotion and disease prevention to enhance health.
1.5.5 Describe when it is important to seek health care.
Students will demonstrate the ability to use decision-making skills to enhance health.
5.5.2 Analyze when assistance is needed in making a health-related decision.

STANDARDS

The module content was developed to follow two sets of education standards: the Next Generation Science Standards (NGSS) and the National Health Education Standards (NHES).

The specific standards to which *The Science of Addiction: The Stories of Teens* aligns include:

Next Generation Science Standards
HS-LS1-3 Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.

- LS1.A: Structure and Function: Feedback mechanisms maintain a living system's internal conditions within certain limits and mediate behaviors, allowing it to remain alive and functional even as external conditions change within some range. Feedback mechanisms can encourage (through positive feedback) or discourage (negative feedback) what is going on inside the living system.

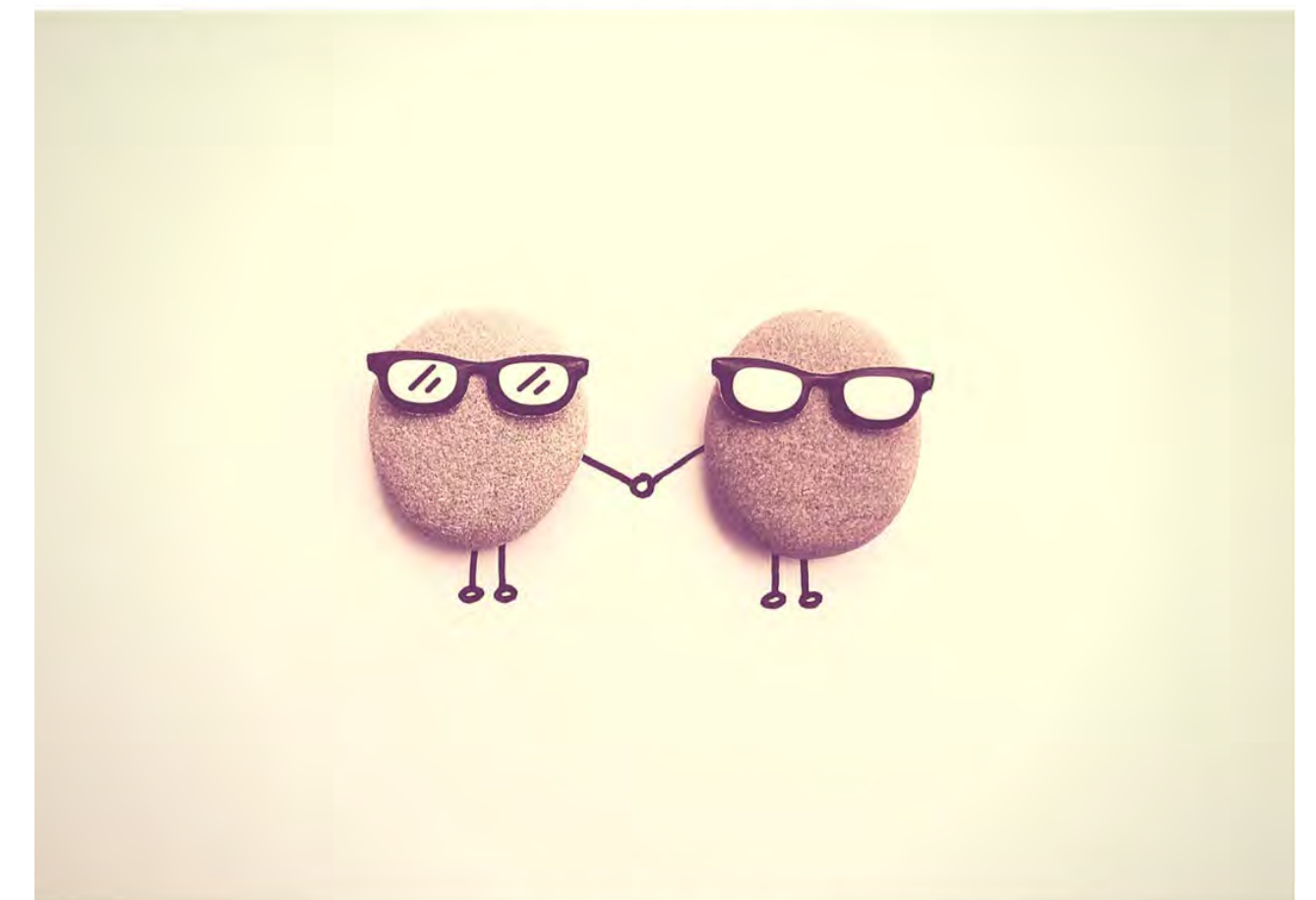
LS1.D: Information Processing

- By the end of grade 12: In complex animals, the brain is divided into several distinct regions and circuits, each of which primarily

Elaborate: Trauma-Informed Care

- An approach that recognizes the impact of trauma on the body, mind, and relationships
- Creating a space where students feel safe and supported in talking about substance abuse at home or with themselves
- Focuses **on overall wellness**
- Helps students create buffers from the trauma
- Practices self-regulation skills
- **Self-care** for those working with students living with trauma

Operation Prevention Teacher Self-Care



#OPERATIONPREVENTION

Digital Lessons

Elementary School

LESSON



Proactive Prevention

Over-the-Counter and Prescription Medications: How do medications work in our bodies, and why is it so important to use them responsibly? Follow medication on a path through the body to investigate how they make us feel better with responsible use.

- [Download Digital Lesson](#)
- [Download Educator Guide](#)

INTERDISCIPLINARY ACTIVITY



Malachi's Medication

In this activity, students will identify and explain the dosage instructions included on a prescription label and conduct an experiment to understand the importance of accurately measuring medication dosage.

- [Download Activity](#)

INTERDISCIPLINARY ACTIVITY



Sarah's Sister

In this activity, students will meet Sarah and her younger sister who has gotten hold of medication that was not properly stored, to understand the importance of storing medication safely.

- [Download Activity](#)

MALACHI'S MEDICATION INVESTIGATION

NAME: _____

DATE: _____

Read the Scenario:

Malachi's doctor prescribed him a medication to treat his strep throat. He is supposed to take 5mL twice a day for ten days. His doctor told his grandfather to use the measuring device provided with his medication, but Malachi doesn't understand why the doctor made a big deal about which measuring device he should use. Your job is to convince Malachi why it is so important to use the proper device to measure his medication.

Make a Prediction:

Circle the device you think Malachi's grandfather should use to most accurately measure Malachi's dosage. Explain why you think he should use this device.

Device #1
Spoon



Device #2
Dropper

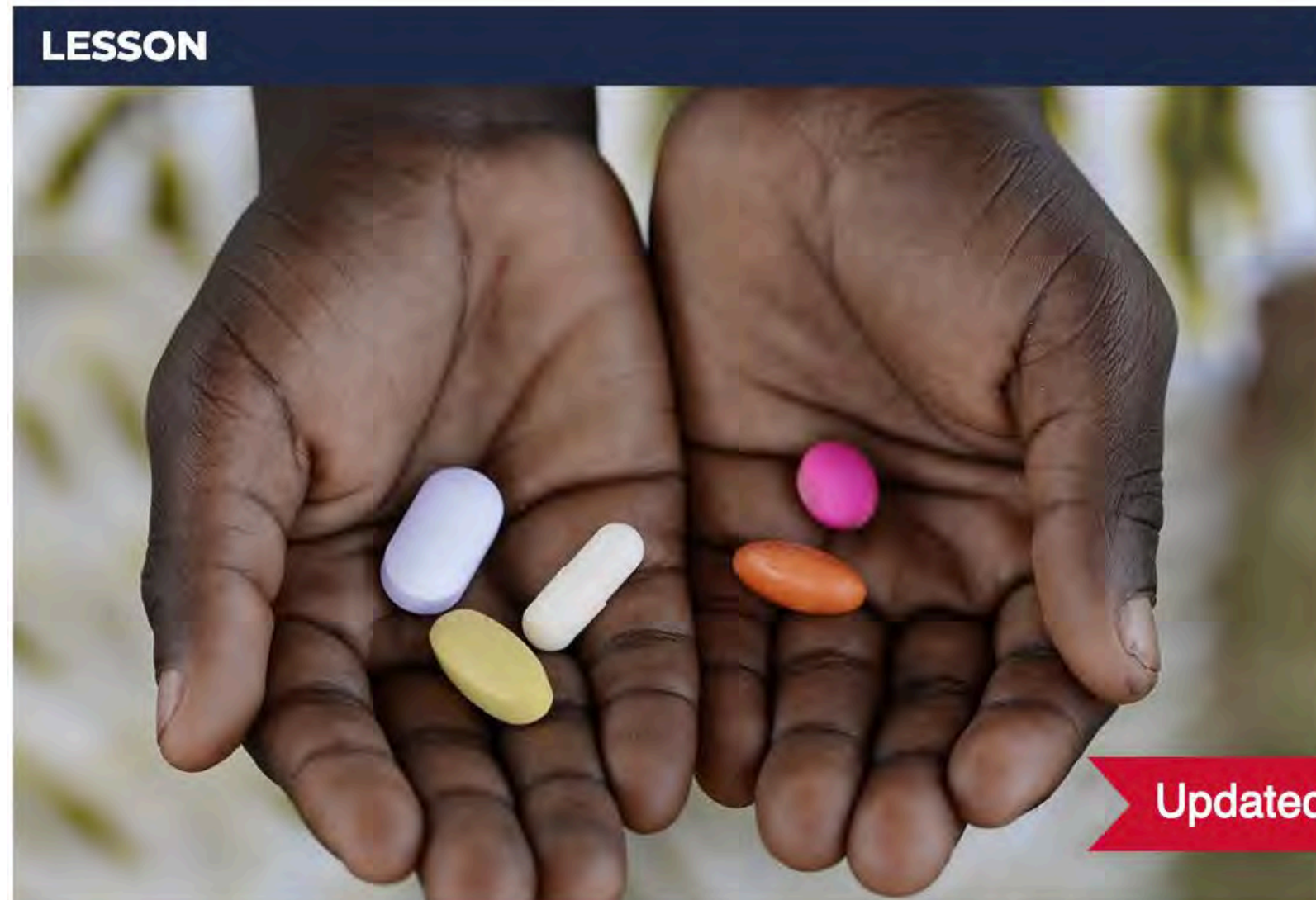


Device #3
Cup



Digital Lessons

Middle School



Our Brain and Body on Opioids

How do addiction and withdrawal affect the body's many systems? Students examine how drug use alters the mind and body and reinforces their understanding by creating a peer-to-peer social media campaign.

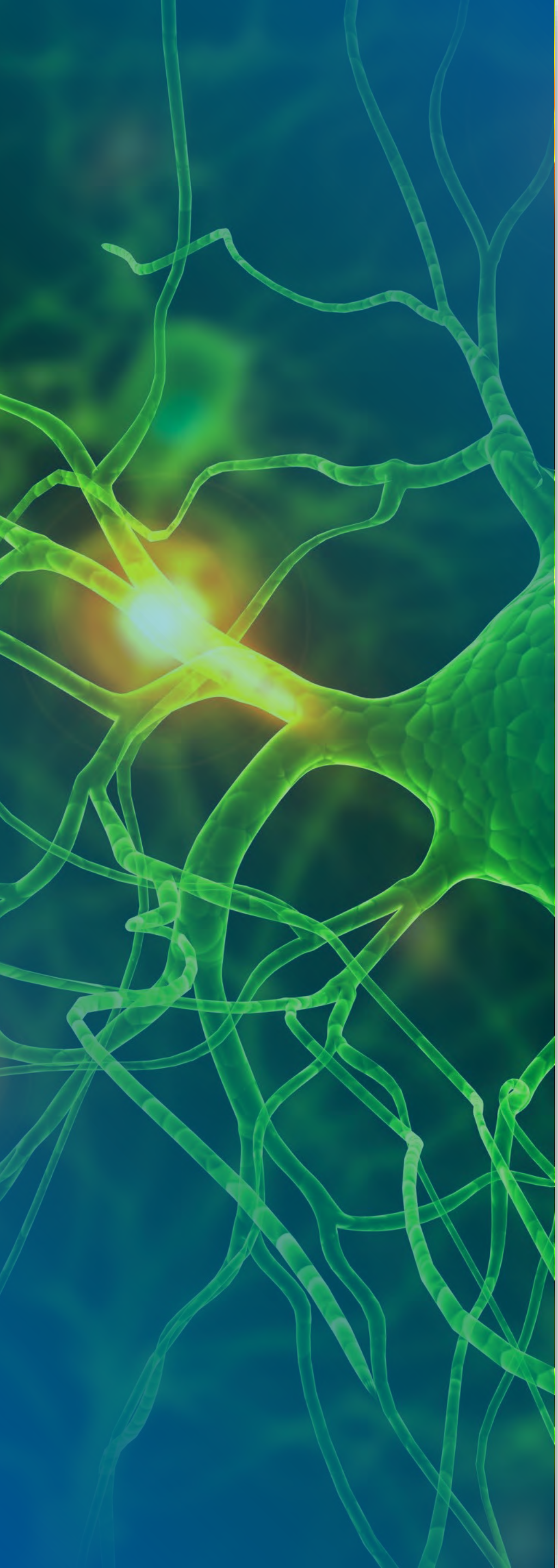
- [Download Digital Lesson](#)
- [Download Educator Guide](#)



Is our Community Influenced by the Opioid Epidemic?

Students will examine why people turn to opioids and act as investigative reporters to consider the who, what, when, where, why, and how of opioid use and misuse.

- [Download Digital Lesson](#)
- [Download Educator Guide](#)




What are the resources?



USING OUR BRAIN AND BODY ON OPIOIDS

13

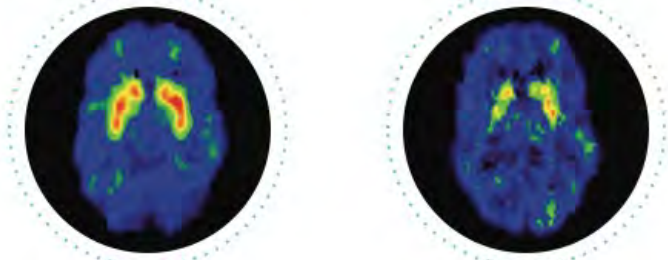
WHAT ARE OPIOIDS?

- Opioids are drugs that work on the nervous system to reduce pain signals reaching the brain.
- Some opioids come from the opium poppy plant. Others are made in laboratories.
- Common opioids include heroin and prescription drugs like morphine, oxycodone, and hydrocodone.





5  Copyright 2018 Discovery Education, Inc. All rights reserved. 

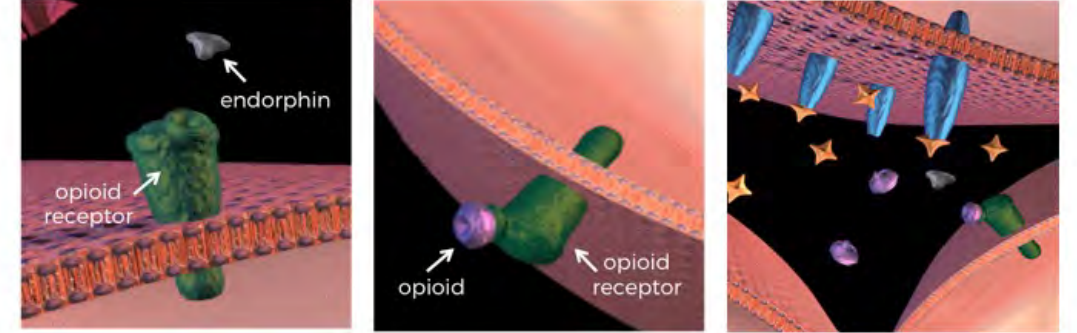
THE NERVOUS SYSTEM





What questions do you have?

7  Copyright 2018 Discovery Education, Inc. All rights reserved. 

OPIOIDS AND NEUROTRANSMISSION






The brain cannot tell the difference!

11  Copyright 2018 Discovery Education, Inc. All rights reserved. 

SHORT-TERM EFFECTS OF OPIOID USE


- Euphoria (good feeling from lack of pain)
- Slowed heart function
- Warm flushing of the skin
- Dry mouth
- Heavy feeling in fingers and toes
- Nausea
- Vomiting
- Severe itching
- Slowed breathing
- Bone thinning





13  Copyright 2018 Discovery Education, Inc. All rights reserved. 

SYMPTOM 1

"My friend gave me some of his dad's pills. I said I didn't do drugs, but she said it's fine because it's medicine. I took one pill and felt relaxed all over."



18  Copyright 2018 Discovery Education, Inc. All rights reserved. 

Digital Lessons

High School



Opioid Use: The Signs. The Symptoms. The Science

Separate fact from fiction with this classroom-ready digital lesson. Through investigation and hands-on activities, students learn the science behind prescription opioid and heroin addiction, overdose, and withdrawal.

- [Download Digital Lesson](#)
- [Download Educator Guide](#)



Reporting on a Public Health Crisis: Opioids in the Community

Students will investigate how the opioid epidemic impacts their community acting as investigative reporters to investigate the who, what, when, where, why, and how of opioid use and misuse.

- [Download Digital Lesson](#)
- [Download Educator Guide](#)

What are the resources?

USING OPIOID USE: The Signs. The Symptoms. The Science.

WHAT DO YOU THINK?

FACT
MISCONCEPTION

- Opioids work in your body the same way that over-the-counter pain relief medications do.
- It is easy to quit opioid dependency if you are disciplined.
- Prescription opioids and heroin affect your body the same way.
- Heroin affects the body but not the brain.

TYPES OF OPIOIDS

Type of opioid	Where they come from	Examples
Natural opioids (made from the plant)	Alkaloids, that occur in plants such as the opium poppy	Morphine codeine
Semi-synthetic, man-made opioids	Created in labs from natural opioids	Hydrocodone, oxycodone, heroin
Fully synthetic man-made opioids	Completely man-made	Fentanyl methadone, tramadol

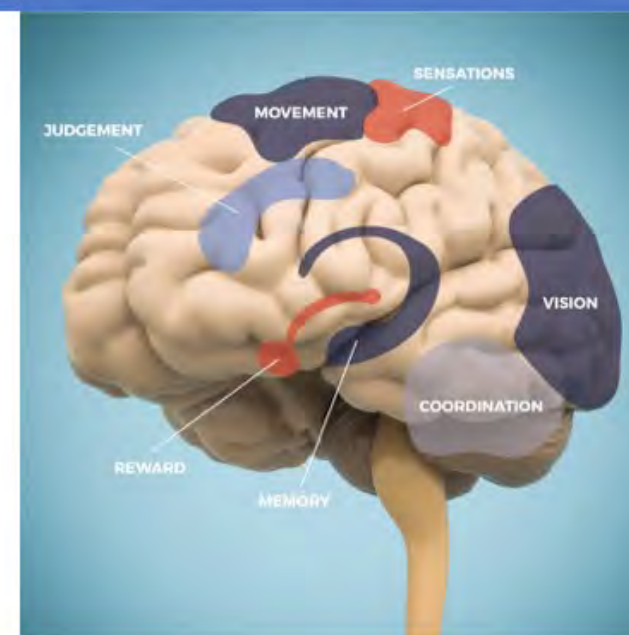
Healthy Brain Cocaine Addicted

Scans of a healthy heart and a diseased heart show similarities, respectively to a healthy brain and a brain on drugs.
BRAIN / HEART COMPARISON
What do you notice about these images?

Healthy Heart Diseased Heart

REGIONS OF THE BRAIN

- Our brain is "wired" to survive.
- This means it tries to maintain a balance.
- When a substance is introduced to our system that throws off the balance, the brain adjusts.
- Once it adjusts, it creates a new "normal" that includes the substance.



TOLERANCE & DEPENDENCE

Tolerance occurs as more of a substance is needed to produce the same effect as the first time it is taken.

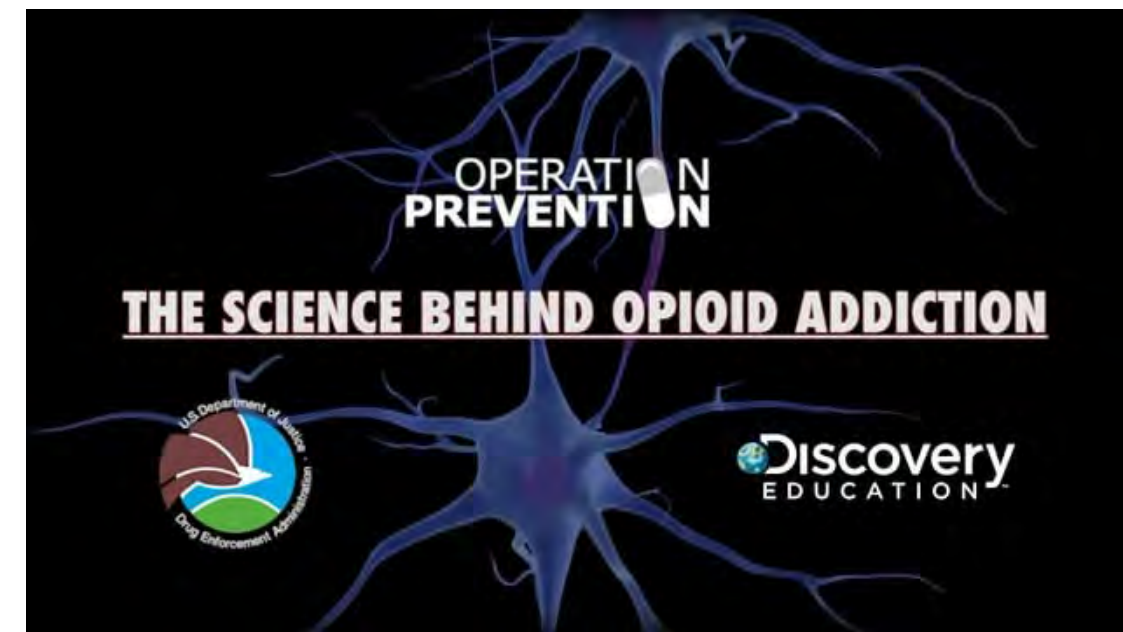
- Receptors are being filled on a regular basis.
- Brain chemistry alters to accept this change.
- To feel the same level of euphoria, an individual takes more and more.

Dependence occurs as removal of the substance causes negative physical effects to the body.

- Individual's body begins to need the drug for their body to feel normal.
- If the individual stops, they often feel sick and achy.

Virtual Field Trips

The Science Behind Opioid Addiction



Full Length	47 minutes
Intro	03:51
A Special Agent's Take	05:28
Chemistry	05:58
Neuroscience	08:14
Brain Functions	04:10
Personal Experiences	11:09
Moving Forward	04:52

On the Frontlines: A Community Fighting Back



Full Length	47 minutes
Intro	03:51
A Special Agent's Take	05:28
Chemistry	05:58
Neuroscience	08:14
Brain Functions	04:10
Personal Experiences	11:09
Moving Forward	04:52

Opioids: Real People. Real Stories. Real Science



Full Length	33 minutes
Donna's Story	05:33
Levi & Lyle's Story	09:43
Angie's Story	06:45
Carl's Story	11:27

Student Videos



Competition Archives

Check out the finalists and winners from previous years' Video Challenges! These incredible videos were selected from hundreds of entries for their creativity and impactful messages about the dangers of prescription opioid misuse and heroin use. Congratulations to the winners and finalists.

2019 2018 2017



GRAND PRIZE AND PEOPLE'S CHOICE WINNER

2019
Dalton S., Jackson H., Yanelly L.,
Brian W. in Manchester, TN



2ND PLACE
2019
Aria K. in Worcester, MA



3RD PLACE
2019
Jake S. in Cody, WY



FINALIST
2019
Sebastian N. in Middletown, CT



FINALIST
2019
Olivia H. in Darien, GA



FINALIST
2019
Mia L., Ava L. in Blacksburg, VA

Self-Paced Module

The screenshot shows a digital interface for a self-paced module. At the top left, the logo reads "OPERATION PREVENTION" with a red and white pill icon, followed by the text "The Science of Addiction" and "The Stories of Teens". To the right of the logo are icons for information (i) and audio (speaker), and a progress bar. The progress bar is labeled "Introduction" and "What is an Opioid", with the latter being the current section. A hamburger menu icon is on the far right. The main content area features a silhouette of a person sitting on the floor against a bright light source. Overlaid on this image is a red box with the text "What is an Opioid" and a white box below it with the text "and how does it affect your body?". At the bottom left and right of the main area are red buttons labeled "BACK" and "NEXT" respectively. At the bottom center, there are logos for the "U.S. Department of Justice Drug Enforcement Administration" and "Discovery EDUCATION".

OPERATION PREVENTION The Science of Addiction The Stories of Teens

Introduction
What is an Opioid

What is an Opioid
and how does it affect your body?

BACK NEXT

U.S. Department of Justice Drug Enforcement Administration | Discovery EDUCATION

Parent Tool Kit

PDF resource available for download from website

- Signs and effects of opioid misuse
- Discussion points
- Role-playing guides
- Myths and misconceptions
- Refusal techniques
- Available in Spanish

SECTION 2
START THE DISCUSSION

OPERATION PREVENTION

DISCUSSION STARTERS

You may want to have a discussion with your child about this important issue but aren't quite sure where to start. Keep the lines of communication open by engaging in regular conversations. One-on-one conversations may not always yield the results you would like. Be patient and keep initiating conversations.

Here are some possible conversation starters:

There's a lot in the news lately about teens who are misusing prescription drugs. How much do you know about this? Do you know if kids at your school are taking prescription drugs like OxyContin® and Percocet® that were not prescribed for them?

- Sometimes teens will try to opt out of this conversation because they don't want to share specific information about friends or peers. In this case, you can be ready with a story about your own teenage years and someone you knew or something that happened pertaining to drug use during that time. Talk about how you felt, and then ask what they would have thought had they experienced something similar. This is also an opportunity to talk about why this behavior is so dangerous.

I just heard a report about drug use by teenagers, and I wanted to talk to you about what it said...

- Briefly summarize the report and talk honestly about how it makes you feel. Your child may be reluctant to talk about specific people they know, so make it clear that you are not fishing for information to get someone in trouble.

There is so much on the news today about people misusing prescription drugs. Are you aware of what can happen when people misuse medicine prescribed by doctors?

- If your child is not presently taking any medication, they may question the need to discuss this issue. Explain that people who misuse prescription drugs often don't have a prescription. Friends and family can supply the drugs—intentionally or inadvertently, when people leave old prescriptions in their medicine cabinets.

I see that your school has been taking part in a drug prevention program. There is so much in the news right now, and I am not sure I understand all of it. What have you learned from this program?

- This approach can be useful for children who are reluctant to talk about their personal feelings or relationships. Get the conversation started by asking your child to explain factual or scientific knowledge—for example, how opioids relieve pain and cause addiction—and listen for opportunities to ask follow-up questions.

Copyright © 2016 Discovery Education. All rights reserved. Discovery Education is a Division of Discovery Communications, LLC. page 6

For hard copies email:
Cathleen.R.Drew@usdoj.gov



Multi-Drug Misuse Prevention Resources

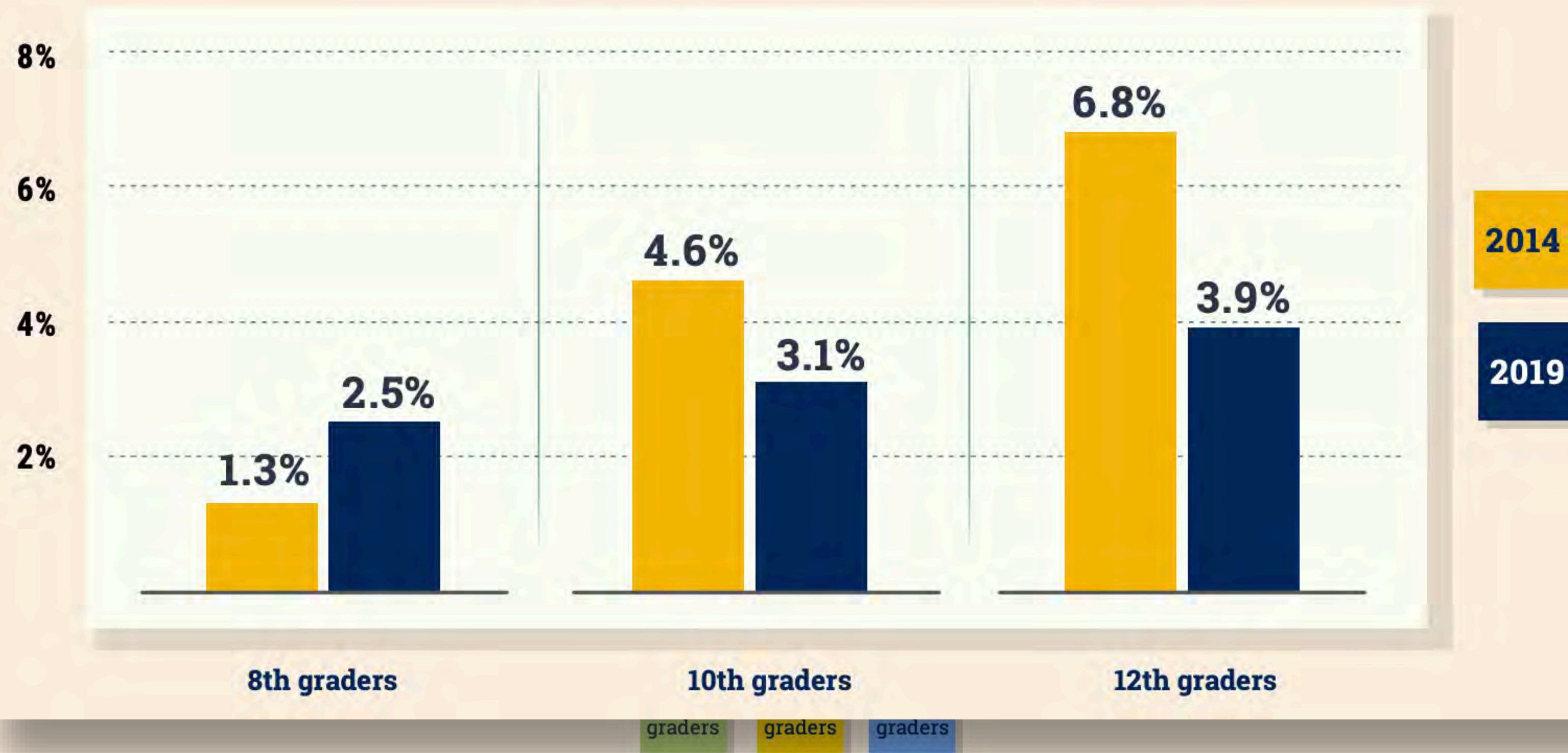
Why?

It's not just an opioid problem

Usage Trends

ADDERALL® MISUSE SEES SIGNIFICANT CHANGES IN PAST 5 YEARS

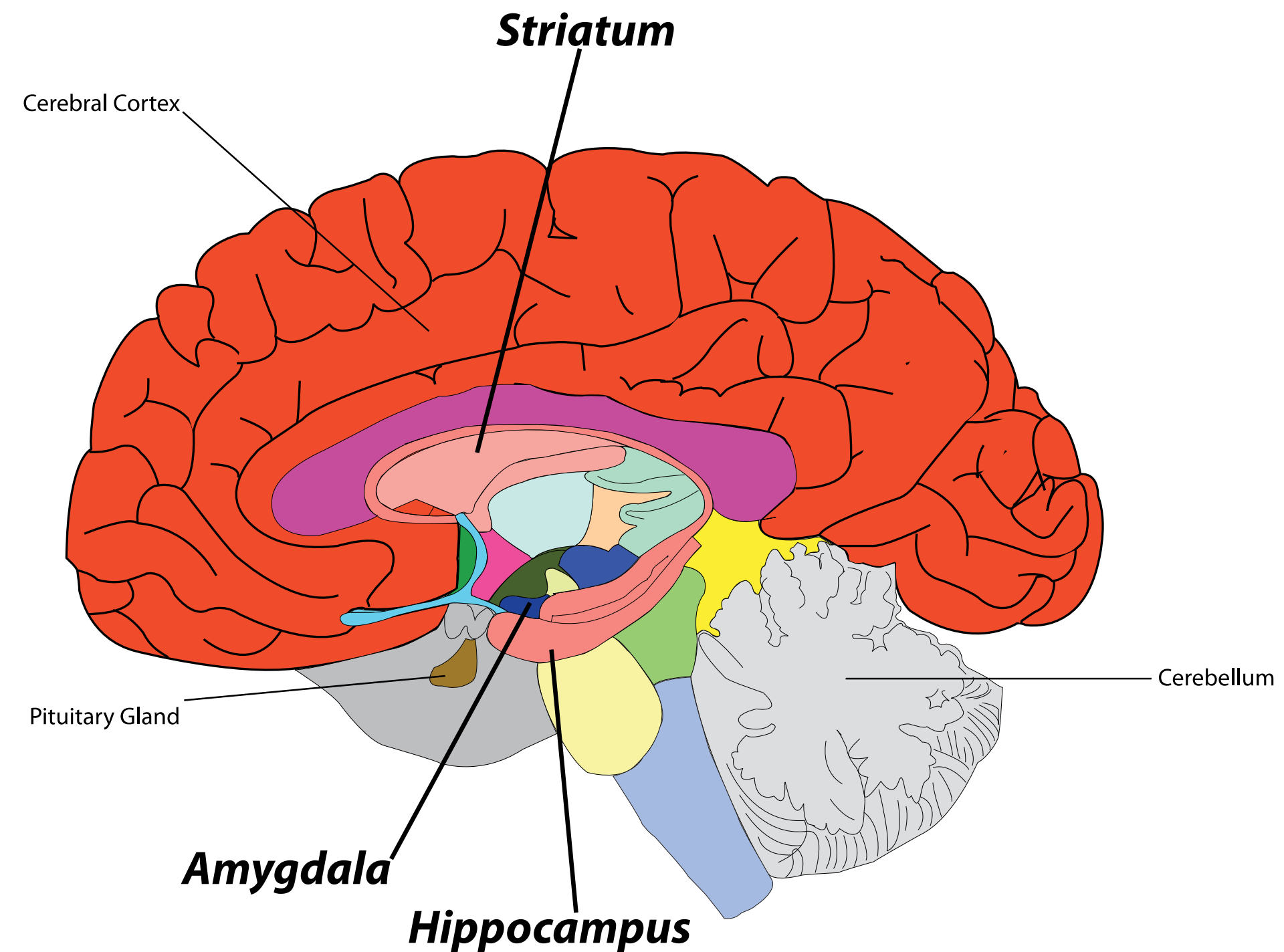
a decrease in 10th and 12th grades, but an increase in 8th grade



Multi-Drug Misuse Prevention Resources

Why? It's brain science!

Different Areas of the Brain Involved in Drug-Seeking Behavior





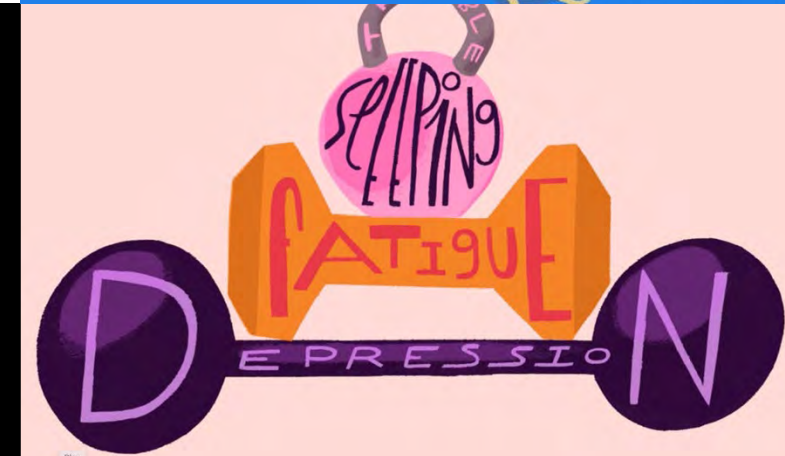
Multi-Drug Misuse Prevention Resources

What's available?

- Video Topic Series
- Topic Series Activities
- Educator Guide

Video Topic Series

NOPE



WHAT?

Dear Lungs,
Breathe.
Love,
BRAIN.

THC

Topic Series Activities

- Grades 3–8
- 30–45 min.
- Standards (ELA, NHS)
- Elementary school materials
- Middle school materials



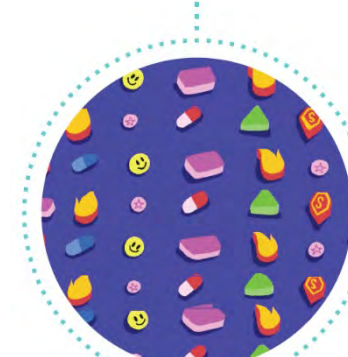
• Depressants



• Marijuana



• Hallucinogens



• Stimulants



• Inhalants



• Steroids

Topic Series Activities



Depressants

- Analyze sources and synthesize information on depressants' impact on the brain and the body
- Create a summary paragraph to explain the impact of depressants on the body and the brain



Hallucinogens

- Research hallucinogens and create an infographic poster highlighting the impact on the brain and body
- Synthesize informational text by using a close reading protocol



Inhalants

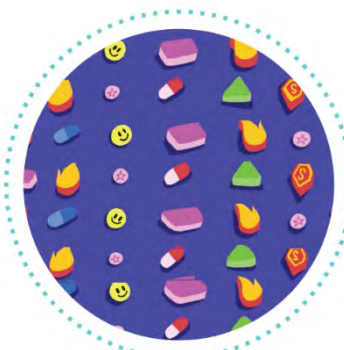
- Use creative writing to explain how inhalants impact the brain and the body
- Synthesize information from sources

Topic Series Activities



Marijuana

- Analyze the impact of marijuana by using info text to chart how THC affects the brain
- Create their own questions about the impact of marijuana on the brain and the body to drive engagement



Stimulants

- Create refusal skits that highlight strategies for avoiding health risks like the use of stimulants
- Develop questions that help engage in learning about stimulants



Steroids

- Evaluate the impact of steroids on the brain and the body by investigating current information in their reporter's notebook
- Use informational text to write an editorial on the impact of steroids on the brain and body

Re-Structuring Menu for Remote Learning

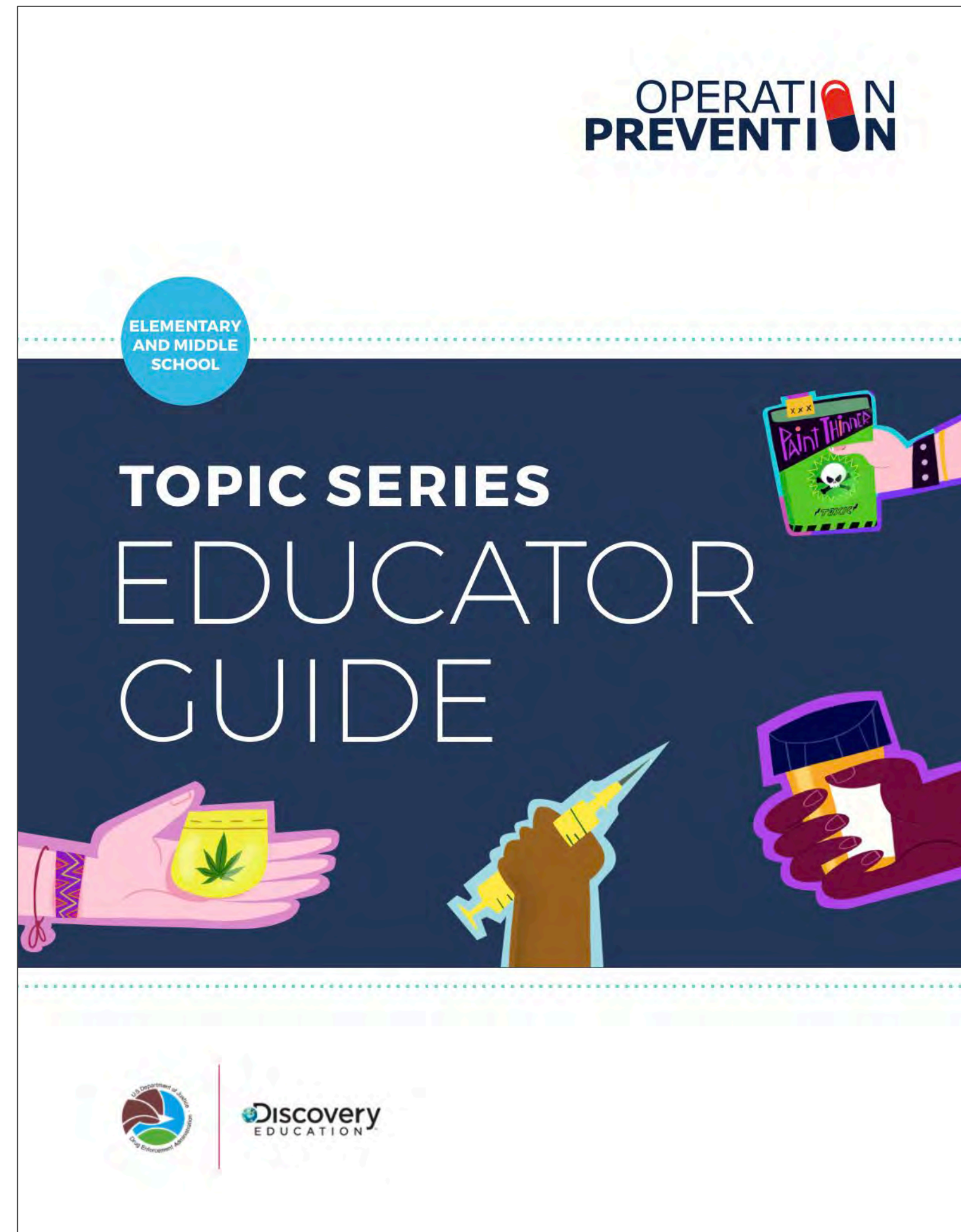


OPERATION
PREVENTION

RE-STRUCTURING MENU

CROSS CURRICULAR		FLEXIBLE TIME FRAMES	
Writing Prompts	\$	5 Minute Starters	\$
Collecting Data	\$	Every Tuesday	\$
Statistical Expressions	\$	Week Long Sprint	\$
Digital Literacy	\$	Independent Work	\$
Geography + Demographics	\$	After Lunch	\$
Advertising + Marketing	\$	6 Week Prevention Circles	\$
Presentation Skills	\$	Block with a Fellow Teacher	\$

Educator Guide



- Overviews, including a brain science background video from NIDA
- Key Outcomes:
Student will be able to...
- Key Takeaways:
Most important facts to know.



Coming Spring 2021!

American Indian/Alaska Native Drug Misuse Prevention Resources

- Digital Lessons
- Classroom Activities
- Master Class Video Series to Guide Implementation

EVALUATION: Your Need

- Revisit your list from earlier of your needs.
- Thus far, can you identify any resources from Operation Prevention that may meet these needs?
- What resource do you want to dive deeper into?
- Why? What do you hope to find?



Questions, Ideas, & Classroom Implementation Stories?

Catie Drew, M.A.T.

Sr. Prevention Program Manager
Drug Enforcement Administration - DEA

Cathleen.R.Drew@usdoj.gov



**OPERATION
PREVENTION**
OperationPrevention.com

NO Thanks, I'M
I'm all set.

NOT

into

DRUGS.

I DON'T
WANT TO

High

Life

