



Poster: Use the poster as a discussion starter about choices and consequences regarding drug abuse. *What are some of the consequences that can result from the choice to use a drug? What are some health risks? Why is having*

facts important for making smart choices? Before displaying the classroom poster, make sure to photocopy all lessons and Student Worksheets on the poster back.

LESSON 1: The Science of Teen Decision Making

Objective: Students will understand the science of teen brain development and how the decision-making process in teens can make them prone to rash decisions.

Materials: Worksheet 1

Time Required: 20 minutes, with additional time for the Student Worksheet.

Key Concepts: Parts of a person's brain continue to mature through a person's early twenties. The prefrontal cortex, the brain's control center for thinking ahead and sizing up risks and rewards, matures well past the teen years. Meanwhile, the brain's limbic system, which controls emotions, matures earlier. When teens make choices in emotionally charged situations, those choices often have more to do with feelings (the mature limbic system) than with logic (the not-yet-mature prefrontal cortex).

Discussion: *Have you ever acted before thinking? Did you ever wonder why? Have you ever worried that this might create problems? What are some possible consequences (positive and negative) of acting on the "spur of the moment"? Have students complete the Student Worksheet individually or in small groups.*

Critical Thinking: *How does teen brain development influence decision making in teens? What kinds of choices might be affected by different rates of brain development? What are some ways to make smarter choices? (pausing and thinking before acting; comparing harmful outcomes to short-term benefits; getting advice.)*

LESSON 2: Drugs and Your Brain

Objective: Students will understand basic brain structure and the science of how drugs affect the brain, illuminated through the specific effects of marijuana and prescription painkillers.

Materials: Worksheet 2

Time Required: 20 minutes, with additional time for students to complete Student Worksheet.

Key Concepts: The human brain is the most complex organ in the body. To send a message, a brain cell releases a chemical (neurotransmitter) into the space separating two cells called the synapse. The neurotransmitter crosses the synapse and attaches to proteins (receptors) on the receiving brain cell. A neurotransmitter and its receptor operate like a "key and lock" that ensures that each receptor will forward the appropriate message only after interacting with the right kind of neurotransmitter. However, drugs of abuse can be similar in size and shape to neurotransmitters, and this similarity "fools" receptors and allows the drugs to lock onto and activate the nerve cells.

Discussion: *How do you think the brain sends and receives messages? Are there other processes outside the body that function in a similar manner? (dominoes, a relay race.) What kind of activities are controlled by the electrical impulses crossing between neurons in the brain? Have students complete the Student Worksheet individually or in small groups.*

Critical Thinking: *Have you ever been "fooled" by something? What do you think the long-term effects on the brain would be if it is constantly being "fooled" by drugs? How do you think marijuana would affect learning and schoolwork? What dangers are there in using prescription pain medications without a doctor's supervision?*

LESSON 3: Drugs and Your Body

Objective: Students will understand how a wide range of drugs can affect the body, including short- and long-term effects.

Materials: Worksheet 3

Time Required: 20 minutes, with additional time for students to complete Student Worksheet.

Key Concepts: The effects of drug abuse on the body can be far-reaching. Cardiovascular disease, stroke, cancer,

HIV/AIDS, hepatitis, and lung disease can all be consequences of drug abuse. Some of these effects occur when drugs are used at high doses or after prolonged use; however, some may occur after just one use.

Discussion: *If drug use changes how the brain works, do you think it causes other changes in the body? What changes do you think could be caused by alcohol? Marijuana? Nicotine? Have students complete the Student Worksheet individually or in small groups.*

Critical Thinking: *After reviewing the effects of drug abuse on the body, consider how you would respond to someone who says, "As long as you're not addicted to drugs, or don't overdose, drugs can't cause much harm?"*

LESSON 4: Peer Influence

Objective: Students will understand the effects peer influence can have on making choices. Then, using facts they've learned about the brain, decision making, and the health effects of drugs, will develop responses for reacting to situations involving drugs and alcohol.

Materials: Poster Front and Worksheet 4

Time Required: 20 minutes, with additional time for the Student Worksheet.

Key Concepts: Science shows that teens are capable of making quick and accurate judgments on their own, but are more likely to make better decisions when they have time to think. However, when they have to make decisions in the heat of the moment while in a social situation, their decisions are often influenced by external factors such as peers.

Discussion: *What are some influences on teens when they make decisions? Do you think influences on teens are different than influences on adults? Have students complete the Student Worksheet in small discussion groups.*

Critical Thinking: *What are some of the strategies and resources people use to abstain from drug use? How can you help yourself to pause before making a decision? What does it feel like to make decisions that are unpopular?*

ASSESSMENT TOOL: Use Worksheet 5 as an assessment quiz to determine what students have learned throughout the lessons.