SCHOLASTIC TEACHER'S EDITION

DRUGS + YOUR BODY

Dear Teacher:

"Drugs + Your Body"—the latest installment in our series on the health effects of drugs—provides students with important factual information about the devastating effects drugs can have on their bodies.

As a complement to the poster/teaching guide "Drugs + Your Body: It Isn't Pretty" (downloadable at scholastic.com/headsup/teachers), this new insert provides students with additional information about the effects of drugs on the body—inside and out. The accompanying reproducible work sheet further explains how alcohol magnifies the effects of some drugs, which can lead to deadly consequences.

By sharing this article with your students, you are providing them with not only important facts about the science of drug abuse but also valuable information to help them make smart decisions and choose healthy, drug-free lifestyles.

Sincerely,

Nora Volkow, M.D.
Director, National Institute on Drug Abuse

In This Installment:

- **Student article:** Facts about the health effects of drugs on teens, with an emphasis on organs and major body systems.
- **Student work sheet:** Facts about how alcohol magnifies the effects of some drugs.

Alignment With National Standards

- *Science (NSES):* Life Science: Structure and Function in Living Systems; Science in Personal and Social Perspectives: Personal and Community Health
- *Life Skills (McREL):* Self-Regulation; Thinking and Reasoning

Before-Reading Questions:

- What do you know about how the brain, heart, and lungs work together in a healthy person?
- What do you know about the effects of different drugs on the heart and lungs?

After-Reading Questions (factual responses in *italics*):

1. **What can drugs do to a person's physical appearance?** *(Male steroid abusers can experience shrunken testicles, baldness, and breast formation. Female steroid abusers can experience facial hair growth and male-pattern baldness. Meth abusers can have skin sores from excessive picking. Smokers often have discolored teeth, gum disease, and tooth loss.)*
2. Drugs can affect the body both directly and indirectly. A direct effect is one where one factor directly affects another. (For example, hitting a baseball with a bat has a direct effect—the bat directly affects the location of the ball.) When a drug acts indirectly, it produces some change in your body, and it is this change that directly causes harm.
   - **Provide one example where a drug can directly cause harm to an organ in your body.** *(Examples: Anabolic androgenic steroids act directly to cause breast development in males or facial hair growth in females. Cocaine chemically damages the tissues in the nasal septum, which eventually results in a hole in this tissue.)*
   - **Provide one example where a drug can indirectly harm an organ in your body.** *(Examples: Methamphetamine raises body temperature and causes dehydration. Dehydration, in turn, lowers blood volume, which reduces blood flow through the kidneys, damaging them. Methamphetamine can cause individuals to hallucinate that insects are crawling on their skin [a direct effect]. It is the hallucinations that cause people to pick at their skin causing sores [an indirect effect].)*

Student Work Sheet: Have each student use the information on the work sheet, as well as in the article, to answer the work sheet questions. As a class, discuss the dangers of using alcohol and how combining alcohol with drugs can make a dangerous practice even riskier.

Work Sheet Answer Key:
1. Prescription sedatives and opioids each slow breathing. Combining them with alcohol can further slow breathing to such low levels that a person could become comatose and/or die. 2. Doctors prescribe medications based on a person's age, weight, and specific illness so that only the required dosage is used. Abusing prescription drugs exposes the body to unsafe doses that can cause harm. 3. Impaired driving, poor sports performance, poor academic performance, etc. 4. Alcohol can cause the heart to beat rapidly or irregularly, damaging the heart muscle. Combining alcohol with drugs that also increase heart rate, for example, magnifies the effects and the risks.

More Information

- For more information on drugs, go to **teens.drugabuse.gov** or **scholastic.com/headsup**.
- For immediate help with a crisis, call **1-800-273-TALK**.
- To locate a treatment center, call **1-800-662-HELP** or visit **http://findtreatment.samhsa.gov**.

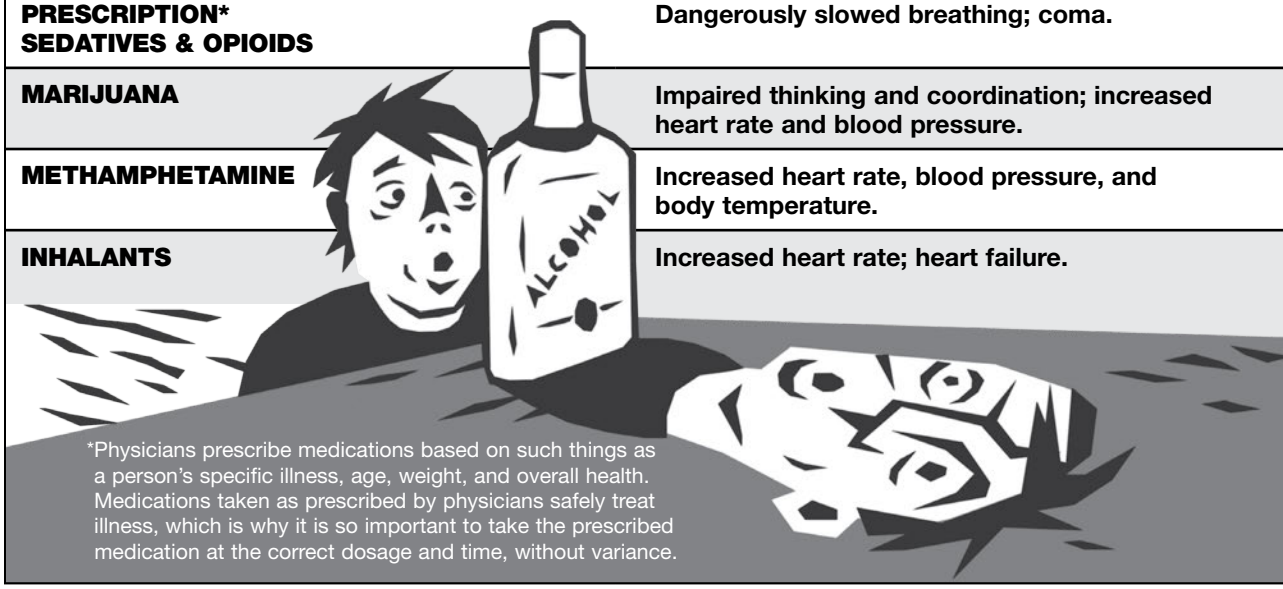
For printable past and current articles in the **HEADS UP** series, go to **scholastic.com/headsup/teachers**.
For other activities and teaching support, go to **drugabuse.gov/parents-teachers**.

Alcohol + Drugs = Magnified Effects

Study the information from the diagram below, and then answer the "Think It Through" questions that follow. Write in complete sentences on a separate sheet of paper.

Using alcohol with other drugs can magnify the effects of each drug and increase the harmful consequences. The results can be deadly. For example, alcohol combined with cocaine can increase blood pressure to dangerous levels. Combined with prescription sedatives and opioids, alcohol can drastically slow breathing.

Drug Name	MAGNIFIED Effects With Alcohol
COCAINE	Increased blood pressure and heart rate.
PRESCRIPTION* SEDATIVES & OPIOIDS	Dangerously slowed breathing; coma.
MARIJUANA	Impaired thinking and coordination; increased heart rate and blood pressure.
METHAMPHETAMINE	Increased heart rate, blood pressure, and body temperature.
INHALANTS	Increased heart rate; heart failure.



*Physicians prescribe medications based on such things as a person's specific illness, age, weight, and overall health. Medications taken as prescribed by physicians safely treat illness, which is why it is so important to take the prescribed medication at the correct dosage and time, without variance.

Think It Through

1. Prescription sedatives include sleeping pills and anti-anxiety medications such as Valium® and Xanax®. Prescription opioids include Vicodin®, Oxycontin®, and codeine. Why could combining any of these drugs with alcohol land a person in the emergency room (ER)?

2. Why is taking a prescription drug in a manner different from the way it was prescribed so dangerous?

3. Impaired thinking and coordination are dangerous side effects that result from mixing marijuana and alcohol. What are some harmful consequences that might result from this combination?

4. Heavy alcohol use does not have to be combined with other drugs to cause damage to your brain or body. Alcohol can damage the liver and heart while also impairing brain function. How does this make mixing drugs and alcohol so dangerous?