

Alcohol: Knowing the Facts!

More Practice With Bugs and I STOP'D



Teacher Notes

3 Cs

-  I care about myself.
- I care about others.
- I care about my community.

Help students to understand and invite them to state clearly:

- I have the right to care about myself.
- I have the responsibility to make smart choices when I care about myself.
- I show I care about myself when I make choices to live healthy and not use alcohol, tobacco/nicotine or other drugs.

Preparation

Materials

- Teacher Resource Sheet: "Alcohol's Effects on the Body" (see page 52)
- Soft sponge or yarn ball (or something similar)
- tennis balls
- gloves (one pair for each 5–6 member team)
- one bolt and corresponding nut (for each 5–6 member team)
- one pair of sunglasses with lenses that have been covered with petroleum jelly (one pair for each 5-6 member team)

Vocabulary

depressant	impairment	cardiovascular
stimulant	vasodilator	simulation
cirrhosis		
intoxicating		

Lesson at a Glance

Introduction

1. Alcohol Facts

Strategy

2. Impaired
3. Alcohol Ball
4. Liver Overload

Conclusion

5. Talk Show Skits

Core Curriculum Objectives and Standards

Objectives

- Identify the effects of alcohol on body organs.
- Identify effects of alcohol on performance.
- Identify reasons for not using alcohol.

Standards

- 7060-0201 Examine the possible physical effects of substance abuse.
- 7060-0202 Summarize the legal, social and emotional consequences of substance abuse.

Introduction

Ask

1. Alcohol Facts

True or false?

- Alcohol is a drug.
True—alcohol is a drug that affects the way the body naturally functions. It is a depressant, which means that it slows down the body's processes.
- Alcohol is the oldest and most abused drug in the world.
True
- Alcohol is addictive.
True
- Ethyl alcohol is the intoxicating ingredient present in alcohol.
True
- A 12-ounce can of beer, a 5-ounce glass of wine, and one ounce of whiskey **all** contain the same amount of alcohol.
True
- Everyone who drinks alcohol experiences various physical effects. These vary from person to person.
True
- Alcohol affects many of the body organs and their functions.
True
- Only **time** will cause a person to become sober.
True

Strategies

2. Impaired

The following activities are used by permission from the wonderful book, *Activities That Teach*, by Tom Jackson. Please refer to this book for many more similar activities. A full bibliography reference is in the references section of these Prevention Dimension lessons.

This simulation activity demonstrates how alcohol use impairs ability to perform tasks that require manual dexterity.

- Divide the class into teams, with 5–6 students per team.
- Distribute a nut and bolt to each team. Explain that each person must thread the nut all the way onto the bolt and then off again. When the task is complete, pass the nut and bolt on to the next team member and repeat the process until the entire team has completed the task.
- Time this process and record each team's time.
- Distribute a set of gloves to each team and repeat the game using the gloves. Distribute a pair of sunglasses to each team and repeat process a third time, using the sunglasses.
- Continue to time and record each team's time.

Discussion

- How hard was it to thread the nut when you were not wearing gloves? Wearing gloves? Wearing sunglasses?
- How were you impaired when wearing gloves? Sunglasses?
- How is this simulated impairment similar to someone under the influence of alcohol?
- Compare the times of each team. How does alcohol affect reaction time?
- What are tasks or jobs that would be negatively influenced by alcohol use?
- Some people may want to be impaired to escape certain bugs. How does the impairment affect other parts of their lives?



Activity

3. Alcohol Ball

This simulation activity demonstrates how alcohol use can cause blurred vision and poor coordination. Several students volunteer to catch a ball tossed to them by the teacher.

- For practice, play catch with the students.
- Spin students around fast, then instruct students to squint their eyes. After spinning, toss the ball to them and ask them to toss it accurately back.

Discussion

- What effects of being under the influence of alcohol did the spinning and squinting eyes simulate?
- People who drink too much alcohol have blurred vision and poor coordination. How might blurred vision and poor coordination be harmful to the person drinking as well as others?
- Why wouldn't you want to ride in a car with a person who has these impairments?
- What can you learn about the effects of alcohol from this activity?

Activity

4. Liver Overload

This simulation activity demonstrates how the liver becomes overloaded when too much alcohol enters the bloodstream.

- Five students face the class, in a line, shoulder to shoulder.
- Hand a soft sponge or yard ball to the first person in line. His or her job is to pass the ball down the line, hand to hand, until it reaches the "liver," who is the last person in the line.
- The "liver" will squeeze the tennis ball five times, then let it drop to the floor.
- Begin by sending the balls down the line slowly. The "liver" should be able to handle his or her task.
- Speed up the sending of the balls down the line. This will cause the liver to "fail" and the soft sponge or yarn balls will back up down the line and fall on the floor.

Discussion

- What occurred when the tennis balls were introduced slowly into the bloodstream?
- What happened when the tennis balls were sent more quickly?
- What do you think would happen to a liver that experiences this very often?
- What do you think this activity can tell us about alcohol and our bodies?

Conclusion

Skit

5. Talk Show Skits

- Divide students into groups of five.
- Have the students prepare a skit in a talk show format. Use the following parts: talk show host, a doctor, a drinker, a former drinker, and a nondrinker.
- Instruct the groups to review and use the ideas about bugs from lesson 4 and I STOP'D from lesson 7.
- Use the information in this lesson to prepare the skits.
- Present the skits to the class.



Teacher Resource Sheet

Alcohol's Effects on the Body

Brain/Central Nervous System

Alcohol is a depressant that also acts as an anesthetic in the central nervous system. Although it is a depressant, alcohol has a unique action that initially creates a feeling of mild and pleasant stimulation. Alcohol affects the thinking, judgment, and reasoning abilities first. More alcohol intake means that breathing and reflexes will also be impaired. Heavy social drinking may cause brain atrophy. Over time, the brain and nervous system become less sensitive to alcohol's effects.

Liver

Almost all the alcohol consumed is metabolized in the liver at the rate of $\frac{1}{2}$ ounce of pure alcohol per hour. Since each typical drink of beer, wine, wine cooler or distilled spirit contains about $\frac{1}{2}$ ounce of pure alcohol, it takes about two hours for the body to fully recover from one typical alcoholic drink. Prolonged heavy drinking can cause fat to accumulate in the liver, which will eventually become nonfunctional scar tissue, or cirrhosis, the sixth leading cause of adult deaths in the United States.

Lungs

Some alcohol is exhaled through the breathing process, which is why alcohol can be smelled on the breath of a person who has been drinking. Extremely high alcohol levels result in unconsciousness, coma, and even death through the suppression of the brain's breathing center, the cerebellum.

Stomach

Some of the alcohol consumed is absorbed quickly from the stomach into the blood stream. The amount of food in the stomach helps determine the effect alcohol has on a person. Alcohol stimulates the stomach to secrete more stomach acid. Prolonged heavy drinking is related to ulcers and even cancer of the stomach, mouth, tongue, and esophagus.

Kidneys

Alcohol is a diuretic, so it increases the production of urine from the kidneys. Drinking alcohol on a hot day greatly increases the risk of dehydration.

Small Intestine

Almost all alcohol consumed is absorbed from the small intestines into the bloodstream.

Cardiovascular System/Circulatory System

Alcohol is a vasodilator, which means it opens up blood vessels, especially those near the surface of the skin. This gives drinkers a feeling of warmth, even though their body temperature may actually go down. This phenomenon is often observed at football games played in very cold weather. Some fans will drink so much alcohol they will take their jackets off to "cool off." Unfortunately, they often find themselves in bed days later with upper respiratory infections.

Reproductive System: Alcohol decreases production of the male sex hormone testosterone. Women who drink during pregnancy risk giving birth to an infant with Fetal Alcohol Spectrum Disorder, a disorder that causes heart malformation, joint problems, growth deficiencies, and mental challenges.

Some of the factors that can influence HOW alcohol affects the individual include:

- Quantity—the amount of alcohol consumed
- Time—how quickly/slowly the alcohol is consumed
- Body weight
- Age (young people and the elderly are the most sensitive)
- The presence of other drugs in the system (prescription medication, illegal drugs, etc.)
- The presence or non-presence of food in the stomach
- Previous drinking experience (If one develops a tolerance, it takes more and more of the drug to get the desired effect.)