

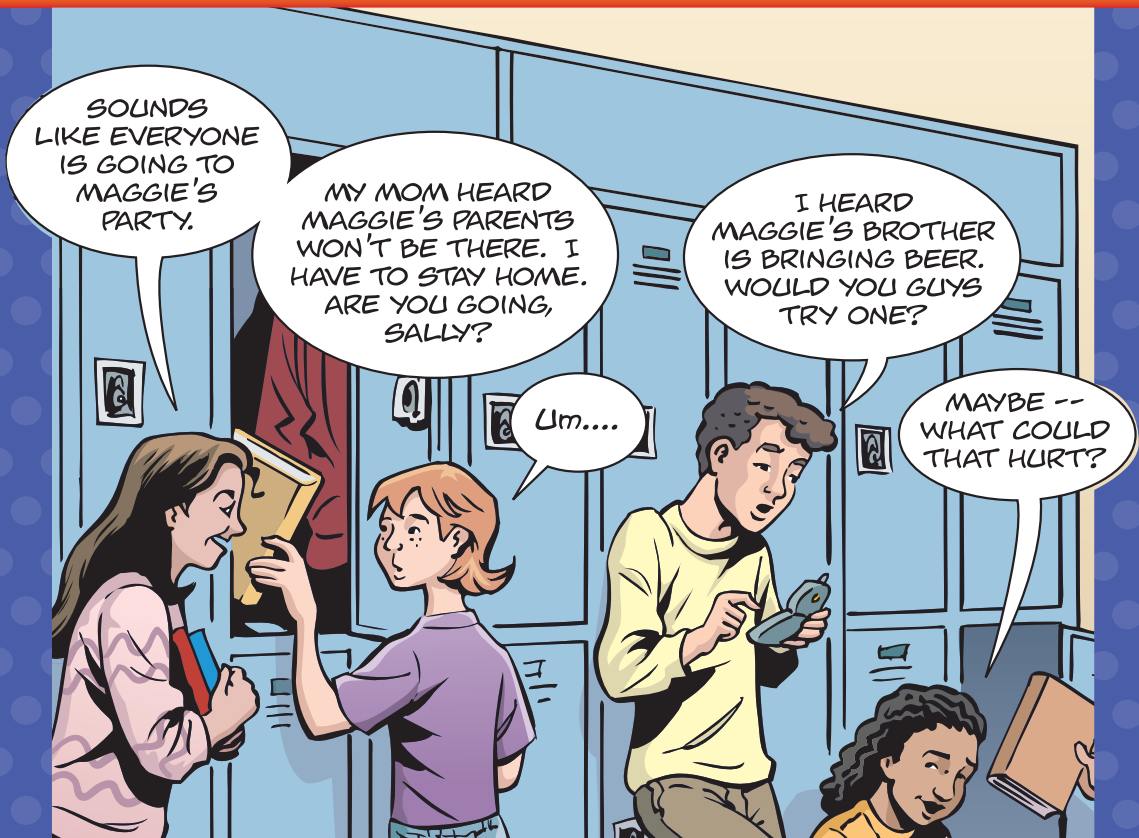
Reach Out Now: Poster/Teaching Guide

Aligns with
National
Standards

Lessons and Worksheets to:

- give students facts about alcohol
- help them make smart choices

HELP PREVENT UNDERAGE ALCOHOL USE



Dear Teacher:

Welcome to **Reach Out Now**, a program developed for teachers and families to help prevent underage alcohol use. As an educator, you know it is not too early to start communicating with your fifth and sixth graders about the risks of underage alcohol use. This skills-based teaching guide is designed to give students the facts about alcohol, so they can make smart and healthy choices in the future.

Developed by the Substance Abuse and Mental Health Services Administration's Center for Substance Abuse Prevention in conjunction with Scholastic Inc., the program provides students with the scientific facts about the effects of alcohol on the brain and the body. Inside, you'll find lessons and worksheets that build the scientific literacy and critical-thinking skills necessary to make informed decisions. Thank you for sharing this important program with your students.

Getting Started

- **Hang the classroom poster** to involve students in a discussion about the dangers of underage alcohol use. Before displaying the poster, be sure to **make copies** of all of the lessons and worksheets on the poster back.
- **Lessons and worksheets** inside support your science lessons with facts about the brain and the body. They also reinforce key skills such as reading comprehension, critical thinking, graphs, and persuasive writing.
- **Worksheets in the teaching guide** can be used **individually** or **in sequence** with each other. **Bonus worksheets** in the accompanying booklet build on the information in the lessons.
- **Family Pages** included in the accompanying booklet extend the discussion outside of the classroom.
- All materials are designed with flexibility to be taught **throughout the school year**.

Additional Resources

FOR TEACHERS AND OTHER ADULTS

- <http://www.samhsa.gov>
- <http://www.toosmarttostart.samhsa.gov>
- <http://www.surgeongeneral.gov/topics/underagedrinking/EducatorGuide.pdf>
- <http://www.underagedrinking.samhsa.gov>
- <http://www.stopalcoholabuse.gov>
- <http://www.niaaa.nih.gov>

FOR YOUTH

- <http://www.toosmarttostart.samhsa.gov/tweens>
- <http://www.toosmarttostart.samhsa.gov/teens>
- <http://www.thecoolspot.gov>

PRINTABLE PUBLICATIONS

- http://pubs.niaaa.nih.gov/publications/MakeADiff_HTML/makediff.htm

IN SPANISH

- http://pubs.niaaa.nih.gov/publications/MakeADiff_SpanHTML/SpanDiff.pdf

Alignment with National Standards

See the back cover for alignment with:

- National **Science/Personal Health and Reading/Writing Standards**
- Goals of **The Surgeon General's Call to Action To Prevent and Reduce Underage Drinking**

What Is Reach Out Now?

Reach Out Now is a collaboration between the U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration and Scholastic Inc. to provide school-based, underage alcohol use prevention materials.

Reach Out Now materials enable teachers to use evidence-based lessons and other helpful materials to teach fifth and sixth graders, parents, teachers, and the community about the dangers of underage alcohol use and encourage young people to make healthy decisions.

- **For free printable copies of the Reach Out Now materials, visit:**

<http://www.toosmarttostart.samhsa.gov/educators/lessonplan.aspx>

- **For more information about preventing underage alcohol abuse, visit:** <http://www.stopalcoholabuse.gov>

Lesson Overviews for Teachers

(See back cover for Worksheets Answer Key)

POSTER

Before hanging the poster, be sure to photocopy the lessons and worksheets on the back of the poster. The poster can be used as a launch-off point to engage students in a pre-lesson discussion about underage alcohol use, as well as a wrap-up to discuss what they've learned after completing the lessons and worksheets. Questions you might ask include: *What pressures are there for students to use alcohol? What are the consequences of abusing alcohol? Why is it helpful to know the facts about the effects of alcohol?*

PRE- AND POST-ASSESSMENT

What Do You Know About Alcohol?

Objective: To assess your students' knowledge about the effects of alcohol on the brain and the body

Materials: Assessment Quiz reproducible

Time Required: 10 minutes, with additional time for classroom discussion

Discussion: Before using the other worksheets in the teaching guide, have students complete the quiz. Ask students: *How much do you think you know about how alcohol affects the body? After teaching the lessons, have them take the quiz again. Ask students: What did you learn? What facts about alcohol most surprised you?*

LESSON 1

Alcohol and Your Brain

Objective: Students will learn about the functions of different parts of the brain and how alcohol affects those functions.

Materials: Worksheet 1 reproducible

Time Required: 20 minutes, with additional time for classroom discussion

Skills Covered: Reading Comprehension/Critical Thinking/
Diagram-Reading

Key Concepts: Each part of the brain is responsible for different functions, including coordination of movement, decision-making, and the five senses. Alcohol has both stimulant and depressant effects on the brain. It may initially make a person feel happy. Then the depressant effects take over, slowing brain processes. Alcohol abuse can damage critical areas of the brain, and these effects may be long-lasting. In extreme cases, drinking can shut down parts of the brain—leading to a coma. Research shows that a teen's brain may be particularly susceptible to damage from alcohol because it is still developing. Recent research by the National Institutes of Health and the National Institute on Alcohol Abuse and Alcoholism shows that the brain keeps developing well into a person's twenties.¹

Discussion: *What are some processes in the body that are controlled by the brain? What might happen if signals in a person's brain get slowed down or mixed up? Have you ever heard about changes to a person's behavior or movements that are the result of drinking alcohol? (slurred speech; difficulty walking straight; erratic behavior) What do you think might cause those changes? Have students complete the Student Worksheet individually or in small groups.*

Critical Thinking: *How does alcohol affect the signals in your brain? How does alcohol affect your ability to make decisions? Could drinking alcohol affect your relationships with your friends and family? How? Why might drinking alcohol make it difficult to do other activities, such as drive a car or ride a bike? Could drinking alcohol as a teenager affect your adult life? Why or why not?*

LESSON 2

Alcohol and Your Body

Objective: Students will learn about the harmful effects of alcohol on different parts of the body.

Materials: Worksheet 2 reproducible

Time Required: 20 minutes, with additional time for classroom discussion

Skills Covered: Reading Comprehension/Critical Thinking

Key Concepts: When a person drinks alcohol, it is absorbed into the bloodstream and affects nearly every organ system in the body. Alcohol can have short-term effects on the body, such as a stomachache. Long-term abuse can damage vital organs such as the heart, liver, kidneys, and stomach. This damage can lead to potentially deadly diseases such as kidney failure or cirrhosis of the liver. The effects of alcohol on an individual's body depend on many factors, including age, weight, gender, and genetics.

Discussion: *What parts of the body other than the brain do you think are affected by alcohol? Do you think alcohol can harm organs in your body? Do you think underage drinking can be deadly? Have students complete the Student Worksheet individually or in small groups.*

Critical Thinking: *What long-term effects does drinking alcohol have on the body? How does drinking alcohol make you more susceptible to potentially deadly conditions? How do you think abusing alcohol would affect your appearance over time?*

LESSON 3

Making Smart Choices

Objective: Students will consider why young people may be tempted to use alcohol. They will use the facts they have learned about the effects of alcohol on the brain and the body to determine healthy responses to scenarios in which alcohol is involved.

Materials: Worksheet 3 reproducible

Time Required: 30 minutes, with additional time for classroom discussion

Skills Covered: Critical Thinking/Persuasive Writing/Art

Key Concepts: Many young students may face situations in which a friend is drinking or asks them to drink. It is important for students to know the facts about how alcohol affects the brain and the body when they make decisions in these situations. Considering the situations before they arise may better prepare the students to make smart and healthy decisions.

Discussion: *Why do you think the drinking age in the United States is 21? What are some reasons you think underage youth are tempted to use alcohol? Do you think youth would make different decisions about drinking alcohol if they knew the facts about how it can affect the body? Why or why not? Have students complete the Student Worksheet individually or in small groups.*

Critical Thinking: *Why might it be difficult for you to say "No" to drinking, if a peer offers alcohol to you? What are some things you can do to remove yourself from a situation in which alcohol is involved? What would you say? What would you do? What are some resources that you could turn to for support if you are faced with situations that involve alcohol?*

¹National Institute on Alcohol Abuse and Alcoholism. (2009, July). "A developmental perspective on underage alcohol use," *Alcohol Alert*, 78. From <http://pubs.niaaa.nih.gov/publications/AA78/AA78.htm> (accessed August 26, 2013).

What Do You Know About Alcohol?



Take the quiz below to find out whether you know the facts about alcohol.

1	When a person drinks alcohol, it is absorbed into the bloodstream within minutes.	True False
2	A given amount of alcohol has the same effect on an adult as it does on a younger, smaller person.	True False
3	Alcohol can affect women differently than men.	True False
4	Long-term alcohol abuse may lead to some types of cancer.	True False
5	Drinking alcohol can affect your emotions.	True False
6	Alcohol can make your senses, such as vision, work better.	True False
7	Heavy alcohol use has no risk of any long-lasting effects on the body.	True False
8	Drinking a lot of alcohol at one time can lead to a coma.	True False

7 – 10 correct	Congratulations!	
You are a champion of mastering the facts.		
4 – 6 correct	On your way to mastering the facts.	
You have a good grasp of the facts.		
0 – 3 correct	We know you are “too smart to start.”	
Continue to learn the facts.		

Alcohol and Your Brain

• What to Know •

Drinking alcohol affects the way your brain works—changing everything from the way you act to your ability to walk. Some effects can be long-lasting. Learn about how alcohol affects different parts of the brain.¹

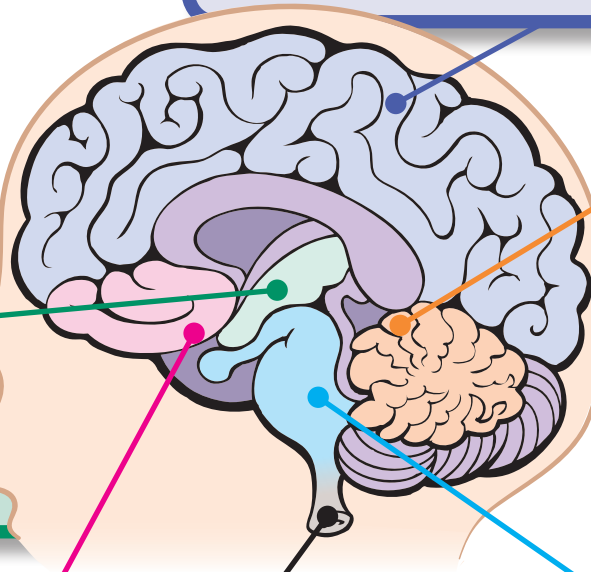
Hippocampus: Your memory is controlled by the hippocampus. Drinking a lot of alcohol at one time can cause you to blackout, or forget a period of time. Long-term alcohol abuse can permanently damage the hippocampus, making it difficult for a person to learn.

Hypothalamus: Many body processes, such as heart rate and the feeling of hunger or thirst, are controlled in this small area. Alcohol can slow your heart rate and may make you hungrier and thirstier.

Central Nervous System: Alcohol slows down this system, which is made up of the brain, spinal cord, and nerves. That affects how signals flow through your body, making you think, speak, and move more slowly.

Cerebellum: This part of the brain is important for coordinating many of your daily movements, such as walking and grabbing objects. Alcohol can slow your reflexes. It may cause you to lose your balance or make your hands shake.

Medulla: Involuntary processes, such as breathing and maintaining body temperature, are controlled here. Drinking a lot of alcohol at one time can shut down the medulla, leading to a coma.



Cerebral Cortex: This is the main area involved in thinking, decision-making, emotions, and the five senses. Alcohol's effects on this area can impair your ability to think clearly and lower your inhibitions. It may make you act without thinking or make you angry for no reason. Alcohol may affect your senses, such as blurring your vision. Long-term alcohol abuse can permanently damage this region.

Use the information above to answer the following questions.

1. Which part of the brain is responsible for the five senses? _____
2. Which part of the brain is affected when persons experience a “blackout” in which they can’t remember entire events? _____
3. How can alcohol lead to a coma? _____

Sources:

¹ “Too Smart To Start.” From <http://toosmarttostart.samhsa.gov/tweens/games/InteractiveBody/index.aspx> (accessed August 26, 2013). National Institute on Alcohol Abuse and Alcoholism. (2009, July). “A developmental perspective on underage alcohol use,” *Alcohol Alert*, 78. From <http://pubs.niaaa.nih.gov/publications/AA78/AA78.htm> (accessed August 26, 2013).

Fast Fact

Research suggests that a young person’s brain is more sensitive to some of alcohol’s harmful effects because it is still developing.

Alcohol and Your Body

• What to Know •

When a person drinks alcohol, it is absorbed into the bloodstream within minutes and affects nearly every organ system in the body. How alcohol affects people depends on a number of factors, such as:

- The same amount of alcohol more strongly affects a person who weighs less than a heavier person
- Because their bodies are still developing, young people are more at risk for some types of alcohol damage
- The same amount of alcohol typically affects women more than it does men.

On the right, read through facts about the effects of alcohol on the body. Then test what you know by choosing the correct answers below.

1. Which organ breaks down alcohol?

- a. Liver c. Heart
b. Kidneys d. Lungs

2. Over time, alcohol can make it difficult for the body to soak up bone-building ____.

- a. calcium c. oxygen
b. enamel d. carbon

3. Alcohol causes your ____.

- a. liver to produce more urine.
b. heart to produce more blood.
c. stomach to produce more acid.
d. stomach to produce more urine.

4. Which of the following statements is FALSE?

- a. Long-term alcohol abuse may lead to cancer.
b. Drinking alcohol over a long period of time decreases blood pressure.
c. Alcohol affects nearly every organ system in the body.
d. Abusing alcohol over a long period of time can make acne worse.

Heart



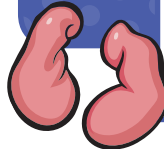
Alcohol causes the heart rate to slow. Heavy drinking over a long period of time can also increase the risk of heart disease, stroke, and high blood pressure.¹

Stomach



Alcohol can give you an upset stomach because it makes you produce more stomach acid. Drinking a lot of alcohol over a long period of time can damage the lining of the stomach—causing ulcers or stomach cancer.

Kidneys



Drinking alcohol causes your body to produce more urine, making your kidneys work overtime. Heavy drinking over a long period of time may lead to kidney failure.

Skin



Drinking alcohol can give your skin a red appearance similar to blushing because it allows more blood to flow near the skin surface. Drinking a lot of alcohol over a long period of time can cause acne to become worse and make your skin look puffy.

Eyes



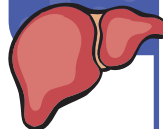
Alcohol can blur your eyesight. Your pupils (the black center of the eye) may get small, making it difficult for your eyes to adjust to light.

Bones



Drinking a lot of alcohol over a long period of time makes it more difficult for the body to soak up bone-building calcium. Eventually, that makes the bones thinner and easier to break.

Liver



Your liver is a critical organ; it helps filter poisons out of the blood and makes body-building proteins. Your liver breaks down alcohol so that your body can get rid of it. Heavy drinking over a long period of time can permanently damage your liver, causing a disease called cirrhosis.

¹ National Institute on Alcohol Abuse and Alcoholism. (n.d.). Alcohol's effects on the body. From <http://www.niaaa.nih.gov/alcohol-health/alcohol-effects-body> (accessed August 26, 2013).

Fast Fact

The word “intoxicated” refers to the fact that alcohol is toxic, or hazardous, to the body.

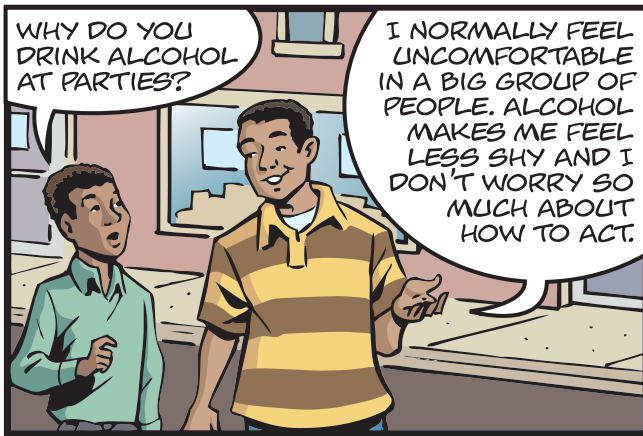
Making SMART Choices

Underage drinking causes serious risks.

Abusing alcohol may permanently damage your brain and your body. Every year, thousands of people under the age of 21 die from alcohol-related injuries, including car crashes and drowning.

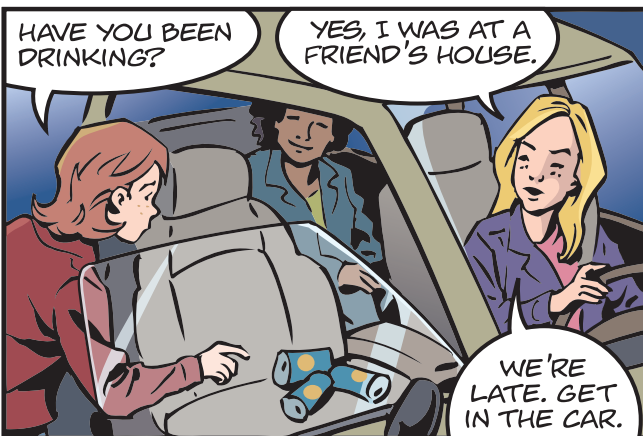
Imagine you were faced with the scenarios below. Using the facts you have learned, write a paragraph explaining how you might respond to each scenario. Be sure to include facts about how alcohol affects the body in your answer.

1. Mark is with his older cousin, Justin. Justin is talking about why he likes to drink alcohol.



On a separate sheet of paper, explain: What would you say to Justin if you were Mark?

2. Sally is waiting for a ride. Her older sister Jennifer picks her up. She is with some friends. Sally notices some empty beer cans in the car.



On a separate sheet of paper, explain: What would you do if you were Sally?

Critical Thinking:

What are some ways in which you can say "No" if a friend asks you to drink?

Alignment with National Standards:	Lesson			Bonus Worksheet					
	1	2	3	1	2	3	4	5	6
Reading/Writing (NCTE/IRA)									
Students read a wide range of print and nonprint texts to build an understanding of texts, of themselves...to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment.	•	•			•			•	•
Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts.	•	•	•	•	•	•		•	•
Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.	•		•		•	•		•	•
Students participate as knowledgeable, reflective, creative, and critical members of a variety of literacy communities.	•	•	•	•	•	•	•	•	•
Students use spoken, written, and visual language to accomplish their own purposes.	•		•		•	•		•	•
Science/Personal Health (NRC/NSES)									
Personal health	•	•	•	•	•	•	•	•	•
Science and technology in society	•	•	•	•	•	•	•	•	•
Risks and benefits	•	•	•	•	•	•	•	•	•
Form and function	•	•		•	•			•	
Structure and function in living systems	•	•		•	•			•	
Regulation and behavior	•	•		•	•			•	
Skills aligned with this program:									
Reading Comprehension	•	•		•	•			•	•
Critical Thinking	•	•	•	•	•	•		•	•
Persuasive Writing			•			•			
Art			•			•			
Math							•		
Graphing							•		
Diagram-Reading	•			•					

Alignment with *The Surgeon General's Call to Action To Prevent and Reduce Underage Drinking*:

The Surgeon General's Call to Action To Prevent and Reduce Underage Drinking identifies six goals for the nation to reduce the number of underage drinkers and prevent children and adolescents from beginning to drink.

The six goals are:

GOAL 1: Foster changes in American society that facilitate healthy adolescent development and that help prevent and reduce underage drinking.

GOAL 2: Engage parents, schools, communities, all levels of government, all social systems that interface with youth, and youth themselves, in a coordinated national effort to prevent and reduce drinking and its consequences.

GOAL 3: Promote an understanding of underage alcohol consumption in the context of human development and maturation that takes into account individual adolescent characteristics as well as environmental, ethnic, cultural, and gender differences.

GOAL 4: Conduct additional research on adolescent alcohol use and its relationship to development.

GOAL 5: Work to improve public health surveillance on underage drinking and on population-based risk factors for this behavior.

GOAL 6: Work to ensure that policies at all levels are consistent with the national goal of preventing and reducing underage alcohol consumption.

The lessons and worksheets in the *Reach Out Now* program align with **Goals 1, 2, and 3.**

Worksheets Answer Key:

Assessment Quiz: What Do You Know About Alcohol? 1. True; 2. False; 3. True; 4. True; 5. True; 6. False; 7. False; 8. True

Worksheet 1: Alcohol and Your Brain 1. Cerebral Cortex; 2. Hippocampus; 3. It can shut down the medulla, which controls involuntary processes, such as maintaining body temperature and breathing.

Worksheet 2: Alcohol and Your Body 1. a; 2. a; 3. c; 4. b

Worksheet 3: Making Smart Choices

1. Answers may vary but may include that the effect on your brain that makes you less inhibited also impairs your ability to think clearly. You may make decisions without thinking about the consequences. You may do something that you would later regret.

2. Answers may vary but may include that drinking alcohol can slow your reflexes and blur your vision, making driving very dangerous. Sally should not get into the car if her sister or any other friends who were drinking are driving.

Critical Thinking: Answers may vary but should include that young people may be more affected by alcohol than older people because their brains are still developing and their bodies are smaller.