

Alcohol and the Developing Brain



Discovery
EDUCATION



GRADE
RANGE
5–7

ASK, LISTEN, LEARN: ALCOHOL AND THE DEVELOPING BRAIN DIGITAL EXPLORATION EDUCATOR GUIDE

Learning Objectives

Students will:

- Investigate the negative effects of underage drinking on the developing brain.
- Demonstrate understanding that underage drinking has short- and long-term consequences.
- Consider positive strategies for responding to negative peer pressure.

Introduction

In this digital exploration and the accompanying classroom activities, students use resources from DiscoverBrainBodyBehavior.com to learn about the effects of alcohol on the developing brain, body, and behavior. They investigate the structure of the brain and how each part controls a different aspect of their bodies and behaviors. Through this lens, they examine potential mental and physical consequences of underage drinking. They apply their learning to help them (and their friends!) make informed and responsible decisions and say “NO” to underage drinking.

Overview

The [Ask, Listen, Learn Digital Exploration](#) has three main sections.

PREPARE

Students are introduced to the module topics and rate their current level of confidence with the following statement:

- *I know how alcohol affects my developing brain and body.*

Students rate their confidence level again after completing the module.

LEARN

Students meet Alex, a 6th grade student who faces a challenging decision: should she put herself in a situation where she might be asked to drink alcohol? And how does she say “NO” to someone she wants to stay friends with? Students explore the developing brain to learn about its different parts and functions and then discover how drinking alcohol affects their developing brain, body, and behavior.

CHALLENGE

Students check their understanding in a series of interactive items related to the effects of alcohol on the developing brain, body, and behavior. They then “help” Alex make a healthy choice for herself—and encourage her friends to make healthy choices, too.

Time Required

15–20 minutes

Materials

To help students navigate the module, you will need:

- A computer or other device with Internet access and web browser in order to view the [Ask, Listen, Learn Digital Exploration](#).

Topics

- Parts of the brain
- Effects of alcohol on the developing brain
- Potential short- and long-term consequences of underage drinking
- Peer pressure
- Refusal strategies

Brain Vocabulary

- **Central nervous system:** Part of the brain that carries messages along the spinal cord, between your brain and every part of your body
- **Cerebellum:** Controls balance, movement, and muscle coordination
- **Cerebral cortex:** Helps you make smart decisions and assess risks
- **Hippocampus:** Regulates emotions and memory
- **Hypothalamus:** Keeps bodily functions in a state of harmony
- **Medulla:** Controls crucial involuntary actions such as breathing, swallowing, and heart rate

Additional Vocabulary

- **Consequences:** The effects, results, or outcomes of something occurring earlier
- **Peer pressure:** Social pressure by members of one’s peer group to take a certain action, adopt certain values, or otherwise behave similarly in order to be accepted

Technical Considerations

Hardware Recommendation

The [Ask, Listen, Learn Digital Exploration](#) is accessible on any device. For the best student experience, each should have their own desktop or tablet. Alternatively, students may use mobile devices (iOS and Android).

Technical Specifications

The [Ask, Listen, Learn Digital Exploration](#) will work in all browsers, including Internet Explorer, Safari, Chrome, and Firefox. Have your students use the browser that you use most often at school. Please note, connection speeds may be impacted by shared Wi-Fi access, public Wi-Fi, and accessing modules behind a firewall.

Instructional Options

This module is designed to be flexible to meet the needs of many different learning environments.

One-to-One Environment

Students use the module for independent, self-paced learning, moving through the module at their own pace.

Working in Pairs or at Centers

Students work through the module in pairs, taking time to share their thinking and answer the challenge questions. Guide students to provide partners with an opportunity to read and comprehend the information before moving on.

Class Environment

Use a projector and screen or whiteboard to make the module the focus of instruction and discussion.

Customized Instruction

Use discrete elements from the module (Prepare, Learn, Challenge) that fit your timeframe and curriculum.

The navigation at the upper left corner of the module can help you select specific parts once you have reviewed the module.

Before the Module

- It is recommended that you complete the module yourself prior to sharing it with students. This will allow you to build your background knowledge and experience what students will experience so that you are better able to anticipate their reactions, questions, and misconceptions.
- Encourage students to share what they already know about the brain. Use questions like the ones below to activate students' prior knowledge and enhance their learning throughout the module.
 - What does your brain do?
 - What does your brain have to do with your body and your behavior?
 - What are the different parts of the brain?
 - Where are they and what do they do?

- Remind your students that at their age, their brain is still developing, and therefore alcohol has a greater impact on the brain's functions. Knowing this, ask students what they might say to someone who was pressuring them into drinking underage?

Note: Caution students to maintain their privacy and the privacy of others by avoiding the use of names and private details. Consider having students reflect privately on questions involving personal information.

During the Module

After each section, pause to check, extend, and, if necessary, correct students' understanding. Suggested questions and prompts are provided below.

PREPARE

- This section explains that we will explore the effects of alcohol on the developing brain, body, and behavior and making good choices. What do you think those things have to do with each other? What do you hope to learn from this module?

LEARN

- What are the parts of the brain we learned about? What are their jobs?
- Describe some ways alcohol affects the developing brain.
- Describe some ways alcohol affects your body and behavior.
- If messages to and from your brain are slowed down, what sorts of body and behavior problems might you have?
 - Possible answers: difficulty standing, trouble talking, make parallel decisions, slow reactions, inability to remember things clearly, and distressed breathing.
- Imagine doing your normal, everyday activities. How would drinking alcohol make doing these activities more difficult?
 - Possible answers: not able to remember the words to a song, forgetting to call a friend on her birthday, not doing homework or chores, hurting yourself trying to participate in sports or exercise, and oversleeping.
- Can you think of potential consequences of underage drinking other than those mentioned in the module? Think of some of the activities or hobbies you like to do now or things you would like to do in the future. How might underage drinking affect your ability to do those things?

CHALLENGE

- Were you surprised about any of the answers to the challenge questions? How so?
- Have you ever felt peer pressure? How did you handle the situation, or what do you wish you had done differently?
 - Possible answers: walked away, told a trusted adult, asked others to help me make a decision, and refused an activity and proposed an alternate.

- What did you notice about how Alex responded to the invitation to the party?
- What could you do to learn more about this topic? Who could you talk to?

After the Module

Implement the following activities to provide additional opportunities for students to review, discuss, and apply the new concepts and skills learned in the module in your classroom and at home.

- Refusal Role Play
- Letting Your Brain Decide
- *Ask, Listen, Learn* in Your School

Additional Resources

- [The Science Behind the Effects of Alcohol on Your Brain](#)
- [Healthy Decision for the Whole Body](#)
- [Informed Students Make Better, Healthier Decisions](#)
- [Ask, Listen, Learn Lessons and Videos](#)
- [Ask, Listen, Learn Resources for Kids](#)

National Education Standards

Common Core State Standards

CCSS.ELA-LITERACY.RI.5.4

Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.

CCSS.ELA-LITERACY.RI.6.4

Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.

CCSS.ELA-LITERACY.RST.6-8.2

Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

CCSS.ELA-LITERACY.RST.6-8.4

Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.

National Health Education Standards

Grades 3–5

- 2.5.1 Explain how various influences affect health and well-being.
- 2.5.2 Determine the ways various influences affect the health and well-being of self and others.
- 2.5.3 Explain how influences affect the health and well-being of people and communities in different ways.
- 3.5.1 Determine which trusted adults, other individuals, and other health resources are appropriate in various situations.
- 5.5.4 Choose a health-promoting option when making a decision.
- 5.5.5 Reflect on the results of a health-related decision on self and others.
- 7.5.1 Examine practices and behaviors that support health and well-being of self and others.

Grades 6–8

- 2.8.3 Analyze how various influences affect the health and well-being of people and communities in different ways.
- 2.8.4 Apply strategies and resources to manage influences that impact health and well-being.
- 3.8.1 Describe situations that may require support from trusted adults, other individuals, and health professionals.
- 4.8.5 Use refusal skills and strategies in a variety of situations.
- 5.8.1 Explain how the use of a decision-making process affects health and well-being.
- 7.8.1 Examine supports and barriers to health-related practices and behaviors.
- 7.8.2 Analyze practices and behaviors that support personal and community health and well-being.
- 8.8.1 8.8.1 Analyze opportunities to advocate for the health and well-being of individuals, families, and communities.