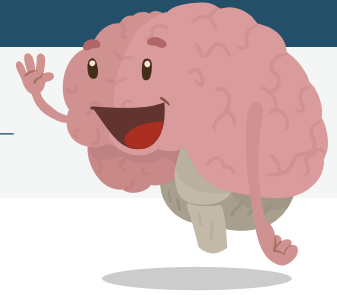


An exploration of how alcohol affects the developing brain | Grade(s) 4<sup>th</sup>-7<sup>th</sup>

School Counselor: \_\_\_\_\_

Date: \_\_\_\_\_



## Learning Objectives

- Students will conceptualize neurotransmission.
- Students will communicate the way in which alcohol slows brain function.
- Students will identify alcohol's impact on neurotransmission.

## Materials

- Presentation board (Smart Board, Promethean Board)
- Pre-Assessment (for each student)
- (Optional) *Alcohol and Your Developing Brain comprehension questions worksheet* (for each student)
- (Optional) electronic tablets, such as iPads, Kindle Fires, etc., headphones
- (Optional) construction paper, coloring utensils (crayons, markers, colored pencils)
- Corresponding [lesson PowerPoint deck](#)

## Standards

### ASCA Mindsets & Behaviors (Domain/Standard):

- M 1. (social-emotional): Belief in development of whole self, including a healthy balance of mental, social/emotional, and physical well-being
- B-SMS 1. (social-emotional): Demonstrate ability to assume responsibility.
- B-SMS 7. (social-emotional): Demonstrate effective coping skills when faced with a problem.
- B-SMS 9. (social-emotional): Demonstrate personal safety skills.
- B-SS 5. (social-emotional): Demonstrate ethical decision-making and social responsibility.
- B-SS 9. (social-emotional): Demonstrate social maturity and behaviors appropriate to the situation and environment.

Before the Lesson	Pre-Unit Assessment	Procedure	Follow-Up
<ul style="list-style-type: none"> <li>• Discuss the unit with administration and the counseling advisory council.</li> <li>• Send home a <a href="#">parent letter</a> communicating information about this unit, as well as <a href="#">parent resources</a>.</li> </ul>	<ul style="list-style-type: none"> <li>• Either before this lesson, or at the beginning of this lesson, administer the pre-assessment to each student. This can be done in hard copy format, or in a digital format on a tablet.</li> </ul>	<ul style="list-style-type: none"> <li>• Use the corresponding PowerPoint deck to guide the lesson.</li> <li>• Pre-lesson Activity: Neurotransmitter Tag</li> <li>• Acquisition of Learning</li> <li>• Culminating Activity</li> <li>• Evaluation</li> </ul>	<ul style="list-style-type: none"> <li>• Extension Activities</li> </ul>

### For your next class...

How Alcohol Affects Your Central Nervous System [↗](#)

To learn more about teaching units on the impacts of underage drinking and peer pressure, see additional lessons from *Ask, Listen, Learn*

[See all lessons](#)



For more info head to [AskListenLearn.org](http://AskListenLearn.org)

- 1 The teams in this game are intended to represent alcohol, excitatory neurotransmitters, and inhibitory neurotransmitters. When alcohol is introduced to the brain, it increases the function of excitatory neurotransmitters, and decreases the function of inhibitory neurotransmitters. This activity will help students conceptualize how neurotransmission is affected when alcohol is involved.
- 2 Separate half the class into the A-Team, a quarter of the class into the E-Team, and the remaining quarter into the I-Team. Have the I-Team and E-Team line up on one side of a classroom or outdoor play area.
- 3 Privately tell the A-Team to only tag the E-Team members.
- 4 Blow the whistle or announce the start of the game. All of the I-Team members should have made it to the other side, while little to none of the E-Team should.
- 5 Ask the students, "What happened during the game? What patterns did you notice? Was that a balanced or fair game?"
- 6 Encourage the students to think about this game and discussion during the rest of the lesson.

## ACQUISITION OF LEARNING

- 1 Have the students watch the [video](#), "How Alcohol Affects Your Brain." Pass out the comprehension work sheet to all students, or just to students that would like to take notes during the video.
- 2 When the video is over, have the students get into groups to discuss the questions. Have volunteers share their answers with the rest of the class.
- 3 Ask the students, "Why do you think we played that game in the beginning of this lesson? What did the different teams represent?"



### Watch the Video "How Alcohol Affects Your Brain"



Watch

## CULMINATING ACTIVITY

- 1 This activity is intended to help students understand the role of neurons and the difference between inhibitory and excitatory neurotransmitters.
- 2 Students (in groups of 5-6) stand one behind the other with their hands on each other's shoulders, in a conga line.
- 3 Tell students, "Neurotransmitters Go!" and the groups will all start walking around the room any way they want to go, being careful not to ram into another group.
- 4 Explain the following rules to students: when you say, "Excitatory," students will have to move at a faster pace. When you say, "Inhibitory," students will have to move at a slower pace. When you say, "Balanced," the lines will return to moving at a moderate pace.
- 5 After doing this for a few minutes, ask your students about the functions of inhibitory and excitatory neurotransmitters. See if they can make connections to the first game.

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## How will each of the following be collected?

### Process Data

- Count the number of students that attend this lesson.

### Perception Data

- Calculate the percentage of students (in small groups) who can successfully demonstrate the movement of excitatory and inhibitory neurotransmitters.
- \*\* At the end of the unit, score the pre and post assessments, and measure any change in student knowledge and/or attitude.

### Outcome Data

- Compare behavioral data before the delivery of the lesson to behavioral data after the delivery of the lesson.



## Follow-Up

### Extension Activities

- Collaborate with the classroom teacher to have students complete a follow up writing prompt/ journal activity on the brain. Have students write 5-10 sentences on what they now know about the brain, how it helps them every day, and how substances like alcohol affect it.
- \*\* Collaborate with the computer lab specialist, library/media specialist, and/or classroom teacher to have students complete research by watching the following [videos](#): Central Nervous System, Cerebellum, Hippocampus, Hypothalamus, and Medulla. Ask students to synthesize their learning, and using what they learned in the videos, by [creating posters](#) persuading other to avoid underage drinking. Students can work individually or in groups.



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Kids and alcohol don't mix.

For more info head to [AskListenLearn.org](http://AskListenLearn.org)