

ALCOHOL AND YOUR DEVELOPING CEREBRAL CORTEX

CEREBRAL CORTEX

Length: 30-40 minutes | Designed for 5th and 6th grade

Summary

The cerebral cortex is the outer layer of the brain, divided into lobes. The frontal lobe is responsible for decision-making, a function that becomes impaired when alcohol is consumed. Decision-making is also an important skill for kids to utilize to enhance their health. This lesson provides students with scientific background on decision making and alcohol, and prepares students to make healthy choices.

Objectives

- Identify the four lobes of the cerebral cortex and their corresponding functions
- Communicate the impact of alcohol on the cerebral cortex
- Conceptualize the danger of driving drunk
- Demonstrate the ability to use decision making skills to enhance health



Vocabulary

- Cerebral cortex
- Enable
- Perceive
- React

What you'll need

- [Cerebral Cortex Comprehension Questions](#)
- [Cerebral Cortex Vocabulary Cards](#)
- [Cerebral Cortex Diagram](#)
- [Fill-in-the-blank Cerebral Cortex Diagram](#)
- [Decision Making Worksheet](#)
- [Readworks: "Crash!"](#) (Free to register!)

Comprehension Questions

- How many lobes make up the cerebral cortex?
- Name two things that the cerebral cortex allows you to do:
- When the cortex is impaired by alcohol, what becomes difficult to do?
- Why is it illegal to drive drunk?

For your next class...

[How Alcohol Affects Your Hippocampus](#)

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](https://www.AskListenLearn.org)

Artwork created by Brandan "BMike" Odums.



TEACHER INSTRUCTIONS

CEREBRAL CORTEX

- 1 Introduce the unit by playing the video, **“How Alcohol Affects Your Cerebral Cortex”**. Have the “class neurotransmitter” (one student chosen at random) pass out the comprehension questions to all students (neurons).
2 minutes
- 2 When the video is over, have the students get into groups to discuss the questions.
3 minutes
- 3 Lead a discussion on the four lobes – have a new “class neurotransmitter” pass out the Lobes Diagram to all students. Read aloud the different names and functions of the lobes and have the students repeat after you.
2 minutes
- 4 Hand out fill in the blank diagrams and have students fill in names and functions.
5 minutes
- 5 Activity: *Decision Making*
10 minutes
- 6 Activity: *Cerebral Cortex Ball*
5 minutes
- 7 Reiterate the danger of drunk driving. Show students the **“End Impaired Driving”** video.
5 minutes
- 8 Have students read “Crash!” on Readworks and answer the comprehension questions at the end of the article.
- 9 Have new “class neurotransmitter” pass out the vocabulary cards. For homework, ask the students to rewrite definitions for the vocabulary in their own words, and draw a picture to help them remember.
- 10 Pass out index cards and ask students to write down two things they learned and one thing they would like to learn more about.

ACTIVITY IDEAS

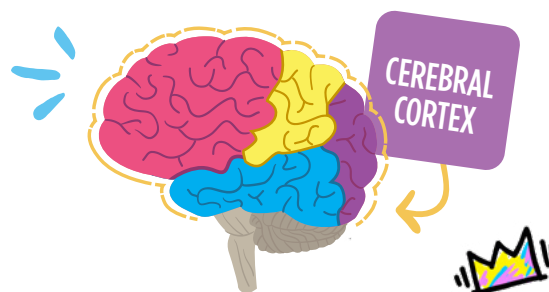
Decision Making (10 minutes)

- 1 Distribute index cards and ask students to write down what they believe to be the most difficult decision they’ve ever made.
5 minutes
- 2 Ask volunteers to share what they’ve written – follow up by asking them what made the decision particularly difficult.
- 3 Pass out decision making worksheet.
5 minutes
 - **SCENARIO:** you are at a friend’s house on Saturday night and his older sister has some friends over. They begin drinking alcohol, and offer you and your friend each a beer. Your friend takes the beer and begins to sip. How do you decide what to do?
 - **STEP 1:** define the problem.
 - **STEP 2:** create a pro and con list.
 - **STEP 3:** effectively communicate your decision.
 - Use the skills you learned in your last unit.
 - **STEP 4:** share the conversation you would have with your friend.

Cerebral Cortex Ball (5 minutes)

- 1 The game is played with normal 4-square rules.
- 2 Each square is designated one of the lobes.
- 3 Each time a player hits a ball they need to say either the name of their lobe or the function of their lobe. They must alternate between the two every time they hit the ball.

It may be helpful to somehow color coordinate the squares to match the colors from their sheets. You may also want to tape a letter in each square to identify which square is which lobe.



For your next class...

How Alcohol Affects Your Hippocampus [↗](#)

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