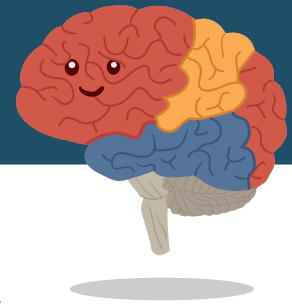


ALCOHOL AND YOUR DEVELOPING CEREBRAL CORTEX

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](#)
- [Optional: Readworks "Crash!" \(Free to register!\)](#)
- [Kahoot Games \(Optional\)](#)

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](#)



Kids and alcohol don't mix.

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

- 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 Optional: 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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ALCOHOL AND YOUR DEVELOPING CEREBRAL CORTEX

Cerebral Cortex

Vocabulary Words

Cerebral cortex

The wrinkly, outer-layer of a large portion of the brain, divided into sections called lobes. It allows you to use your five senses, control your body, make decisions, and more!

Enable

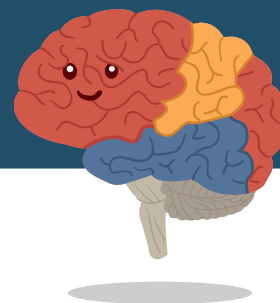
To make something possible or easy; to make someone or something able to do something.

Perceive

To become aware of something, usually through your senses.

React

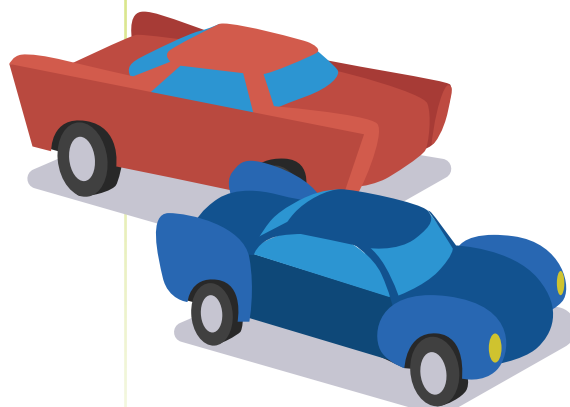
To change in response to something.



REACT



CEREBRAL CORTEX



PERCEIVE

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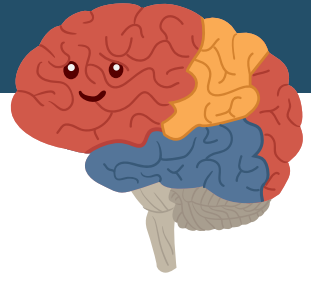


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VOCABULARY WITH PHONETICS

Cerebral Cortex



Cerebral cortex

ce•re•bral cor•tex



CUT
OUT

Enable

en•able

Perceive

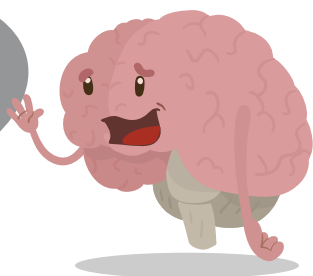
per•ceive

React

re•act

VOCABULARY WITH PHONETICS

Use these
Flashcards For
extra practice!



The wrinkly, outer-layer of a large portion of the brain, divided into sections called lobes. It allows you to use your five senses, control your body, make decisions, and more!

To become aware of something, usually through your senses.

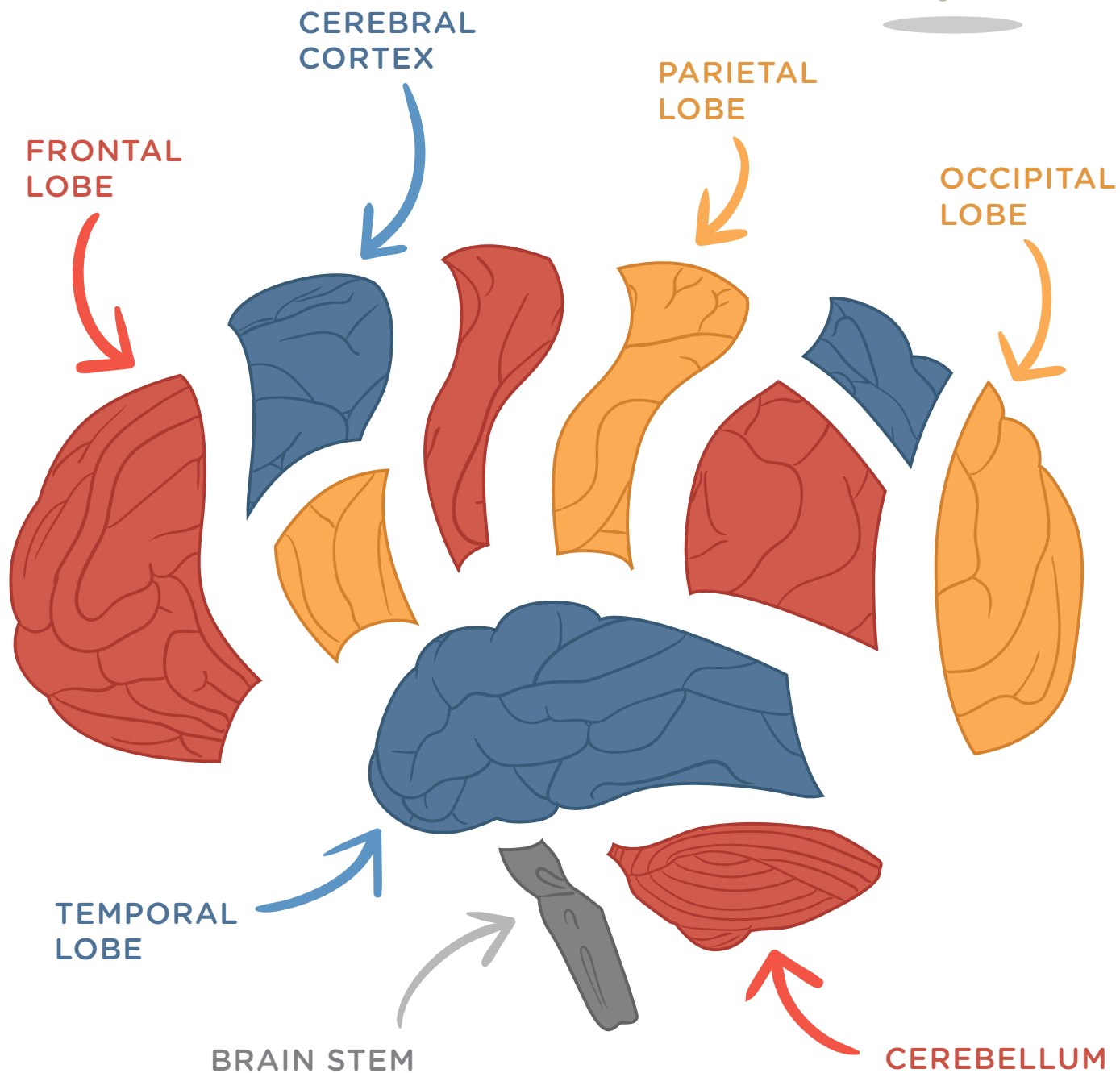
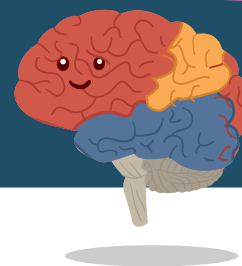
To make something possible or easy; to make someone or something able to do something.

To change in response to something.

ALCOHOL AND YOUR DEVELOPING BRAIN

Cerebral Cortex

Lobes Activity



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](#)



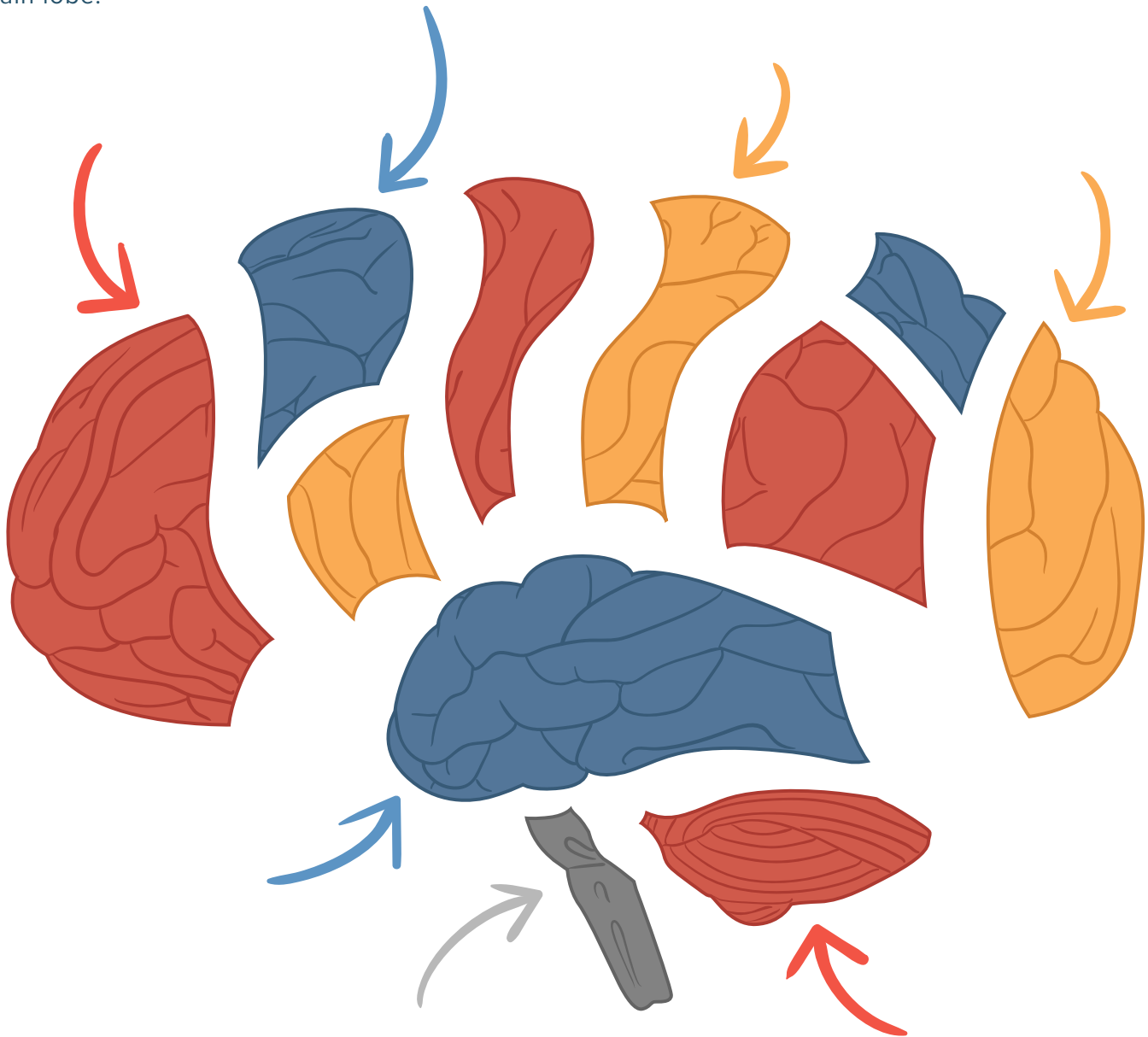
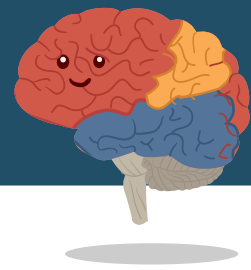
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ALCOHOL AND YOUR DEVELOPING BRAIN

Cerebral Cortex

Lobes Activity

Fill in the blank with the correct brain lobe.



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

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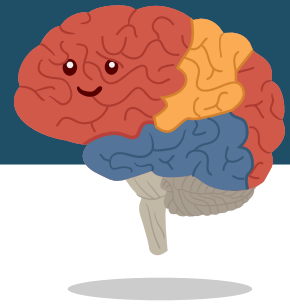


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ALCOHOL AND YOUR DEVELOPING CEREBRAL CORTEX

Cerebral Cortex

Decision Making



Scenario

It's Friday night and your friends are getting together for pizza and a movie. When you get there, the movie is playing in the background, your friends tell you to help yourself to pizza, and on the counter, is a bowl for red fruit punch. You reach for the ladle and realize it smells *off*. You ask your friend what it is and they say, "punch" and start laughing, telling you to have some. You think the punch has alcohol in it and really don't want any. *What do you do next?*

Step 1 Define the problem.

Step 2 Create a pro's and con's list.

Good things that will happen if I drink the punch

EX: *I won't make my friend upset*

Bad things that could happen if I drink the punch.

EX: *If there's alcohol in it, I could get sick*

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](#)

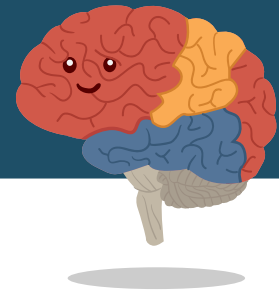


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ALCOHOL AND YOUR DEVELOPING CEREBRAL CORTEX

Cerebral Cortex

Decision Making



Step 3 Effectively communicate your decision
Use the skills you learned in your last unit!

Step 4 Share the conversation you would have by writing it out below in full sentences. Think about what would happen if your friend continued to pressure you. Is there someone who you could trust to talk with?

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

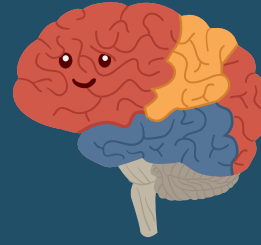
[See all lessons](#)



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ALCOHOL AND YOUR DEVELOPING CEREBRAL CORTEX

Cerebral Cortex



Comprehension Questions

Be sure to write your answers in full sentences and cite evidence from the video.



1 How many lobes make up the cerebral cortex?



2 Name two things that the cerebral cortex allows you to do:



3 When the cortex is impaired by alcohol, what becomes difficult to do?



4 Why is it illegal to drive drunk?



5 Summarize the overall message of this video.

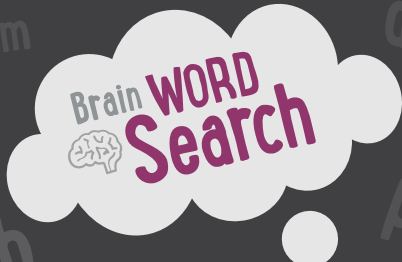
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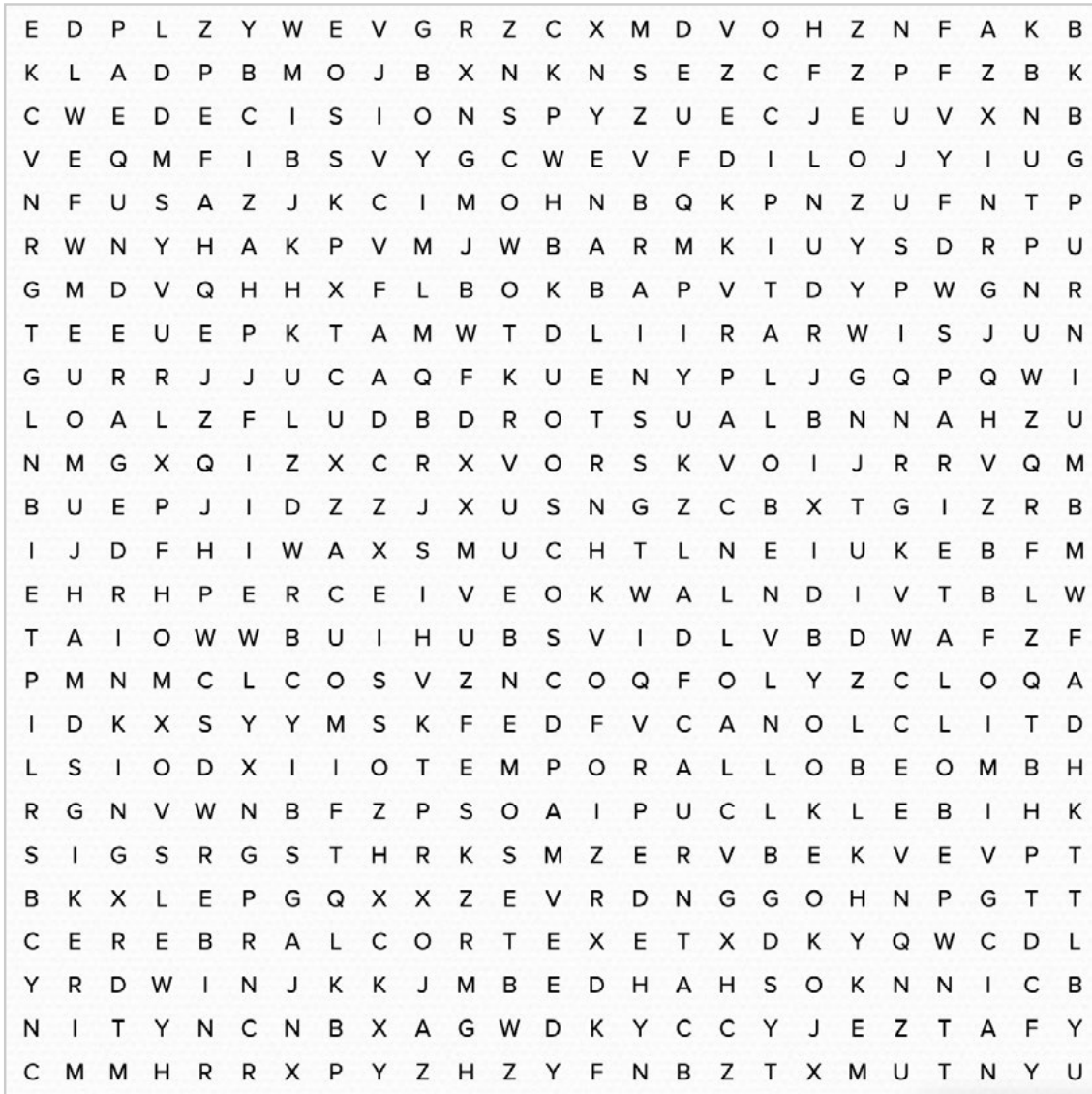
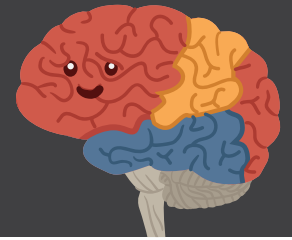


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Cerebral Cortex



frontal lobe

parietal lobe

temporal lobe

occipital lobe

cerebral cortex

enable

perceive

react

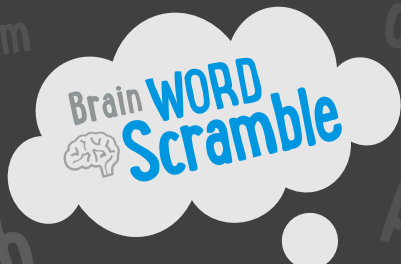
decisions

brain

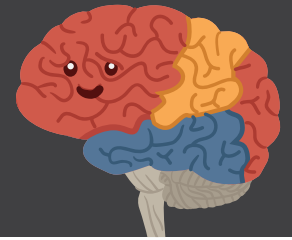
underage drinking

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Cerebral Cortex



1 atnolfr olbe

2 iepatarl lboe

3 roaltmpe lboe

4 ciilpotac eobl

5 arlebcre cxotre

6 enbeal

7 erevepic

8 eacrt

9 sdseciion

10 riban

11 denugrae kirgnndi

1. frontal lobe 2. parietal lobe 3. temporal lobe 4. occipital lobe 5. cerebral cortex 6. enable 7. perceive 8. react 9. decisions 10. brain 11. underage drinking

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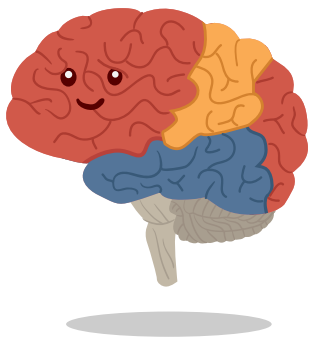
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STANDARDS ALIGNMENT

LESSON 4

Alcohol and Your Developing Cerebral Cortex

Content	Student Objectives	Classroom Activities	Assessment
<ul style="list-style-type: none"> Cerebellum functionality How alcohol affects coordination and motor skills 	<p><i>Students will be able to:</i></p> <ul style="list-style-type: none"> 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 	<p><i>Formative:</i></p> <ul style="list-style-type: none"> Written discussion questions Classroom discussion Vocabulary homework <p><i>Formative/Summative:</i></p> <ul style="list-style-type: none"> Practice Saying No worksheet 	



Standards

CCSS:

RI.5-7.1
RI.5-7.2
RI.5-7.4
RI.5-7.10
RST.6-8.1
RST.6-8.2
RST.6-8.4
RST.5-7.10
W.5-7.10

WHST.6-8.10
L.5-7.1
L.5-7.2
L.5-7.4
L.5-7.6
SL.5-7.1

2024 NHES:

5.8.1-6

NGSS

MS.LS1.2
MS.LS1.3
MS.LS1.8

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