

ALCOHOL AND YOUR DEVELOPING HYPOTHALAMUS

Hypothalamus

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



Summary

The hypothalamus keeps your hormones in a state of balance, and when alcohol is introduced, those hormones become out of sync, producing a wide range of physical effects on the body. This lesson is intended to teach students about the endocrine system, the dangers of underage drinking, and the importance of protecting your body and setting personal health goals.

Objectives

- Identify the functions of the hypothalamus
- Conceptualize the relationship between the endocrine and nervous systems, as well as hormone production
- Recognize the effects of alcohol on hormones
- Demonstrate the ability to use goal-setting skills to enhance health

Vocabulary

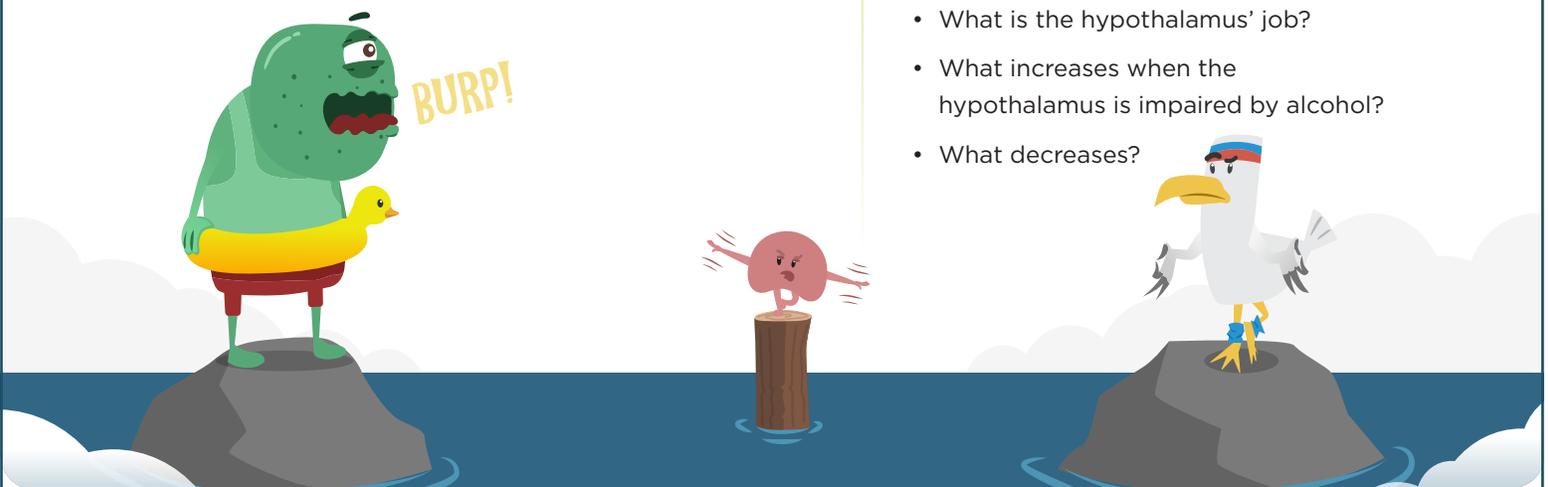
- Endocrine system
- Pituitary
- Stimulate
- Gland
- Hormone
- Metabolism

What you'll need

- [Hypothalamus Comprehension Questions](#)
- [Hypothalamus Vocabulary Cards](#)
- [Protect Your Body Reading](#)
- [Goal Setting Worksheet](#)
- Poster boards or construction paper
- Markers

Comprehension Questions

- What is the hypothalamus' job?
- What increases when the hypothalamus is impaired by alcohol?
- What decreases?



For your next class...

How Alcohol Affects Your Medulla

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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- 1 Introduce the unit by playing the video, “[How Alcohol Affects Your Hypothalamus](#)”. 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 Ask the class what they learned about alcohol and the body from the video.

2 minutes

- 4 Have students read the resource below in small groups. When everyone has finished, lead a discussion on the endocrine system and hormones.

Resource:

<http://kidshealth.org/en/parents/endocrine.html#>

5 minutes

- 5 Pass out the “Protect Your Body” reading and have students read to themselves or out loud as a class taking turns reading after every sentence.

5 minutes

INCREASE

+ BLOOD PRESSURE

+ HUNGER

+ THIRST

+ URGE TO URINATE

DECREASE

- BODY TEMPERATURE

- HEART RATE

- 6 Write the following 5 categories on the board and have student volunteers come up to the board and write how each part is impacted by alcohol, citing specifically from the text.

8 minutes

- Brain
- Heart
- Liver
- Stomach
- Immune System

- 7 Activity: *Design Your Own Infographic*

8 minutes

- 8 Transition: discuss the importance of making healthy decisions for yourself and setting goals. Choose a goal-setting video to show to the class such as this one from Olympian Tom Daley

https://www.youtube.com/watch?v=nU85uG_aqPE

3 minutes

- 9 Activity: *Goal Setting*

5 minutes

- 10 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.

- 11 Pass out index cards and ask students to write down two things they learned and one thing they would like to learn more about.

For your next class...

How Alcohol Affects Your Medulla [↗](#)

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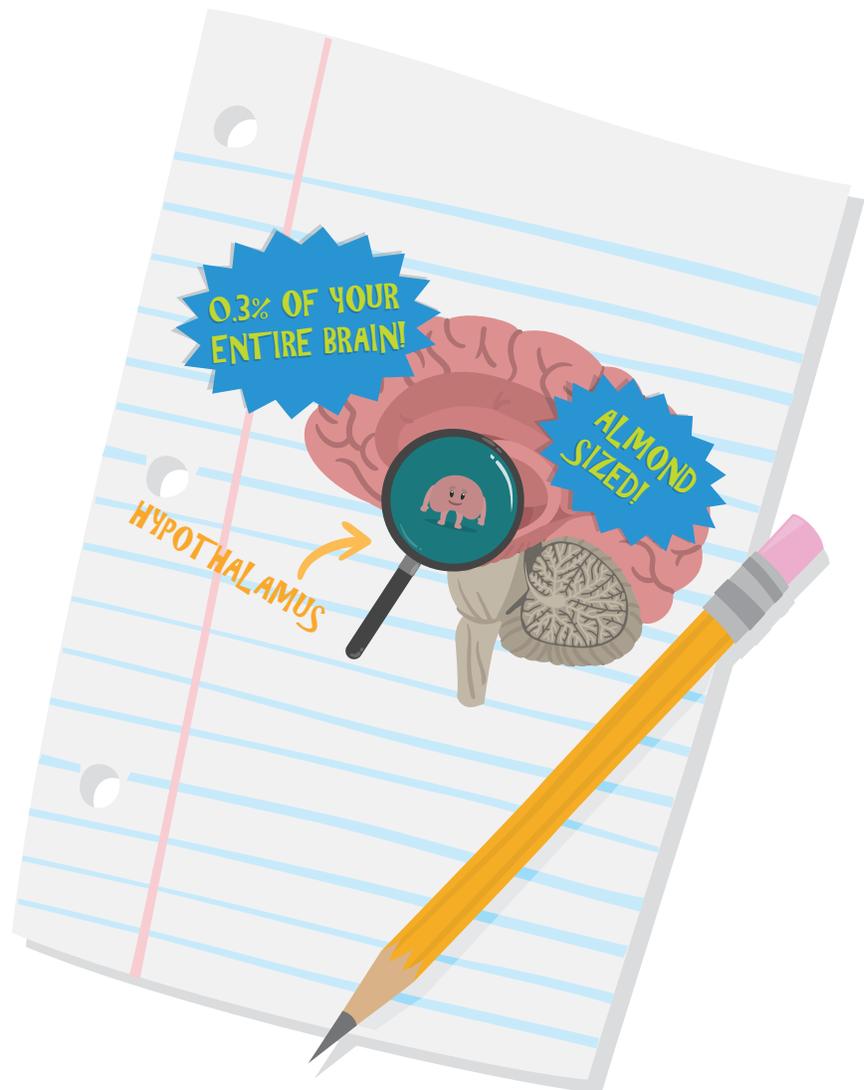
Design Your Own Infographic (8 minutes)

- In small groups, have the students use a poster board or paper to create an infographic describing how each body part is impacted by alcohol, citing specifically from the text and video. Students should get creative in the design of their posters and use colorful drawings that clearly demonstrate their understanding of how each body part is impacted by alcohol.
- Have the students write a paragraph on the back of their infographics explaining how they would persuade a peer not to drink underage.

Goal Setting (5 minutes)

Pass out the Goal Setting worksheet and have students work individually. After students complete their goals, ask students to volunteer to share their goals. For each goal, discuss how making healthy decisions and saying "NO" to underage drinking can help achieve that goal.

- What is your goal?
- Why do you want to achieve that?
- How much time do you have to reach your goal?
- What steps are you going to take to make sure you reach your goal?



For your next class...

How Alcohol Affects Your Medulla [↗](#)

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ALCOHOL AND YOUR DEVELOPING HYPOTHALAMUS

Hypothalamus

Vocabulary Words

Endocrine system

This body system is in charge of slower body processes, like cell growth. It is made up of glands and hormones.

Pituitary

The major endocrine gland, attached to the base of the brain. It is important in controlling growth, development, and the functions of other glands.

Stimulate

To make something more active.

Gland

Important cells or organs all over your body that produce important secretions, or liquids, like saliva or sweat.

Hormone

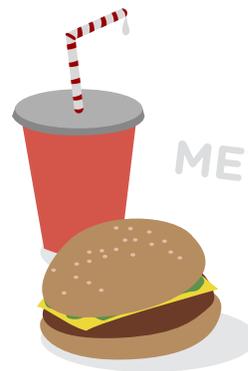
Special chemicals in the body that help it grow and develop.

Metabolism

The process the body uses to convert the food we eat into energy. Every time you eat and swallow, your body processes the nutrients and turns them into fuel.



HORMONE



METABOLISM

STIMULATE



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VOCABULARY WITH PHONETICS

Hypothalamus



Hypothalamus

hy•po•thal•a•mus



Endocrine system

en•do•crine sys•tem

Pituitary

pi•tu•i•tary

Stimulate

stim•u•late

Gland

gland

Hormone

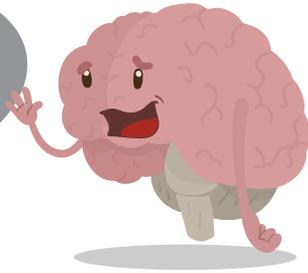
hor•mone

Metabolism

me•tab•o•lism

VOCABULARY WITH PHONETICS

Use these
FLASHCARDS For
eXtra practice!



The part of the brain that controls body temperature, thirst, hunger, and more.

The major endocrine gland, attached to the base of the brain. It is important in controlling growth, development, and the functions of other glands.

This body system is in charge of slower body processes, like cell growth. It is made up of glands and hormones.

Important cells or organs all over your body that produce important secretions, or liquids, like saliva or sweat.

To make something more active.

The process the body uses to convert the food we eat into energy. Every time you eat and swallow, your body processes the nutrients and turns them into fuel.

Special chemicals in the body that help it grow and develop.

ALCOHOL AND YOUR DEVELOPING HYPOTHALAMUS



Goal Setting

Write your answers in full sentences.

1 What is your goal?

2 Why do you want to achieve that?

3 How much time do you have to reach your goal?

4 What steps are you going to take to make sure you reach your goal?

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Comprehension Questions

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



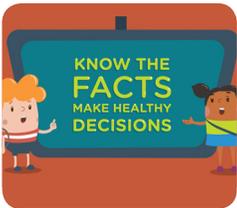
1 What is the job of the hypothalamus?



2 What increases when the hypothalamus is impaired by alcohol?



3 What decreases when the hypothalamus is impaired by alcohol?



4 Summarize the overall message of this video.

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Hypothalamus



M	V	Q	T	T	K	T	C	W	X	S	U	R	E	M	Y	Q	S	I	F	S	X	L	Q	O
L	D	F	S	E	Y	F	V	T	Y	T	Q	Y	A	A	H	C	L	B	S	D	W	M	V	B
Z	F	B	O	D	H	O	R	M	O	N	E	S	F	M	Q	U	L	A	W	Z	Z	L	N	R
H	E	W	W	Q	Y	P	I	G	F	Q	J	E	M	H	H	H	S	C	G	E	G	V	K	R
N	S	L	L	C	W	P	P	L	H	G	F	U	V	L	V	Z	Y	L	C	W	P	A	N	A
Z	D	I	P	F	H	Q	Z	W	L	Y	M	J	P	V	Q	I	B	I	E	J	C	R	I	C
Z	D	J	M	W	H	G	F	M	D	H	W	M	B	Z	O	D	X	A	N	H	W	S	F	N
O	B	X	A	B	K	Y	W	I	H	D	O	X	G	D	E	D	H	P	T	E	N	E	X	M
Z	R	J	W	S	S	V	P	I	B	H	Q	G	C	Z	N	V	E	A	R	A	C	T	L	E
I	A	S	U	W	E	T	P	O	A	M	B	V	X	C	V	R	A	R	A	R	Q	N	K	N
A	I	C	P	Q	M	H	I	I	T	J	C	A	T	W	H	X	L	W	L	T	E	F	N	D
V	N	Z	O	T	E	K	T	M	L	H	N	V	G	J	N	J	T	Y	N	R	G	Z	M	O
S	O	K	A	W	U	N	U	E	U	S	A	H	V	Z	B	K	H	I	E	A	Y	P	D	C
T	A	U	D	S	Y	G	I	F	J	L	J	L	H	L	C	O	Y	M	R	T	W	X	V	R
R	I	M	K	K	Z	J	T	J	X	E	A	B	A	K	G	S	D	E	V	E	Q	S	O	I
T	N	K	I	S	N	S	A	R	B	D	W	T	Q	M	G	F	E	T	O	P	R	X	S	N
Q	Z	Q	N	T	E	W	R	G	M	Y	W	E	E	D	U	A	C	A	U	T	F	X	I	E
W	Y	I	F	M	S	P	Y	E	M	C	A	G	K	O	U	S	I	B	S	O	Y	S	C	S
B	F	N	A	U	R	K	G	K	V	I	D	Y	C	T	B	Y	S	O	S	T	P	O	Z	Y
W	W	D	V	O	F	C	L	P	N	B	X	R	K	X	R	W	I	L	Y	O	S	N	B	S
Q	M	V	K	X	F	S	A	A	G	E	L	Q	Y	H	X	X	O	I	S	R	M	G	F	T
G	S	W	V	B	D	G	N	Y	I	O	Y	P	F	R	G	E	N	S	T	C	R	O	J	E
R	R	L	N	A	X	B	D	Q	O	M	F	E	H	U	C	F	S	M	E	T	H	L	S	M
U	P	W	Z	R	W	D	J	R	X	R	Q	Q	L	P	J	M	G	J	M	B	Z	J	I	B
L	J	J	F	F	J	M	I	A	A	Z	Z	L	S	O	J	G	R	E	F	I	D	E	U	M

endocrine system

central nervous system

pituitary gland

hormones

heart rate

metabolism

hypothalamus

stimulate

brain

healthy decisions

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Hypothalamus



1 nocnidere ymtsse

3 pttiyriau gldan

5 ahter eatr

7 ylshuamhapto

9 birna

2 taelcrn osvnrue seytms

4 hnomsroe

6 libosmaemt

8 mulaetsit

10 hahyetl osiscdien

1. endocrine system 2. central nervous system 3. pituitary gland 4. hormones 5. heart rate 6. metabolism 7. hypothalamus 8. stimulate 9. brain 10. healthy decisions

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STANDARDS ALIGNMENT

LESSON 6

Alcohol and Your Developing Hypothalamus

Content	Student Objectives	Classroom Activities	Assessment
<ul style="list-style-type: none"> Hypothalamus functionality How the endocrine and nervous systems work together and impact hormone production How alcohol affects hormones 	<p><i>Students will be able to:</i></p> <ul style="list-style-type: none"> Identify the functions of the hypothalamus Conceptualize the relationship between the endocrine and nervous systems, as well as hormone production by drafting an infographic that highlights this information Recognize the effects of alcohol on hormones and write to persuade others about the dangers of drinking Demonstrate the ability to use goal-setting skills to enhance health 	<ul style="list-style-type: none"> Video and class discussion Kids' Health website reading and discussion "Protect Your Body" text read-aloud How alcohol affects the brain activity Design Your Own Infographic activity and writing assignment Goal-setting video and discussion Goal-setting activity 	<p><i>Formative:</i></p> <ul style="list-style-type: none"> Written discussion questions Vocabulary homework How alcohol affects the brain activity <p><i>Formative/Summative:</i></p> <ul style="list-style-type: none"> Goal-setting activity <p><i>Summative:</i></p> <ul style="list-style-type: none"> Infographic and writing assignment



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.5-7.1
- W.5-7.4
- W.5-7.8
- W.5-7.10
- WHST.6-8.1
- WHST.6-8.4
- WHST.6-8.8
- WHST.6-8.10
- L.5-7.1
- L.5-7.2
- L.5-7.3
- L.5-7.4
- SL.5-7.1
- SL.5-7.2
- SL.5-7.4
- SL.5-7.5

2024 NHES:

- 3.8.3
- 6.8.1
- 6.8.3
- 2.8.1

NGSS

- MS.LS1.3
- MS.LS1.8

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