TOPIC: Alcohol-Impaired Driving
GRADES: 9 - 12
STANDARD(S): Health Education

OBJECTIVES FOR HEALTH EDUCATION

- Understand alcohol's effects on the brain and body
- Understand alcohol's effects on driving ability
- Analyze data and statistics from the National Highway Traffic Safety Administration (NHTSA) on this subject to compare the issue nationally
- Discuss alternate methods of transportation
- Understand state-specific laws on impaired driving

PROCEDURE

- Assign to download the Impaired Driving student workbook from AAA.com/Community.
- Assign students to complete the **General Knowledge Check** pre-lesson questions.
- Assign students to watch two videos and analyze two charts:
    - **Alcohol, Tragedy and the Legacy of Philip Lutzenkirchen** (https://www.youtube.com/watch?v=YpD8FKkh6a0)
    - **Under Construction: Alcohol and the Teenage Brain** (https://www.youtube.com/watch?v=g2gVzVIBc_g)
    - **Alcohol-Impaired Drivers Involved in Fatal Crashes, by Age Group, Sex, and Vehicle Type, 2009 and 2018**
    - **Blood Alcohol Concentration**

SUMMARY

This lesson plan should be utilized to enhance individuals' understanding of the effects of alcohol on driving. Students will learn about alcohol's effects on the developing brain. Students will also consider planning for alternate transportation, such as having a designated driver or using a ride-sharing service. Students will also discuss and reflect on their findings about drunk driving and its consequences.

HEALTH EDUCATION STANDARDS

The lesson plan meets the following National Health Education Standards (NHES):

Standard 1: 1.12.1; 1.12.5; 1.12.8
Standard 2: 2.12.2; 2.12.3; 2.12.9
Standard 4: 4.12.2; 4.12.3
Standard 5: 5.12.6
Standard 8: 8.12.1; 8.12.2

IMPAIRED DRIVING

NAME: **DATE:**

QUIZ

Answer the following pre-lesson questions based on what you know TODAY about alcohol-impaired driving and how it affects the brain/body:

What do you know about alcohol's effects on the brain and the body?

Answers will vary

What age group do you think is responsible for most drunk driving statistics? Explain why you chose that age group.

Answers will vary

NAME: **DATE:**

WATCH

Watch the following videos:

- **Alcohol, Tragedy and the Legacy of Philip Lutzenkirchen**
- **Under Construction: Alcohol and the Teenage Brain**

ANALYZE

Review the following table on Alcohol-Impaired Drivers and the overview of Blood Alcohol Concentration on the next page, the answer the following questions:

Table 3

Alcohol-Impaired Drivers Involved in Fatal Crashes, by Age Group, Sex, and Vehicle Type, 2009 and 2018

Drivers Involved In Fatal Crashes	2009			2018			Change in Percentage With BAC=.08+ g/dL 2009 and 2018
	Total Drivers	BAC=.08+ g/dL		Total Drivers	BAC=.08+ g/dL		
		Number	Percent of Total		Number	Percent of Total	
Total*	**45,337**	**10,028**	**22%**	**51,490**	**10,011**	**19%**	**-3%**
Age Group							
16–20	5,073	948	19%	4,061	622	15%	-4%
21–24	4,612	1,582	34%	4,777	1,305	27%	-7%
25–34	8,630	2,692	31%	10,738	2,731	25%	-6%
35–44	7,779	2,003	26%	8,110	1,716	21%	-5%
45–54	7,686	1,684	22%	7,863	1,458	19%	-3%
55–64	5,276	675	13%	7,261	1,102	15%	+2%
65–74	2,876	201	7%	4,218	435	10%	+3%
75+	2,560	78	3%	3,098	216	7%	+4%
Sex							
Male	32,882	8,301	25%	37,062	7,698	21%	-4%
Female	11,864	1,586	13%	13,269	1,918	14%	+1%
Vehicle Type							
Passenger Car	18,344	4,186	23%	20,175	4,217	21%	-2%
Light Truck**	17,878	4,136	23%	19,663	3,782	19%	-4%
–Pickup Truck	*8,442*	*2,258*	*27%*	*8,595*	*1,822*	*21%*	*-6%*
–SUV	*6,913*	*1,583*	*23%*	*8,883*	*1,679*	*19%*	*-4%*
–Van	*2,490*	*291*	*12%*	*2,070*	*256*	*12%*	*0%*
Large Truck	3,182	54	2%	4,786	146	3%	+1%
Motorcycle	4,601	1,325	29%	5,108	1,295	25%	-4%

Source: FARS 2009 Final File, 2018 ARF

*Includes unknown age, unknown sex, and other/unknown vehicle type.

**Includes other/unknown light-truck vehicle types.

Blood Alcohol Concentration | www.preventionlane.org/responsible-drinking-bac.htm

Blood Alcohol Concentration (BAC)[1]	Typical Effects	Predictable Effects on Driving
.02%	Some loss of judgment Relaxation Slight body warmth Altered mood	Decline in visual functions (rapid tracking of a moving target) Decline in ability to perform two tasks at the same time (divided attention)
.05%	Exaggerated behavior May have loss of small-muscle control (e.g., focusing your eyes) Impaired judgment Usually good feeling Lowered alertness Release of inhibition	Reduced coordination Reduced ability to track moving objects Difficulty steering Reduced response to emergency driving situations
.08%	Muscle coordination becomes poor (e.g., balance, speech, vision, reaction time, and hearing) Harder to detect danger Judgment, self-control,	Concentration Short-term memory loss Speed control Reduced information processing capability (e.g., signal detection, visual search)

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	reasoning, and memory are impaired	Impaired perception
.10%	Clear deterioration of reaction time and control Slurred speech, poor coordination, and slowed thinking	Reduced ability to maintain lane position and brake appropriately
.15%	Far less muscle control than normal Vomiting may occur (unless this level is reached slowly or a person has developed a tolerance for alcohol) Major loss of balance	Substantial impairment in vehicle control, attention to driving task, and in necessary visual and auditory information processing

1 Information in this table shows the BAC level at which the effect usually is first observed, and has been gathered from a variety of sources including the National Highway Traffic Safety Administration, the National Institute on Alcohol Abuse and Alcoholism, the American Medical Association, the National Commission Against Drunk Driving, and www.webMD.com.

ANSWER

Answer the questions below based on the graphs from the previous page:

1. **How can alcohol affect the developing teenage brain?**

   Answers will vary, but can include things like: interfering with mood, decision-making, memory, balance and coordination. Key point is that effects are worse and more permanent when alcohol is introduced while the brain is still developing

2. **How can alcohol affect driving abilities?**

   Answers will vary, but can include things like: lower alertness, impaired judgment, deterioration of reaction time, reduced coordination, difficulty steering, difficulty processing speed control

3. **In 2009, what percentage of drivers involved in a fatal crash had a BAC of .08%? How did that compare to 2018?**

   In 2009, 22% of total drivers involved in a fatal crash had a BAC of .08%. In 2018, it was 19%.

4. **In 2018, which age group had the highest percentage of total drivers with a BAC of .08% involved in a fatal crash?**

   In 2018, the age group 21-24 had the highest percent total of drivers involved in a fatal crash with a BAC of .08%. It was 27% for that age group.

5. **What are some typical effects when a driver's blood alcohol concentration is at .08%?**

   Poor muscle control, balance, speech and reaction time. Harder to detect danger, poor judgment.

6. **What are the impaired driving laws and penalties in your state?** *(Visit GHSA.org for state laws **here** and **here**. You can also find information at **DrivingLaws.AAA.com**.)*

   Answers will vary depending on state.

7. **WHAT WOULD YOU DO? You are at a friend's house for a party. The friend who drove you there an was responsible for driving you home has been drinking alcohol. What are some alternate ways you could get home safely? Explain which of the methods you chose is the best and why you chose it.**

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