



**TOPIC:** Drowsy Driving & Sleep Deprivation

**GRADES:** 9 - 12

**STANDARD(S):** Health Education

## OBJECTIVES FOR HEALTH EDUCATION

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- Understand the importance of proper sleep habits
- Discover the dangers of drowsy driving and sleep deprivation
- Analyze data and statistics about drowsy driving
- Apply concepts by engaging a creative prevention campaign
- Understand how sleep deprivation impacts the human brain and body
- Compare and contrast drowsy driving to alcohol-impaired driving

## PROCEDURE

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- Assign students to watch the following videos:
  - [MythBusters “Driving Tippy vs. Driving Sleep Deprived”](#)
  - [Too Tired to Drive \(PSA\)](#)
- Assign students to read information on [sleep for teens](#).
- After students complete viewing the videos and reading the information, assign them to complete the worksheets and the project.
  - OPTIONAL: Assign more reading or research for additional resources for the project.
- Assign students a completion date for the worksheets and project and ensure it is turned in by that date.

## OPTIONAL ACTIVITIES

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- Assign students a peer-editor to look over and provide constructive feedback to their partner.

## ADDITIONAL INFORMATION

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- More information on drowsy driving, and teens and sleep:
  - [AAA Exchange](#)
  - [Johns Hopkins Medicine](#)

## SUMMARY

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By the end of this lesson, students should be able to use data to apply to real life, identify the adverse effects of sleep deprivation on the human brain and body, understand the current statistics on drowsy driving, and analyze and strategize ways to avoid drowsy driving.

## HEALTH EDUCATION STANDARDS

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

**Standard 1:** 1.12.5 | **Standard 2:** 2.12.5; 2.12.9 | **Standard 5:** 5.12.4 | **Standard 8:** 8.12.1; 8.12.2; 8.12.4

NAME:

DATE:

## WATCH

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Watch the following videos:

- [MythBusters “Driving Tipsy vs. Driving Sleep Deprived”](#)
- [Too Tired to Drive \(PSA\)](#)

## READ

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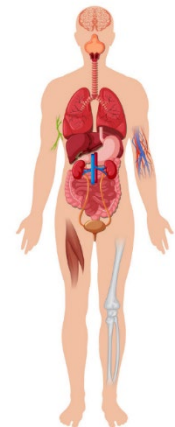
Read information on [sleep for teens](#) from the National Sleep Foundation.

## ANSWER

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**Answer the following questions in one or two sentences:**

List 6 physical effects of sleep deprivation on the human body:



Using the information learned in the MythBusters video, compare alcohol-impaired driving to sleep-deprived driving. Did you notice any differences between the two? How were both dangerous?

**Why do you think teens could be prone to sleep deprivation? What steps could a teenager take to avoid drowsy driving? Describe in detail.**

**Summarize the research findings from the “Sleep in America” poll presented in the article from the National Sleep Foundation. What was the most important finding and why do you think it is important? The poll was conducted in 2006 – what positive or negative changes regarding teen sleep issues could have happened in the last 14 years?**

**What are the most important things you think teens should know about sleep and why do you think they are important? What would be the best way to communicate this information to teens (i.e. PSAs, education, ads, etc.) and why?**

# ANALYZE

Use the following graphs and analyze the data on drowsy driving to answer the following questions.

**Table 1: Fatal Crashes, Drivers, and Fatalities in Crashes Involving Drowsy Driving, by Year, 2011-2015**

| Year           | Fatal Crashes Involving Drowsy Driving |         |         |         |            |         |
|----------------|--|---------|---------|---------|------------|---------|
|                | Crashes                                |         | Drivers |         | Fatalities |         |
|                | Number                                 | Percent | Number  | Percent | Number     | Percent |
| 2011           | 721                                    | 2.4%    | 723     | 1.6%    | 810        | 2.5%    |
| 2012           | 744                                    | 2.4%    | 744     | 1.6%    | 835        | 2.5%    |
| 2013           | 714                                    | 2.4%    | 713     | 1.6%    | 801        | 2.4%    |
| 2014           | 747                                    | 2.5%    | 747     | 1.7%    | 851        | 2.6%    |
| 2015           | 736                                    | 2.3%    | 736     | 1.5%    | 824        | 2.3%    |
| 2011-2015      | 3,662                                  | 2.4%    | 3,663   | 1.6%    | 4,121      | 2.5%    |
| 5-Year Average | 732                                    | 2.4%    | 733     | 1.6%    | 824        | 2.5%    |

**Table 2: Motor Vehicle Traffic Crashes and Crashes Involving Drowsy Driving, by Year, 2011-2015**

| Crash Year by Crash Severity |        | Crashes Involving Drowsy Driving |         |
|------------------------------|--------|----------------------------------|---------|
|                              |        | Number                           | Percent |
| 2011                         | Fatal  | 721                              | 2.4%    |
|                              | Injury | 29,000                           | 1.9%    |
|                              | PDO    | 36,000                           | 1.0%    |
|                              | Total  | 66,000                           | 1.2%    |
| 2012                         | Fatal  | 744                              | 2.4%    |
|                              | Injury | 34,000                           | 2.1%    |
|                              | PDO    | 47,000                           | 1.2%    |
|                              | Total  | 81,000                           | 1.4%    |
| 2013                         | Fatal  | 714                              | 2.4%    |
|                              | Injury | 32,000                           | 2.0%    |
|                              | PDO    | 39,000                           | 1.0%    |
|                              | Total  | 72,000                           | 1.3%    |
| 2014                         | Fatal  | 747                              | 2.5%    |
|                              | Injury | 33,000                           | 2.0%    |
|                              | PDO    | 53,000                           | 1.2%    |
|                              | Total  | 87,000                           | 1.4%    |
| 2015                         | Fatal  | 736                              | 2.3%    |
|                              | Injury | 33,000                           | 1.9%    |
|                              | PDO    | 56,000                           | 1.2%    |
|                              | Total  | 90,000                           | 1.4%    |
| 2011-2015                    | Fatal  | 3,662                            | 2.4%    |
|                              | Injury | 160,000                          | 2.0%    |
|                              | PDO    | 232,000                          | 1.1%    |
|                              | Total  | 396,000                          | 1.4%    |

# **ANSWER**

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

- 1. How many total crashes related to drowsy driving occurred in 2014?**
- 2. How many fatal crashes due to drowsy driving occurred from 2011-2015?**
- 3. Describe the percentage of total crashes from 2011-2015. What does this reveal?**
- 4. Based on your review of the graphs, what do you see as the biggest problem?**
- 5. What could be done to combat the problem you noticed?**

# EXPAND YOUR IMPACT Project

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**You are the Public Health Director for your state. Recently, you received data revealing that your state's numbers for drowsy driving crashes have slightly increased for the teenage age group. Create a campaign to impact teen drowsy driving. Pick one activity from the promotion category and one from the education category.**

## **PROMOTION:**

- Create 10 different social media posts about the dangers of sleep-deprived driving from the perspective of a Department of Public Health.
- Compile 3 Public Service Announcements (PSAs) about the dangers of sleep-deprived driving that you think could be shared with your citizens. Create an email to the mayor including the links of the PSAs you selected, and then describe why you think they should be used to influence your citizens and what elements of each PSA are persuasive.

## **EDUCATION:**

- Create a flyer that could be distributed to teens about the dangers of drowsy driving using 10 facts and/or statistics that you have read in your research. Incorporate at least 4 helpful strategies to avoid sleep-deprived driving.
- Design a slide show using PowerPoint or Google Slides that could be shown in high school health classes to share the dangers of sleep-deprived driving, share healthy sleep habits, and give strategies to help prevent drowsy driving. You must incorporate a Title Slide, and at least 6 Content Slides. Images should be on each page.

*Please turn in the activities for your project to your teacher by the assigned due date using a document file (Microsoft Word or Google Doc) and/or slide show (PowerPoint or Google Slides).*

# Peer Editing Form

Peer Editor:

Date:

Author:

|  | Yes | No |  |
|--|-----|----|--|
| Is there evidence of prewriting activity (brainstorm, plan)? |     |    |  |
| Are the title main words capitalized?                        |     |    |  |
| Does the title fit the piece?                                |     |    |  |
| Are paragraphs used to organize information?                 |     |    |  |
| Is the introduction effective?                               |     |    |  |
| Is the main idea clear, with a sense of purpose?             |     |    |  |
| Is the information placed in logical order?                  |     |    |  |
| Is there enough supporting evidence?                         |     |    |  |
| Does the writer stay on topic?                               |     |    |  |
| Is the writing interesting?                                  |     |    |  |
| Is the word choice appropriate?                              |     |    |  |

|   | Yes | No |  |
|---|-----|----|--|
| Does each sentence begin with a capital letter?   |     |    |  |
| Does each sentence end with proper punctuation?   |     |    |  |
| Is each sentence a complete thought?              |     |    |  |
| Are there any spelling errors?                    |     |    |  |
| Are there other words that should be capitalized? |     |    |  |
| Are plurals and possessives correct?              |     |    |  |
| Are quotation marks used correctly?               |     |    |  |
| Is the conclusion effective and relevant?         |     |    |  |
| Is written text well organized?                   |     |    |  |
| Other comments?                                   |     |    |  |