

Analyzing Drug-Use Data from Monitoring the Future
STUDENT WORKSHEET



1. Using the interactive chart on [this page](#):

- In the “Drug” field, select “Any Vaping.”
- For “Year,” select “All”; then select “Apply.”
- For “Duration,” select “Past year.” (Uncheck any other boxes that are checked and select “Apply.”)
- For “Grade,” select “All”; then select “Apply.”
- Answer the following question: Overall, the use of any vaping products in the past year by 8th, 10th, and 12th graders _____ in 2019.
 - a. Increased
 - b. Decreased
 - c. Stayed the same

Calculating Percent Change

$$\text{Percent Change} = \frac{\text{New Value} - \text{Old Value}}{\text{Old Value}} \times 100$$

If the result is positive, it’s an increase.

If the result is negative, it’s a decrease.

- **Use the percent change formula above to calculate the answers to the next four questions related to teens’ drug use in the past year.**
 - How did the percentage of 8th graders who did any vaping in the past year change from 2017 to 2019? What was the percentage change between these two rates of any vaping?
 - How did the percentage of 10th graders who did any vaping in the past year change in those years? What was the percentage change between these two rates?
 - How about the percentage of 12th graders who did any past-year vaping in those years? What was the percentage change between these two rates?
 - Which grade level had the largest percentage change in any past-year vaping from 2017 to 2019?

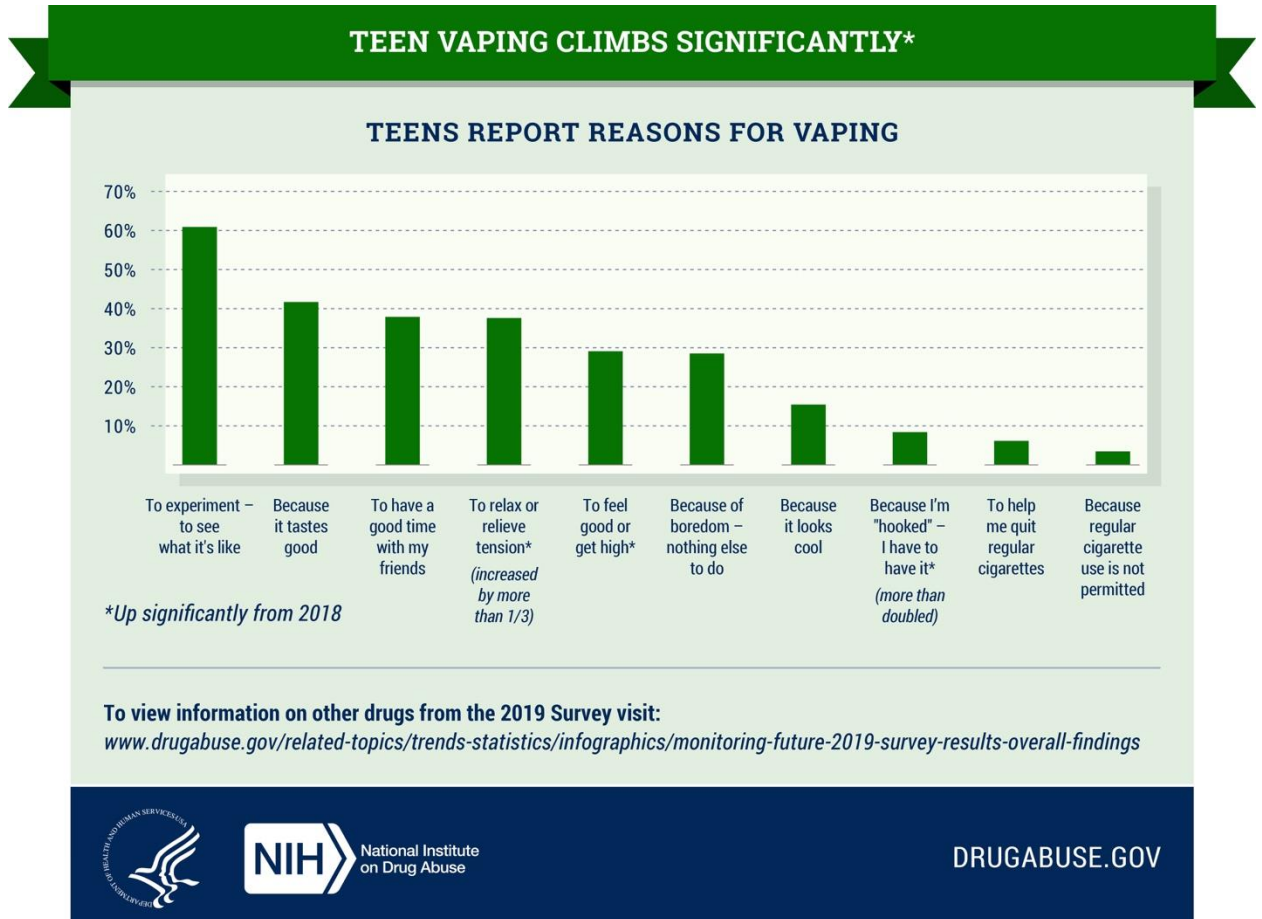
- **Now, return to the interactive chart on [this page](#).**
 - In the “Drug” field, select “Any Vaping.”
 - For “Year,” select “All.”
 - For “Duration,” select “Past year” and “Past month.”
 - For “Grade,” select “All.”
 - Select “Apply.”
 - Answer the following questions:
 - How do the rates of vaping product use vary between “past month” and “past year”?
 - Which period of time has greater rates of vaping-product use: the past month, past year, or lifetime?
 - What do you think the reason for that could be?
- **Using the information on [this page](#), describe three effects of vaping on the teen brain.**
- **Using the information you just reviewed, describe three factors you think might be causing the increase or decrease in vaping among teens.**

2. Using the interactive chart on [this page](#):

- In the “Drug” field, select “Alcohol.” (Uncheck any other boxes that are checked and select “Apply.”)
- For “Year,” select “All”; then select “Apply.”)
- For “Duration,” select “Past year.” (Uncheck any other boxes that are checked and select “Apply.”)
- For “Grade,” select “All”; then select “Apply.”
- **Answer the following questions:**
 - How did the percentage of 8th graders who used alcohol in the past year change from 2017 to 2019?
 - How did the percentage of 10th graders with past-year alcohol use change in those years?
 - How about the percentage of 12th graders with past-year alcohol use in those years?
 - Which grade level had the largest percentage change in past-year alcohol use from 2017 to 2019?
 - What do you think could be causing the changes (decreases or increases) in rates of past-year alcohol use for 10th and 12th graders?
 - Review [this page](#) to find the 2019 statistics on binge drinking (defined as drinking five or more drinks in a row in the past 2 weeks). How have rates of binge drinking changed in the past 5 years?
 - Are any of these changes surprising to you? Why or why not?
- **Using the information on [this page](#), describe three effects of using alcohol on the teen brain and body.**
- **Reviewing the information on [this page](#), describe three ways you can tell that this information about drug use trends in this lesson is from a reliable source. If you aren’t sure, you can review [this checklist \(PDF\)](#) on evaluating online health information from the National Library of Medicine.**

3. **Bar graphs are another way to represent data.** Like line graphs, bar graphs have a horizontal x-axis and a vertical y-axis. The height of each bar represents a certain value (percent) for each group.

For example, the bar graph below shows the main reasons teens said they vaped in 2019. The x-axis shows the reasons teens gave for vaping, and the y-axis shows the percentage of teens who gave each reason.



Sometimes, data shown in a table can also be effectively shown in a bar graph. The table on the next page presents the percentage of 8th, 10th, and 12th graders who think people risk harming themselves (physically or in other ways) if they use marijuana regularly.

The data in the table is taken from Tables 9, 10, and 11 [here](#).

- Select 3 different years from the table. Then, on a separate sheet of paper, create a bar graph to represent the percentage data of those 3 years for each grade level.

Trends in Perceived Harmfulness of Regular Marijuana Use by 8th, 10th, and 12th Graders (percent who selected "great risk"*)										
Survey year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Student grade										
12th grade	46.8	45.7	44.1	39.5	36.1	31.9	31.1	29.0	26.7	30.3
10th grade	57.2	55.2	50.9	46.5	45.4	43.2	44.0	40.6	38.1	39.6
8th grade	68.0	68.3	66.9	61.0	58.9	58.0	57.5	54.8	52.9	52.3
*The survey answer choices were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, drug unfamiliar.										

- What do you think could be causing the percentage change across the 3 years you selected for your bar graph? In other words, what might be some of the reasons why 8th, 10th, and 12th graders' perceptions are changing about the harm from using marijuana regularly?
- Using the information on [this page](#), describe three effects on the teen brain of using marijuana.