

## Monitoring the Future **Teacher** Activity Guide

### **Background and Objectives:**

This activity is designed to help students in grades 7 through 12 understand how to obtain, analyze, and interpret data, and to argue from evidence, using data from the 2019 Monitoring the Future (MTF) survey on teens' self-reported use of drugs.

MTF is an annual survey that measures self-reported drug and alcohol use and related attitudes among adolescent students nationwide. The survey is funded by the National Institute on Drug Abuse (NIDA), a component of the National Institutes of Health, and is conducted by the University of Michigan.

MTF measures drug use in percentages, with changes recorded year to year. Teen participants are asked to report "lifetime" use, "past-year" use, and "past-month" use. For tobacco and marijuana, the survey also asks for "daily" use. For alcohol, it asks for drinking behaviors, such as binge drinking or getting drunk.

By the end of the activity, students should know:

1. How to select different variables to show rates of substance use among various aged teens for specific time periods
2. How to compare one substance use trajectory to another across time
3. How to interpret graphs showing trends in data over time
4. How to think critically about the causes of and correlations to data trends

Students will also be asked to reflect on:

1. Why they think vaping increased over time while cigarette use decreased over time
2. Why they think vaping percentages is lower among 8th grader than 10th graders
3. Why overall rates of vaping are higher among those who reported "Lifetime" use of vaping vs. those who reported "Past Month" use of vaping

### **Introductory Questions:**

1. What is the sample of the Monitoring the Future Study?

***About 42,000 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> graders from almost 400 schools across America.***

2. What is the population of the Monitoring the Future Study?

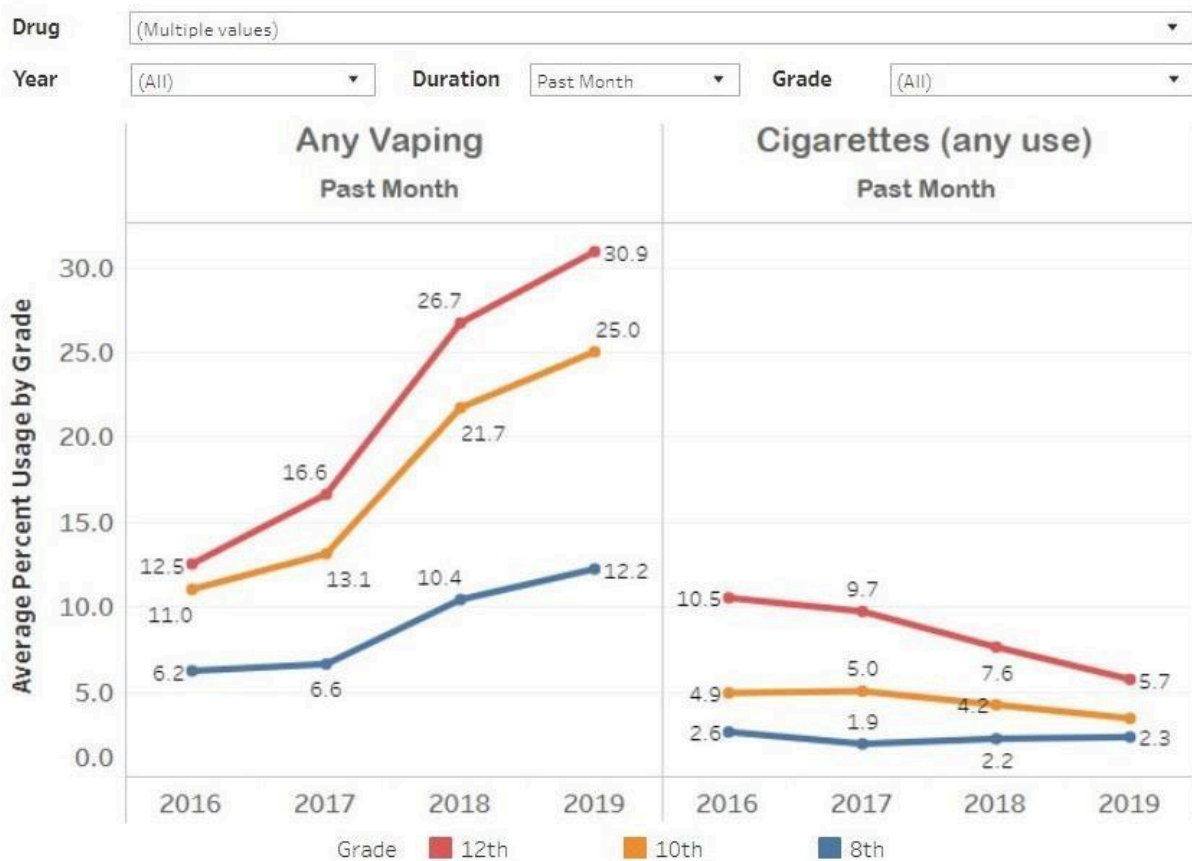
***All teens/high schoolers/8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> graders in America.***

### **Instructions Part 1:**

1. Open the interactive Monitoring the Future data tool by navigating to the following link : <https://teens.drugabuse.gov/teachers/stats-and-trends-teen-drug-use>

2. Scroll down to the interactive map displaying “Any Vaping”
3. In the “drug” field, select “Any Vaping” and “Cigarettes (any use)”. (Uncheck any other boxes that are checked and select “Apply.”)
4. For “Year,” select “All”; then select “Apply.”
5. For “Duration,” select “Past Month.” (Uncheck any other boxes that are checked and select “Apply.”)
6. For “Grade,” select “All”; then select “Apply.”

The graph created should look as follows:



**Questions Part 1:**

1. In 2018 what percentage of 12th graders report vaping in the past month?

**26.7%**

2. In 2018 what percentage of 12th graders report smoking cigarettes in the past month?

**7.6%**

3. The red line represents 12th graders and their use of vaping and cigarettes in the past month. Looking just at the "Any Vaping" graph, how has the percentage of 12th graders vaping changed from 2016 to 2019?

**a. Increased**

4. Looking at just the "Cigarettes (Any Use)" graph, how has the percentage of 12th graders vaping changed from 2016 to 2019?

**b. Decreased**

5. What is the relationship between 12th graders vaping from 2016 to 2019 and 12th graders using cigarettes from 2016 to 2019?

**b. Negative Correlation**

6. Why do you think vaping increased over time? And why do you think smoking decreased?

**Answers may include:**

***For VAPING increase: More vaping advertisements were produced over this time period. New small and covert vaping devices, like juul, came onto the scene and were popularized. More fun and tasty flavors for e-cigarettes were made in that time. More Youtube videos showing fun vape tricks emerged.***

***For SMOKING decrease: Public perception of smoking has gotten more and more unfavorable. Cost of cigarettes has increased over time. Laws prohibiting smoking in public spaces have become more widespread. More anti-cigarette campaigns.***

7. The orange line represents 10th graders and their use of vaping and cigarettes in the past month. Looking just at the "Any Vaping" graph, how has the percentage of 10th graders vaping changed from 2016 to 2019?

**a. Increased**

8. Looking again at the "Any Vaping" graph, how has the percentage of 8th graders vaping changed from 2016 to 2019?

**a. Increased**

9. What is the relationship between 8<sup>th</sup> and 10<sup>th</sup> graders vaping from 2016 to 2019?

**a. Positive Correlation**

10. The percentage of 8th grade past month vapers every year is lower than the percentage of 10 grade past month vapers. What ideas do you have for why this might be?

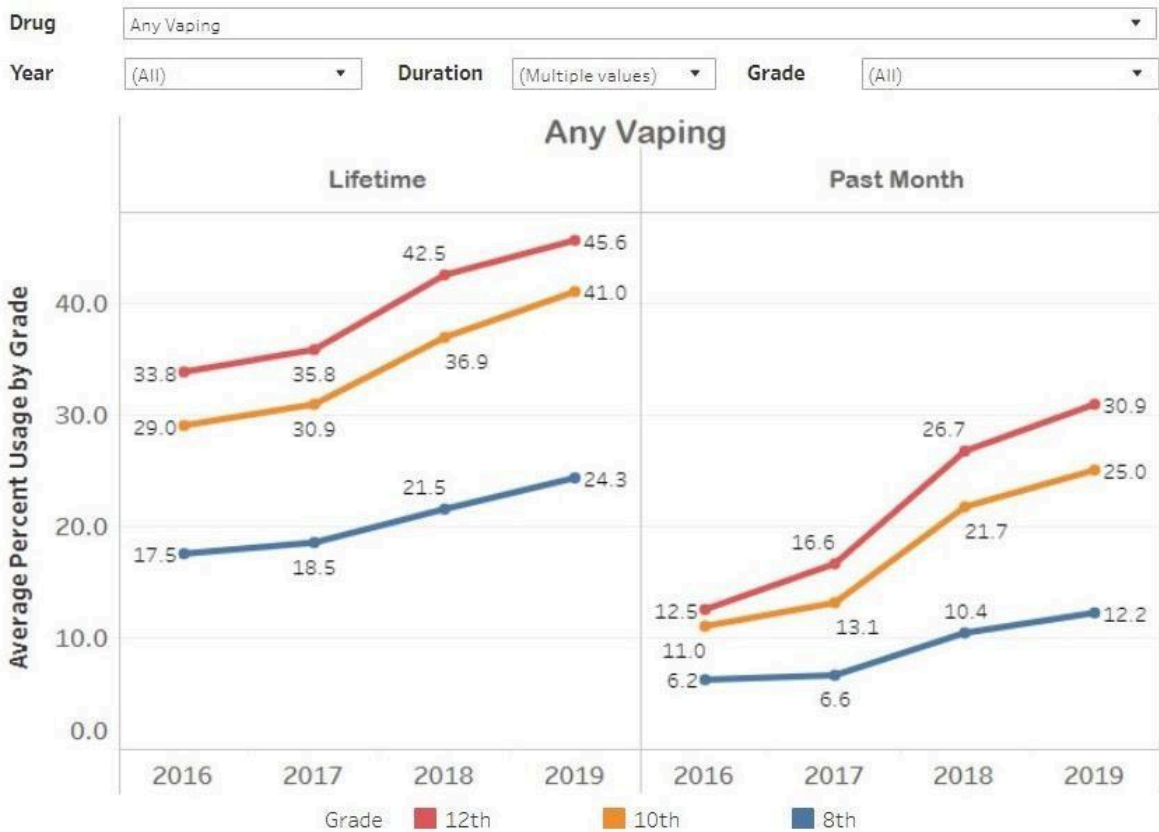
**Answers may include:**

***8<sup>th</sup> graders are too young to be exposed to vaping. 8<sup>th</sup> graders are often on middle school campuses and 10<sup>th</sup> graders are on high school campuses and more people vape on high school campuses. Most people try vaping when they are X years old so many 8<sup>th</sup> graders are younger than that and haven't tried it yet. 10<sup>th</sup> graders could look old enough to pretend to be 21 and are able to buy vapes from a store, while an 8<sup>th</sup> grader looks too young. 10<sup>th</sup> graders might have more older friends who are able to buy vapes for them than 8<sup>th</sup> graders.***

**Instructions Part 2:**

1. Now let's think a little more about Vaping only.
2. In the "drug" field, uncheck "Cigarettes (any use)" and select "Apply."
3. For "Duration," select "Past Month" and "Lifetime" and select "Apply"

**The graph created should look as follows:**



### Questions Part 2:

- Overall, how has the percentage of lifetime AND past month vaping changed from 2016 to 2019?

**a. Increased**

- Look at the red line showing the percentage of 12th graders who have ever vaped in their *lifetime* and have vaped in the *past month*. Which category has higher overall rates?

**a. Lifetime**

- Why do you think rates of vaping are higher among the “Lifetime” category than the “Past Month” category?

**Answers should include:**

***It is important to always take note of what exactly the data is representing when you are looking at a graph. Here you can see that the numbers for lifetime use are much higher than the numbers for past month use. This is because “lifetime use”***

***may include those who are current users, those who are past users and those who just tried vaping once in their life. Meanwhile, past month use will only account for those who currently vape/have vaped in the past 30 days. Sometimes, companies intentionally choose data to present that will help to promote their end goal. For example, by presenting only lifetime use, the numbers are much higher, and it appears that more teens are currently vaping than they actually are. It would be better to display the past month use graph to get a more accurate picture of how many teens are currently vaping.***