

Name: _____ Hr: _____ 2018 Cefalu Chemistry
An Internet WebQuest: THE CHEMISTRY of VAPING and E-Cigarettes

E-cigarettes and vaping are viewed as a safer alternate to cigarette use. The use of e-cigarettes, referred to as “vaping,” has suddenly turned into a popular trend for teenagers and young adults in America. The purpose of this webquest is to explore a brief introduction to e-cigarettes and vaping. Make smart choices with the substances you put into your body. Pay attention to credible, scientific sources – your body will thank you one day!

Go to Mrs. Cefalu’s Faculty Website. Click on the Chemistry of Vaping link. This webquest may be completed in class during our computer lab date or from any internet capable device. All students are required to complete this webquest. Schedule a time to stay after school and use Mrs. Cefalu’s computers if needed.

Directions: Click on each hyperlink (the underlined headings) to go to the correct site and find the answers needed. Each student must answer each question on their own paper and turn in. You may print a copy of the paper if needed.

I. Click [here to learn how E-cigarettes](#) work.

1. An e-cigarette is a _____-powered device that converts liquid nicotine into a mist, or vapor.

2. Who invented the electronic cigarette? When? _____

II. Click [here to see the parts of an e-cigarette](#).

3. What are the 3 parts of an e-cigarette? _____

4. The liquid that fills the cartridges is usually _____.

5. Has this chemical been approved by the FDA? _____ Concoctions use this chemical in their _____ machines.

III. Click [here to study the addictive chemicals](#) in e-cigarettes.

6. _____ is the addictive chemical in tobacco smoke and e-cigarette vapors.

7. As nicotine use increases, teens will need more and more nicotine to get the same high and side effects often follow. This increased use can make it hard for teens to stay focused and trigger _____ or *anxiety*.

8. Brain scientists at VU University Amsterdam observed that exposing adolescent rats to nicotine increased what type of behavior? _____

IV. Click [here to view an e-cigarette infographic](#). Use the infographic to answer the following questions.

9. When this data was obtained, what percentage of 10th graders had used cigarettes in the last month? _____.

10. When this data was obtained, what percentage of 10th graders had used e- cigarettes in the last month? _____. Do you agree with this data? Explain. _____

11. Teens who regularly use e-cigarettes are more likely to start smoking. What percentage of teen e-cig users start smoking within 6 months?

12. Do you know any of the actual ingredients contained within e-cigarettes?

13. What do most teens think is the main ingredient(s) in e-cigs?

14. Examine the data for teens and e-cig advertising. What percentage of high school teens report seeing e-cig advertisements as part of internet ads?

15. Where have you personally seen e-cig ads? _____

V. Click [here to find out what is really inside most e-cigarettes](#).

16. The January issue 2017 of the journal *Environmental Research*, reported high levels of 5 toxic metals inside of e-cig aerosol liquid. What are they?

VI. Click [here for more information about the chemicals in e-cigs](#).

17. How many chemicals were identified as being part of e-cigarettes? _____
18. Mainstream smoke is the smoke _____ by the person smoking.
19. Identify one chemical found in side stream smoke only. _____ Share 1 negative health effects caused by exposure. _____
20. Identify one chemical found in main stream AND side stream smoke.

Share 1 negative health effects caused by exposure. _____
21. Identify one chemical found in mainstream smoke only. _____
Share 1 negative health effects caused by exposure. _____

VII. Click [here to view additional studies of e-cigarette use](#) and effects.

22. Choose one link to follow. Write a brief summary below. _____

Pay attention in the coming months to scientifically credible sources as scientists gain a better understanding of the long-term effects of e-cigarette use. Remember your choices today can affect your health tomorrow! In closing, Mrs. Cefalu would like to encourage you to always "Wear your seatbelt" and "Make Good Choices"!