- 2017 Monitoring the Future Survey which is a large annual survey of nationally representative samples of public and private secondary school students throughout the United States. Past-year vaping was reported by 13.3 percent of 8th graders, 23.9 percent of 10th graders, and 27.8 percent of 12th graders. Vaping was the third most common form of substance use in high school seniors and 10th graders (after alcohol and marijuana) and the second most common among 8th graders (after alcohol).
- E-cigarettes are batter-operated devices used to inhale an aerosol, which may contain nicotine, flavoring, and other chemicals. Most consist of four different components, including: a heating element (atomizer), a cartridge or reservoir, which holds a liquid solution (*e-liquid* or *e-juice*) containing varying amounts of nicotine, flavorings, and other chemicals, a power source (usually a rechargeable battery), and a mouthpiece that the person uses to inhale
- There are many chemical that go into making up over the 7000 available flavors. Inhaling flavoring agents, which are often aldehydes, poses a health concern since these chemicals are similar to toxic aldehydes found in cigarette smoke.
- JUUL has taken over more than 50% of the e-cigarette market. The JUUL contains propylene glycol (PG) which is a liquid used to flavor food products, but it hasn't been approved by the government for inhaling. It provides a strong throat hit to mimic that of a cigarette. The JUUL also contains a small amount of vegetable glycerin (VG) which is a made from vegetable oil and creates the cloud. It has a slightly sweet aftertaste. These oils create an aerosol, not a vapor that most believe. A vapor is a chemical that is evaporated and an aerosol is a mixture of liquid particles that are suspended in a gas. When water vapor condenses, the water is absorbed through the membranes in the lungs and into the blood stream. With an aerosol, the molecules are much larger and are not as easily absorbed, leaving an oily film on the lungs.
- One JUULpod (the cartridge that holds the e-juice) is made up of nicotine salts and has the same amount of nicotine that is found in a pack of cigarettes. Although it is marketed as "5% strength", the JUULpod has exactly 59mg of nicotine/ml. This is a very high amount that can quickly get youth addicted to nicotine.
- Only 4 out of 10 past 30-day JUUL users knew the product always contains nicotine.
- Nicotine is a stimulant. It is highly addictive since it causes changes in brain chemistry quickly and leaves the brain craving more. When nicotine is inhaled, nicotine enters into the brain after passing through the lungs. It then binds to the pleasure receptors in the brain and causes the release of dopamine, providing the user with a temporary feeling of pleasure. The nicotine interferes with the body's natural ability to produce these chemicals and experience or communicate pleasure. The pleasure centers in the brain adapts to the drug use, sensing extra dopamine, and then begins to produce less of it. This means that the user now has a hard time creating natural feelings of pleasure without nicotine, leading to the need for more.
- Research suggests that nicotine exposure during adolescence may have lasting adverse effects on brain development.

- Nicotine doesn’t just effect the brain, it effects many parts of your body. Because it is a stimulant, it can make your heart beat faster. It can cause trouble breathing and damage to your lungs, more than all of the chemicals and toxins found in cigarettes. It can cause increased acid reflux and negatively impact your reproductive organs. Nicotine causes a rush of adrenaline which stimulates the body and causes a sudden release of glucose as well as an increase in the blood pressure, heart rate, and respiration. Nicotine also suppresses insulin output from the pancreas, causing smokers to be slightly hyperglycemic.
- Studies among youth show that use of e-cigarettes at baseline was associated with progression to traditional cigarette smoking. One study suggests that teens who use e-cigarettes are 6 times more likely to move on to conventional cigarettes.