T.E.A.M. Teacher's Guide:

No Vaping:
Real Talk About Vaping

Lesson One

(Grades 6-12)

This teacher guide is a supplementary text to support the use of the TEAM/UNMC module: No Vaping (Lesson 1).

This vaping-prevention project was jointly developed by the Tobacco Education and Advocacy of the Midlands (TEAM) and the Interactive E-Learning program at the University of Nebraska Medical Center (UNMC).

TEAM/UNMC modules are short (30 minutes or less), interactive online health science modules to supplement curriculum taught in grades 6–12. These do not replace curriculum, but are a supplement for teachers and students incorporating evidence-based information and TEAM/UNMC expert guided material. Each module is chunked into sections with formative and summative assessments with immediate feedback provided.

Tips on how to utilize TEAM/UNMC modules:

- Internet access is required to view TEAM/UNMC modules.
- For those who have access to one-to-one technology, modules can be used in or outside of the classroom as a topic introduction, extension, or review.
- For classrooms without individual student devices modules can be used in whole group instruction. Formative assessment questions can use the teacher's preferred call and response method and summative assessment questions can be displayed on the board and answered individually by students or printed and distributed to students after viewing the module.

Objectives

- Provide basic information about e-cigarettes.
- Distinguish facts from myths.
- Understand that the e-cigarette aerosol is not just harmless water vapor.

Introduction

An electronic cigarette (e-cigarette) is an electronic device that simulates tobacco smoking. In recent years, there has been a surge of adolescents vaping; with multiple adverse impacts to public health. This curriculum was developed to inform adolescents about the real cost of vaping and prevent tobacco companies from using e-cigarettes to hook a new generation of tobacco users.

Prior Knowledge

Before beginning this module, the teacher should understand the Next Generation Science Standards (NGSS) featuring Three-Dimensional Learning.

Core Idea Engineering, Technology and Applications of Science

Science-based, or science-improved, designs of technologies and systems affect the ways in which people interact with each other and with the environment, and thus these designs deeply influence society. A Framework for K-12 Science Education.

Core Idea ETS2.B: Influence of Engineering, Technology and Applications of Science on the Natural World.

Technologies that are beneficial for a certain purpose may later be seen to have impacts (e.g., health-related, environmental) that were not foreseen. In such cases, new regulations on use or new technologies (to mitigate the impacts or eliminate them) may be required. A Framework for K-12 Science Education.

Science and Engineering Practices NGSS

- Asking questions and defining problems (cancer)

Crosscutting Concepts NGSS

- Cause and Effect

Key Terms/Vocabulary

Electronic cigarette (e-cigarette), tobacco smoking, vaping, aerosol, power source, lithium battery, atomizer, water vapor, nicotine, toxin, combustible cigarette, nicotine addiction, mood disorders, impulse control, neurotransmitter, dopamine, stimulant, brain development, solvents, formaldehyde, carcinogen, benzaldehyde, diacetyl, popcorn lung, volatile organic compounds, heavy metals, benzene, neurological, isoprene, propylene glycol, toluene, phenol.

Science Standards

Nebraska Science Standards

Chemistry

SC.HSP.3.3.D Evaluate a solution to a complex, real-world problem based on prioritized criteria and tradeoffs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

Anatomy and Physiology

SC.HSP.6.6 Gather, analyze, and communicate evidence of the relationship between the structures and physiological processes of the cardiovascular/respiratory systems.

SC.HSP.6.6.D Construct and present arguments using evidence to support claims about the causes of dysfunction in the cardiovascular/respiratory systems.

Extensions of the lesson

To help students become more familiar with the Key Terms of this module, the teacher can use the vocabulary list for a classroom Word Wall, or integrate the vocabulary into classroom word games during review sessions.

Encourage students to check current events for the latest news involving vaping or e-cigarettes.

As student misconceptions become apparent, the teacher may need to reinforce these important concepts:

- In this module, the terms “vaping” and “e-cigarette” are used interchangeably.
- There are many names for vaping and e-cigarettes, as well as many assorted brands.
- The tobacco industry produces e-cigarettes as an alternate nicotine delivery system.
- Nicotine is not safe.
- The tobacco industry uses manipulative and deceptive advertising to promote their dangerous product to young people.
- E-cigarette “vapor” is not smoke, nor water vapor. It is an aerosol containing toxic chemicals.

Enrichment

- For information about Healthcare Career Opportunities, see UNMC's Careers in Healthcare.
- To learn more about the **T.E.A.M.** Program that helped develop this learning module, see Tobacco Education and Advocacy of the Midlands.
- To study the correlation between the Nebraska Science Standards and the Next Generation Science Standards (NGSS) see the Crosswalk.
- For classroom activities about vaping, see The Real Cost of Vaping.
- To see one of the resources listed in this module, visit the American Lung Association at What's in an E-cigarette?
- Another resource for this module can be explored at the Healthline site: Is Vaping Bad for You?