

# Protecting Our Lungs



DAVID J. SENCER  
**CDC MUSEUM**  
PUBLIC HEALTH ACADEMY



# Word Bank

e-cigarette aerosol

nicotine

addiction

e-cigarette

public health

vaping

citizen scientist

	people who help collect data for research projects conducted by professional scientists
	a highly addictive chemical found in tobacco
	a device that heats a liquid to the point where it becomes a vapor; it is then inhaled
	a substance designed to be used in an e-cigarette; it can contain harmful additives
	an urge to do something that is hard to control or stop
	the science of protecting and improving the health of people and their communities
	the inhaling of a vapor created by an <b>electronic cigarette</b> or other <b>vaping</b> devices



# Understanding E-cigarettes

- Most **e-cigarettes** have:
  - battery
  - heating element
  - place to hold a liquid
- **E-cigarettes** produce an aerosol:
  - heat up a liquid containing **nicotine** (can harm brain development) and other harmful chemicals
- Vary in name, design
- Using an **e-cigarette** = vaping



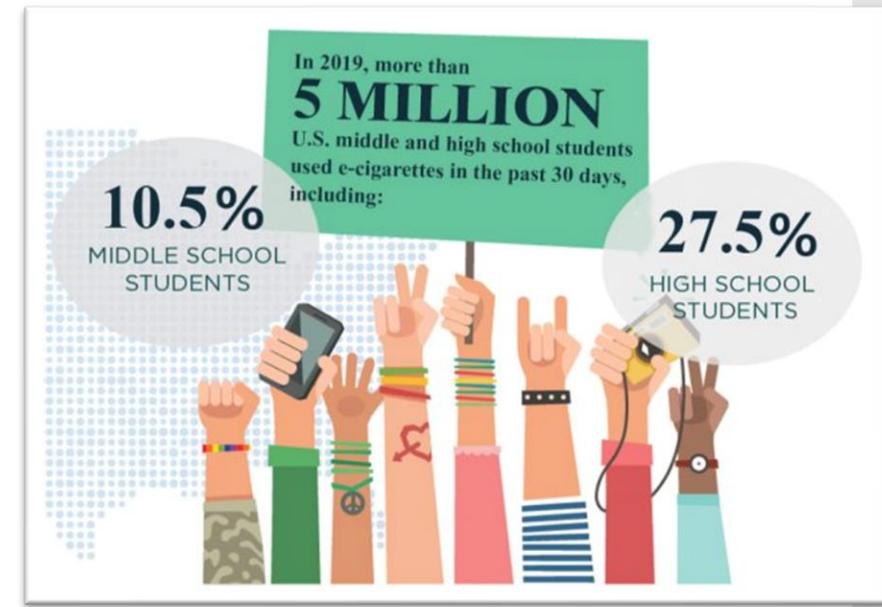


## Think About It

1. How do **e-cigarettes** work?
2. What types of devices can **e-cigarettes** resemble?
3. Why is **nicotine** dangerous?

# Vaping and CDC

- 1963: first patent for basis of **e-cigarettes**
- 2010: multiple **e-cigarettes** on market
- CDC begins tracking vaping statistics:
  - 1 in 4 high schoolers
  - 1 in 10 middle schoolers



# Vaping and CDC

- Vaping:
  - dangerous to users
  - harms others with secondhand exposure
- Ex: JUUL
  - always contains high levels **nicotine**
  - one JUUL pod = nicotine of 20 cigarettes
- CDC + US Food and Drug Administration (FDA)
  - **vaping** research, raising awareness, lawmaking





## Think About It

1. Why are **e-cigarettes** more appealing to young people than regular cigarettes?
2. Why is **vaping** a **public health** issue?
3. What are some organizations the CDC works with to address the dangers of vaping?

# From the Expert



<https://youtu.be/k1a3xoAfF5g>



## Think About It

1. What issues with **vaping** did Dr. King present?
2. Why is it important to find out the long-term effects of vaping?
3. What role do **citizen scientists** play in tobacco prevention and control?

## Call to Action!

1. Create model lungs
2. Conduct a vaping demonstration
3. Share your findings

Why do you think participation is important?

Give it a  
Try

# Design a Lung Model Vaping Demonstration



Define

Define the problem



Research

Do background research



Specify

Specify requirements



Brainstorm

Choose and develop solutions



Build

Build a prototype



Test

Test and redesign



Share

Communicate results

## 1. Create a Lung Model

- Prepare the windpipe and lungs
- Prepare the chest cavity and diaphragm
- Complete and test the lung model



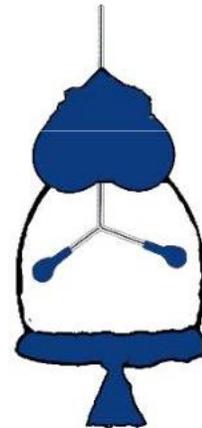
Windpipe



Lungs



Chest Cavity



Complete Model Lung

Give it a  
Try

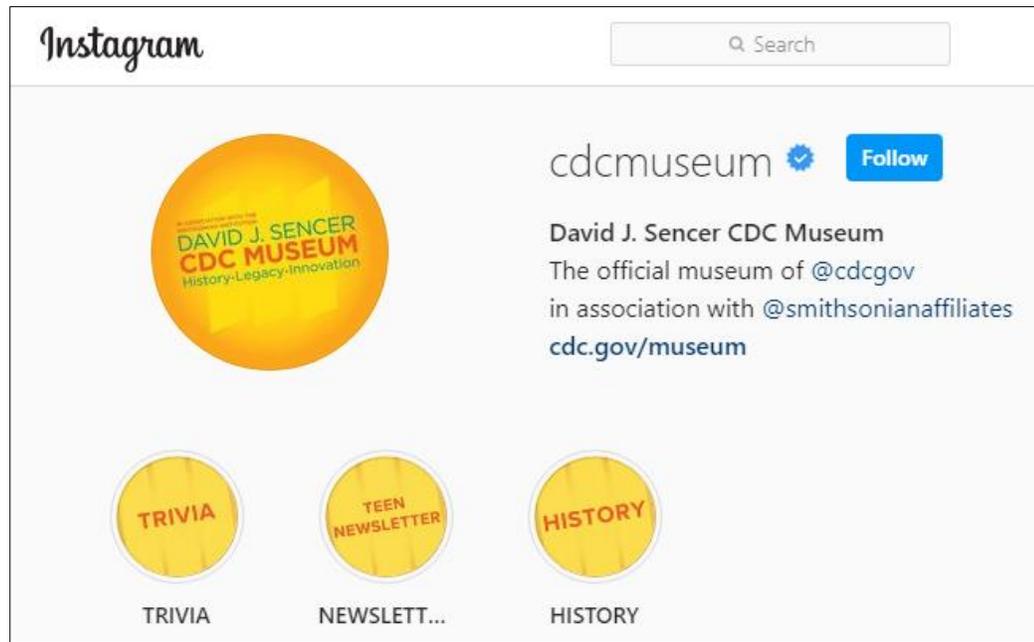
## 2. Conduct a Vaping Demonstration

- Write your script
- Sketch your storyboard
- Record your demonstration

Give it a  
Try

### 3. Share Your Findings

- Instagram @cdcmuseum



Give it a  
Try

Questions?

