



PLTW Virtual Learning

# Medical Detectives

## Lesson 18

April 29, 2020



# **7 & 8 Grade Medical Detectives**

## **Lesson: April 29, 2020**

**Objective/Learning Target:**  
**Lesson 18, Part 3**

**Students will be able to explain how forensic science and DNA profiling can be used as evidence.**

# Warm-Ups:

## Quick Write:

1. What do you know about the different types of evidence that can be used to convict criminals for different crimes?
2. How often is DNA used in criminal cases?
3. Can DNA be used to acquit someone from a crime?

Take a minute to write everything you know.

[One Minute Timer](#)

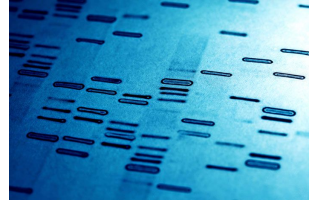


# Lesson Introduction/Background Information:

## Can DNA Demand a Verdict?

In 1987, forensic DNA analysis made its first appearance in a US courtroom. Originally known as "DNA fingerprinting," this type of analysis is now called "DNA profiling" or "DNA testing" to distinguish it from traditional skin fingerprinting.

Even though it is used in less than 1% of all criminal cases, DNA profiling has helped to acquit or convict suspects in many of the most violent crimes.



## Is DNA evidence alone enough to acquit or convict?

Forensic DNA is just one of many types of evidence. Investigators also look at other clues, such as motive, weapons, alibis, and additional evidence linking a suspect to the crime scene. When multiple lines of evidence tell a consistent story, investigators can be assured that samples from a particular suspect were not planted, either on purpose or by accident, at the crime scene.

# Practice: More About Forensic DNA Analysis



## [Can DNA Demand a Verdict?](#)

Click on the link above and read the article from the Genetic Science Learning Center, about whether or not DNA can demand a verdict.

From the Forensic DNA Analysis Section, write down 4 things you found interesting in the Blood relatives have more similar DNA and What about human error? Sections.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

# Practice:

Using the same link from the previous slide [Can DNA Demand a Verdict?](#), read the section Is DNA evidence alone enough to acquit or convict? and write down 5 key interests you found in the article.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

After reading this article, how do think this affects the responsibilities of a forensics scientist/medical detective.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_



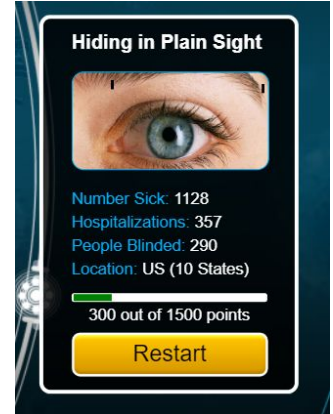
# Self Assessment:

Get ready to solve the medical mystery! Go to the following CDC, Center for Disease Control and Prevention, Solve the Outbreak website link below. In this medical mystery, you will be solving a mystery where several people, across many states, are getting eye infections that is causing permanent eye damage and even blindness in some cases. What happening and why is it getting worse? That's for you to find out. Good luck solving the mystery!

## Directions:

1. Click on the link [Solve the Outbreak](#).
2. Click on Level 1 Outbreaks on the left.
3. Swipe to the right until you reach the Hiding in Plain Sight case.
4. Click Start and Accept the Mission
5. Follow the 5 clues and solve the mystery!
6. Enjoy!

**\*\*Lesson Disclaimer:** This is a mystery outbreak game website provided by the CDC, Center For Disease Control and Prevention, government website. It offers 12 different medical mysteries. Please do not participate, or continue with this website, if it makes you or anyone else uncomfortable, or upset, in any way. Thank you!



## Extend Your Learning/Continued Practice:

There are many different types of scientists that work in criminal cases. How many can you identify?

- A. Radiologist                      C. Chemist  
B. Toxicologist                    D. Entomologist

1. Analyzes paint, glass and residues \_\_\_\_\_
2. Works with x-rays \_\_\_\_\_
3. Analyzes blood and body tissue for evidence of drugs and poisons. \_\_\_\_\_
4. Use insects to determine time of death \_\_\_\_\_

