



PLTW Virtual Learning

# Medical Detectives

## Lesson 15

April 24, 2020



# **7 & 8 Grade Medical Detectives**

## **Lesson: April 24, 2020**

**Objective/Learning Target:**  
**Lesson 15, Part 10**

**Students will be able to solve Mystery Diseases.**

Disclaimer: This lesson is optional for anyone who is uncomfortable with this topic.

## Warm-Ups:

### Quick Write:

1. What do you know about the steps a doctor would take to solve a medical mystery of a patient that comes into his office? How do you solve medical mysteries?

Take a minute to write everything you know.

[One Minute Timer](#)



# Lesson Introduction/Background Information:

**\*\*A medical detective is a medical doctor that is constantly determining the illness of a patient, figuring out medical mysteries, the origin of strange infections, disease outbreaks, causes of death, and reasons for abnormalities. A medical detective also examines crime scenes, collecting evidence for later analysis, and conducts interviews to solve the mystery.**

**\*\*What are some of the steps medical detectives can use to determine a patient's disease?**

- 1. Clinical History and Interview - Acquiring a clinical history and interviewing the patient provides important information for determining a diagnosis and also establishes a solid foundation for the relationship between the doctor and the patient.**
- 2. Physical Exam - A hands-on observational examination of the patient. The doctor is able to determine the patient's demeanor, posture, level of distress, and other signs which can lead to an understanding of the health problem.**
- 3. Diagnostic Testing - This is a process of gathering information through various tests.**
- 4. Referral and Consultation - Doctors may determine they need to consult with other doctors (formally or informally) to seek additional expertise about a patient's health problem.**

# Practice:

**Medical Mystery Disease Case:** You have a new patient who has come to you with the following symptoms. His vital signs -- heart rate, blood pressure, temperature are all normal. There is nothing unusual about his family history. It is your job to find out what your patient is suffering from. Research his symptoms, have diagnostic tests performed, and see if you can diagnose your patient's disease.

**Patient Information** -- 58-year old male who has been experiencing the following symptoms for the last 6 months:

1. Tremors - A tremor, or shaking, often in his hand or fingers. His hand sometimes shakes when it's at rest.
2. Patient is moving slow, making simple tasks difficult and time-consuming. His steps are becoming shorter and harder to make when he walks.
3. Rigid muscles. Muscle stiffness is beginning to occur in his shoulders and neck limiting his motion and making it painful.
4. Patient is having problem balancing when he stands and walks.
5. Patient is experiencing speech changes by having slurred speech.
6. Patient is having trouble writing due to the tremors he is having.



## Practice:



**What was your diagnosis?**

**Was it Parkinson's Disease? If so, CONGRATULATIONS, that was the correct diagnosis!**

**In Parkinson's Disease, certain nerve cells, called neurons, in the brain gradually break down or die. Many of the symptoms experienced are due to a loss of neurons that produce a chemical messenger in the brain called dopamine. When dopamine levels decrease, it causes abnormal brain activity, leading to symptoms of Parkinson's Disease.**

**The cause of Parkinson's disease is currently unknown, but there are different factors that can contribute.**

# Practice:

Check out the videos below to find out more information about Parkinson's Disease:

1. [Symptoms of Parkinson's Disease](#)
2. [Michael J. Fox and Parkinson's Disease](#)

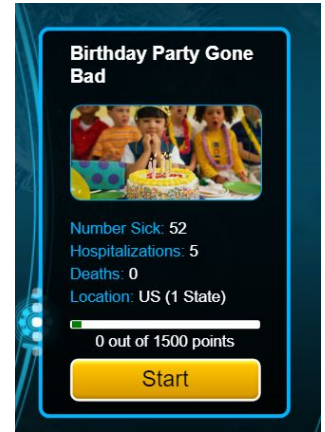


# Self Assessment:

To solve another 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 became sick after attending a child's birthday party. What happened and what made them sick? 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 Birthday Party Gone Bad.
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:

To see more of Michael J. Fox and his fight against Parkinson's Disease and the organization he has started to help raise money for research to fight the disease, click on the link below.

[Michael J. Fox's Fight Against Parkinson's Disease](#)