

*Solve medical mysteries by performing a brain dissection and conducting crime scene investigations!*  
*Students use tools such as the engineering design process, an engineering notebook, and electrophoresis to solve a murder.*

*Learn how creative thinking and problem solving can change your world!*

In the Medical Detectives (MD) unit, students play the role of real-life medical detectives as they analyze genetic testing results to diagnose disease and study DNA evidence found at a “crime scene.” They solve medical mysteries through hands-on projects and labs, investigate how to measure and interpret vital signs, and learn how the systems of the human body work together to maintain health.

## **MD Lesson Summary**

Lesson 1	What Is a Medical Detective?
Lesson 2	Mysteries of the Human Body System
Lesson 3	Murder Mystery

### **Lesson 1: What Is a Medical Detective?**

Students will discover how healthcare professionals act as medical detectives in identifying, treating, and preventing injury and illness in their patients. Students examine patient medical histories and investigate how these histories guide medical detectives to the correct diagnosis and treatment of a particular illness. Students also investigate and collect vital signs such as heart rate, blood pressure, and temperature. Finally, students research pathogens involved in foodborne illness and act as medical detectives in diagnosing and proposing a treatment plan for a patient with a mystery illness.

### **Lesson 2: Mysteries of the Human Body System**

This lesson introduces the human body as a compilation of body systems. Students investigate the nervous system, including brain anatomy and physiology. A mysterious illness prompts the students to explore the role of genetics in disease. Students investigate how mutations in DNA can cause disease and learn how genetic diseases are passed through families.

### **Lesson 3: Murder Mystery**

This lesson begins with a murder victim found in an elevator and immerses the students in the world of crime scene investigators, medical examiners, and pathologists. Students have the opportunity to work through a virtual autopsy and explore how a suspect may be identified through DNA analysis in the process of solving the crime.