**Subject:** Grade 7 Science

**Lesson:** Send for the Doctor!

**Standard Addressed:** Compare the structures and functions of plant and animal cells, including major organelles. (NC.7.L.1.2)

**Objectives:**
- Students will be able to compare bacteria, plant, and animal cells.
- Students will be able to analyze how organelles within all three cell types are the same and different.

**Materials Needed:**
- Device for showing *Send for the Doctor!* video
- “Comparing Cells” activity

**Outline:**
- Prior to this lesson, students should know that all living things are composed of cells and that there are different organelles in a cell.
- Show the video.
- Discuss the activity prompt and review the diagrams of the three different types of cells.
- Students finish the activity independently or with a partner. (Please note that there are two versions of the activity; one provides more guidance by using sentence starters and the correct number of blanks for student answers.)

**Take It Further:** Students research the history of the microscope and make a timeline showing the invention and improvement of microscopes through the years.

**Cross-Curriculum Connection:** Students design a 3D representation of one of the cell types using only materials that would have been thrown away or recycled.
We learned from our 1802 visit to Salem that epidemics and pandemics were occurring then as they do now. Some of these diseases were caused by viruses, while others were caused by bacteria.

Bacteria are organisms made up of only one cell. Let’s compare bacteria with a plant and an animal cell.

*Use the diagrams below to help you complete the graphic organizer on the next page.*
Comparing Cells, page 2

Student Name: ____________________________ Date: ________________

How are they alike? How are they different?

Animal Cells

How are they alike? How are they different?

Plant Cells

Bacterial Cells

What organelles are found in animal, plant, and bacterial cells?

______________________________  ________________________________,

and __________________________.
Comparing Cells, page 2

Grade 7 Science, Graphic Organizer B

Student Name: ___________________________ Date: __________________

How are they alike? | How are they different?  
Animal Cells | Plant Cells 

What organelles are found in animal, plant, and bacterial cells?
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
Answer Key

Comparing Cells

Grade 7 Science

How are they alike? How are they different?

Animal Cells

Plant Cells

Bacterial Cells

Both have nucleus, nuclear membrane, cytoplasm, mitochondria, ribosomes, cell membrane, and vacuole.

Only plant cells have chloroplasts and cell wall. (May also note that the shapes of the cells are different.)

Both have cell wall, chromosomes, ribosomes, cytoplasm, and cell/plasma membrane.

Only plant cells have nucleus, nuclear membrane, mitochondria, chloroplasts, and vacuole. Only bacterial cells have flagellum and pili. (May also note that cell shapes are different, and that bacterial cells have only a single strand of chromosomes.)

How are they alike? How are they different?

Both have chromosomes, ribosomes, cytoplasm, and cell/plasma membrane.

Only animal cells have nucleus, nuclear membrane, mitochondria, and vacuole. Only bacterial cells have flagellum, pili, and cell wall. (May also note that cell shapes are different, and that bacterial cells have only a single strand of chromosomes.)

What organelles are found in animal, plant, and bacterial cells?

Chromosomes, cytoplasm, and cell/plasma membrane