

LESSON PLAN

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
- "Send for the Doctor!" activity sheet

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 12 ½ minute video, Send for the Doctor! (https://youtu.be/tda1nT4yEAY).
- 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.







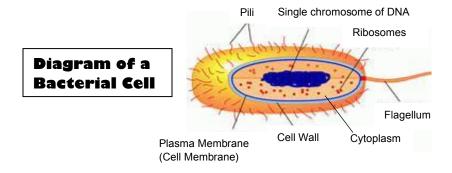
Grade 7 Science

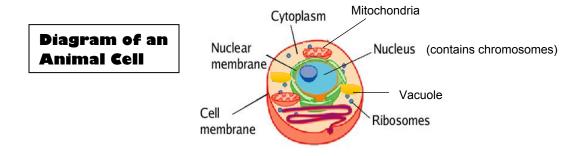
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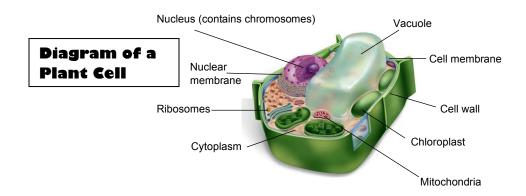
We learned from our 1802 visit to Salem that epidemics and pandemics were occurring then as they do now. Some of these diseases were caused by viruses, while others were caused by bacteria.

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.













Grade 7 Science, Graphic Organizer A

| tudent Name: | | Date: | |
|-----------------------|---------------------------------------|---------------------------------|--|
| How are they alike? | How are they different? | How are they alike? | How are they differen |
| Both have | Only plant cells have and | Both have | Only plant cells have |
| and | | and | and Only bacterial cells have and |
| Animal Cells | Plant (| Cells | Bacterial Ce |
| | How are they alike? | How are they different? | |
| | Both have | Only animal cells have, | |
| | and | and' Only bacterial cells have, | |
| | | and | |
| at organelles are fou | nd in animal, plant, and b | acterial cells? | |
| db | · · · · · · · · · · · · · · · · · · · | | ······································ |







Grade 7 Science, Graphic Organizer B

| Student Name: | | Date: | |
|-------------------------|--------------------------|-------------------------|-------------------------|
| How are they alike? | How are they different? | How are they alike? | How are they different? |
| Animal Cells | Plan | t Cells | Bacterial Cells |
| | How are they alike? | How are they different? | |
| What organelles are fou | nd in animal, plant, and | bacterial cells? | |
| | | | |







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ANSWER KEY

| | How are they alike? | How are they different? | How are they alike? | How are they different? |
|---|--|---|---|--|
| | 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.) |
| A | nimal Cells | Plant | : Cells | Bacterial Cells |
| | | 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



