



# Cell Theory Worksheet

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## Cell Theory Worksheet

Use this worksheet to test your knowledge about the cell theory.

Refer to Now I Wonder Post “Cell Theory Worksheet: Study Guide” for information and help if needed.

Which of the following is the theory that is the unifying foundation of cell biology?  
(Circle the correct answer)

- Binary fission theory
- Nucleoplasm theory
- Cell theory
- Pathogen theory
- Electromagnetic theory
- Germ theory

### What is the cell theory?

- Write your response here.

### Why is cell theory important?

(list at least four (4) reasons)

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### What are the three (3) parts of cell theory?

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## Which is part of cell theory? (select all that apply)

- All known, living organisms are composed of one or more cells.
- Diseases are caused by germs.
- The creation of new cells depends on division of existing cells.
- The cell is the fundamental unit of structure and function in all living organisms.
- Cells are collections of interconnected species.
- Cells take in oxygen and expel carbon dioxide.

## According to the cell theory, which of the following are made of cells? (check all that apply)

- Carbon dioxide
- Skin
- Blood
- Water
- Muscle
- Clay

## Which of the following is not part of cell theory? (circle all that apply)

- All known, living organisms are composed of one or more cells.
- Disease is caused by imbalance in the four fluid humors.
- Material containing pneuma ("vital heat") can create life.
- Life arises from nonliving matter.
- The creation of new cells depends on division of existing cells.
- The cell is the fundamental unit of structure and function in all living organisms.

## According to the cell theory, which describes cells?

- The cell is the fundamental unit of structure and function in living things. All organisms are made up of one or more cells. Cells arise from other cells through cellular division.
- The cell is a tiny, solid structure found in living organisms that functions like a microscopic battery, storing energy for the body's use. They are shaped like small cubes.

## Which statement is one component of the cell theory? (circle the correct answer)

- The microorganism must be found in diseased but not healthy individual.
- Specific germs cause specific diseases.
- Four bodily fluids determine a person's temperament.
- The creation of new cells depends on division of existing cells.

## Which timeline best shows the history of the development of cell theory?

- Nuclei observed in plant, then animal cells.
- Recognition that some organisms are unicellular, while others are multicellular.
- Recognition that cells are "elementary particles of organisms" in both plants and animals.
- Recognition that cells arise from pre-existing cells through division.
- Recognition that some organisms are unicellular, while others are multicellular.
- Nuclei observed in plant, then animal cells.
- Recognition that cells arise from pre-existing cells through division.
- Recognition that cells are "elementary particles of organisms" in both plants and animals.

How did **Robert Hooke** contribute to the cell theory?

What was **Anton van Leeuwenhoek's** contribution to the development of cell theory?

How did **Matthias Schleiden** contribute to the cell theory?

How did **Theodor Schwann** contribute to the cell theory?

How did **Robert Remak** contribute to the cell theory?

How did **Louis Pasteur** contribute to the cell theory?

## Who discovered that all plants are made of cells?

- Louis Pasteur
- Robert Brown
- Rudolph Virchow
- Henri Dutrochet
- Matthias Schleiden
- George Washington

Which invention from the 17<sup>th</sup> century allowed for the development of modern cell theory?

- Microscope
- Gyroscope
- Telescope
- Periscope

Why have improvements in microscopes over time resulted in revisions in the cell theory?

A cell becomes too large to maintain a stable internal environment when  
(circle the correct answer)

- Its volume gets too small.
- Its surface area to volume ratio becomes too great.
- Its surface area gets too big.
- Its surface area to volume ratio becomes too small.

According to cell theory, viruses are considered nonliving because they...

What tenet of cell theory best supports the rationale that viruses are not living?

- Viruses do not reproduce by dividing.
- Viruses do not contain genetic material.
- Viruses are too big to be considered cells.
- Viruses can metabolize.

**EXTRA CREDIT:** Which is a component of the modern cell theory that was not part of the original cell theory? (circle all that apply)

- The structure and function of an organism is the result of the total activity of its individual cells.
- Cells contain DNA and RNA.
- Different organisms coexist and interact within a single cell.
- Energy is transformed from one form to another within cells.
- All cells in organisms of similar species share the same basic chemical composition.
- Cells are interconnected networks.

## Resources Consulted

- Reece, Jane B., Taylor, Martha R., Dickey, Jean L., and Campbell, Neil A. 2006. *Campbell Biology: Concepts and Connections*. 7<sup>th</sup> ed. San Francisco: Pearson Education, Inc.
- Johnson, George B. 2012. *The Living World*. 7<sup>th</sup> ed. New York: The McGraw-Hill Companies, Inc.

**GREAT JOB!!**

**KEEP UP THE GREAT WORK!!**