

EQ: Is a virus a cell?

Biology Student



Comparing Viruses and Cells Foldable

Targeted Skills

organizing, sequencing, compare and contrast

Enduring Understanding

Organisms are composed of systems working together to maintain homeostasis.

Broad Brush Knowledge

infectious disease, immune system, virus, viral cycle

Concepts Important to Know and Understand

Significance of Viruses

Core Objectives

14. Describe how microorganisms affect other organisms.

PURPOSE: Students will read and compare structures and functions of cells and viruses. Students will produce a matchbook-style foldable to organize their comparison of cells and viruses.

MATERIALS: Foldable for Comparing Viruses and Cells, a set of Lytic Cycle Pictures for Virus Foldable, map pencils, scissors, glue stick or tape, pen or pencil, textbook

PROCEDURE:

Part I: Making the Foldable

1. Lay your paper for your foldable on your table with the Virus/Cell Characteristics side up. The scissors symbol (✂) should be at the top of the paper.
2. Faint-dotted lines are fold lines (.....). Darker-dashed lines are cutting lines (---).
3. Folding inward, bring the top of the paper down to meet the 2nd faint-dotted fold line that is 1½ inches from the bottom of the paper. Crease your paper.
4. Folding inward, bring the bottom of the paper up and crease the paper at the line that is 1½ inches from the bottom of the paper. Crease your paper.
5. Open your foldable back up.
6. Use your scissors to cut from the top of the paper down to the 1st horizontal dotted line along the darker-dashed line in the center of the paper.
7. Use your scissor to cut from the bottom of the paper, up to the 2nd horizontal dotted line along the darker-dashed line in the center of the paper.
8. Fold your foldable back on the creased lines.
9. Make your last fold by folding the left side over the right side along the faint-dotted line that runs vertical in the middle of the paper. You will have a miniature book with the title, Comparing Viruses and Cells on the top.

Part II: Completing the Foldable

1. Color your title.
2. Use your reference materials (notes, textbook, etc.) to find sample pictures of viruses and cells. Sketch examples of them in the sections provided.
3. Open up your foldable to the inside and complete the sections on Virus and Cell Characteristics.
4. To complete the section under reproduction for viruses, you will need a Xerox copy of pictures of the lytic cycle.
5. Follow the directions for placing your lytic cycle pictures in your foldable.
6. Complete your foldable by writing the 8 characteristics of living things on the outside of your foldable in the space provided.
7. Use your foldable to answer the conclusion questions below. Answer on notebook paper. Answer in complete sentences and restate the question in your answer. Use notebook paper for answers.

CONCLUSION:

1. Do you think viruses should be considered a form of life? Defend your opinion with evidence.
2. Describe virus replication. What must be involved in order for a virus to reproduce itself?
3. Describe the typical structure of a virus.
4. Discuss ways that viruses disrupt the equilibrium of animal and plant cells. List five diseases that occur in animals, and two diseases that occur in plants that are caused by viruses.
5. You have been diagnosed with the flu. Explain why a doctor will not provide you with a prescription for antibiotics in order to cure your infection.



Cells

Viruses

Living Things Share the Following Characteristics:

- ❖
- ❖
- ❖
- ❖
- ❖
- ❖
- ❖
- ❖

Comparing Viruses and Cells

Structure of Cells

Structure of Viruses

VIRUS CHARACTERISTICS

Reproduction:

Diagram	Lytic Stage & Description

Growth & Development:

Genetic Code:

Obtain & Use Energy:

Response to Environment:

Change Over Time:



CELL CHARACTERISTICS

Reproduction:

Growth & Development:

Genetic Code:

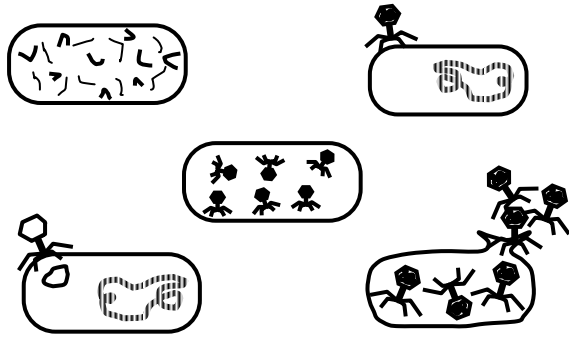
Obtain & Use Energy:

Response to Environment:

Change Over Time:

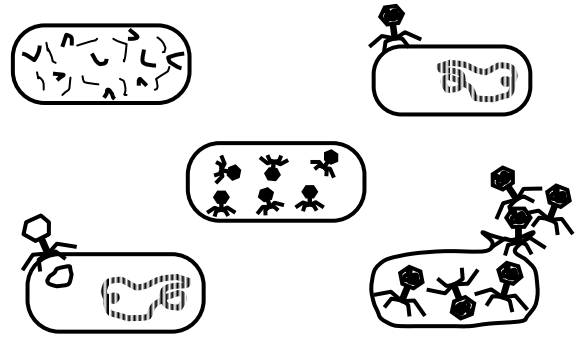
Lytic Cycle Pictures for Virus Foldable

Directions: Cut closely around each of the lytic cycle pictures. Tape or paste them in the correct sequence in your foldable under Reproduction for Viruses on the inside of your foldable. Next to each picture, give a brief description of what is taking place in each step.



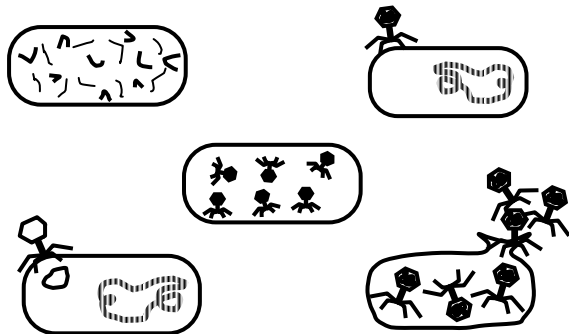
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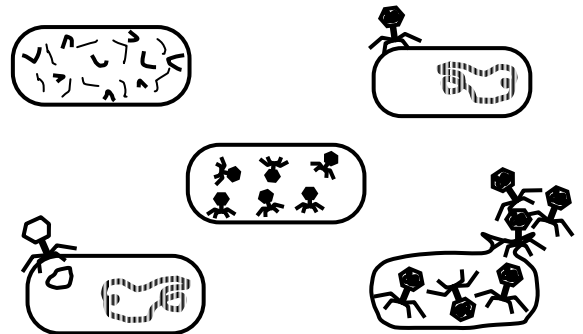
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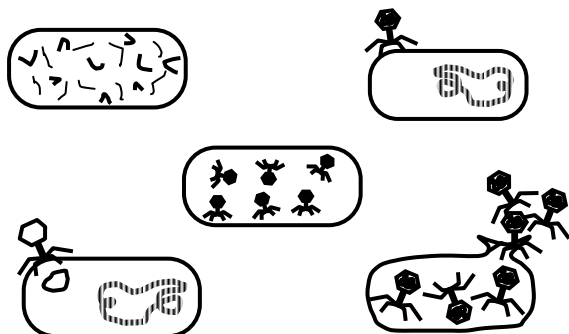
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