

Bacteriophage Word Search  
Outreach Project  
BIO 498  
Group 6  
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## What Are Bacteriophages?

**Bacteriophages**, or phages, are special **viruses**, that unlike the cold or flu can only infect bacteria and not people. Phages exist all over the Earth in all different places, like the rainforest, oceans, and deserts. Phages are the most abundant and **diverse** organisms on the planet. Each kind of phage is **unique**, and can often only **infect** one specific kind of bacteria as their **host**. Phages are made up of two main parts, the head and the **tail**. The head is surrounded by an outer shell known as a **capsid** and contains all of the genetic material or, **DNA**, for the phage. The tail is used to attach to the host bacteria and insert that genetic material in the host to replicate and produce more phages. This can be done in two different ways. The first is the **lytic** life cycle where the phage can infect and replicate inside the host until the host can no longer hold in the replicated phages and bursts open allowing all of the new phages to come out and find hosts of their own. The second lifecycle does not cause the host to burst immediately like in the lytic life cycle, rather after infection the phage allows the host to live longer and produce more phages inside before finally releasing them all later. This is called the **lysogenic** life cycle. Both the lytic and lysogenic life cycles allow for the growth and survival of the phage.

## Glossary

1. Bacteriophage: a virus that infects and reproduces inside bacteria
2. Capsid: the coat or shell of a virus particle
3. Diverse: having a great deal of variety
4. DNA: deoxyribonucleic acid, and the genetic information found in most phages
5. Host: the organism in which the virus lives and replicates
6. Infect: attach to a host causing harm
7. Lysogenic: one of two cycles of viral reproduction which allows the host to live and reproduce normally
8. Lytic: one of the two cycles of viral reproduction which causes the destruction of the infected cell
9. Tail: A structure that acts as a connector between the phage head and host and allows the genetic material to travel from the phage to the host
10. Unique: phage variability in size, shape, and host
11. Viruses: an infectious agent that can only replicate inside of a host

## Instructions

Find the eleven glossary terms in the word search on the back of this worksheet. All terms are written in the forward direction and can be found diagonally, horizontally, or vertically.

# What Are Bacteriophages

V I R U S E S Y L L V V R W P  
R L N A S V R F I Y L A O E E  
E O Y Q S B C W J S I J E M P  
V N K R J A N A N O A S Q Y U  
P F F Q O C K Q H G R T V O F  
E V T S C T H F I E E A L T H  
M O A S X E X D V N J I H Q Y  
Z H L Y P R K I V I F L R H L  
B F P G N I D H X C Y E C O Y  
S U J L X O O H D N A S C S T  
F N U M C P F L K P W P W T I  
Q I G S W H V Y T H S E S O C  
I Q T X V A M C B W U S P I A  
D U O N R G P B H X S V Y Z D  
D E B T T E C N V J R V L Y M

BACTERIOPHAGE  
CAPSID  
LYTIC  
TAIL  
DNA  
VIRUSES  
LYSOGENIC  
HOST  
DIVERSE  
UNIQUE  
INFECT

Answer Key

## What Are Bacteriophages

V I R U S E S Y L L V V R W P  
R L N A S V R F I Y L A O E E  
E O Y Q S B C W J S I J E M P  
V N K R J A N A N O A S Q Y U  
P F F Q O C K Q H G R T V O F  
E V T S C T H F I E A L T H  
M O A S X E X D V N J I H Q Y  
Z H L Y P R K I V I F L R H L  
B F P G N I D H X G Y E C O Y  
S U J L X O O H D N A S C S T  
F N U M C P F L K P W R W I  
Q I G S W H V Y T H S E S O C  
I Q T X V A M C B W U S P I A  
D U O N R G P B H X S V Y Z D  
D E B T T E C N V J R V L Y M

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