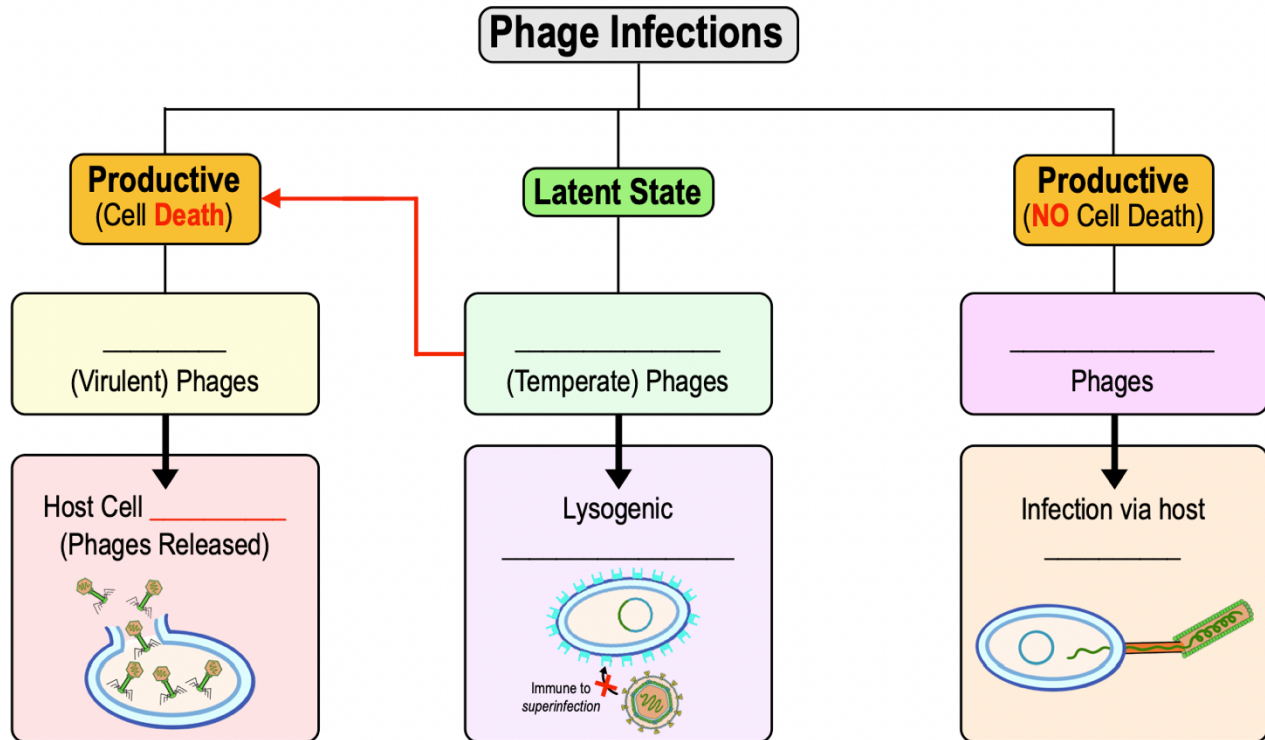


## CONCEPT: INTRODUCTION TO BACTERIOPHAGE INFECTIONS

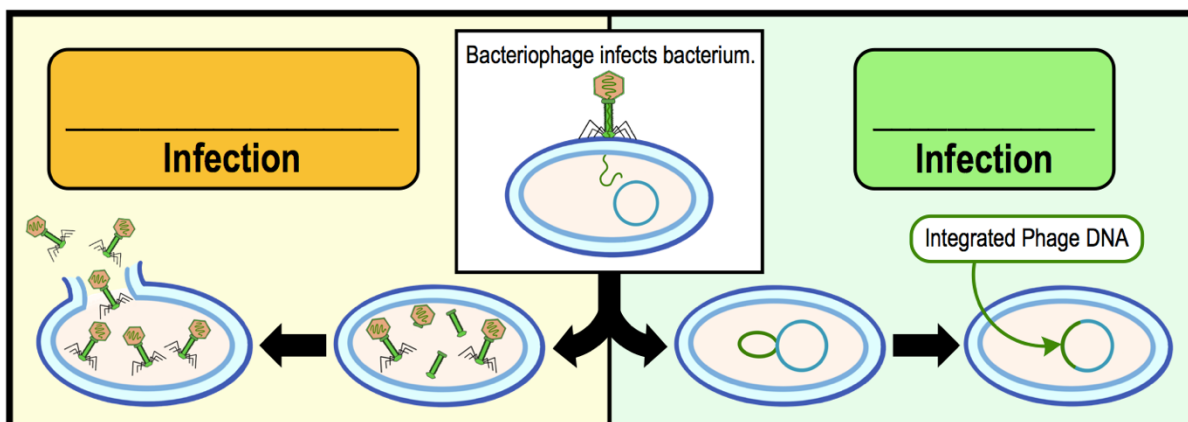
- **Recall: Bacteriophages (Phages)** are viruses that infect *bacterial* cells & serve as a vehicle for horizontal gene transfer.
  - Phage infections can occur in a variety of ways.

### Map of Lesson on Bacteriophage Infections



### Productive vs. Latent State Infections

- There are \_\_\_\_\_ main types of phage infections:
  - 1) **Productive:** new phage particles are \_\_\_\_\_.
    - Could *kill/lyse* cell when releasing viruses, OR host cell does *not* die and continually *releases* viruses.
  - 2) **Latent State:** viral genome “silently” *integrates* into host chromosome but does \_\_\_\_\_ produce new phages.
    - Integration can change \_\_\_\_\_ of host cell & viral genome replicates as host cell multiplies.



## CONCEPT: INTRODUCTION TO BACTERIOPHAGE INFECTIONS

**PRACTICE:** Some viruses, such as human herpesvirus 1, infect a cell without causing symptoms; these are called:

- a) Latent viruses.
- b) Phages.
- c) Lytic viruses.
- d) Slow viruses.

### Lytic & Lysogenic Bacteriophages

- 1) **Lytic (Virulent) Phages:** cause a \_\_\_\_\_ infection that *kills* the infected host cell by *cell lysis*.
- 2) **Lysogenic (Temperate) Phages:** can carry out a productive \_\_\_\_\_ a latent state infection.
  - ☐ Phage DNA can \_\_\_\_\_ into host chromosome creating a **prophage** (integrated phage DNA).
  - ☐ **Lysogen:** a \_\_\_\_\_ carrying a prophage.
  - ☐ A prophage can remain integrated indefinitely, or it can be *excised* to begin a lytic/*productive* infection.

