CONCEPT: THE HERSHEY-CHASE EXPERIMENT

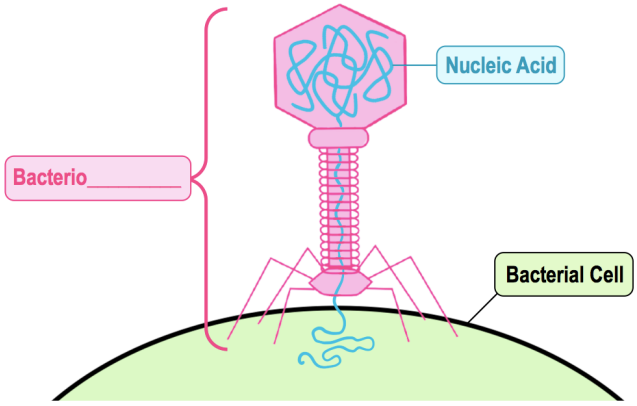
●In 1952, the scientists Hershey & Chase used _____ to confirm that *DNA* is the genetic material.

Bacteriophages

●**Bacteriophage (Phage):** a _____ that replicates itself by infecting & "hijacking" *bacteria*.

□ Consists of an *external* _____ coat surrounding a *nucleic acid* _____.

EXAMPLE: Phage infecting a bacterial cell.

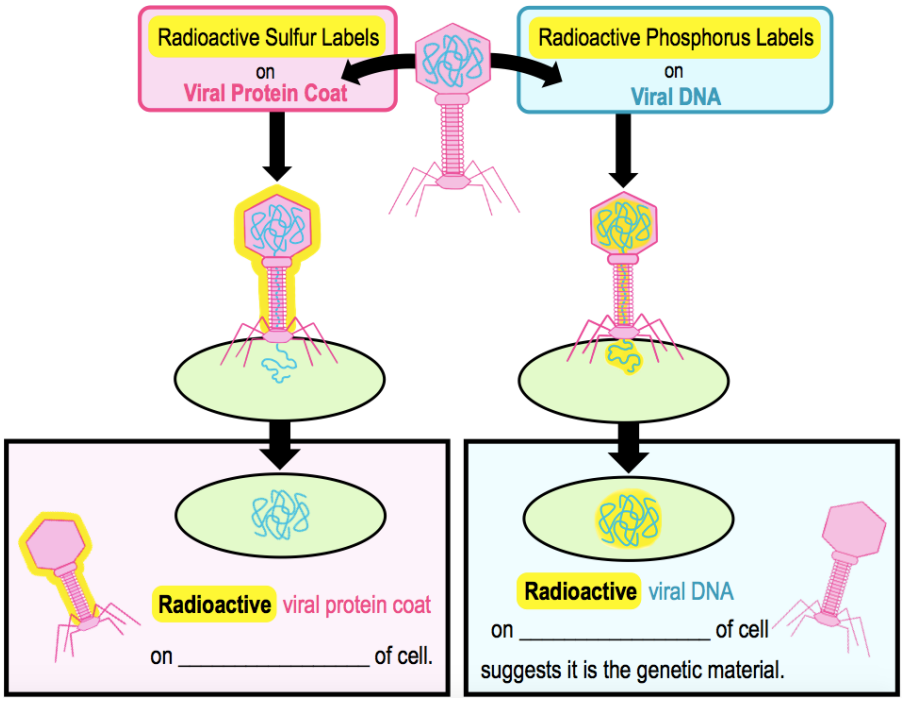


The Hershey-Chase Experiment

●Hershey & Chase showed that *only* viral _____ (not viral protein) *enters* bacteria during a bacteriophage infection.

□ This *confirmed* that *DNA* (not protein) is the _____ *material*.

EXAMPLE: The Hershey-Chase Experiment.



CONCEPT: THE HERSHEY-CHASE EXPERIMENT

PRACTICE: Hershey and Chase set out to determine what molecule served as the unit of inheritance. Which molecular component of the T2 virus actually ended up inside the cell?

a) The protein coat.
b) RNA.
c) Ribosome.
d) DNA.

PRACTICE: Choose the *incorrect* statement about the results of the Hershey-Chase Experiment.

a) Radioactive labeled protein was found in the bacteria.
b) Radioactive labeled DNA was found in the bacteria.
c) DNA was labeled with radioactive phosphorus.
d) Protein was labeled with radioactive sulfur.
e) Radioactive labeled protein was found outside of the bacteria.

PRACTICE: Which of the following facts did Hershey and Chase make use of in trying to determine whether DNA or protein is the genetic material?

a) DNA contains sulfur, whereas protein does not.
b) DNA contains phosphorus, whereas protein does not.
c) DNA contains nitrogen, whereas protein does not.
d) DNA contains purines, whereas protein includes pyrimidines.