

12.1 Identifying the Substance of Genes

Bacterial Transformation

1. What happened when Griffith injected mice with the pneumonia-causing strain of bacteria that had been heat-killed?

2. What happened when Griffith injected mice with a mixture of heat-killed, pneumonia-causing bacteria and live bacteria of the harmless type?

3. What was the purpose of Oswald Avery's experiments?

4. What experiments did Avery do?

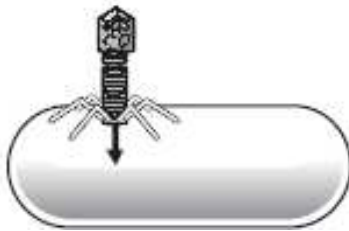
5. What did Avery conclude?

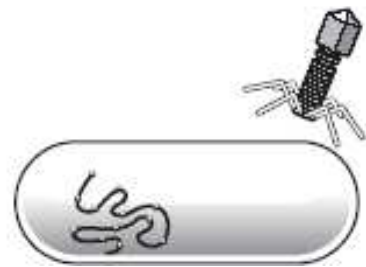
Bacterial Viruses

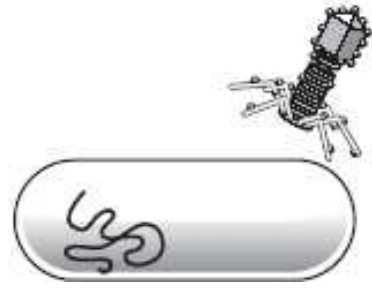
6. Fill in the blanks to summarize the experiments of Hershey and Chase. (Note: The circles represent radioactive labels.)



_____ with
radioactive label







_____ with
radioactive label

7. What did Hershey and Chase conclude? Why?

8. How did Hershey and Chase confirm Avery's results?

VISUAL ANALOGY

9. DNA is like a book titled *How to Be a Cell*. Explain why that title is appropriate for each of DNA's three functions.

a.

b.

c.

