

Name: _____ Period: _____

Greatest Discoveries with Bill Nye: Genetics

Directions: Answer the following questions in the spaces provided as you watch the video.

Great Discovery: DNA carries Genetic Material

1. What organism were Hershey and Chase working with?
2. How does a bacteriophage attack a bacteria cell?
3. What are the two simple components that make up a virus?
4. What did Hershey and Chase determine to be carrying the genetic material?

Great Discovery: The Double Helix

5. Which scientists were involved in the discovery of the structure of the DNA molecule (HINT: there are four mentioned in this section)?
6. How many base chemicals are in a DNA molecule?
7. What is the name for the shape of a DNA molecule?
8. What type of bonds hold the bases together in a molecule of DNA?
9. Why was Rosalind Franklin not awarded the Nobel Prize for her contribution to the discovery of the structure of DNA?

Great Discovery: Messenger RNA

10. Cells that produce lots of proteins may contain lots of what special chemical?
11. How many strands is an RNA molecule?
12. What is produced in a bacteria cell soon after viral RNA appears in the cell?

Great Discovery: The Genetic Code

13. How many total amino acids are in your body that can be used in the production of a protein?
14. How many bases code for a triplet?
15. What information does RNA contain?
16. How many triplets are in the entire DNA genetic code?
17. How many DNA codes are used by life on Earth?

Great Discovery: Restriction Enzymes

18. List one use for recombinant DNA research.
19. What was Alec Jeffreys' remarkable discovery?