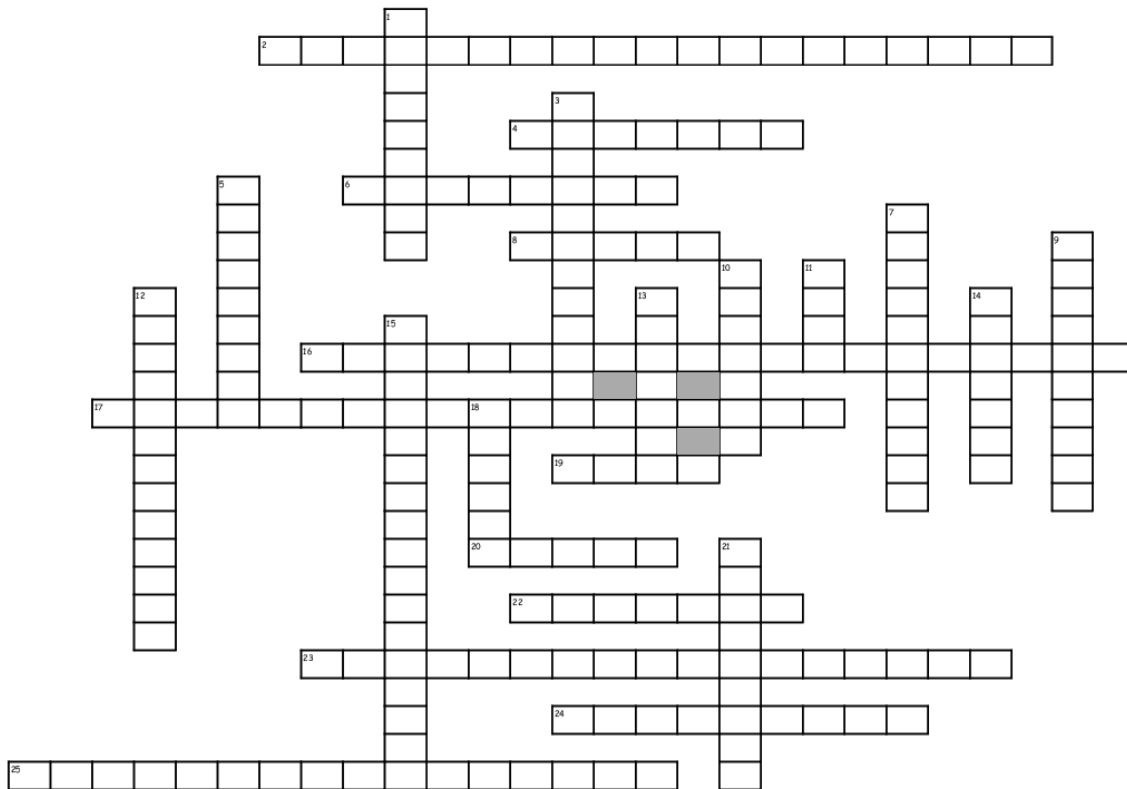


ACTIVITY 4

RECOMBINANT DNA

Part I. Directions: Read and analyze the words or group of words on Across and Down Column below. Fill the Crossword Puzzle with correct answer that describes each statement in each column.



Across

2. An organism that is generated through genetic engineering
4. body's chemical messengers and are part of the endocrine system
6. the passing on of physical or mental characteristics genetically from one generation to another
8. Small infectious agent that replicates only inside the living cells of other organisms
16. DNA
17. Refers to the direct manipulation of DNA to alter an organism's characteristics in a particular way.
19. are composed of DNA, a molecule in the memorable shape of a double helix, a spiral ladder
20. A rod-shaped bacterium that is commonly found in the lower intestine of warm-blooded organisms
22. biological preparation that provides active acquired immunity to a particular disease
23. an enzyme produced chiefly by certain bacteria, having the property of cleaving DNA molecules at or near a specific sequence of bases
24. a member of a large group of unicellular microorganisms that have cell walls but lack organelles and an organized nucleus, including some that can cause disease

Down

1. Like bacteria cell, but it has nucleus
3. Genetic engineering, sometimes called genetic _____.
5. the set of observable characteristics of an individual resulting from the interaction of its genotype with the environment.
7. a complex organic substance present in living cells, especially DNA or RNA, whose molecules consist of many nucleotides linked in a long chain
9. a substance that is toxic to plants and is used to destroy unwanted vegetation
10. a hormone made by the pancreas that allows your body to use sugar from carbohydrates in the food that you eat
11. basic unit of life
12. Technology based on Biology
13. are essential to the functioning of our cells
14. a genetic structure in a cell that can replicate independently of the chromosomes
15. used to cut DNA into pieces
18. the complete set of genes or genetic material present in a cell or organism
21. The first company to focus on genetic engineering

Part II.

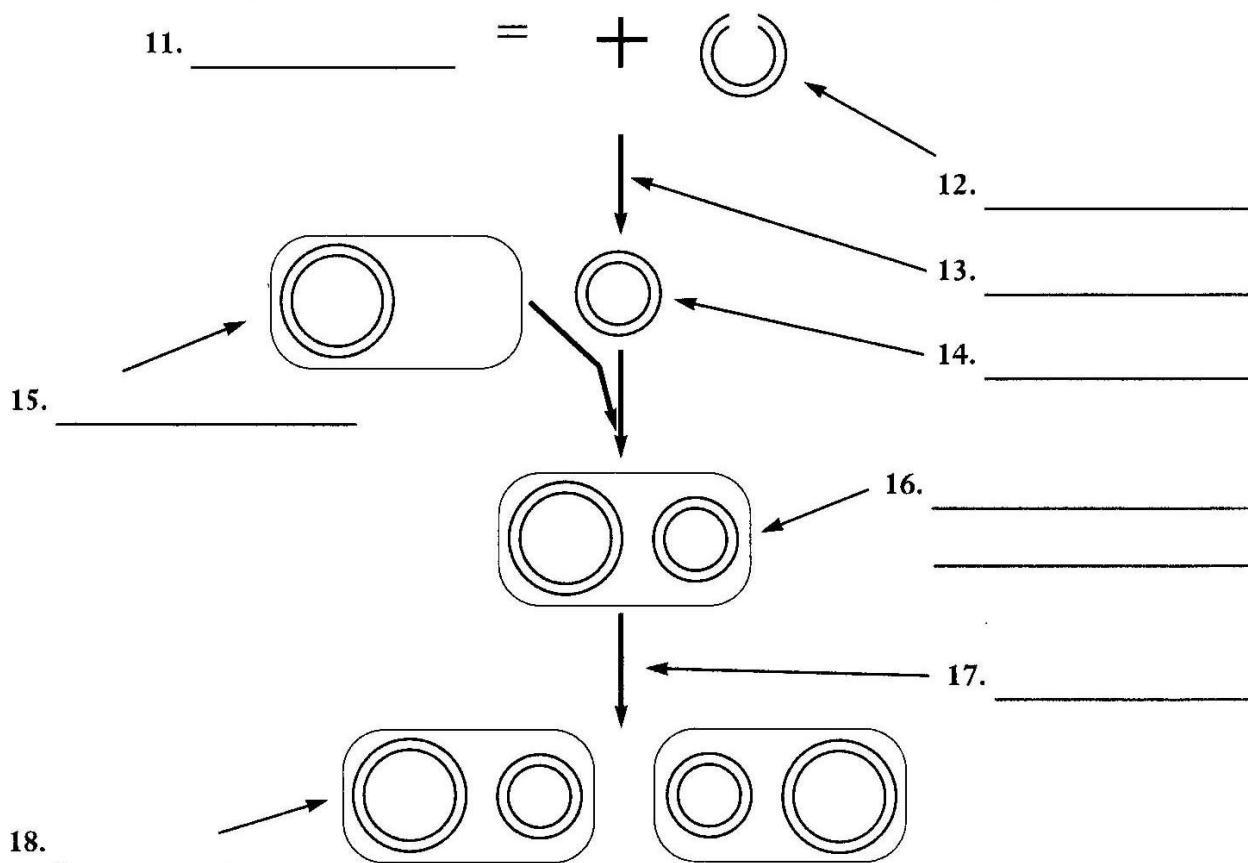
Label the diagram. Use these choices:

recombinant DNA
plasmid-containing bacterium

cell division
clone

DNA fragment
bacterial cell (host)

gene splicing
plasmid (vector)



For each answer given below, write an appropriate question.

19. **Answer:** Because a foreign piece of DNA can be introduced into a bacterial cell and integrated into that cell's DNA so completely that the foreign DNA is replicated as if it were bacterial DNA

Question: _____

20. **Answer:** Pure DNA for use in genetic studies and the ability to produce a gene product in large quantities

Question: _____

Source:

<https://www.saubhaya.com/dna-makeup-crossword-clue/>

<https://promotiontablecovers.blogspot.com/2017/03/restriction-enzymes-worksheet-answers.html>