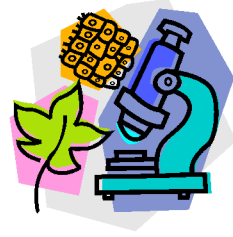


Roland-Story Biology Class
Chapter 20 Study Guide
Viruses and Bacteria



Name _____

Section: Viruses

Read each question, and write your answer in the space provided.

1. What properties of life does a virus lack?

2. How did scientists studying the tobacco mosaic disease know that the infectious agent must be smaller than a bacterium?

3. What property of the infectious agent showed that it was a chemical?

In the space provided, write the letter of the description that best matches the term or phrase.

- _____ 4. capsid
- _____ 5. envelope
- _____ 6. glycoprotein
- _____ 7. bacteriophage

- a. a protein with an attached carbohydrate molecule
- b. the protein coat of a virus
- c. a virus that infects bacteria
- d. a membrane that surrounds the capsid of some viruses

In the space provided, explain how the terms in each pair are related to each other.

8. lytic cycle, lysogenic cycle

9. provirus, pathogen

10. HIV, AIDS

11. viruses, cancer

12. prion, viroid

Section: Bacteria

In the space provided, write E if the characteristic describes eukaryotes or B if the characteristic describes bacteria.

_____ 1. have no internal compartments

_____ 2. cell size is usually about 1 mm in diameter

_____ 3. can exist in the form of multicellular organisms

_____ 4. chromosomes are linear pieces of DNA associated with proteins

_____ 5. reproduce by binary fission

_____ 6. flagella are composed of a single fiber of protein that spins like a corkscrew

_____ 7. can perform various types of anaerobic metabolic activities

Complete each statement by underlining the correct term or phrase in the brackets.

8. Escherichia coli are [Gram-negative / Gram-positive] eubacteria.
9. Conjugation is a process carried out by [bacteria and eukaryotes / eukaryotes only].
10. Escherichia coli have [pili and flagella / only flagella] as appendages.
11. Chemicals that interfere with the life processes of bacteria are called [antibiotics / toxins].

In the space provided, write the name of the group—photosynthetic, chemoautotrophic, or heterotrophic—to which each of the following types of bacteria belongs.

- _____ 12. cyanobacteria
- _____ 13. purple sulfur bacteria
- _____ 14. bacteria that perform nitrification
- _____ 15. Rhizobium

Read each question, and write your answer in the space provided.

16. What resources in your body do bacteria on or in your body compete for?
17. What is the name of the bacterium that causes Lyme disease? How is Lyme disease transmitted?
18. What causes tooth cavities?

19. What are the two basic ways that bacteria cause disease?

Complete each statement by writing the correct term or phrase in the space provided.

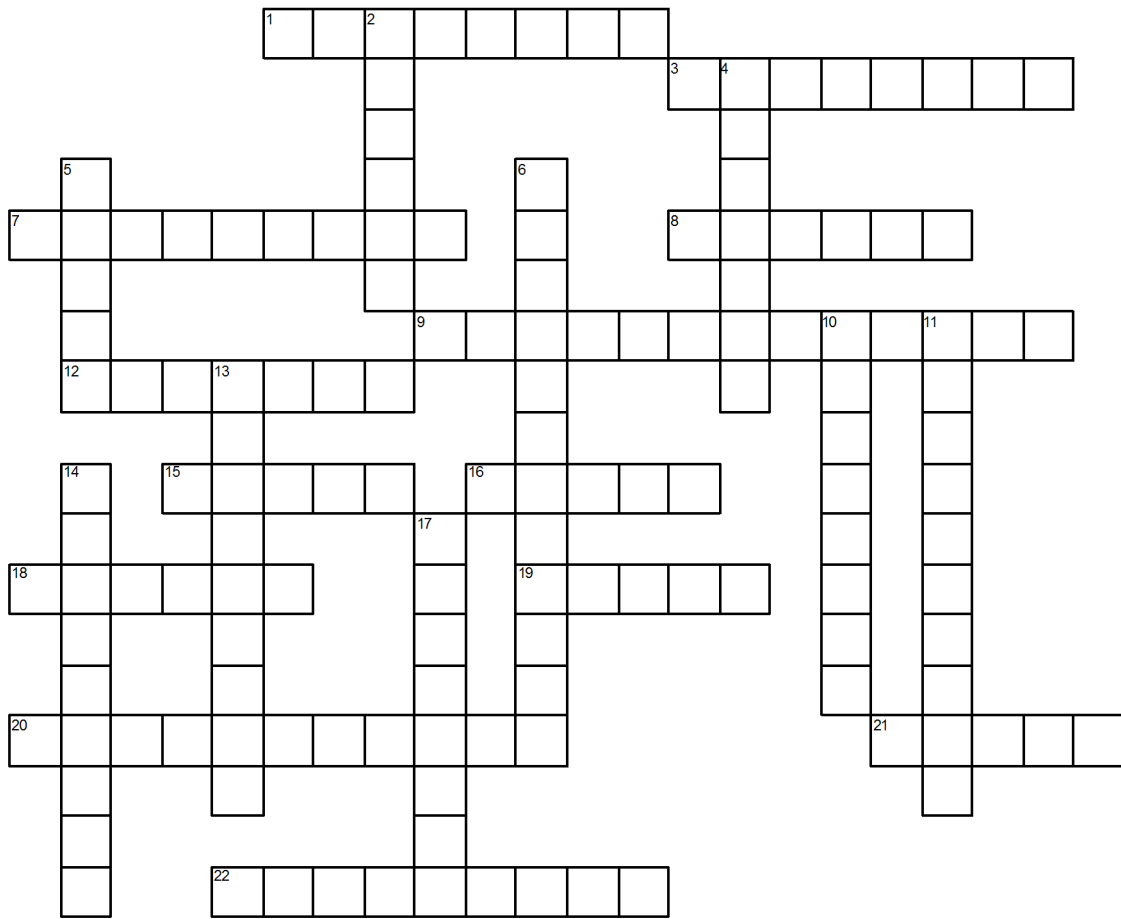
20. Alexander Fleming noticed that a certain fungus secreted a substance called _____ that was toxic to bacteria.

21. Antibiotics cannot be used to cure diseases caused by _____.

22. Different types of bacteria called _____ species can make useful acetone or butanol.

23. Petroleum-metabolizing bacteria are used to help clean _____ spills.

Crossword Puzzle of Vocabulary words:



www.CrosswordWeaver.com

Clues are on the next page

ACROSS

- 1 a membranelike layer that covers the protein coat (capsid) of some viruses
- 3 a bacterium that is shaped like a rod
- 7 describes viral replication in which a viral genome is copied as a provirus without destroying the cell that the virus has attacked
- 8 a type of bacterium that is shaped like a sphere
- 9 a virus that infects bacteria
- 12 a protective layer of sugars around the cell wall of some bacteria
- 15 a short, thick structure that allows a bacterium to attach to another bacterium
- 16 a type of protein that can infect cells; prions do not contain DNA or RNA
- 18 a protein coat that surrounds the nucleic acid core in a virus
- 19 a substance that is made by one living thing and that is poisonous to other living things
- 20 in prokaryotes, algae, and fungi, a type of sexual reproduction in which two cells join for a short time to recombine their genes
- 21 a nonliving particle made of a nucleic acid and a protein coat; it can infect and destroy a cell
- 22 a thick-walled protective spore that forms inside a bacterial cell and resists harsh conditions

DOWN

- 2 a small strand of RNA that can infect and cause disease in plants
- 4 describes a process that requires oxygen
- 5 describes viral replication that results in the killing of the cell that the virus attacks and the release of many new virus particles
- 6 a protein to which carbohydrate molecules are attached
- 10 a virus, microorganism, or other substance that causes disease
- 11 a substance that can slow down the growth of or kill some microorganisms
- 13 a bacterium that is shaped like a spiral
- 14 describes a process that does not require oxygen
- 17 viral DNA that is inserted into the chromosome of the cell that has been attacked by a virus