

SECTION 14-1 REVIEW

BIOGENESIS

VOCABULARY REVIEW Define the following terms.

1. biogenesis _____
2. spontaneous generation _____
3. vital force _____

MULTIPLE CHOICE Write the correct letter in the blank.

- _____ 1. One of the observations that led people to think that life could arise from nonliving things was that
 - a. maggots turned into oval cases from which flies eventually emerged.
 - b. fish appeared in ponds that had been dry the previous season.
 - c. large fish developed from smaller fish, which hatched from fish eggs.
 - d. fish grew larger by eating other living things, such as flies.
- _____ 2. The purpose of the netting in Redi's experiment was to prevent
 - a. maggots from leaving the jar.
 - b. air from leaving the jar.
 - c. adult flies from entering the jar.
 - d. bacteria from entering the jar.
- _____ 3. In the experimental group in Spallanzani's experiment, the
 - a. broth remained clear.
 - b. flask contained no broth.
 - c. broth was not boiled.
 - d. flask was not sealed.
- _____ 4. Spallanzani's opponents disagreed with his conclusion that microorganisms from the air contaminated the boiled meat broth. They argued that Spallanzani
 - a. heated the flasks too long, killing the microorganisms in the broth.
 - b. heated the flasks too long, destroying the "vital force" in the air inside the flasks.
 - c. waited too long before he sealed the flasks after heating them.
 - d. accidentally contaminated the broth when he sealed the flasks.
- _____ 5. In Pasteur's experiment, the function of the curved neck on the flask was to prevent
 - a. air from entering the body of the flask.
 - b. air from leaving the body of the flask.
 - c. solid particles from entering the body of the flask.
 - d. broth from spilling out of the flask.

SHORT ANSWER Answer the questions in the space provided.

1. What observations made in the 1600s and 1700s led some people to believe that there was a "vital force" in the air? _____

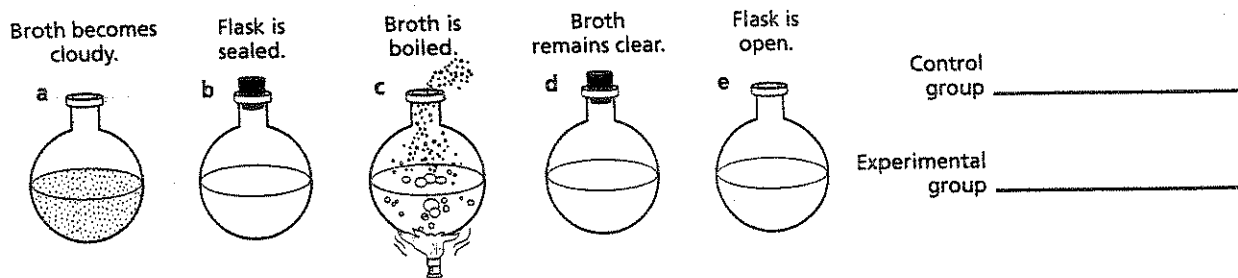
2. Why did Spallanzani boil the broth in his experiment? _____

3. How did Pasteur's experiment differ from Spallanzani's experiment? _____

4. How did Pasteur's experiment answer the objections raised by supporters of the "vital force" hypothesis? _____

5. **Critical Thinking** How might the believers in spontaneous generation have disputed Redi's conclusion if Redi had not used a control group? _____

STRUCTURES AND FUNCTIONS The diagrams below illustrate steps in the control and experimental groups of Spallanzani's experiment. In the spaces provided, list the steps in each group in their proper order. A step may be used in more than one group.



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