**Biology 112: Section 1-2 – How Scientists Work – Page 8 to 14**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** **Date: February 1, 2018**

**NOTE: Vocabulary List and Key Concept**

**Page 8 - 14**

1. How do scientist test hypothesis?
2. How did Aristotle try to explain his observation of the world?
3. In designing an experiment the process of testing a hypothesis include 5 steps. Name them.
4. What is meant by the term spontaneous generation?
5. What was Francesco Redi’s hypothesis about the appearance of maggots?
6. Indicate the difference between a manipulated variable and a responding variable in an experiment.
7. In Redi’s experiment, identify the following:
8. Controlled variables
9. Manipulated variable
10. Responding variable
11. Give examples of how records of observations are kept (recording and analyzing results).
12. How do scientists use the data from an experiment?
13. Why do scientists repeat experiments?
14. Page 11 – Read Needham’s Test of Redi’s Findings
15. Why did Needham claim spontaneous generation was possible?
16. What did he use in his experiment to test his theory?
17. Read Spallanzani’s Test of Redi’s Findings – How did his experiment differ from Needham’s experiment?
18. Who disproved the hypothesis of spontaneous generation?
19. Where do all living things come from?
20. How did Pasteur’s experiment differ from all the other scientists?
21. What was the impact of Pasteur’s work (name three)?
22. When is it not possible to do an experiment? Give an example.
23. How does a scientific theory develop?
24. Is a theory considered the absolute truth?
25. What is the difference between a fact and a hypothesis?
26. How do hypotheses, observations and conclusions relate to theories?

**Redi and Pasteur’s Experiments:** **Phschool.com – Code: cbp-1012**

**Multiple Choice:**

1. In an experiment, the variable that is deliberately changed is called the:
2. control.
3. manipulated variable.
4. responding variable.
5. constant control.
6. The mistaken belief that living organisms can arise from nonliving matter is called:
7. biogenesis.
8. Pasteur's theory.
9. spontaneous generation.
10. Spallanzani’s hypothesis.
11. Which of the following was the manipulated variable in Redi’s experiment?
12. The kind of meat used.
13. The temperature the jars were kept at.
14. The gauze covering on some jars.
15. the kind of fly that visited the jars.
16. A well-tested explanation that unifies a broad range of observations is a(n):
17. hypothesis.
18. variable.
19. control.
20. theory.
21. A scientific explanation does not become a theory until:
22. a majority of scientists agree with it.
23. it has been supported by evidence from numerous investigations and observations.
24. it is first proposed as an explanation.
25. it is published in a textbook.

**Chapter Questions**: **Chapter 1 Assessment – Page 31, #4 – 7, #14 - 20, and #22**

**Worksheets: Section 1-2 - Value 27**