

BIO 130 (General Biology)

Worksheet 2: The Origin of Life (CH. 19) (Total Points: 100)

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- A. State the concept of spontaneous generation. (5 pts)
The concept of spontaneous generation is that life originated from Nonlife. It was widely accepted until the 17th century and prevailed for over 2000 years.

B. Who proposed this concept? (5 pts)
The concept was proposed by Aristotle from the 384 to 322 B.C.
- A. State the concept of Panspermia. (5pts)
The concept of Panspermia is that life originates from pre-existing life and that living things were transported to earth to populate the earth.

B. Who proposed this concept? (5pts)
The concept was proposed by Swedish scientist Svante Arrhenius in the early 1900's.
- Describe the concept of biogenesis. (10pts)
The concept of Biogenesis is that life originates from pre-existing life.
- Describe briefly the chemical evolution of life on earth. (10pts)
The Random combinations of inorganic compounds, under the influence of strong ultraviolet light from the sun, resulted in the formation of extremely complex organic (carbon containing) compounds.

Evaluate & draw Conclusion:

Study Redi's Experiment and answer the following questions that follow.

Redi's Experiment

In 1668, Francesco Redi, an Italian physician, performed an experiment that challenged the concept of spontaneous generation. He set up a controlled experiment to test the hypothesis that maggots arose spontaneously from rotting meat (figure 19.1). He used two sets of jars that were identical except for one aspect. Both sets of jars contained decaying meat, and both were exposed to the atmosphere. However, one set of jars was covered by gauze while the other was uncovered. Redi observed that flies settled on the meat in the open jars, but the gauze blocked their access to the meat in the covered jars. He found that maggots appeared on the meat in the uncovered jars but not on the meat in the covered ones.

Questions from Redi's experiment

1. What hypothesis was Redi testing? (State the hypothesis in question form) (10pts)

Redi was testing to see if life (maggots) originated from nonlife (rotting meat).

2. Were both groups (experimental & control) exposed to air? (10pts)
No both groups weren't exposed to air, only the only of the jars was exposed.
3. What was the variable? (10pts)
The variable was the gauze covering one of the jar openings.
4. Where did the maggots come from in the control group? (10pts)
The maggots came from the meat being exposed to oxygen.
5. Did Redi's experiment support spontaneous generation? (10pts)
Yes, Redi's experiment supported spontaneous generations because life came from nonlife.
6. Which concept did this experiment support? (10pts)
This experiment supports the concept of Biogenesis because life originated from pre-existing life.