

BIOLOGY

Choose two writing assignment topics, along with their question sets, from the following list for each week we are gone from school. Use the writing assignment template that we distributed in class. You can answer the questions in the empty area at the bottom of the template page. Pay close attention to the rubric that was distributed with your template packet.

1. TOPIC: Explain the contributions of Watson, Crick, Franklin, Wilkins, and Chargaff in the discovery of the structure of DNA.

QUESTION SET 1 a) List the three parts to a nucleotide.
 b) What would the complementary strand to DNA sequence of A-C-C-T-G-T-G-A-C?

2. TOPIC: Describe how DNA Replication occurs.

QUESTION SET 2 a) How are replication errors corrected?
 b) Why is DNA replication necessary?

3. TOPIC: Describe the steps in transcription as it relates to re-writing the information of DNA into an RNA molecule.

QUESTION Set 3 a) Describe tRNA.
 b) Describe mRNA.

4. TOPIC: Describe the argument that Spallanzani's experiment failed to disprove spontaneous generation and explain how Pasteur's experiment addressed these issues.

QUESTION SET 4 a) What does the term spontaneous generation mean?
 b) Briefly describe Redi's Experiment.

5. TOPIC: Describe the major steps in the formation of the Earth, as reconstructed by modern scientists.

QUESTION SET 5 a) What compounds did Oparin believe was in the Earth's early atmosphere?
 b) Compare and contrast microspheres and coacervates.

6. TOPIC: Explain the theory of endosymbiosis.

QUESTION SET 6 a) Describe three major scientific inferences about the first living cells on earth.
 b) What events led to the development of aerobic respiration?

7. TOPIC: Describe how Aristotle's and Linnaeus's classification systems for organisms were similar.

- QUESTION SET 7
- a) List the six kingdoms.
 - b) List the seven levels of Linnaeus's classification hierarchy from most general to most specific.

8. TOPIC: Biologists think that there may be millions of undescribed and unclassified species on Earth. Why might so many species still be not described or unclassified today?

- QUESTION SET 8
- a) What criteria did Linnaeus use to classify organisms?
 - b) Define the term phylogenetic diagram.

9. TOPIC: Compare and contrast asymmetry, radial symmetry and bilateral symmetry body plans in organisms.

- QUESTION SET 9
- a) Compare the structure of exoskeletons and endoskeletons.
 - b) Compare a closed circulatory to an open circulatory system.

10. TOPIC: Compare and contrast acelomates, pseudocoelomates and coelomates in regards to their body cavities.

- QUESTION SET 10
- a) Describe a blastula.
 - b) Describe a gastrula.