Lesson 1 – Learning From Animals

Summative Assessment Quiz

1. In which period of history was the earliest documented animal research performed?

A. 19th century
B. Middle Ages
C. Renaissance
D. Ancient Greece

2. What is the primary purpose of animal research?

A. Find cures for diseases
B. Use animal models to test scientific hypotheses
C. Scientific curiosity
D. Avoid ALL testing drugs and surgical procedures on humans.

3. Which scientist used animal research to develop a vaccine for rabies?

A. Francis Bacon
B. René Descartes
C. Louis Pasteur
D. William Harvey

4. What is the primary area of research for which the fruit fly (*Drosophila melanogaster*) is used?

A. Genetics
B. Surgical procedures
C. Pharmacology
D. Neurology

5. Which animal would be most appropriate for investigating possible adverse reactions to a new vaccine that prevents a human disease?

A. Chicken
B. Mouse
C. Fruit fly
D. Zebrafish

6. Choose from the word list to complete the passage correctly.

Louis Pasteur, Neil DeGrasse Tyson, Marie Curie, cholera bacteria, blood plasma, anti-viral drugs, membrane, immune, skeletal, urinary, wing muscle, ovaries, tumors

One animal that has provided significant advances in biomedical research is the chicken. For example, the scientist _____ created a vaccine by inoculating chickens with _____. The chicken egg is an ideal tool to investigate the biology of cancer. The embryo naturally lacks a strong _____system. This enables researchers to implant both normal and cancer tissues in the _____underlying the eggshell. In this way, scientists can compare experimental and control treatments to investigate the growth of _____.

7. Imagine that it's 1936. You are the chief chemist and pharmacist at the S.E. Massengill Company. You receive a report of a dramatic increase in demand for the antibacterial drug sulfanilamide. You've been instructed to improve the formulation with the aim of increasing sales. Order the following steps to provide a safe formulation of the drug.

A. Conduct animal tests for toxicity
B. Research suitable flavorings
C. Test for flavor, appearance, and fragrance
D. Review results and refine new formulation
E. Determine that diethylene glycol is a solvent for sulfanilamide
F. Compound the formulation for shipping

Step 1_____ Step 2_____ Step 3_____ Step 4_____ Step 5_____ Step 6_____

8. Write a short passage citing evidence (with at least one example) of why animal testing is a necessary part of biomedical research.