

Chapter One Study Guide
Introduction to AP (1/2026)

1. What is the definition of anatomy? What is the definition of physiology? Why do we study anatomy and physiology together?
2. What is histology?
3. What was the purpose for developing the scientific method? What is the first step in the scientific method?
4. What is the purpose of science?
5. What is the difference between a scientific fact, a hypothesis, a law of nature, and a theory? May a theory change over time? Explain.
6. What uses mathematics to explain why something happens? What allows us to make predictions, tells us how something happens, and guides us in designing new scientific research?
7. Is there value in a hypothesis if the experiment fails? Explain using a flashlight.
8. What are the steps in the hierarchy of complexity? What steps are between the smallest unit of life?
9. What is a reflex arc? What are the three components of a reflex arc?
10. Is a reflex controlled by the brain? Significance?
11. What is the simple definition of homeostasis? Draw a picture to illustrate homeostasis in a human system.
12. What are the three components of a feedback loop? What is the function of a stimulus?
13. What brain structure maintains homeostasis? What is this structure's nickname? What two systems are used to adjust homeostasis?
14. What are the two types of feedback loops used to control homeostasis? What happens when homeostasis fails? Give three examples of each type of feedback loop? What feedback loop is more dangerous? Explain
15. What is stress not? What will stress cause? What will stress do to your homeostasis?
16. What phrase describes negative feedback?
17. What phrase describes positive feedback?
18. What is evolution? What is natural selection? What is the relationship between these two forces? Significance?
19. What is the difference between classical genetics, modern genetics, and epigenetics?