

## Chapter Diagnostic Questions

Q1



What is a testable explanation?

- A. observation
- B. hypothesis
- C. experiment
- D. constant

**Chapter Diagnostic  
Questions****Q2**

Which is not a characteristic of all organisms?

- A. made of one or more cells
- B. grows and develops
- C. capable of rational thought
- D. maintains homeostasis

## 1.1 Formative Questions

Q3



What area of science takes scientific knowledge and applies it to meet human needs?

- A. exploration
- B. dynamics
- C. physics
- D. technology

## 1.1 Formative Questions

Q4



What is the process of change that takes place during the life of an organism?

- A. adaptation
- B. development
- C. growth
- D. maturation

## 1.1 Formative Questions

Q5



Some species of plants begin opening their flowers in the morning when they are exposed to sunlight. What characteristic of living things does this represent?

- A. acquiring energy
- B. adapting to the environment
- C. displaying organization
- D. responding to stimuli

## 1.1 Formative Questions

Q6



What process regulates an organism's internal conditions and keeps them stable?

- A. adaptation
- B. equilibrium
- C. homeostasis
- D. metabolism

## 1.2 Formative Questions

Q7



What is a theory?

- A. a body of knowledge about a natural phenomenon
- B. a creative tool for designing investigations
- C. a scientific inquiry that seeks to provide an explanation
- D. an explanation supported by observations and experiments

## 1.2 Formative Questions

Q8



True or False

Scientists discard observations and data that are not consistent with current scientific understanding.



## 1.2 Formative Questions

Q9



A scientist wants to report the findings from her investigations. Before her information can be published, what must it go through?

- A. forensics
- B. peer review
- C. scientific methods
- D. the metric system

## 1.2 Formative Questions

Q10



What do issues such as AIDS, global warming, genetic engineering, and cloning have in common?

- A. They involve ethics.
- B. They involve forensics.
- C. They must be addressed by scientists.
- D. They require the metric system.

## 1.3 Formative Questions

Q11



When you form a logical conclusion based on your observations and what you already know, what are you making?

- A. a conjecture
- B. an inference
- C. a speculation
- D. a theory

## 1.3 Formative Questions

Q12



What is a hypothesis?

- A. a defined question
- B. a curious assumption
- C. a tested inference
- D. a testable explanation

## 1.3 Formative Questions

Q13



What type of discovery is a serendipitous discovery?

- A. accidental
- B. anticipated
- C. ingenious
- D. whimsical

## 1.3 Formative Questions

Q14



True or False

In order for scientific experiments to be valid, they must be based on scientific methods that use controlled experiments.

**Chapter Assessment  
Questions****Q15**

Identify the term used to describe an explanation of a natural phenomenon supported by observation and experimentation.

- A. forensics
- B. natural law
- C. theory
- D. physics

**Chapter Assessment  
Questions****Q16**

In a controlled experiment, which factor can change?

- A. control group
- B. experimental group
- C. dependent variable
- D. independent variable



**Standardized Test  
Practice****Q17**

Which biological science was Jane Goodall studying when she observed chimpanzees?

- A. ecology
- B. genetics
- C. animal behavior
- D. biotechnology

**Standardized Test  
Practice****Q18**

In which activity would an environmental biologist most likely be involved?

- A.** genetically engineering plants
- B.** finding ways to protect species
- C.** preventing the spread of disease
- D.** developing new medicines and vaccines

**Standardized Test Practice****Q19**

Which is an indication that an idea is based on pseudoscience?

- A. It brings up more questions.
- B. It causes disagreement and debate.
- C. It does not welcome scientific investigation.
- D. It does not receive acceptance by scientists.

**Standardized Test  
Practice****Q20**

Scientists use laboratory rats to test the effects of a new drug, Razatrin. What do rats in the control group receive?

- A. food containing Razatrin
- B. food without Razatrin
- C. food containing another drug
- D. food containing a variety of drugs

## Standardized Test Practice

Q21



Which is the dependent variable in this experiment?

- A. mass
- B. number of days

Change in Mass of Anole	
Date	Mass (g)
April 11	2.4
April 14	2.5
April 17	2.5
April 20	2.6
April 23	2.6
April 26	2.7
April 29	2.7

