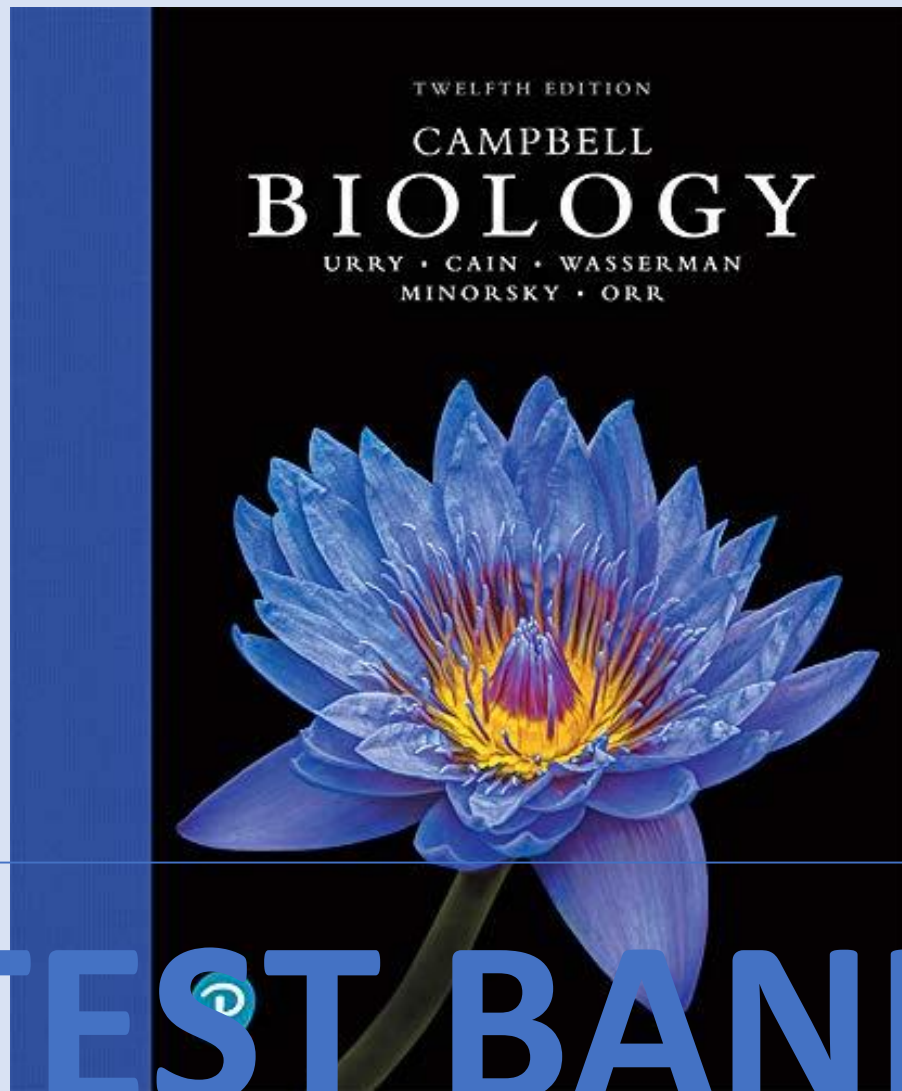


TEST BANK

Campbell Biology, 12th
edition by Urry Cain



TEST BANK

Complete Test Bank for Campbell Biology 12th Edition Urry

TABLE OF CONTENT

| |
|---|
| Chapter 1: Evolution, the Themes of Biology, and Scientific Inquiry |
| Chapter 2: The Chemical Context of Life |
| Chapter 3: Water and Life |
| Chapter 4: Carbon and the Molecular Diversity of Life |
| Chapter 5: The Structure and Function of Large Biological Molecules |
| Chapter 6: A Tour of the Cell |
| Chapter 7: Membrane Structure and Function |
| Chapter 8: An Introduction to Metabolism |
| Chapter 9: Cellular Respiration and Fermentation |
| Chapter 10: Photosynthesis |
| Chapter 11: Cell Communication |
| Chapter 12: The Cell Cycle |
| Chapter 13: Meiosis and Sexual Life Cycles |
| Chapter 14: Mendel and the Gene Idea |
| Chapter 15: The Chromosomal Basis of Inheritance |
| Chapter 16: The Molecular Basis of Inheritance |
| Chapter 17: Gene Expression: From Gene to Protein |
| Chapter 18: Regulation of Gene Expression |
| Chapter 19: Viruses |
| Chapter 20: DNA Tools and Biotechnology |
| Chapter 21: Genomes and Their Evolution |
| Chapter 22: Descent with Modification: A Darwinian View of Life |
| Chapter 23: The Evolution of Populations |
| Chapter 24: The Origin of Species |
| Chapter 25: The History of Life on Earth |
| Chapter 26: Phylogeny and the Tree of Life |
| Chapter 27: Bacteria and Archaea |
| Chapter 28: Protists |
| Chapter 29: Plant Diversity I: How Plants Colonized Land |
| Chapter 30: Plant Diversity II: The Evolution of Seed Plants |
| Chapter 31: Fungi |
| Chapter 32: An Overview of Animal Diversity |
| Chapter 33: An Introduction to Invertebrates |
| Chapter 34: The Origin and Evolution of Vertebrates |
| Chapter 35: Vascular Plant Structure, Growth, and Development |
| Chapter 36: Resource Acquisition and Transport in Vascular Plants |
| Chapter 37: Soil and Plant Nutrition |
| Chapter 38: Angiosperm Reproduction and Biotechnology |
| Chapter 39: Plant Responses to Internal and External Signals |

| |
|--|
| Chapter 40: Basic Principles of Animal Form and Function |
| Chapter 41: Animal Nutrition |
| Chapter 42: Circulation and Gas Exchange |
| Chapter 43: The Immune System |
| Chapter 44: Osmoregulation and Excretion |
| Chapter 45: Hormones and the Endocrine System |
| Chapter 46: Animal Reproduction |
| Chapter 47: Animal Development |
| Chapter 48: Neurons, Synapses and Signaling |
| Chapter 49: Nervous Systems |
| Chapter 50: Sensory and Motor Mechanisms |
| Chapter 51: Animal Behaviour |
| Chapter 52: An Introduction to Ecology and the Biosphere |
| Chapter 53: Population Ecology |
| Chapter 54: Community Ecology |
| Chapter 55: Ecosystems and Restoration Ecology |
| Chapter 56: Conservation Biology and Global Change |

Campbell Biology, 11e (Urry)

Chapter 1 Evolution, the Themes of Biology, and Scientific Inquiry

1.1 Multiple-Choice Questions

1) Cells are ___.

- A) only found in pairs, because single cells cannot exist independently
- B) limited in size to 200 and 500 micrometers in diameter
- C) characteristic of eukaryotic but not prokaryotic organisms
- D) characteristic of prokaryotic and eukaryotic organisms Answer: D

Bloom's Taxonomy: Knowledge/Comprehension Section: 1.1

2) In comparison to eukaryotes, prokaryotes ___.

- A) are more structurally complex
- B) are larger
- C) are smaller
- D) do not have membranes Answer: C

Bloom's Taxonomy: Knowledge/Comprehension Section: 1.1

3) Which of the following types of cells utilize deoxyribonucleic acid (DNA) as their genetic material but do not have their DNA encased within a nuclear envelope?

- A) animal
- B) plant
- C) archaean
- D) fungi Answer: C

Bloom's Taxonomy: Application/Analysis Section: 1.1

4) To understand the chemical basis of inheritance, we must understand the molecular structure of DNA.

This is an example of the application of which concept to the study of biology?

- A) evolution
- B) emergent properties
- C) reductionism
- D) feedback regulation Answer: C

Bloom's Taxonomy: Application/Analysis Section: 1.1

5) A localized group of organisms that belong to the same species is called a ____.

- A) community
- B) population
- C) ecosystem
- D) family Answer: B

Bloom's Taxonomy: Knowledge/Comprehension Section: 1.1

6) Which of the following statements is *true* regarding the complexity of biological systems?

- A) An understanding of the interactions between different components within a living system is an approach towards understanding reductionism.
- B) Knowing the function of a component of a living system can provide insights into the structure and organization of the living system.
- C) Understanding the chemical structure of DNA reveals how it directs the functioning of a living cell.
- D) An ecosystem displays complex properties of the biotic component only. Answer: B

Bloom's Taxonomy: Application/Analysis Section: 1.1

7) Which of the following order is correct in terms of the hierarchy of the organization?

- A) Ecosystem → Biosphere → Population → Community → Organism
- B) Biosphere → Ecosystem → Population → Community → Organism
- C) Ecosystem → Community → Biosphere → Population → Organism
- D) Biosphere → Ecosystem → Community → Population → Organism Answer: D

Bloom's Taxonomy: Application/Analysis Section: 1.1

8) When your body temperature rises on a hot day, the neural and hormonal mechanisms activate sweating. Evaporation of sweat leads to cooling of the body surface. This is an example of _____.

- A) positive feedback regulation
- B) negative feedback regulation
- C) chemical cycling
- D) emergent properties Answer: B

Bloom's Taxonomy: Application/Analysis Section: 1.1

9) Characters are transmitted from parents to offspring, are the units of inheritance.

- A) Genes
- B) Proteins
- C) RNA
- D) DNA Answer: A

Bloom's Taxonomy: Knowledge/Comprehension Section: 1.1

10) As letters are to English language, _____ is/are to genetic information.

- A) proteins
- B) nucleotides
- C) DNA double helix
- D) A and B Answer: B

Bloom's Taxonomy: Knowledge/Comprehension Section: 1.1

11) The process by which the information in a gene directs the synthesis of a protein is called _____.

- A) gene expression
- B) replication
- C) post translation modification
- D) cloning Answer: A

Bloom's Taxonomy: Application/Analysis Section: 1.2

12) Which of the following statements is true?

- A) mRNA is the only type of RNA found in the living system
- B) All forms of life employ the same genetic code
- C) A typical human liver cell has one set of chromosomes
- D) Organisms interact but do not affect their environment Answer: B

Bloom's Taxonomy: Knowledge/Comprehension Section: 1.2

13) Plants convert__.

- A) chemical energy to mechanical energy.
- B) sunlight to mechanical energy.
- C) sunlight to chemical energy.
- D) mechanical energy to chemical energy. Answer: C

Bloom's Taxonomy: Knowledge/Comprehension Section: 1.2

14) Which of these provides evidence of the common ancestry of all life?

- A) near universality of the genetic code
- B) structure of the nucleus
- C) structure of cilia
- D) structure of chloroplasts

Answer: A

Bloom's Taxonomy: Application/Analysis Section: 1.2

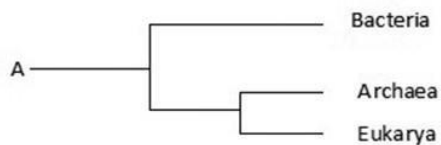
15) Which branch of biology is concerned with the naming and classifying of organisms?

- A) informatics
- B) taxonomy
- C) genomics
- D) evolution

Answer: B

Bloom's Taxonomy: Knowledge/Comprehension Section: 1.2

16) Use the following figure to answer the question.



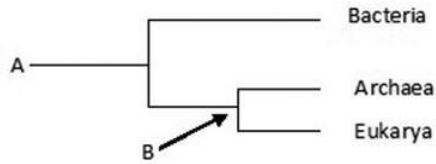
The phylogenetic tree__.

- A) depicts that Archaea is closer to Bacteria than Eukarya
- B) depicts that Eukarya is closer to Bacteria than Archaea
- C) includes unicellular and some forms of multicellular life, but not complex animals and plants
- D) includes every single life form on this earth

Answer: D

Bloom's Taxonomy: Application/Analysis Section: 1.2

17) Use the following figure to answer the question.



"A" is __; "B" is __.

- A) the most recent species to evolve on Earth; an ancestor of group "A"
- B) the most recent species to evolve on Earth; the last common ancestor of Archaea and Eukarya
- C) the common ancestor of all life; the common ancestor of Bacteria and Archaea
- D) the common ancestor of all life; the last common ancestor of Archaea and Eukarya

Bloom's Taxonomy: Application/Analysis Section: 1.2

18) You are suffering from *Streptococcus* throat infection. You share the following with the bacteria that is responsible for your condition.

- A) You both belong to the same domain.
- B) You both are made up of cells.
- C) You both have genetic material in your nucleus.
- D) You and *Streptococcus* have nothing in common.

Answer: B
Bloom's Taxonomy: Application/Analysis Section: 1.2

19) Which of the following is true of natural selection?

- A) It requires genetic variation.
- B) It results in descent with modification.
- C) It involves differential reproductive success.
- D) It requires genetic variation, results in descent with modification, and involves differential reproductive success.

Answer: D

Bloom's Taxonomy: Knowledge/Comprehension Section: 1.2

20) Which of the following is *not* one of Charles Darwin's observations?

- A) Individuals in a population vary in their traits.
- B) Many of the traits in an individual are heritable.
- C) A population avoids competition by producing only as many offspring as can successfully reproduce on their own.
- D) Species generally are adapted to their environments.

Answer: C
Bloom's Taxonomy: Knowledge/Comprehension Section: 1.2