

Answer Key

Vocabulary Practice

A. Categorize Words

1. organism, L; cell, L; species, L; transgenic, B; biotechnology, T; molecular genetics, T
2. homeostasis, I; biosphere, E; system, B; metabolism, I; ecosystem, E; biology, B
3. biodiversity, G; organism, I; cell, B; adaptation, B; biosphere, G; evolution, G

B. Vector Vocabulary

1. using tools and senses to study the world
2. many support, and are accounted for by
3. can lead to
4. a proposed explanation for a wide range of observations supported by a large amount of evidence
5. a proposed answer for a scientific question
6. tested through
7. study of independent and dependent variables to find cause-and-effect relationships
8. scientists manipulate
9. scientists measure
10. scientists control
11. condition that is changed to observe an effect on the dependent variable
12. factors that are observed; affected by independent variable
13. conditions that are kept from changing during an experiment
14. collected as
15. observations that are recorded and analyzed to test a hypothesis

C. Stepped-Out Vocabulary

1. scientific study of all organisms; helps to make informed decisions; still has many unanswered questions
2. tool that provides an enlarged image of an object; led to discovery of cells; electron microscopes provide greater magnifications than light microscopes
3. change in living things over time; change in genetic makeup of a population; accounts for unity and diversity of life
4. an inherited trait that gives an advantage to an individual organism; passed on to future generations; different adaptations in different environments
5. the genetic material in all organisms; instructions for growth and development; passed on through reproduction
6. segment of DNA that stores genetic information; studied and changed through molecular genetics; faulty ones can be replaced
7. study and comparison of genomes; computer databases store the information; entire DNA sequences from organisms
7. explains many observations
8. both living and nonliving things
9. near the equator
10. a type of living thing that can reproduce
11. it has genes from different species
12. propose an answer to a question

D. Words in Context

1. too small to be seen
2. maintenance of constant conditions
3. the cause
4. segment of DNA
5. inherited trait
6. kept the same

CHAPTER

1

BIOLOGY IN THE 21ST CENTURY

Vocabulary Practice

biosphere	ecosystem	dependent variable
biodiversity	homeostasis	constant
species	evolution	theory
biology	adaptation	microscope
organism	observation	gene
cell	data	molecular genetics
metabolism	hypothesis	genomics
DNA	experiment	biotechnology
system	independent variable	transgenic

A. Categorize Words For the terms below, write **L** next to words that can describe living things. Write **T** next to words that can describe technology. Write **B** next to words that can describe both.

1. ____ organism ____ species ____ biotechnology
 ____ cell ____ transgenic ____ molecular genetics

For the terms below, write **E** next to words that can describe the external environment of living things. Write **I** next to words that can describe the internal environment of living things. Write **B** next to words that can describe both.

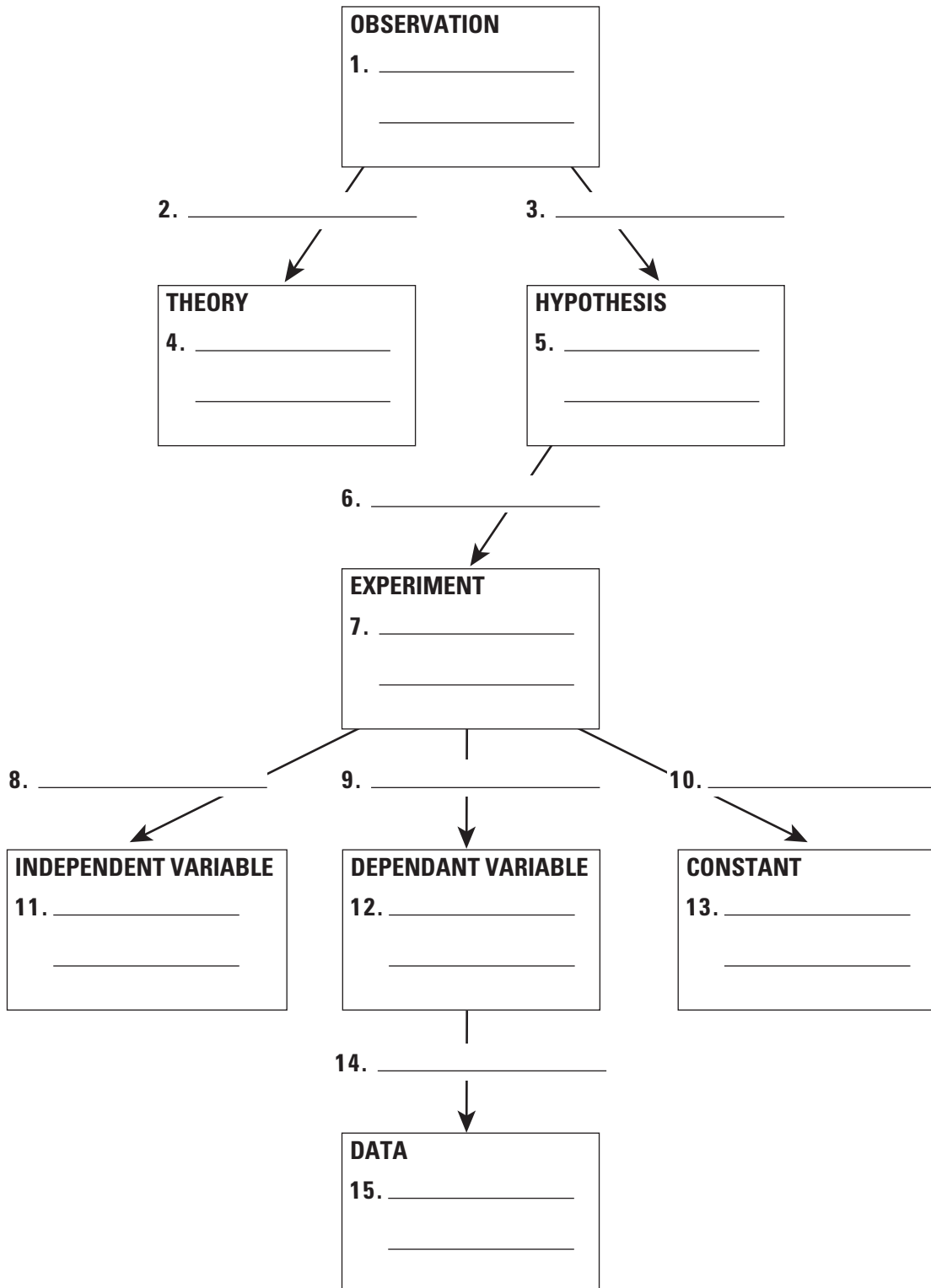
2. ____ homeostasis ____ system ____ ecosystem
 ____ biosphere ____ metabolism ____ biology

For the terms below, write **G** next to words that are related to groups of living things. Write **I** next to words that describe individual living things. Write **B** next to words that can describe both.

3. ____ biodiversity ____ cell ____ biosphere
 ____ organism ____ adaptation ____ evolution

VOCABULARY PRACTICE, CONTINUED

B. Vector Vocabulary Define the words in the boxes. On the line across each arrow, write a phrase that describes how the words in the boxes are related to each other.



VOCABULARY PRACTICE, CONTINUED

C. Stepped-Out Vocabulary Define each word. Then write two additional facts that are related to the word.

WORD	DEFINITION	MORE INFORMATION
Example metabolism	all chemical processes that build up or break down materials in living things	chemical energy is needed
		animals eat other organisms to get their chemical energy
1. biology		
2. microscope		
3. evolution		
4. adaptation		
5. DNA		
6. gene		
7. genomics		

VOCABULARY PRACTICE, CONTINUED

D. Words in Context Answer the questions to show your understanding of the vocabulary words.

1. If I use a **microscope**, do I see things too small to be seen or things too far away to be seen?

2. Is **homeostasis** the maintenance of constant conditions or all of the chemical processes that build up and break down materials?

3. Which is the **independent variable** in an experiment, the cause or the effect?

4. Is a **gene** all of an organism's DNA or only a segment of DNA?

5. Is an **adaptation** in biology made by choice or is it inherited?

6. Would a **constant** be manipulated or kept the same in an experiment?

7. Does a **theory** answer one scientific question or does it explain many observations?

8. When I am in an **ecosystem**, do I interact with living things, nonliving things, or both living and nonliving things?

9. Where would more **biodiversity** be found, near Earth's equator or near Earth's poles?

10. Which is a **species**, a group of parts that interact to form a whole or a type of living things that can reproduce by interbreeding?

11. Does a **transgenic** organism travel a lot or does it have genes from a different type of living thing?

12. If I form a **hypothesis**, do I propose an answer to a question or do I use negative feedback?
