Na	ame Date Class
	CHAPTER 6
F	ROM BACTERIA TO PLANTS
2E	Classifying Living Things (pages 184-189)
	nis section tells how scientists divide living things into groups. It also describes how cientists name living things.
>	Why Do Scientists Classify Organisms? (pages 184–185)
1.	The process of grouping things based on their similarities is
2.	Why do biologists use classification?
3.	The scientific study of how living things are classified is called
4.	Is the following sentence true or false? Once an organism is classified, a
	scientist knows a lot about that organism.
>	The Classification System of Linnaeus (page 185)
	Is the following sentence true or false? Linnaeus placed organisms into
	groups based on their features that he could observe.
6.	In Linnaeus's naming system, called, each organism is given a two-part name.
7.	Is the following sentence true or false? A species is a classification grouping that contains similar, closely related organisms.

Name ______ Date _____ Class _____

►Six Kingdoms

(pages 188–189)

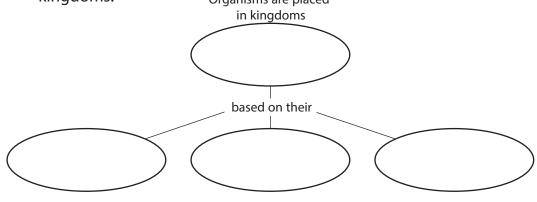
14. List the six kingdoms of living things.

a._____ b.____

c._____ d.___

e._____ f. ____

15. Complete the concept map to show how organisms are placed into kingdoms. Organisms are placed

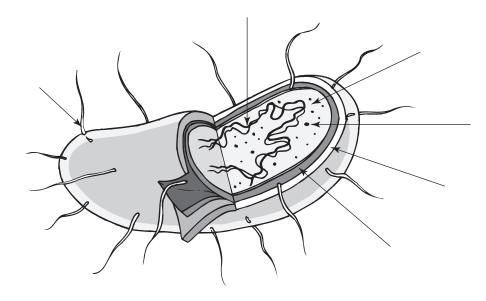


- 16. Is the following sentence true or false? All organisms in a kingdom share many characteristics and are very similar.
- 17. Circle the letter of each sentence that is true about archaebacteria.
 - a. Archaebacteria can be autotrophic, or able to make their own food.
 - b. Archaebacteria are prokaryotes.
 - c. Archaebacteria have a cell nucleus.
 - d. Archaebacteria do not have nucleic acids.
- 18. Eubacteria are unicellular .
- 19. Is the following sentence true or false? Eubacteria have a similar chemical makeup to archaebacteria.
- 20. Are eubacteria autotrophs or heterotrophs? S

Nam	ne Date Class
CHA	APTER 6 , From Bacteria to Plants (continued)
	Is the following sentence true or false? Protists can be either unicellular
	or multicellulart
22.	How do protists differ from archaebacteria and eubacteria?
23. I	s the following sentence true or false? Mushrooms, molds, and yeast
	are all fungi
	Circle the letter of each characteristic off ungi.
	a. eukaryotes b. prokaryotes
	autotrophs d. heterotrophs
25.	What do most fungi feed on?
26.	Plants are; they can make their own food.
27.	Is the following true or false? All plants produce flowers.
28.	Circle the letter of each characteristic of animals.
	a. unicellular b. heterotrophs
	c. eukaryotes d. autotrophs
29.	Is the following sentence true or false? All animals are multicellular.
	is the real and grantened to de or raise. An arminais are manucentaid.
30.	Is the following sentence true or false? At some point in their lives, most animals can move from one place to another.
	most animals can move nom one place to another.

This section explains what bacteria are, their positive roles, and how they reproduce.

- The Bacterial Cell (pages 190–191)
- 1. Bacteria are ______The genetic material in their cells is not contained in a nucleus.
- 2. Is the following sentence true or false? Bacteria are living organisms because they use energy, grow, and respond to their surroundings.
- 3. What three shapes can bacterial cells have?
 - a. _____ b. ____ c. ___
- 4. Label the parts of a bacterial cell in this diagram.



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- 5. Circle the letter of the cell structure that helps a cell to move.
 - a. cell wall
- b. cytoplasm
- c. ribosomes
- d. flagellum
- 6. Is the following sentence true or false? Air, water, and clothing can move

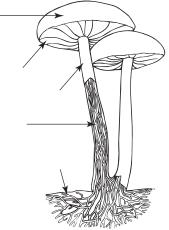
bacteria from one place to another.

varrie		Date	Class	
CHAPTER 6 , Fro	m Bacteria to Plan	ts (continued)		
► Energy Needs	(page 191)			
7. List the two way	s in which autotrop	ohic bacteria m	ake food.	
a	,			
b				
8. How do heterot	rophic bacteria get	food?		
9. Is the following	sentence true or fa	lse? All bacteria	must use oxygen to	
break down foo	d for energy			
Reproduction				
10. Complete the ta	ble below about re	production in k	oacteria.	
	Reprod	uction in Bacteri	a	
	Asexual Reproduct	ion	Sexual Reproduction	
Name of Process				
Number of Parents				
What Occurs in Proces	SS			
Result of Process				

Name	Date Class
CHAPTER 6 , From Bacteria	a to Plants (continued)
4. Another name for an anim	al-like protist is
5. Circle the letter of the cell	part in an ameba that removes excess water.
a. pseudopod	b. cilia
c. contractile vacuole	d. cell membrane
6. Is the following sentence t	rue or false? Paramecia have two nuclei.
Match the animal-like protist v	vith the cell part it uses for movement.
Protist	Cell Part
7. ameba	a. cilia
8. paramecium	b. flagella
	c. pseudopods
9. sporozoan	
10. Animal-like protists called on the cells and body fluid	are parasites that feed ls of their hosts.
► Plantlike Protists (pag	ge 200)
11. Plantlike protists are comn	nonly called
12. The one characteristic that	t all algae share is that, like plants, they are
13. Why are algae important t	o other organisms?
14. How does a colony of alga	e differ from algae that are multicellular

Name	Date	Class	
Fungus-like Protists (page 201)			
15. Circle the letter of each sentence that	is true about	fungus-like protists.	
a. Like fungi, fungus-like protists are h	eterotrophs.		
b. Fungus-like protists do not have cel	l walls.		
c. Fungus-like protists use spores to re	eproduce.		
d. Fungus-like protists never move du	ring their lives	5.	
► The Fungi Kingdom (page 201)			
16. Circle the letter before each sentence	that is true ak	out fungi.	
a. All fungi are multicellular organisms	S.		
b. Most fungi are eukaryotes.			
c. Most fungi use spores to reproduce	·		
d. Most fungi are autotrophs.			
17. What are three examples off ungi?			
► Cell Structure of Fungi (page 202	2)		
18. The cells off ungi are arranged in brar	nching, thread	llike tubes called	
•			
19. Is the following sentence true or false on food have hyphae that are packed	•	•	

20. Identify the structures of the mushroom shown here.



Name	Date	Class	
CHAPTER 6 , From Bacteria to Pla	nts (continued)		
► How Do Fungi Obtain Food?	(page 202)		
21. Is the following sentence true or f	false? Some fungi are	e parasites.	
22. Describe the process by which a f	ungus feed <u>s.</u>		
► Reproduction in Fungi (page	e 203)		
23. Fungi most often reproduce by	·		
24. Is the following sentence true or f	alse? Fungi reprodu	ce sexually only	
when growing conditions become	e unfavorabl <u>e.</u>		



Reading Skill Practice

Concept maps are useful in organizing information. Make a concept map to show the characteristics of the four different types of animal-like protists. For more information about concept maps, see page 588 in the Skills Handbook of your textbook. Do your work on a separate sheet of paper.

SECTION 6. 4

The Plant Kingdom

6–4

(pages 204-211)

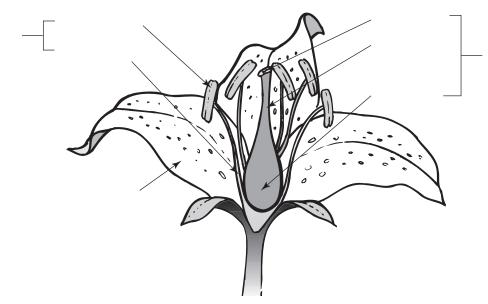
This section explains the features that all plants have. It also describes what plants need to survive and how they reproduce.

- ► What Is a Plant? (pages 205–208)
 - 1. Circle the letter of each characteristic that all plants share.
 - a. heterotroph b. autotroph c. prokaryote d. eukaryote
- 72 Guided Reading and Study Workbook



Name		Date	Class
CHAPTER 6 , From Bacte	ria to Plants	(continued)	
► Reproduction (pages 2	(08–210)		
12. The process in which a s	perm unites	with an egg is	called
13. Circle the letter of the na	ame of a ferti	lized eaa.	
a. spore b. sper			
c. zygote d. emb			
14. What is a seed?			
Matalanta and Albania	**************************************		
Watch the part of the seed v Seed Part		on.	
	Function		
15. embryo	•	ie seed from di	, ,
16. cotyledon	b. Young p fertilized	lant that devel Legg	ops from the
17. seed coat		eaf that stores	food
18. Is the following sentence	a true or false	o? Soods can he	agin to grow in any
		:: Seeds can be	egin to grow in any
place they land			
19. What do seeds need to d	develop into a	a new plan <u>t?</u>	
20. Describe three ways see	ds are dispers	sed.	
,			

25. Label the parts of the flower in this diagram.



- ► Plant Responses and Growth (pages 210–211)
- 26. What is a tropism? _____
- 27. Circle the letter of each stimulus to which plants respond.
 - a. touch
- b. light
- c. food
- d. gravity
- 28. A chemical that affects how a plant grows and develops is a(n)
- 29. How long is the life cycle of a perennial?

Name	Date	Class
Nume	Date	Class

CHAPTER 6 , From Bacteria to Plants (continued)

WordWise

Match each definition on the left with the correct term on the right. Then write the number of each term in the appropriate box below. When you have filled in all the boxes, add up the numbers in each column, row, and two diagonals. The sums should be the same.

- A. Branching, threadlike tubes that make up fungi
- B. Animal-like protists
- C. A small, thick walled resting cell in side a bacterial cell
- D. Fertilized egg
- E. A group of similar organisms that can mate and produce fertile offspring
- F. Scientific study of how living things are classified
- G. Process by which one cell divides to form two identical cells
- H. A plant's growth toward or away from a stimulus
- I. Tiny pores in leaves

- 1. protozoans
- 2. binary fission
- 3. taxonomy
- 4. stomata
- 5. species
- 6. hyphae
- 7. zygote
- 8. endospore
- 9. tropism

			₁ =
A	В	С	
			=
D	E	F	
			=
G	Н	I	
			=
=	=	=	=
15	15	15	

Name		Date	Class
C H A P			
7–1 (What Is an Animal? pages 218-220) n explains the characteristic s. It also describes some ani		how biologists classify animal
1. List four	eristics of Animals (packaracteristics of animals.		
c d			
3. Is the foll	get water, food, and oxygen frowing sentence true or false?		
	imals Reproduce (page exual reproduction?		
5. Is the foll	owing sentence true off alse?		

forming buds that break offto form new hydras...

Name	Date	Class
CHAPTER 7 , Animals (continued)		
► Structure and Function in Animals	(page	es 219–220)
6. What is an adaptation?		
Match the type of animal with what it ea	ts.	
Type of Animal	What It Eats	
7. herbivore	a. both plan	ts and animals
8. carnivore	b. other anir	mals
9. omnivore	c. plants onl	ly
10. Carnivores that hunt and kill other ar	nimals are call	ed
The animals that	at these carniv	ores capture and
feed upon are called		
11. Is the following sentence true or false	e? The bristly	tongue of a bee is an
adaptation for protection		
Classification of Animals (page		
12. Biologists classify animals in the anin		nto about 35 major
groups, called		
13. Complete the concept map.	_	
Animals		
can be classified	d as	
14. Is the following sentence true or false	e? Most anima	al species are
vertebrates		
15. Circle the letter of the animal that is	a vertebrate.	
a. bird b. jellyfish c	. spider	d. crab

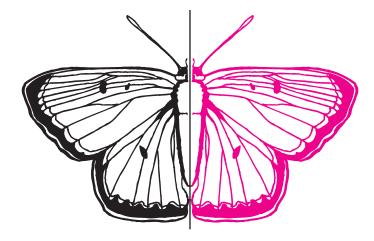
Symmetry

7–2

(pages 221-222)

This section explains the balanced arrangement of animal bodies.

- ► Introduction (page 221)
- 1. The balanced arrangement of the body of a complex animal is called
- 2. Is the following sentence true or false? The bodies of complex animals all have either radial or bilateral symmetry.
- 3. Complete the drawing of the butterfly's body on the other side of the line of symmetry.



- 4. Because the butterfly can be divided into two halves that are mirror images of each other, it has ______ symmetry.
- 5. Objects with many lines of symmetry that all go through a central point have ______ symmetry.
- ► Animals With Radial Symmetry (page 222)
- 6. Circle the letter of each object that has radial symmetry.

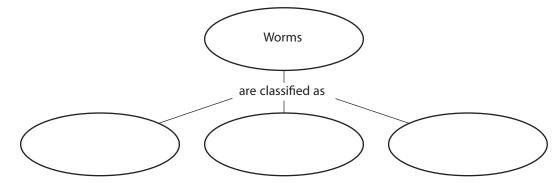
 a. oak leaf b. sea anemone c. pair of eyeglasses d. bicycle wheel

N I - . - - -

name	Date	Class	
4. How does a cnidarian capture prey?			

Cl- --

- 5. Is the following sentence true or false? A cnidarian's nerve net helps the animal to respond quickly to external stimuli.
- ► Worms (page 225)
- 6. List five characteristics shared by all worms.
 - a. _____
 - b. ____
 - C. _____
 - d.____
 - e.
- ► Flatworms (page 225)
- 7. Complete the concept map to show the three major groups of worms.



- 8. The characteristics that distinguishes flatworms from other worms are their ______.
- ► Roundworms (pages 225–226)
- 9. Is the following sentence true or false? Unlike flatworms, roundworms have a digestive tract that is like a tube, open at both ends.



Name	Date Class	
CHAPTER 7 , Animal	s (continued)	
➤ Segmented Worms	(page 226)	
10. Earthworms have bo	odies made up of many linked sections called	
11. Earthworms have a	digestive system with opening(s).	
12. What is the advanta	ge of a closed circulatory system?	
► What Are Mollusks?	(pages 227–228)	
13. Circle the letter of ea	ach characteristic of a mollusk.	
a. vertebrate	b. invertebrate	
c. segmented body	d. unsegmented body	
14. Give the function of	each of the following parts of a mollusk.	
hard outer shell:		
mantle:		
foot:		
Match the body part wit	h its function.	
•	Function	
15. gills	a. Organs that remove oxygen from water	
16. cilia	b. A flexible ribbon of tiny teeth that scrapes	
17. radula	food from a surface	
	 c. Tiny, hairlike structures that move water over the gills 	



Reading Skill Practice

By looking carefully at illustrations, you can help yourself understand what you have read at Figure 8 on page 226. What does this illustration show?

Nam	e Date Class
	Arthropods and Echinoderms (pages 230-236)
	s section describes the characteristics of arthropods, and tells about the major ups of arthropods. It also describes spiny-skinned animals called echinoderms
► T	he Arthropod Phylum (pages 230–231)
1. V	Vhat are the characteristics of an arthropod?
- 2. V	What happens to the exoskeleton when an arthropod grows?
3. L	ook at the table in Figure 6 on page 231. Crustaceans have
þ	airs of antennae. Arachnids have body segments.
li	nsects have pairs ofl egs.
4. Is	the following sentence true or false? Joints in their appendages give
а	rthropods flexibility and the ability to move.
▶ I	nsects (page 232)
5. V	Vhat is an insect?
	ircle the letter of the body segment to which wings and legs are attached.
	. head b. thorax c. abdomen d. exoskeleton
7. lı	n complete metamorphosis, the larva stage is followed by the
-	stage.
	n gradual metamorphosis, the egg hatches into a(n), which looks much like a small adult.

Name	Date Class
CHAPTER 7 , Animals (continued)	
Crustaceans (page 234)	
9. What is a crustacean?	
10. Is the following sentence true or false? \	Very few watery environments are
home to crustaceans.	<u> </u>
Arachnids (page 234)	
11. An arthropod with only two body section	ons is a(n)
12. Circle the letter of each characteristic of	f arachnids.
a. Abdomen with reproductive organs a	and digestive tract
b. Eight legs	
c. Four antennae	
d. Book lungs	
13. Circle the letter of each sentence that is	s true about spiders.
a. All spiders are herbivores.	
b. All spiders build webs.	
c. Spiders have hollow fangs that inject	venom into prey.
d. Spiders have an exoskeleton.	
► Centipedes and Millipedes (page	ge 235)
Match the arthropod with its characteristics be used more than once.	s. Each kind of arthropod may
Characteristics	Arthropods
14. Two pairs ofl egs on each se	egment a. centipede
15. One pair ofl egs on each seg	gment b. millipede
16. Predators with sharp jaws	
17. Herbivores	

Name	Date	Class	
► The Echinoderm Phylum			
18. What is an echinoderm?			
19. The skin of most echinoderms		oiny internal	
skeleton, called a(n)	•		
20. What is a water vascular system	,		
Fishes, Amphibia (pages 237-245)	ans, and Repti	les	
This section describes animals w fishes, amphibians, and reptiles.	ith backbones and	d identifies the ch	aracteristics o
► Vertebrates (pages 237–238)			
1. The backbone is formed by mar	ny similar bones, call	ed	
, which are li	ned up in a row.		
2. A vertebrate's backbone is part skeleton.	of a(n)	, or internal	
3. List the functions of the endosk	eleton.		
a			
b			
C			
► Regulating Body Temperature	(page 238)		
4. What is an ectotherm?			
5. Is the following sentence true of	or false? Ectotherms	can live in a greate	er
variety of environments than e	ndotherms can		

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Name	Date	Class
CHAPTER 7 , Animals (continued	l)	
► Characteristics of Fishes	(pages 238–239)	
6. What is a fish?		
7. Circle the letter of each character a. gills b. feathers c. scales d. hair 8. Fishes obtain oxygen from 9. Is the following sentence true or blood flows through two loops. Note that the three groups offi shes. a. b. c. 11. The skeletons of cartilaginous fish 12. Circle the letter of each character a. jaws b. fins Match the parts of bony fishes with the part of bony fishes with the pa	ristic offi shes. false? In a fish's circulator hes are made of ristic of cartilaginous fish c. scales d. b	es. cones ng a Bony n at different levels erlapping each other as up vibrations and vater

	Date	Class
► Amphibians (pages 241–242)		
17. What is an amphibian?		
18. Describe the path blood takes in tamphibian.	he circulatory sy	stem of an adult
19. Circle the letter of the two upper cl a. ventricles b. atria		eart that receive blood.
► Kinds of Amphibians (page 2	42)	
20. Is the following sentence true or f strong skeleton to support the bo		
21. How are frogs and toads adapted	5	. 5
21. How are frogs and toads adapted22. Amphibians with long, slender bocalled		
22. Amphibians with long, slender bo		
22. Amphibians with long, slender bo	odies that keep tl	heir tails as adults are
22. Amphibians with long, slender bo called Reptiles (pages 243–244)	odies that keep tl	heir tails as adults are

Name	Date	Class	
CHAPTER 7 , Animals (continued	l)		
► Kinds of Reptiles (pages 244–2	245)		
26. Reptiles with slender bodies and	four legs with cla	ws are	
			
27. Is the following sentence true or	false? A snake car	swallow prey that is	
larger in diameter than the snake	itself		
28. What is a turtle?			
29. Is the following sentence true or		an pull their head,	
legs, and tail inside their shell			
7–6 Birds and Mamma (pages 247-255) This section tells about the characteristics	teristics of birds	and how they care for the	eir young.
► What Is a Bird? (pages 247–248)			
 List six characteristics of birds. 			
a	b		0
C	d		
e	f		Prentice-Hall, Inc
2. Circle the letter of each adaptation	on that enables bi	rds to fly.	Inc.
a. feathers b. hollow bones	c. scales d. l	arge chest muscles	
► Eating Like a Bird (page 248)			
3. Why do birds need a lot of energ	y?		

Name	Date	Class
4. Circle the letter of each sentence of a. Birds have teeth.b. Each bird species has a bill shap c. The crop stores food in the bod d. Chemicals break down food in the	ped to help it fee y after the bird s	d.
d. Chemicals break down lood in t	ine gizzara.	
Delivering Oxygen to Cells	(pages 248-249)	
5. Cells must have enough from food.	to rele	ease the energy
6. What is the function of air sacs?		
7. What is the advantage of a four-cl	hambered heart?	
➤ Quick Response to Stimuli		
8. Circle the letter of each sentence of a. Birds have very quick reactions.b. Birds cannot see well.c. Birds have a poorly developed of d. Birds have well developed ears.	orain.	t the nervous system.
► Reproducing and Caring for You	ng (page	e 250)
9. Circle the letter of a characteristic	of bird eggs.	
a. soft shell b. leathery shell	c. hard shell	d.no shell
10. How do birds keep their eggs war	m so that they w	vill develop?
11. How long do parent birds care for	their young?	

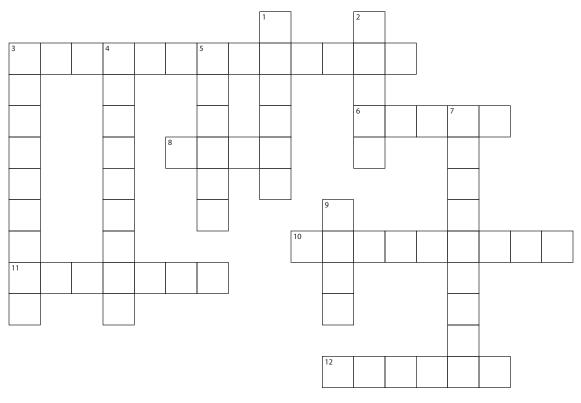
 Nervous System and Senses (page 252) 21. Circle the letter of each sentence that is true about mammals' nervous system. a. The brain helps mammals learn, remember, and behave in complex ways. b. Squirrels cannot remember what they have learned. c. The senses of mammals are adapted for the ways that individual species live.
system. a. The brain helps mammals learn, remember, and behave in complex ways. b. Squirrels cannot remember what they have learned. c. The senses of mammals are adapted for the ways that individual
b. Squirrels cannot remember what they have learned. c. The senses of mammals are adapted for the ways that individual
c. The senses of mammals are adapted for the ways that individual
species live.
d. All mammals can see in color.
► Reproduction (page 253)
22. Is the following sentence true or false? Some mammals lay eggs.
23. All mammals feed their young with milk produced in
Monotremes (page 254)
24. What are monotremes?
► Marsupials (page 254)
25. What are marsupials?
26. Marsupials have a short, the length of
time between fertilization and birth.
► Placental Mammals (page 255)
27. What is a placental mammal?
28. Circle the letter of each item that passes from the mother to her young through the placenta.
a. wastes b. water c. food d. oxygen

Name	Date	Class	

CHAPTER 7 , Animals (continued)

Word Wise

Complete the crossword puzzle by using the clues below.



Clues down

- 1. Midsection of an insect, to which the wings and legs are attached
- 2. Structures that remove oxygen from water
- 3. Mammal whose young are born at an early stage of development and complete development in the mother's pouch
- 4. Invertebrate with an exoskeleton and jointed appendages
- 5. Mollusk's flexible ribbon of teeth
- 7. Lower chamber of a vertebrate's heart
- 9. Opening in the digestive tract through which wastes leave the body

Clues across

- 3. Process in which an animal's body undergoes dramatic changes in form
- 6. Immature form of an animal that looks very different from the adult
- 8. Stage in which an insect gradually changes into the adult form
- Carnivores that use stinging cells to capture their prey
- 11. Section of an insect's body that contains may of the internal organs
- 12. Organs of the excretory system