

**Directed Reading B** *continued*

**BUILDING SCIENTIFIC KNOWLEDGE**

- theory** 15. An explanation that ties together many related facts, observations, and tested hypotheses is called a scientific
- a. law.
  - b. result.
  - c. theory.
  - d. scale.

- law** 16. A summary of many experimental results and observations that rarely changes is called a scientific
- a. law.
  - b. result.
  - c. theory.
  - d. scale.

17. A theory is a(n) **conceptual** model.

18. What is the difference between scientific theory and scientific law?

A theory works to explain something MOST of the time.  
A LAW explains something ALL of the time without any exceptions.  
ex. the Law of gravity has no exceptions in the universe

19. Why are there very few laws within life science?

Life is very complicated and there are so many life forms that there are few laws that apply to ALL of life.

20. What is one widely accepted theory in life science?

Cell theory - All life is made of cells (the basic building block of life)

21. What idea does the discovery about *Apatosaurus's* neck illustrate?

We are continuing to re-evaluate our theories and come up with better ones.

22. What are two general characteristics of a theory that would be accepted by most scientists?

1. a theory is the best fit explanation to the observational data  
2. a theory can be changed if new data suggests a better hypothesis could be a replacement - upgraded theory.

"Theories are not set in stone!"

Skills Worksheet

# Directed Reading B

## Section: Safety in Science (pp. 32–37)

### THE IMPORTANCE OF SAFETY RULES

1. What is safety?

When no one gets hurt and nothing gets broken.

2. In science class what is the most important safety rule?

Be prepared and keep your work area clean.

3. What is the most important reason for obeying safety rules?

You will not get hurt and you will not break anything

4. Once an accident has happened, how can following safety rules help you?

They will prevent more accidents by telling an adult and getting first aid

### ELEMENTS OF SAFETY

d.

5. Safety symbols alert you to

- a. first-aid instructions.
- b. more science activities.
- c. ways to please your teacher.
- d. potential dangers.

d.

6. Which of the following are on your chart of safety symbols?

- a. water safety, boating safety
- b. automotive safety, traffic safety
- c. football safety, skateboard safety
- d. electrical safety, chemical safety

a.

7. What should you do if you can't understand instructions in a lab procedure?

- a. Ask your teacher to explain the directions.
- b. Ask your friend for help.
- c. Do whatever you think is correct.
- d. Start the lab all over again.