

**Note-taking
Worksheet**

Exploring and Classifying Life

Section 1 What is science?

- A. Science—an organized way of studying things and finding _____
- B. Critical thinking—a process that uses certain skills to _____
- C. _____—an organized way to solve a problem using a series of steps
1. State the _____.
 2. Gather _____.
 3. Form a _____, or a prediction that can be tested.
 4. Test the hypothesis with _____.
 - a. _____ is something in an experiment that can change.
 - b. _____ is the standard of comparison in an experiment; cannot change
 5. Analyze _____.
 6. Draw _____.
- D. Theories and laws
1. Scientific _____—an explanation of things or events based on scientific knowledge; the result of many observations and experiments
 2. Scientific _____—a statement about how things work in nature
- E. International System of Units (SI)—Standard system of _____ used by scientists

Section 2 Living Things

- A. How are living things, or _____, alike?
1. Living things are _____.
 - a. _____—the smallest unit of an organism that carries on the functions of life
 - b. Each _____ has an orderly structure and contains hereditary material.
 2. Living things _____.
 - a. _____—anything that causes some change in an organism
 - b. Response—the way an organism reacts to a stimulus, often results in _____
 - c. _____—maintaining the proper conditions inside an organism

Note-taking Worksheet (continued)

3. Living things take in and use _____.
4. Living things grow and _____.
 - a. Growth of many-celled organisms is due to an increase in _____.
 - b. Growth of one-celled organisms is due to an increase in _____.
 - c. _____—changes that take place during the life of an organism
5. Living things _____.

B. What do living things need?

1. A _____ that provides for all of the organism's needs
2. _____, like water, proteins, fats, and sugars

Section 3 Where does life come from?

- A. _____—early theory that living things could come from nonliving things; disproved by Louis Pasteur in the mid-1800s
- B. _____—theory that living things can come only from other living things
- C. Alexander I. Oparin's hypothesis on the origins of life—gases in Earth's early atmosphere combined to form _____ found in living things.
 1. gases:
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 2. Stanley L. Miller and Harold Urey tested Oparin's hypothesis and showed that chemicals found in _____ could be produced.

Section 4 How are living things classified?**A. Classification systems**

1. _____ classified organisms more than 2,000 years ago.
2. Carolus Linnaeus introduced a system based on _____ of organisms.
3. Modern systems based on **phylogeny**—the _____ of an organism

Note-taking Worksheet (continued)

4. Today's classification system separates organisms into 6 _____.
 - a. Kingdoms are the first and _____ category.
 - b. The smallest classification category is a _____.
 - c. Organisms that belong to the same species can mate and produce _____.
- B. _____—two-word system used by Linnaeus to name species
 1. First word identifies the _____, or group of similar species.
 2. Second word tells something about the species—what it looks like, where it is found, or _____.
 3. Why use scientific names?
 - a. To _____
 - b. To show that organisms in the same genus are _____
 - c. To give _____
 - d. To allow information to be _____ easily
- C. Tools for identifying organisms
 1. _____—descriptions and illustrations of organisms
 2. Dichotomous keys—detailed _____ of identifying characteristics that include scientific names