

# What is life science?

**Objective** ▶ Identify and describe what is studied in some of the branches of life science.

## TechTerms

- ▶ **specialization** (SPESH-uh-lih-zay-shun): studying or working in only one part of a subject

**Studying Life Science** Science is an organized collection of knowledge about the world. It also is a way of finding out why things happen as they do. It is a way of solving problems by testing possible answers to see if they work. The knowledge of science is based on observations.

The study of the areas of science that deal with living things is called life science. Life science is like a tree. It is made up of many different branches. One branch is biology (by-AHL-uh-jee). Biology is the study of living things. Table 1 lists some of the life sciences. Two—botany and zoology—are part of biology.

- ▶ **Analyze:** What are four branches of life science?

**Specialization** As more and more is learned about the world, people must choose specific subjects to study. This is called specialization

(SPESH-uh-lih-zay-shun). A person who studies or works in one part of a subject is called a specialist (SPESH-ul-ist). There are many life science specialists. For example, some zoologists (zoh-AHL-uh-jists) study only one group of animals. Some scientists study diseases that affect only animals. Other scientists study diseases in plants.

- ▶ **Describe:** What is meant by specialization?

**Importance of Life Science** Life science is part of your everyday life. The study of living things affects your life in many ways. The medicine you take for a cold was developed based on scientific study. The causes and warning signs of cancer were learned from scientific research. Operations can be done because doctors know about the parts of the human body and how they work.

The kinds of foods you eat were grown by using information about plants. The making of some foods also uses knowledge of life science. Many cheeses could not be made without molds. Pickles could not be made without bacteria. People had to learn about bacteria and molds to use them to make these foods.

- ▶ **Explain:** How was life science part of your life today?

BRANCH	WHAT IS STUDIED	CAREERS
Anatomy (uh-NAT-uh-mee)	parts that make up living things	Doctor Physical therapist
Physiology (fiz-ee-AHL-uh-jee)	how the parts of living things work	Physiologist Chiropractor
Botany (BAHT-un-ee)	plants	Horticulturist Florist
Zoology (zoh-AHL-uh-jee)	animals	Veterinarian Marine biologist
Microbiology (my-kroh-by-AHL-uh-jee)	microscopic living things	Microbiologist Pathologist
Ecology (ee-KAHL-uh-jee)	interaction of living things and their surroundings	Ecologist

**CHECK.** Complete the following.

1. Botany and \_\_\_\_\_ are part of biology.
2. The knowledge of science is based on \_\_\_\_\_.
3. Life science is made up of many different \_\_\_\_\_.
4. Any life scientist who studies only one small branch of life science is a \_\_\_\_\_.

**APPLY** Use the table on page 14 to complete the following.

5. Ecology is the study of living things and their \_\_\_\_\_.
6. The study of how a living thing is put together is \_\_\_\_\_.
7. The study of how the parts of a living thing work is \_\_\_\_\_.
8. Classify: In which branch of life science would you study each of the following?  
a. whales and birds    b. corn and barley  
c. the heart and lungs    d. bacteria and microorganisms.
9. Infer: What area of life science would you need to know about to study the problem shown in the drawing?



# Life Science Careers

Let's see if you are ready to pursue life science careers. There are 40 biology-related jobs hidden in this jungle of letters. (The words may be horizontal, vertical, or diagonal.) Good luck! Answers are in the Teacher's Guide.

NPWJU IBGMMFV CONSERVATIONISTRVD  
 XCYUYKOGKGDUMGXEMMJSIHUTBEEFOE  
 AJS L XKQUTOPYFTLJHHTTMC FUYHHRIC  
 VETERINARIANNBEIFHSAPACSP TZGXR  
 PIPUOPTOMETRISTLFI PPQZZASTAKTK  
 GIGFUI THWIHTAQIMGSYPQCRESRNAKB  
 SRWTUOLDRCUIHEOZNI IAGYIVOMGDU  
 PSYCHOLOGISTQPLVACTDOFGQEZR RGB  
 IKQQBMDYIUSOZOTI WWSNJYOYGGZHOWE  
 FMQBOYVBAWCCTTCTYTANLKR TITNEE  
 AJTYFVUFYYZISISDZEIOHUSYTI TOMK  
 RNURSEMWUPSISISIFFCSICSIOSOSJMCE  
 MAKVARQRPARYTIEOFRNOTTIUISXIYE  
 ETWQBHEBRTHNVBTTEFRNGGHMMGBSTP  
 RFJR XVIAAPOKXSSTUCEAOAEESQJTOE  
 WSVDIOPIWDEVIICMIDGLDHMGRPAALR  
 RUABXTDQOHGGGARMWCOECIAEAAGVOH  
 ASVWPOEHGKOOBOXNB I KONZOMWSPDGD  
 NFDWPDTRNLLRTVAMDRIGNEOLZAXIIX  
 GSB LJRCJ OOPCTIDUDBNXXATOOVRXS I  
 EJD DOTWTIPAEICIALTFMEDJTILGXDTT  
 RHUTL FNBTRHIOWC OFBFVEBKUCOIMEK  
 DTPGJ OOBPENALNEUROLOGISTRIGSCN  
 WCJIERKOKHAIRLEBLHWGWOPNXASITG  
 KUMLCJRECGICGMNVFTNZELWKBTLT SX  
 XCAILIMEDEHUHHAANWUNEOBOTANIST  
 FPM PHXTFORESTERCRWLRWGGPMIWT SW  
 SLGCHBZOOKEEPERZIKPRIIXYXTRJHT  
 GYKXADIETITIANPOTSREMSPHJVMKHB  
 QBTLSUAYBYPAZ NWTCHTGD TT MENHJCJ

AGRONOMIST  
 AUDIOLOGIST  
 BACTERIOLOGIST  
 BEEKEEPER  
 BIOCHEMIST  
 BIOLOGIST  
 BOTANIST  
 CHIROPRACTOR  
 CONSERVATIONIST  
 CYTOLOGIST  
 DENTIST  
 DIETITIAN  
 FARMER  
 FORESTER

GAME WARDEN  
 GENETICIST  
 HORTICULTURIST  
 LAB TECHNICIAN  
 MICROBIOLOGIST  
 MICROSURGEON  
 NATURALIST  
 NEUROLOGIST  
 NURSE  
 OCEANOGRAPHER  
 OPTOMETRIST  
 ORTHODONTIST  
 PALEONTOLOGIST  
 PARASITOLOGIST

PHARMACIST  
 PHYSICIAN  
 PODIATRIST  
 PSYCHOLOGIST  
 RADIOLOGIST  
 RANGER  
 TEACHER  
 THERAPIST  
 VETERINARIAN  
 WRITER  
 ZOOKEEPER  
 ZOOLOGIST