

**Grade Level:** 3-5

**Curriculum Focus:** Classification

**Lesson Duration:** One to two class periods

### ***Student Objectives***

- Identify common characteristics of living organisms.
- Define scientific classification.
- Explain how specific organisms are classified.

### ***Materials***

- Video on *unitedstreaming: TLC Elementary School: What Is a Living Thing?*  
Search for this video by using the video title (or a portion of it) as the keyword.

Selected clips that support this lesson plan:

- Classification of Living Things
  - Basic Scientific Classification
  - Classification Levels
  - The Classification Process
  - Scientific Names
- Characteristics of Living Things
  - Adaptations and Structures
- Paper and pencils
- Science textbooks, encyclopedias, other Library resources
- Computer with Internet access (optional)

### ***Procedures***

1. Begin the lesson by discussing living organisms. Ask your students to tell you what separates a living thing from a nonliving thing. Talk about the characteristics living things share, which is to perform functions necessary to sustain life: movement, sensitivity, respiration, nutrition, growth, excretion, and reproduction.

2. Ask students to think about familiar living organisms: trees, humans, snails, and germs. What do they have in common? How are they different from one another? How do we group them? Tell the class that scientists use taxonomy, a system of scientific classification, to organize all living organisms into groups based shared characteristics. Ask students why scientists might separate living things into categories.
3. Have students fold a sheet of white paper into four even vertical rows. At the top of each row have them write the initials K, W, L, and Q. On a sheet of butcher paper, the overhead projector, or a white board, make a similar chart. Inform students that K stands for “know,” W stands for “want to know,” L stands for “what I learned,” and Q stands for “questions I still have.”
4. Have students write everything they know about scientific classification in the column marked K. Make sure they understand that this is not a test, and they will not be graded on what they know or if they make an error. Allow a few minutes to finish writing.
5. Ask for volunteers to share what they wrote. Discuss the information with the class to see if they agree with it, and if so, include it on the class chart.
6. Now have students think about what they would like to learn about classifying living organisms. Give them a few minutes to write in the W column. Discuss what students wrote and include common ideas on the class chart.
7. Tell students that they will watch a program about living organisms and taxonomy. While watching, they should write information they learn about living organisms and taxonomy in the L section of their chart. Play *What is a Living Thing?*, and make sure students are writing on their charts. Segments are entitled “Classification of Living Things,” “Characteristics of Living Things,” “Classification of Plants,” and “Classification of Animals.”
8. After viewing the program, talk about what students wrote in the L column. Look at the class chart and discuss items in the K row. Ask students if any of these statements are incorrect? Look at the W column and discuss whether the show answered any of the class statements. Write answers in the L section of the class chart, as well as new information learned.
9. Talk about what the students would still like to know about scientific classification. Have them write their questions in the Q column, and then discuss the questions. On the class chart, write the questions that most students have.
10. Divide the class into groups of three to five. Have each group find the answers to three or more questions in the Q column. Students may use library or Internet resources. Give students time in class to research their answers or assign as homework. The following Web sites have useful information on scientific classification:
  - ♦ <http://nmml.afsc.noaa.gov/education/taxonomy.htm>
  - ♦ <http://anthro.palomar.edu/animal/default.htm>
  - ♦ <http://homeworktips.about.com/library/weekly/aa101999.htm>
  - ♦ <http://library.thinkquest.org/11771/english/hi/biology/taxonomy.shtml>
11. Have students share their research with the class. Add new information to the L column of the class chart. Discuss how scientific classification groups living organisms. Ask students follow-

up questions: What are similarities among plants? What are similarities among animals? What are the necessary functions an organism performs to be considered a living thing?

## Assessment

Use the following three-point rubric to evaluate students' work during this lesson.

- **3 points:** Students created legible, complete KWLQ charts that showed great thought and comprehension of scientific classification; successfully researched answers to three or more questions; and gave a clear explanation of how specific organisms are classified.
- **2 points:** Students created mostly legible, complete KWLQ charts that showed some thought and comprehension of scientific classification; successfully researched the answer to one or two questions; and gave a somewhat clear explanation of how specific organisms are classified.
- **1 point:** Students created illegible or incomplete KWLQ charts that lacked thought and comprehension of scientific classification; were unsuccessful in researching answers to any questions; and were unable to explain how specific organisms are classified.

## Vocabulary

### adaptation

*Definition:* The process by which a living organism conforms to its environment

*Context:* A species' adaptations over time improve its chance of survival.

### organisms

*Definition:* Any living things that can act or function independently

*Context:* Organisms live in the upper levels of the atmosphere and deep in the oceans.

### photosynthesis

*Definition:* Process through which light energy, water, and carbon dioxide are converted to carbohydrate and oxygen in the presence of chlorophyll

*Context:* To be classified as a plant, an organism makes its own food through photosynthesis.

### species

*Definition:* A classification of related living organisms that can freely interbreed without complications

*Context:* The bald eagle was once an endangered species.

### taxonomy

*Definition:* The science of classifying plants and animals into species and logical groups of species

*Context:* Scientists use taxonomy to group living organisms.

## **Academic Standards**

### **National Academy of Sciences**

The National Science Education Standards provide guidelines for teaching science as well as a coherent vision of what it means to be scientifically literate for students in grades K-12. To view the standards, visit <http://books.nap.edu>.

This lesson plan addresses the following science standards:

- Life Science: Characteristics of organisms; Organisms and environments; Diversity and adaptations of organisms

### **Mid-continent Research for Education and Learning (McREL)**

McREL's Content Knowledge: A Compendium of Standards and Benchmarks for K-12 Education addresses 14 content areas. To view the standards and benchmarks, visit <http://www.mcrel.org/>.

This lesson plan addresses the following national standards:

- Science – Life Sciences: Understands relationships among organisms and their physical environment, Understands biological evolution and the diversity of life
  - Language Arts – Viewing: Uses viewing skills and strategies to understand and interpret visual media
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## **Support Materials**

Develop custom worksheets, educational puzzles, online quizzes, and more with the free teaching tools offered on the Discoveryschool.com Web site. Create and print support materials, or save them to a Custom Classroom account for future use. To learn more, visit

- <http://school.discovery.com/teachingtools/teachingtools.html>

