grouping
living things
teacher’s guide

Editors:
Brian A. Jerome Ph.D.
Stephanie Zak Jerome

Assistant Editors:
Louise Marrier
Josh Hummel

Graphics:
Fred Thodal
a message from our company . . .

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ISBN 1-59234-766-7

grouping living things
## Teacher’s Guide

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## Student Activities

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student learning objectives

Upon viewing the video and completing the enclosed student activities, students will be able to do the following:

1. Explain that placing things in groups makes them easier to work with and to study.
2. Know that living things are often grouped based on common characteristics.
3. List examples of characteristics of living things such as physical traits, body chemistry, behavior, and common ancestry.
4. Describe a classification system as a grouping arrangement into which living things are placed.
5. Know that kingdoms and domains are large classification categories.

assessment

what do you know now? (p. 10):
This preliminary assessment is an assessment tool designed to gain an understanding of students’ preexisting knowledge. It can also be used as a benchmark upon which to assess student progress based on the objectives stated on the previous pages.

what have you learned? (p. 11):
This post assessment can be utilized as an assessment tool following student completion of the program and student activities. The results of this assessment can be compared against the results of the preliminary assessment to assess student progress.

video review (p. 12):
The video review can be used as an assessment tool or as a student activity. There are two sections. The first part contains questions displayed during the program. The second part consists of a five-question video quiz to be answered at the end of the video.
introducing the program

Before showing the video to students write the word “group” on the board. Ask them what this word means. Then discuss examples of things that are in groups.

Next, gather together common objects found in the classroom. Or, have each student donate an object to the classroom collection. From this collection of classroom objects make several groups. Discuss the criteria used to place objects into different groups.

Then explain that living things can also be placed in groups. Ask students what are some of the groups of living things. Examples include birds, plants, and mammals. Tell students to pay close attention to the video to learn more about grouping living things.

program viewing suggestions

The student master “video review” is provided (p. 12) for distribution to students. You may choose to have your students complete this master while viewing the program or do so upon its conclusion.

The program is approximately 10 to 12 minutes in length and includes a five-question video quiz. Answers are not provided to the video quiz in the video, but are included in this guide on page 9. You may choose to grade student quizzes as an assessment tool or to review the answers in class.

The video is content-rich with numerous vocabulary words. For this reason you may want to periodically stop the video to review and discuss new terminology and concepts.

literature connections


Every time you take a walk around your school or neighborhood you see many different living things. Chances are you see pets such as dogs and cats. You may even see wild animals such as birds, …squirrels, …or snakes. And of course you probably see several different types of trees, …plants, and flowers. There are many other living things you might not notice such as insects, …or spiders. All these living things are quite different from each other, and can be placed into different groups. Why are living things placed in groups? How’s it done? And what are some of the groups into which living things are placed? During the next few minutes we are going to answer these questions and others as we explore the grouping of living things.

Let’s suppose someone were to hand you a box of disorganized school supplies, and asked you to organize it.

How would you go about organizing these supplies? Placing similar objects into groups would be a good way to start. For example, you could place the pencils and pens together in one group, because they’re used to write. The paperclips and binder clips could be put in another group. Since they’re used to hold things together. And the different types of paper could be grouped together. See how it’s easier to work with these things once they’ve been grouped. This is one reason scientists group living things. By placing living things in groups it makes them easier to work with and easier to study.
Let’s take a look at some animals that live in this wetland: a stork, a heron, an alligator, and a lizard.

Into what two groups would you put these animals?
The stork and heron are birds. The alligator and lizard are reptiles. These are two very different groups of animals.

You may have been able to separate them that way because you made some observations based on how the animals look.

Based on their appearance, you chose those animals that had similar looks, and then you put them into groups.

The birds looked similar to each other, and they were placed in the bird group.

The alligator and lizard were somewhat similar, too. Both have scaly bodies, and a similar shape. They’re in a group of animals called reptiles.

The way animals look or appear is one type of characteristic. A characteristic is a feature of a living thing. Shape, size, and structure are all examples of physical characteristics.

Scientists often group living things based on similar physical characteristics.

They also place animals in groups based on other characteristics such as their body chemistry, how they reproduce, their behavior, and how they’re related to each other.

There are millions of living things on Earth. Placing all these things in groups is not an easy job.

In fact, scientists are continually changing the grouping arrangement, also called a classification system, into which living things are placed.

Today there are two major classification systems.

One system living things are grouped in, is based on five or six large categories called kingdoms.

In this system, organisms are placed in kingdoms such as the plant kingdom, animal kingdom, fungi kingdom, and several other kingdoms.

Some scientists prefer a different classification system.

In this system living things are placed in groups called domains.

How many domains are there in this classification system?
There are three domains.

The first domain includes bacteria. Bacteria are tiny microscopic cells with specific characteristics.

The second domain consists of similar microscopic organisms called Archaea. They have slightly different characteristics.
And, the third huge domain of living things consists of Eukaryotes. Eukaryotes are living things that have more complex cells. This domain includes plants, animals, fungi, and most living things with which you are familiar. The way living things are grouped will most likely change during your lifetime.

**video review**

During the past few minutes the grouping of living things was explored. We began by seeing how everyday objects can be grouped. Then, we highlighted reasons why grouping things is helpful. We saw how the characteristics of living things help us place things in groups. We then took a look at a couple of different ways that living things are placed in large groups. This rounded out our fascinating investigation of grouping living things.

**video quiz**

Fill in the correct word to complete the sentence.

1. Placing things in groups makes them easier to work with and ____.
2. The way a living thing looks is one type of ____.
3. Living things with ____ characteristics are grouped together.
4. There are ____ of living things on Earth.
5. Kingdoms and domains are large ____.
what do you know now?
1 study
2 characteristic
3 millions
4 grouped
5 categories
6 microscopic organisms
7 complex cells
8 bacteria
9 frog
10 plants

what have you learned? (p. 11)
1 bacteria
2 categories
3 characteristic
4 frog
5 grouped
6 plants
7 millions
8 microscopic organisms
9 study
10 complex cells

video review (p. 12)
1 Place similar objects into groups. The objects could be placed into three groups: pens and pencils, paperclips and binder clips, and last, the different kinds of paper.
2 The stork and heron are birds. The alligator and lizard are reptiles. These would be the two groups.
3 There are three domains.

video quiz (p. 12)
1 study
2 characteristic
3 similar
4 millions
5 groups

answer key to student activities

grouping things (p. 13)
1 group 1: pen, crayon, and pencil
2 group 2: book, magazine, and textbook
3 group 3: paper clip, binder clip, and stapler

characteristics (p. 14)
1 furry, has backbone, has four legs.
2 spiny, lives in water, no backbone.
3 has scales, has backbone, can live in and out of water.
4 lives in water, has scales, has gills.
5 has feathers, has wings.
6 born in water, but can live on land as an adult, body changes a lot during life.

grouping living things (p. 15)
1 dandelion, sunflower, and lily
2 fox, groundhog, and giraffes
3 Canada goose, crane, and red knot
4 tortoise, iguana, and alligator
what do you know now?

Select the best answer for each of the following questions.

1. Placing living things in groups makes them easier to:
   - ○ feed
   - ○ study
   - ○ find
   - ○ divide

2. The way animals look is one type of:
   - ○ feeling
   - ○ sound
   - ○ characteristic
   - ○ footprint

3. How many different kinds of living things are on Earth?
   - ○ dozens
   - ○ hundreds
   - ○ thousands
   - ○ millions

4. A classification system is a way things are:
   - ○ grouped
   - ○ found
   - ○ lost
   - ○ fed

5. What are kingdoms and domains?
   - ○ accounts
   - ○ awards
   - ○ categories
   - ○ money

6. What are bacteria?
   - ○ microscopic organisms
   - ○ large animals
   - ○ furry animals
   - ○ dust

7. Eukaryotes are living things that have:
   - ○ no cells
   - ○ complex cells
   - ○ no nucleus
   - ○ lots of fur

8. What living thing is not an eukaryote?
   - ○ plants
   - ○ animals
   - ○ bacteria
   - ○ reptiles

9. Which animal would not be grouped with the others?
   - ○ turkey
   - ○ robin
   - ○ duck
   - ○ frog

10. Trees, flowers, and mosses are all in what kingdom?
    - ○ plant
    - ○ animal
    - ○ bacteria
    - ○ reptile
what have you learned?

Select the best answer for each of the following questions.

1. What living thing is not an eukaryote?
   - plants
   - animals
   - bacteria
   - reptiles

2. What are kingdoms and domains?
   - accounts
   - awards
   - categories
   - money

3. The way animals look is one type of:
   - feeling
   - sound
   - characteristic
   - footprint

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   - plant
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   - dozens
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8. What are bacteria?
   - microscopic organisms
   - large animals
   - furry animals
   - dust

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   - feed
   - study
   - find
   - divide

10. Eukaryotes are living things that have:
    - no cells
    - complex cells
    - no nucleus
    - lots of fur
you decide
How would you go about organizing these supplies?

________________________________________________________________________

________________________________________________________________________

you decide
Into what two groups would you put these animals?

________________________________________________________________________

________________________________________________________________________

you observe
How many domains are there in this classification system?

________________________________________________________________________

video quiz
Placing things in groups makes them easier to work with and ____________.

The way a living thing looks is one type of _________________.

Living things with ___________ characteristics are grouped together.

There are _____________ of living things on Earth.

Kingdoms and domains are large _________________.

12 | grouping living things
Below is a list of several things you might find in your classroom. Place them into three groups. Group the things based on common characteristics.

- Pen
- Book
- Crayon
- Paper clip
- Magazine
- Pencil
- Textbook
- Binder clip
- Stapler

Group 1

Group 2

Group 3
Directions: A characteristic describes a living thing. List a characteristic of each living thing.
Directions: Living things have characteristics. Cut out the living things below. Place them in groups based on common characteristics.

Dandelion  Fox  Canada goose  Groundhog  Tortoise  Sunflower  Iguana  Giraffes  Crane  Lily  Red Knot  Alligator