

Kingdom Animalia

Lesson 3

• 1 class period •

Focus

How do taxonomists organize the animal kingdom?
How do animals interact with other species?

In this lesson, students will further explore the taxonomy of living species by focussing on animal classification. They will explore nine phyla, discovering the great diversity of animals on the earth and how they are different from each other. They will further appreciate the immense task of naming all the animals and the number that could potentially make the Hannah property their home.

Now the LORD God had formed out of the ground all the wild animals and all the birds in the sky. He brought them to the man to see what he would name them; and whatever the man called each living creature, that was its name.

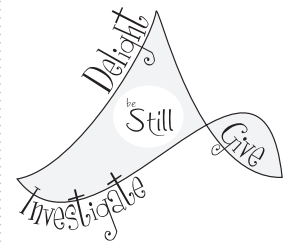
~ Genesis 2:19 (TNIV)



Teacher Notes

Materials

- Class sets of:
 - SR 2-2, "Name that Species!" (from Lesson 2)
 - SR3-1, "Animal Classification"
 - Project Handbook, Worksheet 3, "Animal Classification"
- UR-8, "Species Cards" (Two sets – one set per group with pictures only; a second set per group with taxonomic information)
- UR-13, "Animal Classification" (placemat in front pocket of binder)
- Information resources, science texts, web browsers
- Website: http://www.vandonkelaar.ca/icon_gallery/current



Learning Expectations

Students will:

- **OME** 2.2 investigate the organisms found in a specific habitat and classify them according to a classification system;
- 2.4 use appropriate science and technology vocabulary, including *classification*, *biodiversity*, *natural community*, *interrelationships*, *vertebrate*, *invertebrate*, *stability*,



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characteristics, and *organism*, in oral and written communication;

2.5 use a variety of forms to communicate with different audiences and for a variety of purposes;

3.1 identify and describe the distinguishing characteristics of different groups of plants and animals and use these characteristics to further classify various kinds of plants and animals;

3.2 demonstrate an understanding of biodiversity as the variety of life on earth, including variety within each species of plant and animal, among species of plants and animals in communities, and among communities and the physical landscapes that support them.

Teacher Preparation

- These Christian Schools International units are excellent resources for this unit:
 - CSI (1994) *Science 6*, Unit 2: *Discovering the Animal Kingdom*, pp. 9-73.
 - CSI (2004) *Science 6*, Unit 2: *Investigating the Diversity of Life*, pp. 81-143.
- Scientific names are also excellent keywords to use when browsing web search engines for information about specific species.
- An art extension suggested in the lesson is Adam naming the animals. Chris vanDonkelaar's icon entitled "Adam Naming the Animals" is an excellent way to lead students into this art experience. You can find out more about this local artist at <http://www.vandonkelaar.ca>.



Key Terms and Concepts

Zoologists – Scientists who study animals.

Learning Activities

Activity A. Naming the Animals

1. Read Genesis 2:19.

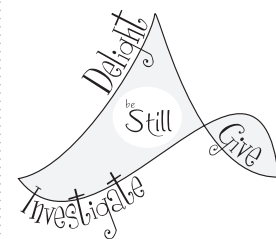
Now the LORD God had formed out of the ground all the wild animals and all the birds in the sky. He brought them to the man to see what he would name them; and whatever the man called each living creature, that was its name. (TNIV)

Show students a picture of Adam naming the animals.
(See <http://www.vandonkelaar.ca> for an icon on this subject.)
Generate a discussion of this scripture. Review how Linnaeus fits into this perspective.

2. Review the purpose of classifying and naming living things.
3. Write the heading “Kingdom” on the board and ask students to name the five kingdoms of living things. Record these below the word “Kingdom” and across the board. Below the label “Kingdom,” print the word “Phylum.”
4. Remind students that taxonomy is a useful science: it helps scientists discuss, gather and organize information about different types of organisms. It is a tool that helps to organize how different organisms relate to one another in an ecosystem and also gives a glimpse of the power and creativity God used in making all things.
5. Show students UR-13, “Animal Classification” (placemat in front pocket of binder), and explain that scientists (taxonomists) begin by placing all organisms that are related in some way into kingdoms. The group of “Kingdom” includes the largest number of organisms. The organisms in each kingdom are then further divided into smaller groups called Phyla (singular phylum). Follow the classification of the white-tailed deer. Explain that scientists continue to classify by refining their criteria until only one species remains in the category (Species).
6. If students have difficulty remembering the order of the groups from largest to smallest, consider teaching them this fun mnemonic: **King--Phillip--Came--Over--For--Good--Soup** (Kingdom, Phylum [division used in plant and fungus kingdoms], Class, Order, Family, Genus, Species). Explain to students that this acronym is a good tool to help them remember the order of taxonomic groups. (You may also choose to invite them to create their own mnemonics.)
7. Distribute the species cards from the animal kingdom to each group and ask students to classify them according to their phylum. Ask: **How many phyla were represented?**



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8. Distribute SR 3-1, “Animal Classification,” and explain that this lesson focusses on the classification of the Animal Kingdom. Scientists (zoologists) have divided animals into 33 phyla. This chart shows nine of the largest and most common phyla. Ask: **To which phylum does the white-tailed deer belong?** (Chordata). This phylum includes all animals that have a flexible rod-like structure inside their bodies at some time during their life cycle. Since vertebrates – animals with backbones – have this structure early in their life cycle, they are a part of this phylum. Review with students the five classes of chordates (they may have learned these already in the primary grades): mammalian, avian (birds), reptilian, amphibian and fish.

Activity B. Project Handbook

1. Have the students complete Worksheet 3, “Animal Classification,” of their Project Handbooks, which also includes SR 3-1, “Animal Classification,” by adding three examples of species that would be included in each phylum. In addition to the information provided on Worksheet 3, “Animal Classification,” of their Project Handbooks, you may provide other resources such as the CSI Science texts (*Grade 6 Science*, 2004; *Grade 6 Science*, 1994). If students have access to the library or Internet, consider having them use those resources as well.

Enrichment and Extension

1. **Art Options.** Historically, there are several pieces of art that depict Adam naming the animals described in Genesis 2. Chris VanDonkelaar’s icon entitled *Adam Naming the Animals* may be used to inspire students to create an art piece that expresses how God created us to have a relationship with the immense number of other living creatures that live in God’s creation. Remind students that naming is an important act of caring and understanding. Visit his website at <http://www.vandonkelaar.ca> and together look in the Gallery for this art piece.
2. **Option.** Each group or individual could add further details to SR 3-1, “Animal Classification,” as the chart launches them into research about the nine phyla represented. Students could produce a large chart or bulletin board that furthers the information provided in SR 3-1, “Animal Classification.”

Assessment and Evaluation

Student Assessment for Feedback

- Check that the student is able to:
 - identify the taxonomic terms *Kingdom, Phylum, Class, Order, Family, Genus, Species*;
 - complete a species card for an animal that would inhabit the Hannah property;
 - identify scientific names of species as the genus and species names (binomial nomenclature);
 - recognize the diversity of animals present on the Hannah property;
 - identify nine animal phyla and some examples of species in each group.

Student Evaluation for Marks

- None recommended for this lesson.



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SR 3-1

Animal Classification

Scientists have divided the animal kingdom into 33 phyla.
The following nine are the largest and most common.

Add three examples of species that would be found in each phylum.

