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CASE
Curriculum for Agricultural Science Education

Activity 2.2.2 Creature Classification

Purpose

Scientific classification of living organisms provides a standard nomenclature across the world in a single language. The following is an example of classification. Have you noticed the names used in the scientific classification system are not common terms? Where do these terms come from and how would you know what animal the list below represents?

Kingdom:	Animalia
Phylum:	Chordata
Subphylum:	Vertebrata
Class:	Mammalia
Order:	Primate
Family:	Hominidae
Genus:	*Homo*
Species:	*sapien*

All living things, humans included, are classified scientifically. You might be wondering how the animal you are raising in your *Producer's Management Guide* is classified. Are you raising an *Anser anser*, a *Llama glama*, or a *Capra hircus*? Is it a vertebrate or a mammal? To answer these questions, you must research the hierarchical classification of the animal.

Materials

Per group of four students:

- 11"x17" paper
- Markers

Per student:

- Index card
- Pencil
- Computer with Internet access
- *Modern Livestock and Poultry Production* textbook
- Agriscience Library
- *Agriscience Notebook*

Procedure

In this activity, you will classify the animal you have selected to study for your *Producer's Management Guide* and compare the classification to animals that your classmates are studying.

Part One – Classify Your Animal

1. Using your *Modern Livestock and Poultry Production* textbook, the Agriscience Library, and the Internet, classify your animal.

2. Record your findings on *Activity 2.2.2 Student Worksheet* and include in your management guide.

3. Use the index card provided to create a simple schematic of the classification of your animal. Include all categories of the classification system on your index card.

Part Two – Comparing Animals

When you have completed *Activity 2.2.2 Student Worksheet* and your index card, your teacher will assign you to a group.
1. Work with your assigned group to demonstrate relationships among the different species chosen by your group members for their *Producer's Management Guide*.

2. Develop a diagram showing the relationships among the different species, using markers and a sheet of 11"x17" paper. You can use a Venn diagram or any other mapping diagram to show the relationships.

3. Display your group's diagram as instructed by your teacher.

Conclusion
1. What is the purpose of a scientific classification system?

The purpose of a scientific classification system is to differentiate and organize different animal species and breeds.

2. At what point in the classification system, provided on Page 1 in the Purpose, does your animal branch away from humans?

At the Family part is where my animal branches away from humans.

3. How does the animal you researched differ from other animals in your group?

The animal I researched differs from other animals in my group, because it is more carnivorous and a predator.

4. What characteristics place your animal into its Order and Family?

The characteristics that place my animal into its Order and Family   is its jaws and what their body shape is and what they eat.

Name: _____

💡 Activity 2.2.2 Student Worksheet

Directions: Complete the classification chart for the animal you are studying for your *Producer's Management Guide*. Define the characteristics of each division used in identifying that group. Example: Kingdom – plant, Characteristics – multicellular, make their own food, eukaryotic.

Animal__Gray Wolf_____

Scientific Classification Category	Classification of Animal	Characteristics
Kingdom	**Animalia**	• Animals are eukaryotic, multicellular and heterotrophic organisms. • They have multiple cells with mitochondria and they depend on other organisms for food. • Habitat - Most of the animals inhabit seas, fewer are seen in fresh water and even fewer on land. • Size - The sizes of animals ranges from a few celled organism like the mesozoans to animals weighing many tons like the blue whale. • Animal bodies - Bodies of animals are made of cells organized into tissues which perform specific functions. in most animals tissue are organized into complex organs, which form organ systems. • Animals are made up of many organ systems, that aids in performing specific functions that are necessary for the survival of the organism. • Reproductive system - Most animals reproduce sexually, by the fusion of haploid cells like the eggs and the sperms.
Phylum	**Chordata**	• Notochord, or a rod of vacuolated cells, encased by a firm sheath that lies ventral to the neural tube in vertebrate embryos and some adults.

		• Hollow nerve cord that lies dorsal to the notochord
		• Pharyngeal pouches
		• Endostyle - elongated groove in the pharynx floor of protochordates that may develop as the thyroid gland in chordates
Subphylum	**Vertebrata**	• All vertebrates have endoskeleton framework.
		• All the members possess cranium but vertebrae are usually.
		• Due to the presence of vertebral column, the group derives its name from this structure.
		• The notochord does not extend beyond the brain.
		• The distinct cranium or braincase houses the brain. It is a major innovation of the vertebrates. The cranium bears also sensory capsules.
		• All vertebrates possess a well-developed

		head, i.e., cephalization is well-marked.
Class	**Mammalia**	- Warm blooded. - Possess hair which is made of keratin. The evolution of mammalian keratin is believed to be independent of reptilian keratin. Hair provides insulation . - Endothermic. The majority of the heat energy is used to maintain their high body temperature. - Four chambered heart. - Mammary glands are used to produce milk to nourish their young. Female glands are the only functional glands. - Well developed brain.
Order	**Carnivora**	- All teeth are rooted and diphyodont - A simple stomach "consisting of a single dilation of the alimentary canal" - four or more toes - molars are blade like, suited for cutting and grinding
Family	**Canidae**	- bodies are lithe and muscular and (in most cases) their legs are long - jaws and teeth are large well suited for grasping, biting, and tearing flesh. - they walk on their toe - covered with thick fur
Genus	**Canis**	- have long limbs relative to their head and body length - elongated snouts, well-developed canines, digitigrade locomotion, and non-retractile claws

		• hunt large prey
Species	**lupus**	• Keen senses, large canine teeth, powerful jaws, • usually live in packs of up to two dozen individual • move and hunt mostly at night • Fur on the upper body, though usually gray, may be brown, reddish, black, or whitish, while the underparts and legs are usually yellow-white
Breed (if applicable)		