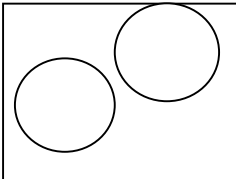
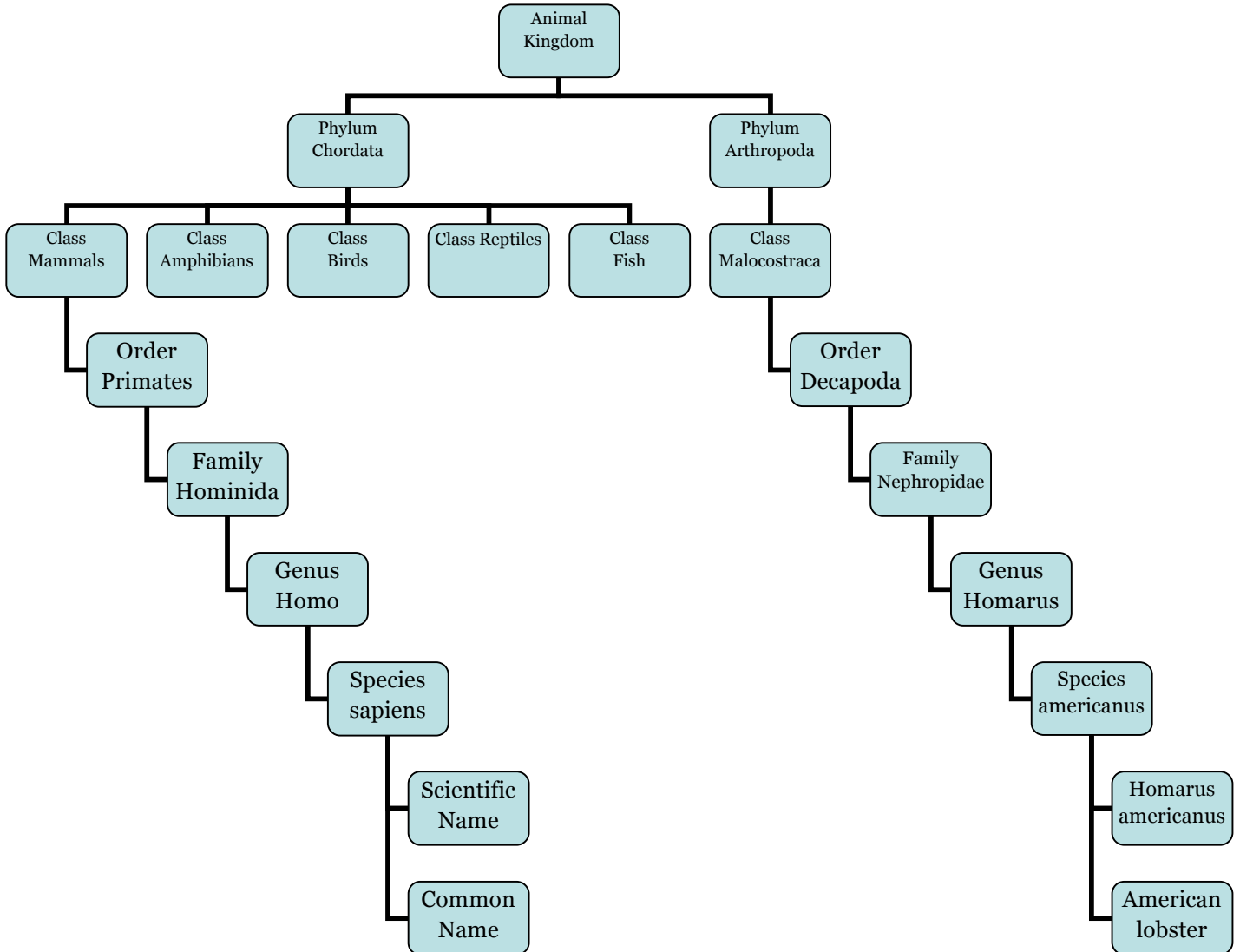


<div>Analytical Thinking</div> <div>Second Grade</div>	<div>Animal Sort</div>		<div></div>
<div>Objectives</div> <div>Identify attributes Create classification systems that work</div>	<div>Materials</div> <div>Animal cards or plastic animals, poster board, pencils</div>	<div>Time</div> <div>30 to 40 minutes</div>	
<div>Intro: Teacher led (5 minutes)</div> <div>Have students split into two groups – males in one group, females in another. Mention that you have selected one attribute to create groups – gender. But there are other attributes that we share and that are different. Give each group a couple of minutes to figure out another attribute to create 2 more groups within their group. So, boys should split into 2 groups and girls should split into 2 groups. Discuss what attribute each group selected and why.</div>			
<div>Lesson: Student led (20-15 minutes)</div> <div>Organize students into small groups by readiness (3-5 per group). Give each group a set of animal cards and a poster board. Students should also have pencils with erasers. Ask the groups to sort the animal cards by attributes, but do not tell them which attributes to sort by. They may draw lines on the poster board to show shared attributes between groups, label the groups, and/or create circles for the groups. There are no limitations to what they can try.</div>			
<div>Closure: Whole group (10-15 minutes)</div> <div>Students stay in small groups and share with the class how they sorted their animals. Replicate each group’s sorting systems on the board. If groups sorted for more than one attribute, have them come up with a name for one of the animals, based on the series of attributes they used (e.g., furry-pet-land). Talk about how scientists name animals, using the sequence of classification categories (listed below.) Discuss: why do scientists sort by attributes? Why do scientists sort animals into groups? Key thoughts: organization by attribute allows for more efficient thinking, and also helps scientists make educated guesses when information is missing.</div> <div>Example for discussion: A wild turkey is <i>Meleagris gallopavo</i>. <b>Kingdom:</b> Animalia, <b>Phylum:</b> Chordata, <b>Class:</b> Aves, <b>Order:</b> Galliformes, <b>Family:</b> Phasianidae, <b>Genus:</b> gallopavo, <b>Species:</b> Meleagris.</div>			
<div>Vocabulary~</div> <div>Attribute: n. Quality, characteristic, or property Category: n. Division or class Characteristic: n. Distinguishing feature or quality Classification: n. Group, set, class or category</div>			
<div>Sequence of classification categories</div> <div><b><u>Kingdom</u></b> Of the 6 kingdoms, in this lesson we are talking about the Animal Kingdom. Humans are part of the Animal Kingdom.</div> <div><b><u>Phylum</u></b> There are more than 30 phyla in the Animal Kingdom—humans and most animals are in Phylum Chordata, or vertebrates (animals with a backbone.) Insects are in Phylum Arthropoda.</div> <div><b><u>Class</u></b> Phylum Chordata is divided into mammals, reptiles and fish.</div> <div><b><u>Order</u></b> This is where some disagreement among scientists begins. Different sources may classify animals in different orders or families.</div> <div><b><u>Family</u></b> A way of grouping genuses together.</div> <div><b><u>Genus</u></b> Species that share unique characteristics are grouped in a genus. This is the first part of the scientific name of a species, and is always capitalized.</div> <div><b><u>Species</u></b> A species can be defined as a group of individuals that breed together to produce fertile offspring. The species is the second part of the scientific name and is always spelled with a lower case letter and in italics.</div>			

## K-2 Enrichment ~ Javits Grant Research Project

Extension Activity 1 – Have kids choose an animal from the animal card deck or set of plastic animals. They should list all the attributes they can think of, from the most specific to the least specific. In other words, the biggest (least specific) category is the one the animal shares with many other animals, and the smallest (most specific) category is the one the animal shares with very few, if any other animals.



Extension Activity 2 – Let your students mix and match characteristics and attributes to create a new animal, with a name that reflects many or all of these characteristics. They can draw, build the animals out of clay, or create them with any other materials. The ‘new’ animals can cross boundaries between any levels of classifications. Let your students explain how.

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