A close-up, high-resolution photograph of a golden retriever's face, focusing on its eyes and nose. The fur is a warm, golden-brown color, and the eyes are dark and expressive. The nose is large and black, with visible texture.

A DOG'S PURPOSE

CURRICULUM

LESSON 1

Lesson 1: All About Dogs

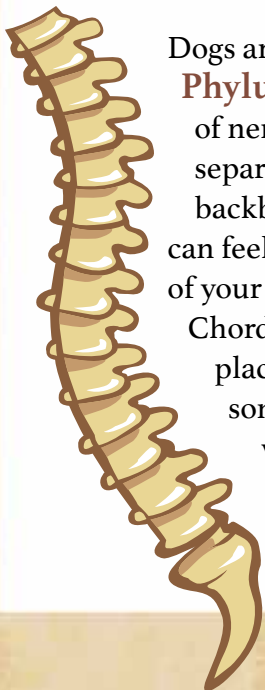
Subject: Science, Math Standards, Biological Classification [anatomy], Sorting

Tail-wagging Information

There are a lot of animals in the world. Scientists who study them are called **zoologists**, and one way they try to better understand animals is to organize them into groups based on how similar the animals are to each other. Each animal is placed into several groups and then given a name. This process is called taxonomy. **Taxonomy** is used to identify all living things in the world. Dogs, for instance, are animals with fur. So scientists place them into the mammal group, which includes all animals that have hair or fur, such as bears and cats, as well as other similar characteristics they all share. Now, looking at a dog within the mammal group, we can see how it differs from a deer that is in the mammal group by the type of food it eats. Dogs are meat eaters, or animals that feed on other animals, so they are put in a smaller group within the mammals, called Carnivora. And we can continue to split up types of carnivores into smaller and smaller groups until all the domestic dogs are in the same group, called a species. By grouping, or classifying, animals, we have a way to better understand them. By understanding the types of food an animal eats, for example, we can see why it has a certain mouth and tooth structure, and how it needs to hunt to capture its food.



All animals are classified into one large group called Kingdom Animalia (an' uh mayl' ee uh). Then the animals in this large group are placed with similar animals into a smaller group called a Phylum (fy' lum). And the process continues to smaller and more descriptive groups called Class, Order, Family, Genus and Species. Sometimes groups of animals are very similar to each other but have a slight, but notable difference. That is enough to split a major group into a subgroup. This is the case with classifying domestic dogs.



Dogs are in **Kingdom Animalia** which encompasses all the animals. They are in the **Phylum Chordata**, which includes animals with a notochord, which is a type of cord of nerves that goes along the back. They have a backbone or spine, so they are further separated into Subphylum **Vertebrata**. The vertebrates include all animals that have a backbone made up of individual bones, called vertebrae. Humans are vertebrates. You can feel the individual vertebrae of your backbone if you run your hand along the middle of your back and feel the bumps of each bone there. Insects, however, are in phylum Chordata, too, but they are NOT vertebrates. They don't have a backbone, so they are placed into another subphylum. Among the vertebrates, dogs are grouped with some other animals into **Class Mammalia** because they have hair or fur, are warmblooded, and give live birth to their young. Birds, for example, are vertebrates that are not mammals. They lay eggs and have feathers, not fur.

Each class is further divided into orders, and domesticated dogs are grouped into **Order Carnivora**, which is made up of animals that feed on other animals...the meat-eaters.

They are then placed into **Family Canidae**, which consists of living and extinct dog-like carnivores. Then they are placed into the **Genus Canis**, **Species lupus**, and even a **Subspecies familiaris**.

The final major classification system includes Kingdom, Phylum, Class, Order, Family, Genus, and Species. A good way to remember the order of these is to use a mnemonic, placing the first letters of these words into an easy-to-remember phrase. If you remember this sentence:

“King Phillip Cried Out, ‘For Goodness Sakes!’”

then you can more easily remember the first letter of each classification group from largest to smallest.

DOGGIE BAG BONUS

As you work on this lesson, you might notice that the names are not common names, but are in the Latin language. Scientists use Latin because it is a language that no one speaks anymore. So it doesn't ever change. Languages that are spoken will always have new words and words can change meaning over time. Therefore, Latin is a great language to avoid any confusion.

OLDER STUDENTS: Classification activity. Create mobile using given classification: Kingdom Animalia; Phylum Chordata; Class Mammalia; Order Carnivora; Family Canidae; Genus *Canis*; Species *C. lupus*; Subspecies *C. l. familiaris*

Materials needed: 9 - 3"x5" cards, single hole punch, 5 feet of string or yarn, tape or glue, classification printables provided.

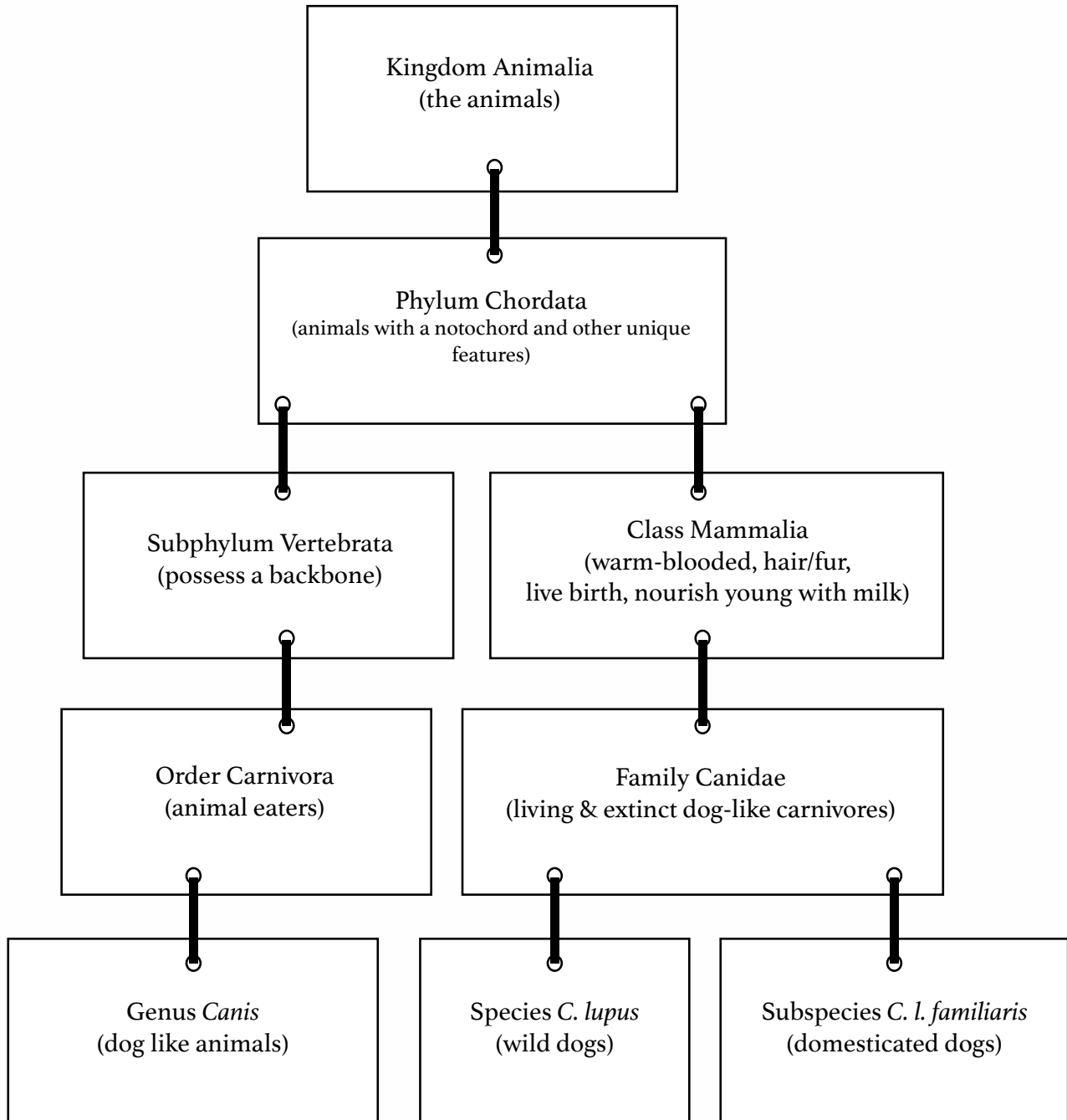
Print out the classification information in this section and then cut out each classification level, gluing or taping the text on one side of a 3"x5" card and the accompanying images on the other side. Using the given accompanying diagram as a guide, take the Kingdom Animalia card and punch a hole in the center top and center bottom. Tie a 12" piece of string to the top hole. Then tie a 6" piece of string to the bottom. Now take the Phylum Chordata card and punch one hole in the center top, and two holes evenly spaced on the bottom. Tie the top of this card to the string from the Kingdom Animalia card. Then take two 6" pieces of string and tie each one to the holes in the bottom of the card.

Now take the Subphylum Vertebrata card, punch a single hole on the center top and the center bottom, and tie the top to the left side of the Phylum Chordata card. Tie a 6" piece of string to the bottom of this card. Take the Order Carnivora card, and punch a hole in the center top and center bottom of the card. Tie the top to the Subphylum Vertebrata card and then tie a 6" piece of string to the bottom of the card. Now take the Genus *Canis* card and punch a hole in the center top. Tie it to the bottom of the Order Carnivora card.

Take the Class Mammalia card, and punch a hole in the center top and center bottom of the card. Tie it to the right side of the Phylum Chordata card. Then tie a 6" piece of string to the bottom of the card. Take the Family Canidae card and punch a hole in the center top and two holes, evenly spaced on the bottom. Tie the top to the Class Mammalia card and tie two 6" strings to the bottom. Now take the Species *lupus* card, punch a hole in the center top and tie it to the left side of the Family Canidae card. Take the Subspecies *familiaris* card, punch a hole in the center top and tie it to the right side of the Family Canidae card.



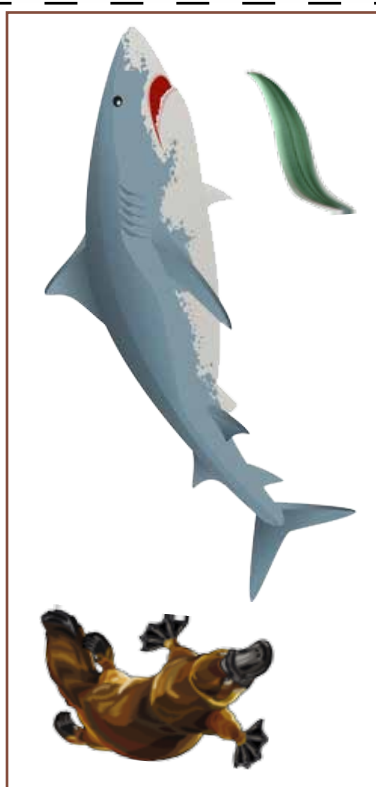
Hang your completed canine classification mobile. For further study, look up the grammar of classification, particularly when words are capitalized and when they are italicized.



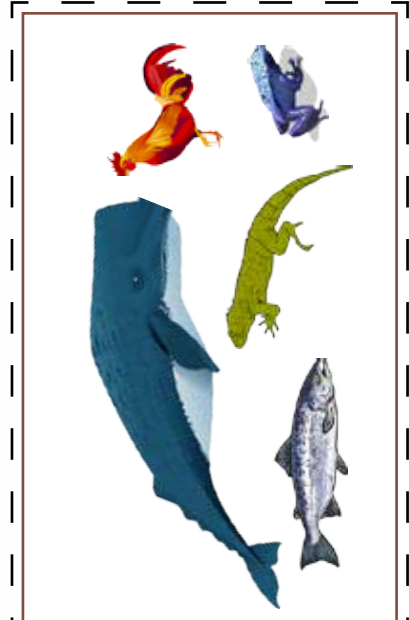
Mobile Classification Activity



Kingdom Animalia
(the animals)



Phylum Chordata
(animals with a notochord and other unique features)



Subphylum Vertebrata
(possess a backbone)



Class Mammalia
(warm-blooded, hair/fur,
live birth, nourish young with milk)



Order Carnivora
(animal eaters)



Family Canidae
(living & extinct dog-like carnivores)

Genus *Canis*
(dog like animals)



Species *C. lupus*
(wild dogs)



Subspecies *C. l. familiaris*
(domesticated dogs)





YOUNGER STUDENTS: Classification activity. Explore the concept of classification by sorting beans into groups.

Materials needed: One bag of mixed, dried beans, Small cups or muffin tin for sorting, cup sorting diagram.

Step One:

Present students with a cup of mixed dried beans and ask them to sort them into two groups, dividing the beans into two empty cups.

Step Two:

Once they have completed the process, have them explain how they determined the groups (size, color, etc.)

Print out the cup sorting activity sheet below and have them write (or dictate) the physical features they used to sort them as well as the number of beans in each group.

Step Three:

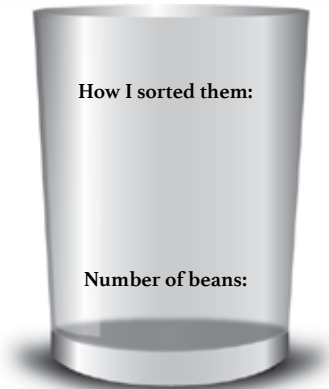
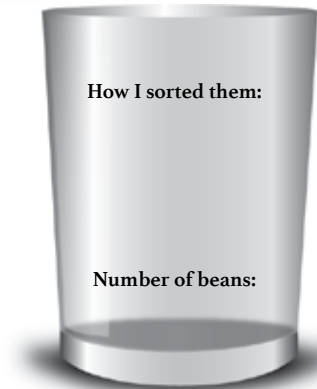
Now mix the beans up again and have the students sort them into THREE groups, dividing the beans into three empty cups.

Talk with them about how they determined the groups again. On the cup sorting page have them write (or dictate) the physical features they used to sort them this time as well as the number of beans in each group.

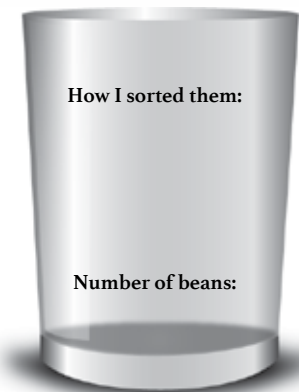
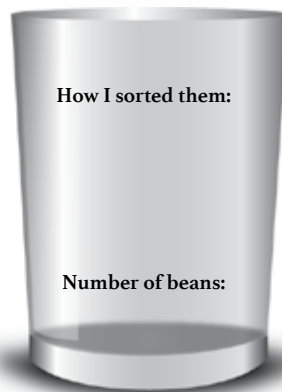
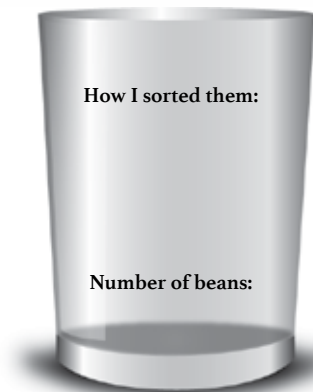
Connect these ideas with classification, particularly focusing on how some people would make different groups. Is one grouping method better than another?




Two groups :



Three groups:

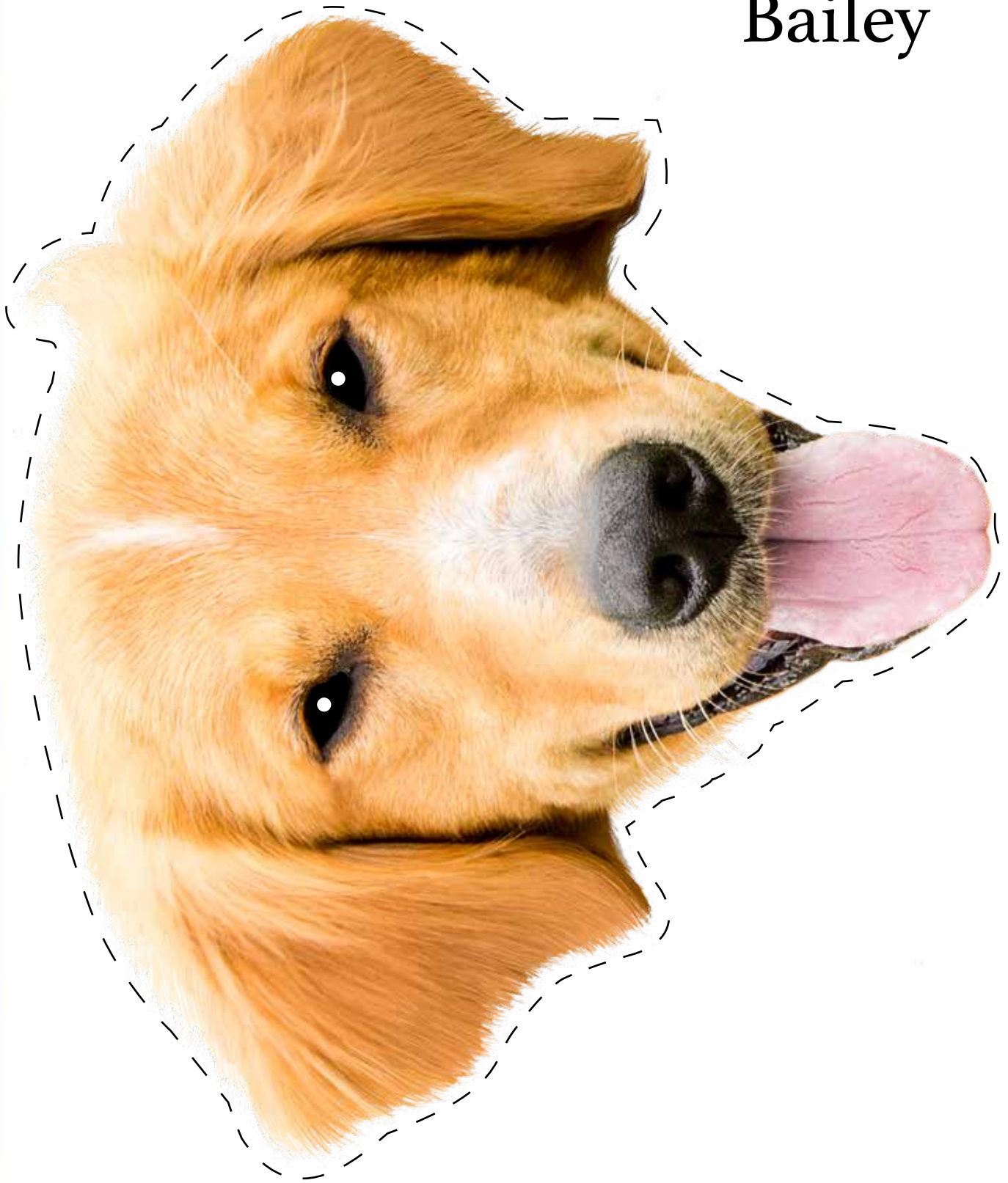


 **YOUNGER STUDENTS:** On the next four pages are printable masks based on the characters in the movie; Bailey, Tino, Ellie, and Buddy for students to cut out and use for imaginative play.

Materials Needed: Printable masks on pages 12 - 15, popsicle sticks, glue, scissors



Bailey



Buddy



Tino



Ellie

