# **Animal Structure and Classification Discussion Guide (for use during or after reading)**

1. Consider how the kingdom taxonomy is organized. What happens as you move up the levels? (Scientific Classification, p. 8-9)
   1. As you move up the levels of the kingdom taxonomy, the relationships between the animals become more distant. They are less similar toward the top of the taxonomy than the bottom of the taxonomy.
2. Giant blue whales and tiny ants seem so different. How is it possible for them to both be classified as Animalia? (The Animal Kingdom, p. 10-11)
   1. It is possible for two organisms quite different from each other to be classified in the same kingdom because they share some (or even one) structure. Giant blue whales and tiny ants are more similar to one another than they are to organisms in different kingdoms like plants or fungi.
3. How are the categories phylum and kingdom related? (Animal Phyla, p. 12-13)
   1. Both phylum and kingdom include animals that are alike in only a few structures. It is still very clear that some animals within both categories are quite different. That said, animals within the same phylum have more in common with one another than animals within the same kingdom. Phyla are more specific than kingdoms.
4. Why are humans and fish both considered members of the phylum Chordata? (Animal Phyla, p. 12-13)
   1. Humans and fish are both considered members of the phylum Chordata because both are vertebrates with an endoskeleton, even though many of their other structures differ.
5. What are arthropods? (Invertebrates and Arthropods (Phylum), p. 14-15)
   1. Arthropods are the largest phylum (group) of invertebrates on Earth. They have jointed legs and a tough outer covering called an exoskeleton. Arthropods’ exoskeletons do not grow. Instead, they are shed when the animal becomes too large.
6. Why are mammals considered their own class separate from other vertebrates? (Vertebrates and Mammals (Class), p. 16-17)
   1. Mammals are considered their own class separate from other vertebrates because newborn mammals drink milk from their mother. They are also warm-blooded which means their body temperature stays relatively the same no matter how the temperature changes outside.
7. To what order do humans belong? Why? (Class and Order, p. 18-19)
   1. Humans are considered part of the primate order because they share structures in common with other primates. For example, most members of this order have eyes that face forward and hands that grasp. Some even have feet and tails that grasp!
8. How do scientists determine and create names for species? (Common Confusion, p. 24-25)
   1. Scientists use Latin and Greek words to describe each species. They create a scientific name for each animal by combining the name for its genus and species. For example, what might commonly be called a mountain lion is scientifically called a puma concolor.
9. Who is Carl Linneaus? (Who’s Who, p. 32-33)
   1. Carl Linneaus was a naturalist who wrote the Systema Naturae, which is the system we use in modern times to scientifically name plants and animals.
10. Look through the different species and read about their iconic names. Which species name did you find the most interesting? Why?
    1. Students’ answers will vary.