# **Animal Life Cycles Discussion Guide (for use during or after reading)**

1. Why do mammals only fertilize a few eggs whereas amphibians and fish fertilize many eggs? (Fertilization, p. 6-9)
   1. Mammals only fertilize a few eggs because fertilization occurs within mammals’ bodies. This means the eggs are more protected and therefore more likely to survive birth. On the other hand, amphibians and fish fertilize many eggs because they fertilize their eggs outside of their bodies. Because they are less protected, fewer eggs will survive to adulthood.
2. Provide an example of an animal that lays eggs. Make sure you include details about what makes that animal and their eggs unique. (Eggs and Offspring, p. 10-13)
   1. Many animals lay eggs. For example, alligators lay eggs on land. Baby alligators use an egg tooth to break out of the egg. Amphibians and fish lay their eggs in water to help them stay moist and survive. Eggs laid on land are often found in nests that are camouflaged for protection. Mammals also have eggs, but most experience live births. Some mammals, such as the platypus or the echidna, lay eggs like birds, but feed their young them milk like mammals.
3. Explain how certain animals care for their young. Use evidence from the text to support your answer. (Parental Care, p. 14-15)
   1. Most amphibians, fish, and reptiles do not care for their young because most do not survive. Birds will care for their young until they are able to fly on their own. Most mammals, however, receive care from their parents for a very long time (months or even years) because they are born helpless.
4. How do animals grow and change over time? (Growth, p. 16-17)
   1. All animals grow and change over time. Some grow in size and length, while others might lose baby teeth or fur. Some animals grow more fur over time. It depends on the animal and environmental factors.
5. Explain the stages of metamorphosis a tadpole goes through before becoming a frog. (Metamorphosis and the Amphibian, p. 18-19)
   1. When frog eggs hatch, they hatch as tadpoles. These animals have gills and live underwater. They go through many changes over time to lose those gills and learn to breathe on land. Next they absorb their tails and grow legs instead. This prepares them for a life on land.
6. Explain the life cycle and metamorphosis of a caterpillar wasp (Metamorphosis and the Caterpillar Wasp, p. 22-23)
   1. A caterpillar wasp is an insect that experiences metamorphosis. It will lay its eggs inside a caterpillar. The caterpillar then carries around the unhatched larvae without noticing. It becomes a living nest. Then the caterpillar wasp larve hatch and eat the caterpillar. They become pupae and form small cocoons on the caterpillar’s body. When their metamorphosis is complete, they emerge, fly away, and begin the life cycle again.
7. What factors tend to contribute to life cycle disruptions? (Life Cycle Disruptions, p. 26-27)
   1. Often, life cycle disruptions are caused by food shortages, invasive species, diseases, habitat destruction, lack of water, pollution, and parasites. Humans can also cause life cycle disruptions to many animals.
8. How have humans contributed to life cycle disruptions in animals? (Life Cycle Disruptions, p. 26-27)
   1. Humans have contributed to life cycle disruptions because they eat many animals as well as the plants animals rely on for survival. In addition, humans have had many negative impacts on the environment. Sometimes life cycle disruptions occur when pets are reintroduced to the wild.
9. What is special about jellyfish and hydras when it comes to life cycles and typical disruptions? (Life Cycle Disruptions, p. 26-27)
   1. Jellyfish and hydras are special because they have the ability to grow and change to avoid life cycle disruptions. Some say they “live forever” or “never grow old” because of this. Hydras in particular are unique because they have the ability to regenerate parts of their bodies as needed.
10. What is a life cycle? What do all animal life cycles have in common? (The Circle of Life, p. 28-29)
    1. A life cycle includes all the stages that a living thing goes through as it develops. Although life cycles may differ, they all include birth, stages of life, and death.