

CARTERVILLE SCHOOL DISTRICT
ZOOLOGY CURRICULUM
HIGH SCHOOL
Revised 2009

FIRST QUARTER

- Discuss characteristics of all animals.
- Discuss common misconceptions of the word “animal.”
- Discuss benefits and drawbacks of specialization.
- Compare and contrast vertebrates and invertebrates.
- Discuss body systems.
- Compare and contrast motile and sessile animals.
- Discuss cell division, and embryo formation.
- Compare and contrast various forms of symmetry.
- Compare and contrast the three body plans.
- Learn directional anatomical terms.
- Discuss theory of animal origins.
- Compare and contrast endoskeletons and exoskeletons.
- Discuss anatomy and physiology of sponges.
- Understand how filter feeding works.
- Define external fertilization and understand basic reproduction in sponges.
- Discuss defense mechanisms of sponges.
- Compare and contrast sessile vs. motile.
- Discuss the body plan and structure of cnidarians.
- Discuss characteristics of Cnidarians.
- Understand basic life cycle of cnidarians.
- Discuss diversity of cnidarians
- Discuss origins of sponges and cnidarians.
- Study preserved specimens of sponges and cnidarians.
- Understand anatomy and physiology of flatworms.
- Observe live planarians.
- Discuss regeneration.
- Discuss nematode diversity.

- Compare and contrast flatworms with nematodes.
- Discuss forms of parasitism and problems caused by nematodes and flatworms.
- Discuss anatomical features of phylum mollusca.
- Discuss diversity of mollusks.
- Define mantle, radula, and foot.
- Compare and contrast open and closed circulatory systems.
- Compare and contrast the major divisions of the phylum Mollusca.
- Dissect squid, earthworms, and clams.
- Compare and contrast segmented worms to nematodes and flatworms.
- Understand characteristics of Annelids.
- Discuss diversity of Annelids.
- Discuss common characteristics of arthropods.
- Define cephalothorax, molting, spiracles, book lungs, simple eyes, compound eyes, and mandibles.
- Discuss how arthropods make up most of the animal kingdom by species number.
- Discuss wide diversity of arthropods and impact to the Earth.
- Know examples from Arachnids, crustaceans, and insects.
- Define metamorphosis, larva, and pupa.
- Observe preserved specimens of arthropods.
- Conduct web-based research on a selected arthropod.
- Dissect Crayfish.
- Discuss common characteristics of echinoderms.
- Discuss importance of endoskeletons to echinoderms.
- Discuss exclusivity and importance of the water vascular system.
- Observe diversity of echinoderms.
- Compare and contrast the skeletal system of echinoderms to insects.
- Dissect starfish
- Discuss characteristics of chordates.
- Understand similarities of invertebrate chordates to vertebrates.
- Discuss diversity of chordates.

SECOND QUARTER

- Know characteristics common to all vertebrates
- Know main classes of fish.
- Discuss characteristics common to fish.
- Understand the benefits and drawbacks to fish circulation.
- Discuss lateral line system in fish.
- Compare and contrast various scales.
- Compare and contrast skeletons from Osteichthyes to Chondrichthyes.
- Discuss diversity and origins of fish.
- Discuss fish reproduction.
- Dissect perch.
- Conduct web-based research of a selected fish species.
- Understand meaning of amphibia, and the application to the class Amphibia.
- Know characteristics common to amphibians.
- Compare and contrast endothermic and ectothermic regulation.
- Discuss why ectothermic is a better term than “cold-blooded.”
- Know three orders of Amphibia.
- Discuss metamorphosis regarding amphibians.
- Evaluate why amphibians require more energy than fish.
- Discuss amphibian diversity and three orders of Amphibia.
- Discuss origins of amphibians, and pros and cons to life on land.
- Dissect frog.
- Understand distinguishing characteristics of reptiles.
- Compare and contrast reptiles to amphibians.
- Understand special sense organs of reptiles, and how they help them.
- Discuss the diversity of reptiles.
- Discuss possible origins of reptiles.
- Compare and contrast birds with reptiles.
- Discuss the theories of how birds derive their origins from reptiles.
- Know the defining characteristics of birds.
- Understand how birds achieve flight by various structural features.

- Dissect pigeon, and observe various structures.
- Discuss diversity of birds, and distribution.
- Dissect pigeon.
- Understand defining characteristics of mammals.
- Compare and contrast different orders of mammals.
- Perform dissection of fetal pig.
- Compare and contrast a bat to a bird.
- Understand importance of teeth to diet in mammals.
- Observe mammal bones.
- Understand mammal diversity.
- Discuss origins of mammals.
- Discuss how humans are mammals.