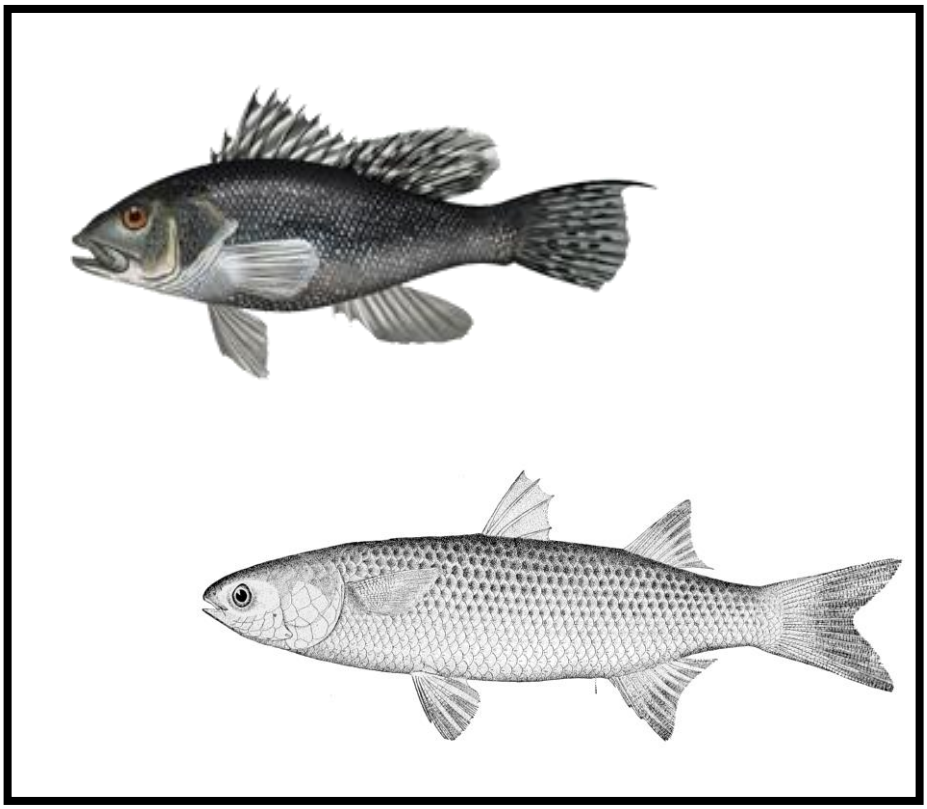
Comparative Fish Dissection

2018 – Driftwood Education Center



Class Description:
Students will investigate fish adaptations and learn what an ichthyologist studies to monitor fish populations. In this comparative dissection lab, students will be dissecting multiple fish and comparing the differing and similar adaptations these fish have. This hands-on activity will be facilitated by Driftwood instructors but led by the students' curiosity, questions, and discoveries.

Appropriate for all grade levels

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Table of contents and outline:

S. Carolina Performance Standards met

4.L.5B.1 Develop and use models to compare how humans and other animals use their senses and sensory organs to detect and respond to signals from the environment.
4.L.5B.3 Construct explanations for how structural adaptations (such as methods for defense, locomotion, obtaining resources, or camouflage) allow animals to survive in the environment.
5th Grade: Inquiry IB1 Compare, sort, and group concrete objects according to two attributes.
6.L.4: The student will demonstrate an understanding of how scientists classify organisms and how the structures, processes, behaviors, and adaptations of animals allow them to survive.
7th Grade: Life Science 1C Living systems at all levels of organization demonstrate the complementary nature of structure and function.
8th Grade: Life Science IA1. Observe, describe, and examine the diversity of organisms over time including differences and similarities based on kingdoms, phyla, classes.

Georgia Standards of Excellence met

S5L1. Obtain, evaluate, and communicate information to group organisms using scientific classification procedures.
S5L3. Obtain, evaluate, and communicate information to compare and contrast the parts of plant and animal cells**.**
L6-8WHST7: Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
S7L1. Obtain, evaluate, and communicate information to investigate the diversity of living organisms and how they can be compared scientifically.
S7L2. Obtain, evaluate, and communicate information to describe how cell structures, cells, tissues, organs, and organ systems interact to maintain the basic needs of organisms.

Florida Performance Standards met:

SC.4.N.1: The Practice of Science (all sub standards are applied)
SC.5.L.14.2 Compare and contrast the function of organs and other physical structures of plants and animals, including humans, for example: some animals have skeletons for support -- some with internal skeletons others with exoskeletons
SC.5.L.17.1 Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycles variations, animal behaviors and physical characteristics.
SC.5.N.1: The Practice of Science (all sub standards are applied)
SC.6.N.1.1: Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.6.N.1.5: Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.
SC.6.L.15.1 Analyze and describe how and why organisms are classified according to shared characteristics with emphasis on the Linnaean system combined with the concept of Domains.
SC.7.N.1.1 Define a problem from the seventh grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.7.L.17.1: Explain and illustrate the roles of and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.
SC.8.N.1.1 Define a problem from the eighth grade curriculum using appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
SC.912.L.15.6 Discuss distinguishing characteristics of the domains and kingdoms of living organisms.
SC.912.L.15.7 Discuss distinguishing characteristics of vertebrate and representative invertebrate phyla, and chordate classes using typical examples.
SC.912.L.17.2 Explain the general distribution of life in aquatic systems as a function of chemistry, geography, light, depth, salinity, and temperature.

Next Generation Science Standards met:

NS.K-4.1 SCIENCE AS INQUIRY
As a result of activities in grades K-4, all students should develop
- Abilities necessary to do scientific inquiry
- Understanding about scientific inquiry

NS.K-4.3 LIFE SCIENCE
As a result of activities in grades K-4, all students should develop understanding of
- The characteristics of organisms

NS.5-8.1 SCIENCE AS INQUIRY
As a result of activities in grades 5-8, all students should develop
- Abilities necessary to do scientific inquiry
- Understandings about scientific inquiry

NS.5-8.3 LIFE SCIENCE
As a result of their activities in grades 5-8, all students should develop understanding
- Structure and function in living systems
- Regulation and behavior
- Diversity and adaptations of organisms

NS.9-12.1 SCIENCE AS INQUIRY
As a result of activities in grades 9-12, all students should develop
- Abilities necessary to do scientific inquiry
- Understandings about scientific inquiry

NS.9-12.3 LIFE SCIENCE
As a result of their activities in grades 9-12, all students should develop understanding of
- Biological evolution
- Interdependence of organisms
- Behavior of organisms