HIGH School
Implanting Tags and Dissecting Fish:

Biology:

SCSh2. Students will use standard safety practices for all classroom laboratory and field investigations.

a. Follow correct procedures for use of scientific apparatus.
b. Demonstrate appropriate technique in all laboratory situations.
c. Follow correct protocol for identifying and reporting safety problems and violations

SCSh4. Students use tools and instruments for observing, measuring, and manipulating scientific equipment and materials.

a. Develop and use systematic procedures for recording and organizing information.
b. Use technology to produce tables and graphs.
c. Use technology to develop, test, and revise experimental or mathematical models

SCSh8. Students will understand important features of the process of scientific inquiry.
Students will apply the following to inquiry learning practices:

a. Scientific investigators control the conditions of their experiments in order to produce valuable data.
b. Scientific researchers are expected to critically assess the quality of data including possible sources of bias in their investigations' hypotheses, observations, data analyses, and interpretations.
e. The ultimate goal of science is to develop an understanding of the natural universe which is free of biases.
f. Science disciplines and traditions differ from one another in what is studied, techniques used, and outcomes sought.

Zoology:

SZ3. Students will compare form and function relationships within animal groups (clades) and across key taxa.

a. Explain the similarities and differences among major body plans (e.g., asymmetry, radial and bilateral symmetry).
b. Compare and contrast taxa based on morphological and genetic characters.
c. Relate important structural changes to key functional transitions.
d. Dissect representative taxa and describe their internal anatomy and the function of major organ systems and organs and relate to cell specializations

SZ4. Students will assess how animals interact with their environment including key adaptations found within animal taxa.

a. Discuss morphological and physiological adaptations relative to ecological roles.
b. Relate animal adaptations, including behaviors, to the ecological roles of animals.

Anatomy and Physiology:

SAP1. Students will analyze anatomical structures in relationship to their physiological functions.

a. Apply correct terminology when explaining the orientation of body parts and regions.
b. Investigate the interdependence of the various body systems to each other and to the body as a whole.
c. Explain the role of homeostasis and its mechanisms as these relate to the body as a whole and predict the consequences of the failure to maintain homeostasis.
e. Describe how structure and function are related in terms of cell and tissue types.

SAP4. Students will analyze the physical, chemical, and biological properties of process systems as these relate to transportation, absorption and excretion, including the cardiovascular, respiratory, digestive, excretory and immune systems.

a. Describe the chemical and physical mechanisms of digestion, elimination, transportation, and absorption within the body to change food and derive energy.
b. Analyze, and explain the relationships between the respiratory and cardiovascular systems as they obtain oxygen needed for the oxidation of nutrients and removal of carbon dioxide.
c. Relate the role of the urinary system to regulation of body wastes (i.e. waterelectrolyte balance, volume of body fluids).