Stage 1 UbD ZOOLOGY Elective

Time Frame: Sept - January **or** January - June (1semester)	**Animal Biology and Survey of Animal Phyla**	**Course Name: ZOOLOGY**

Stage 1 - Desired Results

Established Goals	**Transfer**
What content standards will this unit address? *HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.* *HS-LS2-2. Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.* *HS-LS4-1. Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.* *HS-LS4-5. Evaluate the evidence supporting claims*	*Students will be able to independently use their learning to…* ● *Organize and classify based on observations* ● *Use microscopes effectively* ● *Make comparisons and support a claim with empirical evidence* ● *Ask questions and define problems* ● *Dissection skills and anatomical awareness across animal phyla*

	Meaning

UNDERSTANDINGS	ESSENTIAL QUESTIONS
Students will understand that…. *What specifically do you want students to understand?* ● *The living world is diverse and demands organization in order to study it* ● *Animal complexity is driven by evolution over the course of time. New features that enhance survival are favored and speciation takes place.* ● *Symbiotic relationships are numerous and matter* ● *What inferences should they make?* ● *Scientific classifications change in light of new technology and information/observations gathered from technology*	*Students will keep considering* ● *How do different animal phyla show increasing complexity?* ● *How does increasing complexity drive the evolutionary story of animals?* ● *Where are animals placed in the great tree of life?* ● *What traits are common and define all of the 30+ animal phyla currently identified today?* ● *Which animals are sentient and what evidence supports this?* ● *Are some animals more important than*

that changes in environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species. What habits of mind and cross disciplinary goal(s) - for example, 21st century skills, core competencies - will this unit address?		*others?*
Analyzing and interpreting data	**Acquisition**	
Engaging in Argument from Evidence **Developing and using models** *Models (e.g., physical, mathematical, computer models) can be used to simulate systems and interactions within and between systems at different scales. (HS-LS1-2)* **Planning and carrying out investigations** **Structure and Function** *Investigating or designing new systems or structures requires a detailed examination of the properties of different materials, the structures of different components, and connections of components to reveal its function and/or solve a problem. (HS-LS1-1)*	*Students will know…* *What facts and basic concepts should students know and be able to recall?* ● *Traits common to all animals in the animal kingdom* ● *The importance of observation and technology in developing historical and modern classification systems.* ● *The role of scientific names (binomial nomenclature) in specifying animals vs. using common names.* ● *Animals are organized into related groups based on observable traits.* ● *The use of dichotomous key; How to construct a dichotomous key* ● *Identify animal characteristics associated with 9 major animal phyla* ● *Organize animals into phyla.* ● *Characterize animals based on behavior and/or development.* ● *Describe organisms using morphological terminology.*	Students will be skilled at… What discrete skills and processes should students be able to use? ● *Design investigations that reveal the anatomy and physiology of various animal phyla* ● *Use of microscopes, collection techniques, building models, dissection, etc…* ● *Making and interpreting graphs*