Course Title: Zoology
Board Approval Date: September 15, 2020
Credit / Hours: 1.0

Course Description:

This course is designed to provide the student with basic information and vocabulary in preparation for college courses in zoology and biology. It will include basic concepts of general zoology including the major animal phyla and classes, animal reproduction and development, structure and function of critical organ systems, and basic concepts of animal behavior and ecology. Laboratory dissection of representative animal phylum will be a required part of this course.

Learning Activities / Modes of Assessment:

- Bell ringers
- Discussions
- Coloring guides
- Collaboration
- Worksheets
- Video guides
- Labs
- Projects
- Quizzes
- Tests

Instructional Resources:

- Integrated Zoology textbook
- Zoology textbook
- Zoology coloring book
- HHMI videos and resources
- Shape of Life videos and resources
- Various worksheets and activities
- Flinn Scientific digital dissections and resources
- Power Point, Schoology, iPads, Nearpod
- Quizlet, Kahoot, etc.
- Dissection specimens and tools

Curriculum: High School Science
Course: Zoology

Know:	Understand:	Do:
Introduction to Animals		
3.1.10.A1 - Explain the characteristics of life common to all organisms. 3.1.10.A6 - Identify the advantages of multicellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs. 3.1.B.C4 - Compare and contrast scientific theories. - Know that both direct and indirect observations are used by scientists to study the natural world and universe. - Identify questions and concepts that guide scientific investigations. - Formulate and revise explanations and models using logic and evidence. - Recognize and analyze alternative explanations and models. - Explain the importance of accuracy and precision in making valid measurements. - Examine the status of existing theories. - Evaluate experimental information for relevance and	- What is Zoology? - Scientific Method in Zoology - Animal Cell Review - Levels of Organization - Types of Symmetry - Body Plans - Taxonomy and Classification	3.1.10.A1 - Explain the characteristics of life common to all organisms. 3.1.10.A6 - Identify the advantages of multicellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs. 3.1.B.C4 - Compare and contrast scientific theories. - Know that both direct and indirect observations are used by scientists to study the natural world and universe. - Identify questions and concepts that guide scientific investigations. - Formulate and revise explanations and models using logic and evidence. - Recognize and analyze alternative explanations and models. - Explain the importance of accuracy and precision in making valid measurements. - Examine the status of existing theories. - Evaluate experimental information for relevance and

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Kingdom Protista		
3.1.10.A1 - Explain the characteristics of life common to all organisms. 3.1.10.A6 - Identify the advantages of multicellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs. 3.1.B.C4 - Compare and contrast scientific theories. - Know that both direct and indirect observations are used by scientists to study the natural world and universe. - Identify questions and concepts that guide scientific investigations. - Formulate and revise explanations and models using logic and evidence. - Recognize and analyze	- Unicellular vs. multicellular - Characteristics of Plant-like Protists - Types of Plant-like Protists - Characteristics of Fungus-like Protists - Types of Fungus-like Protists - Characteristics of Animal-like Protists - Types of Animal-like Protists	3.1.10.A1 - Explain the characteristics of life common to all organisms. 3.1.10.A6 - Identify the advantages of multicellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs. 3.1.B.C4 - Compare and contrast scientific theories. - Know that both direct and indirect observations are used by scientists to study the natural world and universe. - Identify questions and concepts that guide scientific investigations. - Formulate and revise explanations and models using logic and evidence. - Recognize and analyze

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Phylum Porifera		
3.1.10.A1 - Explain the characteristics of life common to all organisms. 3.1.10.A6 - Identify the advantages of multi-cellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs. 3.1.B.C4 - Compare and contrast scientific theories. - Know that both direct and indirect observations are used by scientists to study	- Symmetry in Sponges - The Sponge Body Plan - The Specialized Cells of a Sponge and their function - The Structure of a Sponge - Sponge Reproduction - General Characteristics of Sponges - Examples of Sponges	3.1.10.A1 - Explain the characteristics of life common to all organisms. 3.1.10.A6 - Identify the advantages of multi-cellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs. 3.1.B.C4 - Compare and contrast scientific theories. - Know that both direct and indirect observations are used by scientists to study

the natural world and universe. - Identify questions and concepts that guide scientific investigations. - Formulate and revise explanations and models using logic and evidence. - Recognize and analyze alternative explanations and models. - Explain the importance of accuracy and precision in making valid measurements. - Examine the status of existing theories. - Evaluate experimental information for relevance and adherence to science processes. - Judge that conclusions are consistent and logical with experimental conditions. - Interpret results of experimental research to predict new information, propose additional investigable questions, or advance a solution. - Communicate and defend a scientific argument.		the natural world and universe. - Identify questions and concepts that guide scientific investigations. - Formulate and revise explanations and models using logic and evidence. - Recognize and analyze alternative explanations and models. - Explain the importance of accuracy and precision in making valid measurements. - Examine the status of existing theories. - Evaluate experimental information for relevance and adherence to science processes. - Judge that conclusions are consistent and logical with experimental conditions. - Interpret results of experimental research to predict new information, propose additional investigable questions, or advance a solution. - Communicate and defend a scientific argument.
Phyla Cnidaria and Ctenophora		
3.1.10.A1 - Explain the characteristics of life common to all organisms. 3.1.10.A6 - Identify the advantages of multicellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer	- Symmetry in Cnidarians and Ctenophores - The Cnidaria and Ctenophora Body Plan - The Specialized Cells and Tissues of a Cnidarians and Ctenophores and their function - The Structure of a Cnidarians and Ctenophores - Cnidaria and Ctenophora Reproduction - General Characteristics of	3.1.10.A1 - Explain the characteristics of life common to all organisms. 3.1.10.A6 - Identify the advantages of multicellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer

programs. 3.1.B.C4 - Compare and contrast scientific theories. - Know that both direct and indirect observations are used by scientists to study the natural world and universe. - Identify questions and concepts that guide scientific investigations. - Formulate and revise explanations and models using logic and evidence. - Recognize and analyze alternative explanations and models. - Explain the importance of accuracy and precision in making valid measurements. - Examine the status of existing theories. - Evaluate experimental information for relevance and adherence to science processes. - Judge that conclusions are consistent and logical with experimental conditions. - Interpret results of experimental research to predict new information, propose additional investigable questions, or advance a solution. - Communicate and defend a scientific argument.	Cnidarians and Ctenophores - Examples of Cnidarians and Ctenophores	programs. 3.1.B.C4 - Compare and contrast scientific theories. - Know that both direct and indirect observations are used by scientists to study the natural world and universe. - Identify questions and concepts that guide scientific investigations. - Formulate and revise explanations and models using logic and evidence. - Recognize and analyze alternative explanations and models. - Explain the importance of accuracy and precision in making valid measurements. - Examine the status of existing theories. - Evaluate experimental information for relevance and adherence to science processes. - Judge that conclusions are consistent and logical with experimental conditions. - Interpret results of experimental research to predict new information, propose additional investigable questions, or advance a solution. - Communicate and defend a scientific argument.
Phyla Platyhelminthes, Nematoda, Rotifera, and Annelida		
3.1.10.A1 - Explain the characteristics of life common to all organisms.	- Symmetry in each phyla - The Body Plan in each phyla - The Specialized Tissues	3.1.10.A1 - Explain the characteristics of life common to all organisms.

3.1.10.A6 - Identify the advantages of multi-cellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs. 3.1.B.C4 - Compare and contrast scientific theories. - Know that both direct and indirect observations are used by scientists to study the natural world and universe. - Identify questions and concepts that guide scientific investigations. - Formulate and revise explanations and models using logic and evidence. - Recognize and analyze alternative explanations and models. - Explain the importance of accuracy and precision in making valid measurements. - Examine the status of existing theories. - Evaluate experimental information for relevance and adherence to science processes. - Judge that conclusions are consistent and logical with experimental conditions. - Interpret results of experimental research to predict new information, propose additional investigable questions, or advance a solution. - Communicate and defend a	and Organs of each phyla and their function - The Structure of each phyla - Reproduction in each phyla - General Characteristics of each phyla - Examples of each phyla	3.1.10.A6 - Identify the advantages of multi-cellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs. 3.1.B.C4 - Compare and contrast scientific theories. - Know that both direct and indirect observations are used by scientists to study the natural world and universe. - Identify questions and concepts that guide scientific investigations. - Formulate and revise explanations and models using logic and evidence. - Recognize and analyze alternative explanations and models. - Explain the importance of accuracy and precision in making valid measurements. - Examine the status of existing theories. - Evaluate experimental information for relevance and adherence to science processes. - Judge that conclusions are consistent and logical with experimental conditions. - Interpret results of experimental research to predict new information, propose additional investigable questions, or advance a solution. - Communicate and defend a

scientific argument.		scientific argument.
Phylum Mollusca		
3.1.10.A1 - Explain the characteristics of life common to all organisms. 3.1.10.A6 - Identify the advantages of multicellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs. 3.1.B.C4 - Compare and contrast scientific theories. - Know that both direct and indirect observations are used by scientists to study the natural world and universe. - Identify questions and concepts that guide scientific investigations. - Formulate and revise explanations and models using logic and evidence. - Recognize and analyze alternative explanations and models. - Explain the importance of accuracy and precision in making valid measurements. - Examine the status of existing theories. - Evaluate experimental information for relevance and adherence to science processes. - Judge that conclusions are consistent and logical with	- Symmetry in Mollusks - The Mollusk Body Plan - The Specialized Tissues and Organs of a Mollusk - The Structure of a Mollusk - Mollusk Reproduction - General Characteristics of Mollusks - Examples of Mollusks	3.1.10.A1 - Explain the characteristics of life common to all organisms. 3.1.10.A6 - Identify the advantages of multicellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs. 3.1.B.C4 - Compare and contrast scientific theories. - Know that both direct and indirect observations are used by scientists to study the natural world and universe. - Identify questions and concepts that guide scientific investigations. - Formulate and revise explanations and models using logic and evidence. - Recognize and analyze alternative explanations and models. - Explain the importance of accuracy and precision in making valid measurements. - Examine the status of existing theories. - Evaluate experimental information for relevance and adherence to science processes. - Judge that conclusions are consistent and logical with

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Phylum Arthropoda		
3.1.10.A1 - Explain the characteristics of life common to all organisms. 3.1.10.A6 - Identify the advantages of multicellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs. 3.1.B.C4 - Compare and contrast scientific theories. - Know that both direct and indirect observations are used by scientists to study the natural world and universe. - Identify questions and concepts that guide scientific investigations. - Formulate and revise explanations and models using logic and evidence. - Recognize and analyze alternative explanations and models. - Explain the importance of accuracy and precision in	- Symmetry in Arthropods - The Arthropod Body Plan - The Specialized Tissues and Organs of a Arthropods - The Structure of a Arthropods - Arthropod Reproduction - General Characteristics of Arthropods - Examples of Arthropods	3.1.10.A1 - Explain the characteristics of life common to all organisms. 3.1.10.A6 - Identify the advantages of multicellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs. 3.1.B.C4 - Compare and contrast scientific theories. - Know that both direct and indirect observations are used by scientists to study the natural world and universe. - Identify questions and concepts that guide scientific investigations. - Formulate and revise explanations and models using logic and evidence. - Recognize and analyze alternative explanations and models. - Explain the importance of accuracy and precision in

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Phylum Echinodermata		
3.1.10.A1 - Explain the characteristics of life common to all organisms. 3.1.10.A6 - Identify the advantages of multi-cellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs. 3.1.B.C4 - Compare and contrast scientific theories. - Know that both direct and indirect observations are used by scientists to study the natural world and universe. - Identify questions and concepts that guide scientific	- Symmetry in Echinoderms - The Echinoderm Body Plan - The Specialized Tissues and Organs of an Echinoderm - The Structure of an Echinoderm - Echinoderm Reproduction - General Characteristics of Echinoderms - Examples of Echinoderms	3.1.10.A1 - Explain the characteristics of life common to all organisms. 3.1.10.A6 - Identify the advantages of multi-cellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs. 3.1.B.C4 - Compare and contrast scientific theories. - Know that both direct and indirect observations are used by scientists to study the natural world and universe. - Identify questions and concepts that guide scientific

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Phylum Chordata		
3.1.10.A1 - Explain the characteristics of life common to all organisms. 3.1.10.A6 - Identify the advantages of multicellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs.	- Symmetry in Chordates - The Chordate Body Plan - The Specialized Tissues and Organs of a Chordates - The Structure of a Chordate - Cordate Reproduction - General Characteristics of Chordates - Examples of Chordates	3.1.10.A1 - Explain the characteristics of life common to all organisms. 3.1.10.A6 - Identify the advantages of multicellularity in organisms. 3.1.10.A8 - Investigate the spatial relationships of organisms' anatomical features using specimens, models, or computer programs.

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Pacing Guide

Course:

Course Unit (Topic)	**Length of Instruction (Class Periods)**
Introduction to Animals	8 days
Kingdom Protista	5 days
Phylum Porifera	6 days
Phyla Cnidaria and Ctenophora	6 days
Phyla Platyhelminthes, Nematoda, Rotifera, and Annelida	15 days
Phylum Mollusca	10 days
Phylum Arthropoda	10 days
Phylum Echinodermata	5 days
Phylum Chordata	15 days