

# Life Science

## Course Syllabus



### Supervising Teacher

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### Course Description:

*Life Science is the study of the origins, diversity and complexity of living organisms. The topics covered include characteristics of life, structure and functions of cells, major body systems, reproduction and heredity, evolution and biodiversity, organisms and their environments, energy and living things and topics in ecology.*

### Recommended Textbook Options:

- Harcourt Holt: Life Science*
- McDougal-Littell: Science: Life*
- McGraw-Hill Glencoe: Life Science*
- Pearson Prentice Hall: Science Explorer – Life Science*

### Pacing Guide

The topics and standards for this course have been divided between the two semesters.

Semester 1(Fall)	Semester 2 (Spring)
Scientific Investigation	Energy Flow
Cellular Aspects of Life	Communities and Ecosystems
Heredity and Genetics	Adaptations and Change Over Time
Classification of Living Things	Conservation of Living Resources
Plants and Photosynthesis	Human Body Topics
Animals	

In order to fulfill this pacing requirement, the recommended texts have been broken down by chapter. Covering the chapters in the order listed will insure that all topics on the final exam will be covered during the appropriate semester.

### *Harcourt Holt: Life Science*

Semester 1(Fall)	Semester 2 (Spring)
Chapter 1	Chapters 18
Chapters 2-4	Chapter 19 – 20
Chapters 5-6	Chapters 7-8
Chapters 9-11	Chapter 21
Chapters 12-13	Chapters 22-26
Chapters 14-17	

### *McDougal Littell: Life Science*

<b>Semester 1(Fall)</b>	<b>Semester 2 (Spring)</b>
Pages xxxviii - xliii	Unit D, Chapter 1
Unit A, Chapters 1-2	Unit D, Chapters 2
Unit A, Chapters 3-5	Unit B, Chapter 1, Chapter 3
Unit B, Chapter 2	Unit D, Chapter 3
Unit A, Chapter 2.2	Unit E, Chapters 1-4
Unit C, Chapter 2.2, Chapter 3	
Unit C, Chapter 2.3, Chapters 4-5	

### *McGraw-Hill/Glencoe: Life Science*

<b>Semester 1(Fall)</b>	<b>Semester 2 (Spring)</b>
Chapter 1	Chapter 24
Chapters 2-3	Chapters 25-26
Chapters 4-5	Chapter 6
Chapter 1	Chapter 27
Chapters 9-11	Chapters 17 - 22
Chapters 12-16	

### *Pearson Prentice Hall: Science Explorer – Life Science*

<b>Semester 1(Fall)</b>	<b>Semester 2 (Spring)</b>
Chapters 1-2	Chapter 22
Chapter 3	Chapter 21
Chapters 4-5	Chapter 6
Chapter 7	Chapter 23
Chapter 8	Chapters 14-17, 19-20
Chapters 9-13	

#### **I-DEA Student Honor Code:**

With any form of valid proof of dishonesty with regard to student work or testing, the instructor may elect from a range of actions. Academic dishonesty could lead to a zero grade for the assignment or even failure for the entire course following consultation between the instructor, Secondary Supervisor, and Director.

All students must adhere to the **Honor Code**:

*“On my honor, I will maintain the highest possible standards of honesty, integrity and personal responsibility. This means I will not lie, cheat or steal, and as a member of this academic community, I am committed to creating an environment of respect and mutual trust.”*

## IDAHO CONTENT STANDARDS: LIFE SCIENCE

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### Standard 1: Nature of Science

Goals	Objectives					
<b>Goal 1.1: Understand Systems, Order, and Organization</b>	7.S.1.1.1 Define small systems as a part of a whole system.	7.S.1.1.2 Determine how small systems contribute to the function of the whole.	7.S.1.1.3 Identify the different structural levels of an organism (cells, tissues, organs, and organ systems).			
<b>Goal 1.2: Understand Concepts and Processes of Evidence, Models, and Explanations</b>	7.S.1.2.1 Describe how observations and data are evidence on which to base scientific explanations and predictions.	7.S.1.2.2 Use observations to make defensible inferences.	7.S.1.2.3 Use models to explain or demonstrate a concept.			
<b>Goal 1.3: Understand Constancy, Change, and Measurement</b>	7.S.1.3.1 Identify concepts of science that have been stable over time.	7.S.1.3.2 Recognize changes that occur within systems.	7.S.1.3.3 Make metric measurements using appropriate tools.			
<b>Goal 1.4: Understand the Theory that Evolution is a Process that Relates to the Gradual Changes in the Universe and of Equilibrium as a Physical State</b>	7.S.1.4.1 Describe how natural selection explains species change over time.					
<b>Goal 1.6: Understand Scientific Inquiry and Develop Critical Thinking Skills</b>	7.S.1.6.1 Identify controls and variables used in scientific investigations.	7.S.1.6.2 Use appropriate tools and techniques to gather and display data.	7.S.1.6.3 Evaluate data in order to form conclusions.	7.S.1.6.4 Use evidence and critical thinking to accept or reject a hypothesis.	7.S.1.6.5 Evaluate alternative explanations or predictions.	7.S.1.6.6 Communicate and defend scientific procedures and explanations.
<b>Goal 1.8: Understand Technical Communication</b>	7.S.1.8.1 Read and evaluate technical instructions.					

### Standard 3: Biology

<b>Goals</b>	<b>Objectives</b>				
<b>Goal 3.1: Understand the Theory of Biological Evolution</b>	7.S.3.1.1 Describe how natural selection explains species change over time.				
<b>Goal 3.2: Understand the Relationship between Matter and Energy in Living Systems</b>	7.S.3.2.1 Describe how energy stored in food is primarily derived from the Sun through photosynthesis.	7.S.3.2.2 Describe how the availability of resources (matter and energy) limits the distribution and abundance of organisms.	7.S.3.2.3 Illustrate how atoms and molecules cycle among the living and nonliving components of the biosphere.	7.S.3.2.4 Identify how energy flows through ecosystems in one direction, from photosynthetic organisms to herbivores, carnivore, and decomposers.	
<b>Goal 3.3: Understand the Cell is the Basis of Form and Function for All Living Things</b>	7.S.3.3.1 Explain the relationships among specialized cells, tissues, organs, organ systems, and organisms.	7.S.3.3.2 Identify the parts of specialized plant and animal cells.	7.S.3.3.3 Identify the functions of cell structures.	7.S.3.3.4 Describe cell functions that involve chemical reactions.	7.S.3.3.5 Describe how dominant and recessive traits are inherited.

### Standard 4: Earth and Space Systems

<b>Goals:</b>	<b>Objectives</b>
Goal 4.1: Understand Scientific Theories of Origin and Subsequent Changes in the Universe and Earth Systems	7.S.4.1.1 Explain the interactions among the solid earth, oceans, atmosphere, and organisms.

### Standard 5: Personal and Social Perspectives; Technology

<b>Goals:</b>	<b>Objectives</b>	
<b>Goal 5.2: Understand the Relationship between Science and Technology</b>	7.S.5.2.1 Explain how science and technology are interrelated.	7.S.5.2.2 Explain how science advances technology.
<b>Goal 5.3: Understand the Importance of Natural Resources and the Need to Manage and Conserve Them</b>	7.S.5.3.1 Identify alternative sources of energy.	