

**IDAHO ACHIEVEMENT STANDARDS
GRADE 9-10
BIOLOGY**

Standard 1: Nature of Science

| Goals: | Objective 1 | Objective 2 | Objective 3 | Objective 4 | Objective 5 | Objective 6 | Objective 7 |
|---|--|--|--|---|---|--|--|
| Goal 1.1: Understand Systems, Order, and Organization | 9-10.B.1.1.1 Explain the scientific meaning of system, order, and organization. (648.01a) | 9-10.B.1.1.2 Apply the concepts of order and organization to a given system. (648.01a) | | | | | |
| Goal 1.2: Understand Concepts and Processes of Evidence, Models, and Explanations | 9-10.B.1.2.1 Use observations and data as evidence on which to base scientific explanations. (648.02a) | 9-10.B.1.2.2 Develop models to explain concepts or systems. (648.02b) | 9-10.B.1.2.3 Develop scientific explanations based on knowledge, logic and analysis. (648.02c) | | | | |
| Goal 1.3: Understand Constancy, Change, and Measurement | 9-10.B.1.3.1 Measure changes that can occur in and among systems. (648.03b) | 9-10.B.1.3.2 Analyze changes that can occur in and among systems. (648.03b) | 9-10.B.1.3.3 Measure and calculate using the metric system. (648.03c) | | | | |
| 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 | Reference to 7.S.3.2.1 | | | | | | |
| Goal 1.5: Understand Concepts of Form and Function | No objectives in Biology. | | | | | | |
| Goal 1.6: Understand Scientific Inquiry and Develop Critical Thinking Skills | 9-10.B.1.6.1 Identify questions and concepts that guide scientific investigations. (649.01a) | 9-10.B.1.6.2 Utilize the components of scientific problem solving to design, conduct, and communicate results of investigations. (649.01b) | 9-10.B.1.6.3 Use appropriate technology and mathematics to make investigations. (649.01c) | 9-10.B.1.6.4 Formulate scientific explanations and models using logic and evidence. (649.01d) | 9-10.B.1.6.5 Analyze alternative explanations and models. (649.01e) | 9-10.B.1.6.6 Communicate and defend a scientific argument. (649.01f) | 9-10.B.1.6.7 Explain the differences among observations, hypotheses, and theories. (649.01g) |
| Goal 1.7: Understand That Interpersonal Relationships Are Important in Scientific Endeavors | No objectives in Biology. | | | | | | |
| Goal 1.8: Understand Technical Communication | 9-10.B.1.8.1 Analyze technical writing, graphs, charts, and diagrams. (658.02a) | | | | | | |

Standard 2: Physical Science No goals or objectives in Biology.

**IDAHO ACHIEVEMENT STANDARDS
GRADE 9-10
BIOLOGY**

Standard 3: Biology

| Goals: | Objective 1 | Objective 2 | Objective 3 | Objective 4 | Objective 5 | Objective 6 | Objective 7 |
|--|---|--|---|--|--|-------------|-------------|
| Goal 3.1: Understand the Theory of Biological Evolution | 9-10.B.3.1.1 Use the theory of evolution to explain how species change over time. (652.01a) | 9-10.B.3.1.2 Explain how evolution is the consequence of interactions among the potential of a species to increase its numbers, genetic variability, a finite supply of resources, and the selection by the environment of those offspring better able to survive and reproduce. (652.01a) | | | | | |
| Goal 3.2: Understand the Relationship between Matter and Energy in Living Systems | 9-10.B.3.2.1 Explain how matter tends toward more disorganized states (entropy). (653.01a) | 9-10.B.3.2.2 Explain how organisms use the continuous input of energy and matter to maintain their chemical and physical organization. (653.01b) | 9-10.B.3.2.3 Show how the energy for life is primarily derived from the sun through photosynthesis. (653.01c) | 9-10.B.3.2.4 Describe cellular respiration and the synthesis of macromolecules. (653.01d) | 9-10.B.3.2.5 Show how matter cycles and energy flows through the different levels of organization of living systems (cells, organs, organisms, communities) and their environment. (653.01h) | | |
| Goal 3.3: Understand the Cell is the Basis of Form and Function for All Living Things | 9-10.B.3.3.1 Identify the particular structures that underlie the cellular functions. (651.01a) | 9-10.B.3.3.2 Explain cell functions involving chemical reactions. (651.01b) | 9-10.B.3.3.3 Explain how cells use DNA to store and use information for cell functions. (651.01c) | 9-10.B.3.3.4 Explain how selective expression of genes can produce specialized cells from a single cell. (651.01e) | | | |

Standard 4: Earth and Space Systems No goals or objectives in Biology.

Standard 5: Personal and Social Perspectives; Technology

| Goals: | Objective 1 | Objective 2 | Objective 3 | Objective 4 | Objective 5 | Objective 6 | Objective 7 |
|--|---|---|---|-------------|-------------|-------------|-------------|
| Goal 5.1: Understand Common Environmental Quality Issues, Both Natural and Human Induced | 9-10.B.5.1.1 Analyze environmental issues such as water and air quality, hazardous waste, forest health, and agricultural production. (656.01a) | | | | | | |
| Goal 5.2: Understand the Relationship between Science and Technology | 9-10.B.5.2.1 Explain how science advances technology. (655.01a) | 9-10.B.5.2.2 Explain how technology advances science. (655.01a) | 9-10.B.5.2.3 Explain how science and technology are pursued for different purposes. (656.01b) | | | | |
| Goal 5.3: Understand the Importance of Natural Resources and the Need to Manage and Conserve Them | 9-10.B.5.3.1 Describe the difference between renewable and nonrenewable resources. (656.03a) | | | | | | |