

**IDAHO ACHIEVEMENT STANDARDS  
GRADE 7  
SCIENCE**

**Students are expected to know content and apply skills from previous grades.**

**Standard 1: Nature of Science**

Students carry out investigations over time using appropriate tools and equipment. Students make inferences based upon data they collect. Students accurately communicate the results of their investigations and observations. Students support or revise their conclusions by critically analyzing alternate explanations. Students carry out investigations following written lab procedures. Students follow safety protocols in carrying out investigations.

**Goal 1.1: Understand Systems, Order, and Organization**

**Objective(s): By the end of Grade 7 the student will be able to:**

- 7.S.1.1.1 Define small systems as a part of a whole system. (633.01.a)
- 7.S.1.1.2 Determine how small systems contribute to the function of the whole. (633.01.a)
- 7.S.1.1.3 Identify the different structural levels of an organism (cells, tissues, organs, and organ systems). (633.01.b)

**Goal 1.2: Understand Concepts and Processes of Evidence, Models, and Explanation**

**Objective(s): By the end of Grade 7, the student will be able to:**

- 7.S.1.2.1 Describe how observations and data are evidence on which to base scientific explanations and predictions. (633.02.a)
- 7.S.1.2.2 Use observations to make defensible inferences. (633.02.b)
- 7.S.1.2.3 Use models to explain or demonstrate a concept. (633.02.c)

**Goal 1.3: Understand Constancy, Change, and Measurement**

**Objective(s): By the end of Grade 7, the student will be able to:**

- 7.S.1.3.1 Identify concepts of science that have been stable over time. (633.03.a)
- 7.S.1.3.2 Recognize changes that occur within systems. (633.03.b)
- 7.S.1.3.3 Make metric measurements using appropriate tools. (633.03.c)

**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 objective 7.S.3.2.1

**Goal 1.5: Understand Concepts of Form and Function**

No objectives at this grade level.

## **Goal 1.6: Understand Scientific Inquiry and Develop Critical Thinking Skills**

### **Objective(s): By the end of Grade 7, the student will be able to:**

- 7.S.1.6.1 Identify controls and variables used in scientific investigations. (634.01.b)
- 7.S.1.6.2 Use appropriate tools and techniques to gather and display data. (634.01.c)
- 7.S.1.6.3 Evaluate data in order to form conclusions. (634.01.d)
- 7.S.1.6.4 Use evidence and critical thinking to accept or reject a hypothesis. (634.01.e)
- 7.S.1.6.5 Evaluate alternative explanations or predictions. (634.01.f)
- 7.S.1.6.6 Communicate and defend scientific procedures and explanations. (634.01.g)

## **Goal 1.7: Understand That Interpersonal Relationships Are Important in Scientific Endeavors**

No objectives at this grade level.

## **Goal 1.8: Understand Technical Communication**

### **Objective(s): By the end of Grade 7, the student will be able to:**

- 7.S.1.8.1 Read and evaluate technical instructions. (643.02.a)

## **Standard 2: Physical Science**

No goals or objectives at this grade level.

## **Standard 3: Biology**

Students state the levels of cellular organization and list cell parts and their respective functions. Students explain how traits are passed from one generation to another. Students differentiate between plant and animal cells by identifying the characteristic parts of each. Students explain how organisms are adapted to their environment and interact with the biotic and abiotic components of the environment.

## **Goal 3.1: Understand the Theory of Biological Evolution**

### **Objective(s): By the end of Grade 7, the student will be able to:**

- 7.S.3.1.1 Describe how natural selection explains species change over time. (637.01.a)

## **Goal 3.2: Understand the Relationship between Matter and Energy in Living Systems**

### **Objective(s): By the end of Grade 7, the student will be able to:**

- 7.S.3.2.1 Describe how energy stored in food is primarily derived from the sun through photosynthesis. (638.01.a)
- 7.S.3.2.2 Describe how the availability of resources (matter and energy) limits the distribution and abundance of organisms. (638.01.b)
- 7.S.3.2.3 Illustrate how atoms and molecules cycle among the living and nonliving components of the biosphere. (638.01.c)
- 7.S.3.2.4 Identify how energy flows through ecosystems in one direction, from photosynthetic organisms to herbivores, carnivores, and decomposers. (638.01.d)

### **Goal 3.3: Understand the Cell is the Basis of Form and Function for All Living Things**

#### **Objective(s): By the end of Grade 7, the student will be able to:**

- 7.S.3.3.1 Explain the relationships among specialized cells, tissues, organs, organ systems, and organisms. (636.01.a)
- 7.S.3.3.2 Identify the parts of specialized plant and animal cells. (636.01.b)
- 7.S.3.3.3 Identify the functions of cell structures. (636.01.b)
- 7.S.3.3.4 Describe cell functions that involve chemical reactions. (630.01.c)
- 7.S.3.3.5 Describe how dominant and recessive traits are inherited. (636.01.e)

### **Standard 4: Earth and Space Systems**

No goals or objectives at this grade level.

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

Students understand that science and technology interact and impact both individuals and society.

### **Goal 5.1: Understand Common Environmental Quality Issues, Both Natural and Human Induced**

No objectives at this grade level.

### **Goal 5.2: Understand the Relationship between Science and Technology**

#### **Objective(s): By the end of Grade 7, the student will be able to:**

- 7.S.5.2.1 Explain how science and technology are interrelated. (640.01.a)
- 7.S.5.2.2 Explain how science advances technology. (640.01.b)

### **Goal 5.3: Understand the Importance of Natural Resources and the Need to Manage and Conserve Them**

#### **Objective(s): By the end of Grade 7, the student will be able to:**

- 7.S.5.3.1 Identify alternative sources of energy. (641.03.a)