IDAHO CONTENT STANDARDS
GRADE 5
SCIENCE

Cognitive level codes:

- **B: Memorize**
- **C: Perform procedures**
- **D: Demonstrate understanding**
- **E: Conjecture, generalize, prove**
- **F: Solve non-routine problems, make connections**

Objectives shaded in yellow should be assessed in the classroom, but not included on the ISAT assessment.

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	**5.S.1.1.1 Compare and contrast different systems.** **CL: E** **Content Limit: Compare one item to another; do not make multiple-item comparisons. Systems tested should be familiar to students. Systems that could be used to develop items include classroom systems, school systems (student: teacher: principal), cell systems, plant systems, plate tectonics, and rock cycle.**						

Goal 1.2: Understand Concepts and Processes of Evidence, Models, and Explanations	**5.S.1.2.1 Use observations and data as evidence on which to base scientific explanations and predictions.** **CL: E** **Content Limit: Explanations and predictions are limited to directly described or illustrated information in the item.**	**5.S.1.2.2 Explain the difference between observation and inference.** **CL: D** **Content Limit: Observations are made with our senses. Tools are used to collect data. Inferences are statements based upon an interpretation of data.**	**5.S.1.2.3 Use models to explain or demonstrate a concept.** **CL: D** **Content Limit: Examples may include: Rock cycle, model of plant cell, and model of animal cell, molecular position and motion of solid, liquids and gases.**				
Goal 1.3: Understand Constancy, Change, and Measurement	**5.S.1.3.1 Analyze changes that occur in and among systems.** **CL: E** **Content Limit: Analysis is limited to changes directly described or illustrated in the item.**	**5.S.1.3.2 Measure in both U.S. Customary and International System of Measurement (metric system) units with an emphasis on the metric system.** **CL: C** **Content Limit: Measurement should be in meter, liter, and grams. Reference Math Content 2.M.1.1**					
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	**No objectives at this grade level.**						

Goal 1.5: Understand Concepts of Form and Function	**5.S.1.5.1 Explain how the shape or form of an object or system is frequently related to its use or function.** **CL: E** **Content Limit: Items are limited to very visual content, including the streamlining of a fish's body and the webbing on a duck's foot.**						
Goal 1.6: Understand Scientific Inquiry and Develop Critical Thinking Skills	**5.S.1.6.1 Write and analyze questions that can be answered by conducting scientific experiments.** **CL: C** **Content Limit: Given the description of a simple experiment the student will be able to identify the question being asked.**	**5.S.1.6.2 Conduct scientific investigations using a control and a variable.** **CL: C** **Content Limit: Assessed in the classroom, not on the ISAT.**	**5.S.1.6.3 Select and use appropriate tools and techniques to gather and display data.** **CL: C** **Content Limit: Content should be limited to metric rulers, bar graphs, and basic tables.**	**5.S.1.6.4 Use evidence to analyze descriptions, explanations, predictions, and models.** **CL: E** **Content Limit: Students will be presented a set of evidence or series of observations and be asked to derive information or make predictions based on this evidence.**	**5.S.1.6.5 State a hypothesis based on observations.** **CL: E** **Content Limit: When provided sequential graphics, students will be able to select the most logical hypothesis of what is being tested from a list of possible options.**	**5.S.1.6.6 Compare alternative explanations and predictions.** **CL: E** **Content Limit: When provided sequential graphics and a set of possible explanations, students will be able to select the most logical explanation from a list of possible options.**	**5.S.1.6.7 Communicate scientific procedures and explanations.** **CL:** **Content Limit: Assessed in the classroom, not on the ISAT.**
Goal 1.7: Understand That Interpersonal Relationships Are Important in Scientific Endeavors	**No objectives at this grade level.**						
Goal 1.8: Understand Technical Communication	**5.S.1.8.1 Read and follow technical instructions.** **CL: C** **Content Limit: Assessed in the classroom, not on the ISAT.**						

Standard 2: Physical Science

Goals:	Objective 1	Objective 2	Objective 3
Goal 2.1: Understand the Structure and Function of Matter and Molecules and Their Interactions	**5.S.2.1.1 Describe the differences among elements, compounds, and mixtures.** **CL: D** **Content Limit: Students will be able to define an element, compound, and mixture.**	**5.S.2.1.2 Compare the physical differences among solids, liquids and gases.** **CL: D** **Content Limit: Students will be able to recognize the differences in molecular distance between a solid, a liquid, and a gas, as well as differences in basic molecular motion.**	**5.S.2.1.3 Explain the nature of physical change and how it relates to physical properties.** **CL: D** **Content Limit: Students will be able to recognize the change(s) in physical properties that take place when physical changes occur including ice melting into water and water being heated into steam and the reverse processes.**
Goal 2.2: Understand Concepts of Motion and Forces	**No objectives at this grade level.**		
Goal 2.3: Understand the Total Energy in the Universe is Constant	**No objectives at this grade level.**		
Goal 2.4: Understand the Structure of Atoms	**No objectives at this grade level.**		
Goal 2.5: Understand Chemical Reactions	**No objectives at this grade level.**		

Standard 3: Biology

Goals:	Objective 1	Objective 2
Goal 3.1: Understand the Theory of Biological Evolution	**No objectives at this grade level.**	
Goal 3.2: Understand the Relationship between Matter and Energy in Living Systems	**5.S.3.2.1 Communicate how plants convert energy from the Sun through photosynthesis.** **CL: D** **Content Limit: Students will know that chlorophyll, carbon dioxide, and water are necessary for photosynthesis to occur. Additionally, students will know that the energy necessary to "power" the photosynthetic reaction is provided by the Sun.**	
Goal 3.3: Understand the Cell is the Basis of Form and Function for All Living Things	**5.S.3.3.1 Compare and contrast the structural differences between plant and animal cells.** **CL: E** **Content Limit: Address only the readily observable organelles: cell wall, cell membrane, chloroplasts, mitochondria, vacuoles, nucleus**	**5.S.3.3.2 Explain the concept that traits are passed from parents to offspring.** **CL: D** **Content Limit: Traits should be limited to clearly observable physical characteristics including eye color, hair color and texture, and widow's peak.**

Standard 4: Earth and Space Systems

Goals:	Objective 1
Goal 4.1: Understand Scientific Theories of Origin and Subsequent Changes in the Universe and Earth Systems	**5.S.4.1.1 Describe the interactions among the solid earth, oceans and atmosphere (erosion, climate, tectonics and continental drift).** **CL: D** **Content Limit: The role wind and water play in erosion, and the formation of earthquakes and volcanoes can all be addressed.**
Goal 4.2: Understand Geo-chemical Cycles and Energy in the Earth System	**5.S.4.2.1 Explain the rock cycle and identify the three classifications of rocks.** **CL: D** **Content Limit: How sedimentary, igneous, and metamorphic rocks are formed.**

Standard 5: Personal and Social Perspectives; Technology

Goals:	Objective 1	Objective 2
Goal 5.1: Understand Common Environmental Quality Issues, Both Natural and Human Induced	**5.S.5.1.1 Identify issues for environmental studies.** **CL: E** **Content Limit: Content should be limited to events in the local school or community environment. For example: Food waste from the hot lunch program, storm runoff entering a local stream, and the impact of wild fires.**	
Goal 5.2: Understand the Relationship between Science and Technology	**5.S.5.2.1 Describe how science and technology are part of a student's life.** **CL:D** **Content Limit: Technology may include that which is available within a school.**	**5.S.5.2.2 List examples of science and technology.** **CL: B** **Content Limit: Science is the process that increases and informs our knowledge of the natural world. Technology is the tool we use to advance our scientific knowledge.**
Goal 5.3: Understand the Importance of Natural Resources and the Need to Manage and Conserve Them	**5.S.5.3.1 Identify the differences between renewable and nonrenewable resources.** **CL: D** **Content Limit: Student will distinguish between renewable and non renewable resources. Renewable resources to include wind, solar and trees. Nonrenewable resources to include fossil fuels and minerals. Define recycling and identify common materials that can be recycled. List renewable and nonrenewable resources that can be recycled.**	