Idaho Extended Content Standards Draft
Extended Content Indicators
Grade 7
Science

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.

Extended Standard 1: Students carry out simple investigations using appropriate tools and equipment. Students make a simple inference based upon data collected. Students accurately communicate results of observations. Students identify reasonable conclusions. Students carry out investigations following lab procedures. Students follow safety protocols in carrying out investigations.

Topic	GR	Goals	Objectives	Essence	Extended Content Indicators
Interrelated Nature of Science	7.S.1.1	Understand Systems, Order, and Organization	7.S.1.1.1 Define small systems as a part of a whole system. (633.01.a)		7.S.1.1.1.A Arrange 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. (633.01.a)		7.S.1.1.2.A Demonstrate 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). (633.01.b)		7.S.1.1.3.A Identify different structures of an organisms, such as body parts, tissues, or organs

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Topic	Gr	Goal	Objectives	Essence	Extended Content Indicators
Interrelated nature of science	7.S.1.2	Understand Concepts and Processes of Evidence, Models, and Explanation	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.1.2.1.A Compare and contrast relative data.
			7.S.1.2.2 Use observations to make defendable inferences. (633.02.b)		7.S.1.2.2.A Identify observation data to use in defendable inferences.
			7.S.1.2.3 Use models to explain or demonstrate a concept. (633.02.c)		7.S.1.2.3.A Use models to explain or demonstrate a concept.

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Topic	Gr	Goal	Objectives	Essence	Extended Content Indicators
Interrelated Nature of Science	7.S.1.3	Understand Constancy, Change, and Measurement	7.S.1.3.1 Identify concepts of science that have been stable over time. (633.03.a)		7.S.1.3.1.A Identify systems that have been stable over time.
			7.S.1.3.2 Recognize changes that occur within systems. (633.03.b)		7.S.1.3.2.A Recognize changes that occur within systems.
			7.S.1.3.3 Make metric measurements using appropriate tools. (633.03.c)		7.S.1.3.3.A Make metric measurements using appropriate tools.

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Topic	Gr	Goal	Objectives	Essence	Extended Content Indicators
	7.S.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		Reference to objective 7.S.3.2.1 A

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Interrelated Nature of Science	7.S.1.5	Understand Concepts of Form and Function	No objectives at this grade level.		No objectives at this grade level.

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Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
	7.S.1.6	Understand Scientific Inquiry and Develop Critical Thinking Skills	7.S.1.6.1 Identify controls and variables used in scientific investigations. (634.01.b)		7.S.1.6.1.A Identify a control and a variable in an experiment.
			7.S.1.6.2 Use appropriate tools and techniques to gather and display data. (634.01c)		7.S.1.6.2.A Use appropriate tools and techniques to gather and display data
			7.S.1.6.3 Evaluate data in order to form conclusions. (634.01.d)		7.S.1.6.3.A Use data in order to form conclusions.
			7.S.1.6.4 Use evidence and critical thinking to accept or reject a hypothesis. (634.01.e)		7.S.1.6.4.A Use evidence to accept or reject a hypothesis.
			7.S.1.6.5 Evaluate alternative explanations or predictions. (634.01.f)		7.S.1.6.5.A Use reasonable explanations or predictions.
			7.S.1.6.6 Communicate and defend scientific procedures and explanations. (634.01.g)		7.S.1.6.6.A Communicate scientific procedures and explanations.

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Interrelated Nature of Science	7.S.1.7	Understand That Interpersonal Relationships Are Important in Scientific Endeavors	No objectives at this grade level.		No objectives at this grade level.

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	7.S.1.8	Understand Technical Communication	7.S.1.8.1 Read and evaluate technical instructions. (643.02.a)		7.S.1.8.1.A Read and follow technical instructions.

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 animals 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.

Extended Standard 3: Students list cell parts and their respective functions. Students identify traits passed from one generation to another. Students differentiate between plant and animals cells and identify characteristic of each. Students communicate how organisms adapt to their environment and interact with the environment.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Biology	7.S.3.1	Understand the Theory of Biological Evolution	7.S.3.1.1 Describe how natural selection explains species change over time. (637.01.a)		7.S.3.1.1.A Communicate how natural selection explains species change over time.

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 animals 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.

Extended Standard 3: Students list cell parts and their respective functions. Students identify traits passed from one generation to another. Students differentiate between plant and animals cells and identify characteristic of each. Students communicate how organisms adapt to their environment and interact with the environment.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Biology	7.S.3.2	Understand the Relationship between Matter and Energy in Living Systems	7.S.3.2.1 Describe how energy stored in food is primarily derived from the sun through photosynthesis. (638.01.a)		7.S.3.2.1.A Identify that energy stored in food is primarily derived from the sun.
			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.3.2.2.A Show how the availability of resources limits organisms.
			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.3.2.3.A Illustrate how atoms and molecules make up living and nonliving resources in the environment.
			7.S.3.2.4 Identify how energy flows through ecosystems in one direction, from photosynthetic organisms to herbivores, carnivore, and decomposers. (638.01.d)		7.S.3.2.4.A Show how energy flows through the ecosystem in one direction.

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 animals 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.

Extended Standard 3: Students list cell parts and their respective functions. Students identify traits passed from one generation to another. Students differentiate between plant and animals cells and identify characteristic of each. Students communicate how organisms adapt to their environment and interact with the environment.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Biology	7.S.3.3	Understand the Cell is the Basis of Form and Function for All Living Things	7.S.3.3.1 Explain the relationships among specialized cells, tissues, organs, organ systems, and organisms. (636.01.a)		7.S.3.3.1.A Sequence the relationships of cells, tissues, organs, organ systems, and organisms.
			7.S.3.3.2 Identify the parts of specialized plant and animal cells. (636.01.b)		7.S.3.3.2.A Label parts of plant and animal cells.
			7.S.3.3.3 Identify the functions of cell structures. (636.01.b)		7.S.3.3.3.A Identify different functions of particular cell structures.
			7.S.3.3.4 Describe cell functions that involve chemical reactions. (630.01.c)		7.S.3.3.4.A Describe the functions of particular cell structures.
			7.S.3.3.5 Describe how dominant and recessive traits are inherited. (636.01.e)		7.S.3.3.5.A Communicate how dominant and recessive traits are inherited.

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.

Extended Standard 5: Students explore how science and technology interact and impact both individuals and society.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Environmental Science	7.S.5.1	Understand Common Environmental Quality Issues, Both Natural and Human Induced	No objectives at this grade level.		No 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.

Extended Standard 5: Students explore how science and technology interact and impact both individuals and society.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Technology	7.S.5.2	Understand the Relationship between Science and Technology	7.S.5.2.1 Explain how science and technology are interrelated. (640.01.a)		7.S.5.2.1.A Identify how science and technology are interrelated.
			7.S.5.2.2 Explain how science advances technology. (640.01.b)		7.S.5.2.2.A Show how science advances technology.

Standard 5: Personal and Social Perspectives; Technology - Students understand that science and technology interact and impact both individuals and society.

Extended Standard 5: Students explore how science and technology interact and impact both individuals and society.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Natural Resources	7.S.5.3	Understand the Importance of Natural Resources and the Need to Manage and Conserve Them	7.S.5.3.1 Identify alternative sources of energy. (641.03.a)		7.S.5.3.1 A Identify an alternative source of energy.