

Idaho Extended Content Standards Draft
 Extended Content Indicators
 Grade 5
 Science

Standard 1: Nature of Science - Students identify the components of a system and explain their relationship to the whole. Students read, execute, and give technical instructions.

Extended Standard 1: Students identify and classify components of a whole system. Students execute technical instructions and use procedures in the scientific method.

Topic	GR	Goals	Objectives	Essence	Extended Content Indicators
Interrelated Nature of Science	5.S.1.1	Understand Systems, Order, and Organization	5.S.1.1.1 Compare and contrast different systems. (603.01.a)		5.S.1.1.1.A Sort items from different systems.

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Topic	Gr	Goal	Objectives	Essence	Extended Content Indicators
Interrelated nature of science	5.S.1.2	Understand Concepts and Processes of Evidence, Models, and Explanation	5.S.1.2.1 Use observations and data as evidence on which to base scientific explanations and predictions. (603.02a)		5.S.1.2.1.A Use observations and data to make predictions.
			5.S.1.2.2 Explain the difference between observation and inference. (603.02.b)		5.S. 1.2.2.A Identify the difference between an observation and an inference.
			5.S.1.2.3 Use models to explain or demonstrate a concept. (603.02.c)		5.S. 1.2.3.A Replicate or make a model to demonstrate a concept.

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Topic	Gr	Goal	Objectives	Essence	Alternate Content Indicators
Interrelated Nature of Science	5.S.1.3	Understand Constancy, Change, and Measurement	5.S.1.3.1 Analyze changes that occur in and among systems. (603.03.b)		5.S.1.3.1.A Demonstrate changes that occur in and among systems.
			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. (603.03.c)		3.S.1.3.2.A Measure in U.S. Customary System of Measurement.

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Topic	Gr	Goal	Objectives	Essence	Extended Content Indicators
Interrelated Nature of Science	5.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	No objectives at this grade level.		No objectives at this grade level.

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Topic	Gr	Goal	Objectives	Essence	Extended Content Indicators
Interrelated Nature	5.S.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. (603.05.a)		5.S.1.5.1.A Respond how the shape or form of an object or system is frequently related to its use or function.

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Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Interrelated Nature of Science	5.S.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. (604.01.a)		5.S.1.6.1.A Identify questions that can be answered by conducting scientific experiments.
			5.S.1.6.2 Conduct scientific investigations using a control and a variable. (604.01.b)		5.S.1.6.2.A Observe change in scientific investigations using a control and a variable.
			5.S.1.6.3 Select and use appropriate tools and techniques to gather and display data. (604.01.c)		5.S.1.6.3.A Use appropriate tools and techniques to gather and display data.
			5.S.1.6.4 Use evidence to analyze descriptions, explanations, predictions, and models. (604.01.d)		5.S.1.6.4.A Use data for a reasonable explanation.
			5.S.1.6.5 State a hypothesis based on observations. (604.01.e)		5.S.1.6.5.A State a prediction or hypothesis based on observations.
			5.S.1.6.6 Compare alternative explanations and predictions. (604.01.f)		5.S.1.6.6.A Compare reasonable explanations and predictions.
			5.S.1.6.7 Communicate scientific procedures and explanations. (604.01.g)		5.S.1.6.7.A Communicate scientific procedures.

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Topic	Gr	Goal	Objectives	Essence	Extended Content Indicators
Interrelated Nature of Science	5.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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Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Interrelated Nature of Science	5.S.1.8	Understand Technical Communication	5.S.1.8.1 Read and follow technical instructions. (613.02.a)		5.S.1.8.1.A Follow technical instructions.

Standard 2: Physical Science - Students explain the difference between an element, a mixture, and a compound.

Extended Standard 2: Students identify physical properties of solids, liquids, and gases and their relationship to an element, a mixture, or a compound.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Physical Science	5.S.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. (605.01.a)		5.S.2.1.1.A Create mixtures.
			5.S.2.1.2 Compare the physical differences among solids, liquids, and gases. (605.01.c)		5.S.2.1.2.A Describe the physical differences among solids, liquids, and gases.
			5.S.2.1.3 Explain the nature of physical change and how it relates to physical properties. (605.01.d)		5.S.2.1.3.A Observe a physical change and how it relates to physical properties.

Standard 2: Physical Science - Students explain the difference between an element, a mixture, and a compound.

Extended Standard 2: Students identify physical properties of solids, liquids, and gases and their relationship to an element, a mixture, or a compound.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Physical Science	5.S.2.2	Understand Concepts of Motion and Forces	No objectives at this grade level.		No objectives at this grade level.

Standard 2: Physical Science - Students explain the difference between an element, a mixture, and a compound.

Extended Standard 2: Students identify physical properties of solids, liquids, and gases and their relationship to an element, a mixture, or a compound.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Physical Science	5.S.2.3	Understand the Total Energy in the Universe is Constant	No objectives at this grade level.		No objectives at this grade level.

Standard 2: Physical Science - Students explain the difference between an element, a mixture, and a compound.

Extended Standard 2: Students identify physical properties of solids, liquids, and gases and their relationship to an element, a mixture, or a compound.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Physical Science	5.S.2.4	Understand the Structure of Atoms	No objectives at this grade level.		No objectives at this grade level.

Standard 2: Physical Science - Students explain the difference between an element, a mixture, and a compound.

Extended Standard 2: Students identify physical properties of solids, liquids, and gases and their relationship to an element, a mixture, or a compound.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Physical Science	5.S.2.5	Understand Chemical Reactions	No objectives at this grade level.		No objectives at this grade level.

Standard 3: Biology

Students explain the differences between plant and animal cells. Students understand that plants convert energy. Students know that traits are passed from parents to offspring.

Extended Standard 3: Students explore differences between plant and animal cells. Students understand that plants need energy from the sun. Students identify traits passed from parents to offspring.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Biology	5.S.3.1	Understand the Theory of Biological Evolution	No objectives at this grade level.		No objectives at this grade level.

Standard 3: Biology

Students explain the differences between plant and animal cells. Students understand that plants convert energy. Students know that traits are passed from parents to offspring.

Extended Standard 3: Students explore differences between plant and animal cells. Students understand that plants need energy from the sun. Students identify traits passed from parents to offspring.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Biology	5.S.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. (608.01.a)		5.S.3.2.1.A Communicate how plants need energy from the sun.

Standard 3: Biology

Students explain the differences between plant and animal cells. Students understand that plants convert energy. Students know that traits are passed from parents to offspring.

Extended Standard 3: Students explore differences between plant and animal cells. Students understand that plants need energy from the sun. Students identify traits passed from parents to offspring.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Biology	5.S.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. (606.01.b)		5.S.3.3.1.A Explore plant and animal cells.
			5.S.3.3.2 Explain the concept that traits are passed from parents to offspring. (606.01.c)		5.S.3.3.2.A Identify traits that are passed from parents to offspring.

Standard 4: Earth and Space Systems – Students describe the causes of dynamic changes that occur on Earth.

Extended Standard 4: Students describe interactions and changes that occur on Earth.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Earth and Space Systems	5.S.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). (609.01.a)		5.S.4.1.1.A Discuss how the interactions among the solid earth, oceans and atmosphere (erosion, climate, tectonics and continental drift) are connected.

Standard 4: Earth and Space Systems – Students describe the dynamic changes that occur on Earth.

Extended Standard 4: Students describe interactions and changes that occur on Earth.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Earth and Space	5.S.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. (609.02.a)		5.S.4.2.1.A Label the rock cycle

Standard 5: Personal and Social Perspectives; Technology – Students use the scientific method to identify environmental issues.

Extended Standard 5: Students identify environmental issues.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Environmental Science	5.S.5.1	Understand Common Environmental Quality Issues, Both Natural and Human Induced	5.S.5.1.1 Identify issues for environmental studies. (611.01.a)		5.S.5.1.1.A List issues for environmental studies.

Standard 5: Personal and Social Perspectives; Technology - Students use the scientific method to identify environmental issues.

Extended Standard 5: Students identify environmental issues.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Technology	5.S.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. (610.01.a)		5.S.5.2.1.A Demonstrate how science and technology are part of a student's life.
			5.S.5.2.2 List examples of science and technology. (610.01.b)		5.S.5.2.2.S List examples of science and technology.

Standard 5: Personal and Social Perspectives; Technology - Students use the scientific method to identify environmental issues.

Extended Standard 5: Students identify environmental issues.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Natural Resources	5.S.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. (611.03.a)		5.S.5.3.1.A Sort resources as renewable and nonrenewable resources