

Idaho Extended Content Standards Draft
Extended Content Indicators
Grade 4
Science

Standard 1: Nature of Science - Students apply scientific methods to conduct experiments, analyze alternative explanations and communicate results of tests. Students analyze and follow multi-step instructions.

Extended Standard 1: Students follow the steps of the scientific methods to conduct simple experiments, selecting a reasonable explanation. Students follow multi-step instructions.

Topic	GR	Goals	Objectives	Essence	Extended Content Indicators
Interrelated Nature of Science	4.S.1.1	Understand Systems, Order, and Organization	4.S.1.1.1 Explain that a system consists of an organized group of related objects that form a whole. (588.01.a)		4.S.1.1.1.A Arrange and organize a group of related objects that form a whole.

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Topic	Gr	Goal	Objectives	Essence	Extended Content Indicators
Interrelated nature of science	4.S.1.2	Understand Concepts and Processes of Evidence, Models, and Explanation	4.S.1.2.1 Make and record observations then analyze and communicate the collected data. (588.02.a)		4.S.1.2.1.A Make and record observations and communicate the collected data
			4.S.1.2.2 Define observations and inferences. (588.02.b)		4.S.1.2.2.A Identify when an observation is or an inference is made.
			4.S.1.2.3 Make, describe and/or use models. (588.02.c)		4.S.1.2.3.A Replicate or make models.

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Topic	Gr	Goal	Objectives	Essence	Extended Content Indicators
Interrelated Nature of Science	4.S.1.3	Understand Constancy, Change, and Measurement	4.S.1.3.1 Describe how changes occur and can be measured. (588.03.b)		4.S.1.3.1.A Communicate observed change.
			4.S.1.3.2 Measure in both U.S. Customary and International System of Measurement (metric system) units. (588.03.c)		4.S.1.3.2.A Measure in U.S. Customary System of Measurement.

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 the components of a system and explain their relationship to the whole. Students read, execute, and give technical instructions.

Topic	Gr	Goal	Objectives	Essence	Extended Content Indicators
	4.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.

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 follow the steps of the scientific methods to conduct simple experiments, selecting a reasonable explanation. Students follow multi-step instructions.

Topic	Gr	Goal	Objectives	Essence	Extended Content Indicators
Interrelated Nature of Science	4.S.1.5	Understand Concepts of Form and Function	4.S.1.5.1 Explain the relationship between shape and use. (588.05.a)		4.S.1.5.1.A Communicate the relationship between shape and use.

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Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
	4.S.1.6	Understand Scientific Inquiry and Develop Critical Thinking Skills	4.S.1.6.1 Write questions that can be answered by conducting scientific tests. (589.01.a)		4.S.1.6.1.A Identify questions that can be answered by conducting scientific tests.
			4.S.1.6.2 Conduct scientific tests. (589.01.b)		4.S.1.6.2 .A Follow steps in scientific tests.
			4.S.1.6.3 Use appropriate tools and techniques to gather and display data. (589.01.c)		4.S.1.6.3.A Use appropriate tools to gather data.
			4.S.1.6.4 Use data to construct a reasonable explanation. (589.01.d)		4.S.1.6.4.A Use data for a reasonable explanation.
			4.S.1.6.5 Make predictions based on data. (589.01.e)		4.S.1.6.5.A Make simple predictions based on data.
			4.S.1.6.6 Analyze alternative explanations. (589.01.f)		4.S.1.6.6.A Select reasonable explanations.
			4.S.1.6.7 Communicate the results of tests to others in multiple formats. (589.01.g)		4.S.1.6.7.A Communicate the results of tests to others.

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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
	4.S.1.8	Understand Technical Communication	4.S.1.8.1 Analyze and follow multi-step instructions. (598.02.a)		4.S.1.8.1.A Follow multi-step instructions.

Standard 2: Physical Science - Students use scientific instruments to describe and measure the properties of the three states of matter.

Extended Standard 2: Students use scientific instruments and measure the properties of the states of matter.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Physical Science	4.S.2.1	Understand the Structure and Function of Matter and Molecules and Their Interactions	4.S.2.1.1 Use instruments to measure properties (590.01.a)		4.S.2.1.1.A Use instruments to measure properties.
			4.S.2.1.2 Describe the physical properties of solids, liquids, and gases. (590.01.b)		4.S.2.1.2.A Observe the physical properties of solids, liquids, and gases.
			4.S.2.1.3 Explain the changes caused by heating and cooling materials. (590.01.c)		4.S.2.1.3.A Communicate the changes caused by heating and cooling materials.

Standard 2: Physical Science - Students use scientific instruments to describe and measure the properties of the three states of matter.

Extended Standard 2: Students use scientific instruments and measure the properties of the states of matter.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Physical Science	4.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 use scientific instruments to describe and measure the properties of the three states of matter.

Extended Standard 2: Students use scientific instruments and measure the properties of the states of matter.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Physical Science	4.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 use scientific instruments to describe and measure the properties of the three states of matter.

Extended Standard 2: Students use scientific instruments and measure the properties of the states of matter.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Physical Science	4.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 use scientific instruments to describe and measure the properties of the three states of matter.

Extended Standard 2: Students use scientific instruments and measure the properties of the states of matter.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Physical Science	4.S.2.5	Understand Chemical Reactions	No objectives at this grade level.		No objectives at this grade level.

Standard 3: Biology- Students analyze how plants and animals adapt to their environments. Students classify vertebrates.

Extended Standard 3: Students identify how plants and animals adapt to their environments. Students sort vertebrates into groups.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Biology	4.S.3.1	Understand the Theory of Biological Evolution	4.S.3.1.1 Analyze and communicate the adaptations of plants and animals to their environment. (592.01.a)		4.S.3.1.1.A Communicate the adaptations of plants and animals to their environment.
			4.S.3.1.2 Describe the difference between vertebrate and invertebrate animals. (592.01.c)		4.S.3.1.2.A Communicate the difference between vertebrate and invertebrate animals.
			4.S.3.1.3 Classify the five groups of vertebrates (mammal, reptiles, amphibians, birds, and fish) based on characteristics. (592.01.c)		4.S.3.1.3.A Sort into groups of vertebrates (mammal, reptiles, amphibians, birds, and fish) based on characteristics.

Standard 3: Biology - Students analyze how plants and animals adapt to their environments. Students classify vertebrates.

Extended Standard 3: Students identify how plants and animals adapt to their environments. Students sort vertebrates into groups.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Biology	4.S.3.2	Understand the Relationship between Matter and Energy in Living Systems	No objectives at this grade level.		No objectives at this grade level.

Standard 3: Biology - Students analyze how plants and animals adapt to their environments. Students classify vertebrates.

Extended Standard 3: Students identify how plants and animals adapt to their environments. Students sort vertebrates into groups.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Biology	4.S.3.3	Understand the Cell is the Basis of Form and Function for All Living Things	No objectives at this grade level.		No objectives at this grade level.

Standard 4: Earth and Space Systems – Students investigate the basic contents of our solar system.

Extended Standard 4: Students identify and explore basic contents of our solar system.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Earth and Space Systems	4.S.4.1	Understand Scientific Theories of Origin and Subsequent Changes in the Universe and Earth Systems	4.S.4.1.1 Compare and contrast the basic components of our solar system (planets, sun, moon, asteroids, comets, meteors). (594.01.b)		4.S.4.1.1.A Identify some of the basic components of our solar system (planets, sun, moon, asteroids, or comets).
			4.S.4.1.2 Explain the effect of gravity on orbits and objects. (594.01.c)		4.S.4.1.2.A Demonstrate how gravity effects objects on earth.
			4.S.4.1.3 Explain the effect of moon’s gravity on Earth’s tides. (594.01.c)		4.S.4.1.3.A Explore how the Earth’s tides change.

Standard 4: Earth and Space Systems – Students investigate the basic contents of our solar system.

Extended Standard 4: Students identify and explore basic contents of our solar system.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Earth and Space Systems	4.S.4.2	Understand Geo-chemical Cycles and Energy in the Earth System	No objectives at this grade level.		No objectives at this grade level.

Standard 5: Personal and Social Perspectives; Technology – Students explain how people have invented tools to meet a need or do a job.

Extended Standard 5: Students understand how invented tools help meet a need or do a job.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Environmental Science	4.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 explain how people have invented tools to meet a need or do a job.

Extended Standard 5: Students understand how invented tools help meet a need or do a job.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Technology	5.S.5.2	Understand the Relationship between Science and Technology	4.S.5.2.1 Identify tools used for space exploration and for scientific investigations. (595.01.b)		4.S.5.2.1.A Attends to discussion of tools or equipment used for scientific investigations and in space.

Standard 5: Personal and Social Perspectives; Technology - Students explain how people have invented tools to meet a need or do a job.

Extended Standard 5: Students understand how invented tools help meet a need or do a job.

Topic	Gr	Goal	Objective	Essence	Extended Content Indicators
Natural Resources	4.S.5.3	Understand the Importance of Natural Resources and the Need to Manage and Conserve Them	No objectives at this grade level.		No objectives at this grade level.