

SCIENCE

Student accountability on statewide assessments for these standards began in 2002-03.

Adopted April 2001

The study of Science promotes scientific literacy where students can explore natural events using rational and systematic observation, identification, description, experimental investigation, and theoretical explanation. These scientific concepts and processes provide students with decision-making skills needed for informed participation in civic and economic affairs.

PHYSICAL SCIENCE: Understand structures and properties of matter and changes that occur in the physical world.

Common Curriculum Goals	Content Standards	Benchmark 1 (Grade 3)	Benchmark 2 (Grade 5)	Benchmark 3 (Grade 8)	CIM/CAM	PASS Criteria
<p>MATTER</p> <p>Understand structure and properties of matter.</p>	<p>Understand structure and properties of matter.</p>	<p>Describe objects according to their physical properties.</p> <p>#2A Get in Touch with Trees</p> <p>#13B We All Need Trees</p>	<p>Identify substances as they exist in different states of matter.</p> <p><i>Distinguish among solids, liquids, and gases.</i></p> <p><i>Identify unique properties of each state of matter.</i></p>	<p>Compare properties of specific substances.</p> <p><i>Describe how to measure characteristic properties including boiling and melting points, solubility, and density.</i></p> <p><i>Recognize that substances may be grouped by their physical properties.</i></p> <p><i>Use the concept of density to evaluate which objects will float or sink in water.</i></p>	<p>Describe properties of elements and their relationship to the periodic table.</p> <p><i>Explain atoms and their base components (protons, neutrons, and electrons) as a basis for all matter.</i></p> <p><i>Read and interpret the periodic table, recognizing the relationship of the chemical and physical properties of the elements to their position on the periodic table.</i></p> <p><i>Recognize that the historical development of atomic theory demonstrates how scientific knowledge</i></p>	<p>Know and apply fundamental concepts of the physical sciences.</p> <p>Understand and correctly use essential principles, organizations, concepts, terminology, and notations from a field of science.</p> <p>Use information, skills, and investigative processes employed in a field of science.</p> <p>Investigate, through research and inquiry, important principles, theories, and/or relationships from a</p>

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PHYSICAL SCIENCE, continued

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					<i>changes over time, and how those changes have had an impact on society.</i>	field of science.
Understand chemical and physical changes.	Describe and analyze chemical and physical changes.	Describe changes that occur in matter. #78 Signs of Fall	Describe the ability of matter to change state by heating and cooling. #81A&B Living with Fire <i>Recognize that heating and cooling cause changes in states of matter.</i> <i>Identify changes in states of matter seen in the environment.</i>	Compare physical and chemical changes. #81A&B Living with Fire <i>Distinguish between examples of chemical changes and physical changes.</i> <i>Describe processes that will separate the components of physical mixtures.</i> <i>Describe events that accompany chemical changes, but not physical changes.</i> <i>Explain how our understanding of the nature of matter and chemical reactions has changed over time.</i>	Analyze the effects of various factors on physical changes and chemical reactions. <i>Describe how transformations among solids, liquids, and gases occur (change of state).</i> <i>Identify factors that can influence change of state, including temperature, pressure, and concentration.</i> <i>Describe chemical reactions in terms of reactants and products.</i> <i>Describe the factors that affect the rate of chemical reactions.</i> <i>Recognize examples that show when</i>	(See Page 1)

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					<i>substances combine or break apart in a chemical reaction, the total mass remains the same (conservation of mass).</i>	
FORCE Understand fundamental forces, their forms, and their effects on motion.	Describe fundamental forces and the motions resulting from them.	Describe an object's position and how to affect its movement.	Describe and compare the motion of objects. <i>Recognize and describe the motion of an object in terms of one or more forces acting on it.</i>	Explain interactions between force and matter and relationships among force, mass, and motion. <i>Recognize and describe the motion of an object based on its mass and the force exerted on it.</i> <i>Predict the change in direction or speed of an object by changing the forces acting on it.</i> <i>Explain inertia.</i>	Describe and explain the effects of multiple forces acting on an object. <i>Understand and apply the relationship $F=ma$ in situations in which one force acts on an object.</i> <i>Recognize that equal and opposite forces occur when one object exerts a force on another.</i> <i>Describe the forces acting on an object, based on the motion of that object.</i>	(See Page 1)

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			<p>Identify examples of magnetism and gravity exerting force on an object.</p> <p><i>Recognize that magnets attract and repel each other and other materials.</i></p> <p><i>Recognize that things on or near Earth are pulled toward it by Earth's gravity.</i></p>	<p>Recognize that every object exerts gravitational force on every other object.</p> <p><i>Describe the effect of gravitational force on objects at the Earth's surface.</i></p>	<p>Recognize that gravity is a universal force.</p> <p><i>Describe the relationship of mass and distance to gravitational force.</i></p>	(See Page 1)
<p>ENERGY</p> <p>Understand energy, its transformations, and interactions with matter.</p>	<p>Explain and analyze the interaction of energy and matter.</p>	<p>Identify common types and uses of energy.</p> <p>#39A Energy Sleuths</p>	<p>Identify forms of various types of energy and their effects on matter.</p> <p>#39B&C Energy Sleuths</p> <p><i>Identify various forms of energy including heat, light, sound, and electricity.</i></p> <p>#4B Sounds Around</p>	<p>Compare forms and behaviors of various types of energy.</p> <p><i>Distinguish between the forms of energy including heat, chemical, mechanical, and gravitational potential energy.</i></p>	<p>Describe differences and similarities between kinds of waves, including sound, seismic, and electromagnetic, as a means of transmitting energy.</p> <p><i>Recognize that waves of all kinds have energy that can be transferred when the waves interact with matter.</i></p> <p><i>Apply the concepts of frequency,</i></p>	(See Page 1)

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					<i>wavelength, amplitude, and energy to electromagnetic and mechanical waves.</i>	
			<p>Describe examples of energy transfer.</p> <p>#39B&C Energy Sleuths</p> <p><i>Identify the direction of heat transfer on a diagram showing objects at different temperatures.</i></p> <p><i>Identify ways to produce heat including light, burning, electricity, friction, and as a by-product of mechanical and electrical machines.</i></p> <p><i>Identify examples of energy transfer in the environment.</i></p> <p>#25 Birds and Worms #28 Rain Reasons #45 Web of Life</p>	<p>Describe and explain various energy transfers and resulting transformations.</p> <p>#39B&C Energy Sleuths</p> <p><i>Trace the flow of energy transformations in a system.</i></p> <p><i>Explain the principle that energy is conserved, neither created nor destroyed.</i></p> <p>#45 Web of Life</p> <p><i>Identify how technological advances have changed humankind's use of energy.</i></p>	<p>Describe and analyze examples of conservation of energy.</p> <p><i>Recognize that heat energy is a by-product of most energy transformations.</i></p> <p><i>Describe ways in which energy can be transferred, including chemical reactions, nuclear reactions, and light waves.</i></p> <p><i>Explain the difference between potential and kinetic energy.</i></p> <p><i>Analyze the flow of energy through a system by applying the law of conservation of energy.</i></p>	(See Page 1)

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PHYSICAL SCIENCE, continued

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LIFE SCIENCE: Understand structure, functions, and interactions of living organisms and the environment.

Common Curriculum Goals	Content Standards	Benchmark 1 (Grade 3)	Benchmark 2 (Grade 5)	Benchmark 3 (Grade 8)	CIM/CAM	PASS Criteria
<p>ORGANISMS</p> <p>Understand the characteristics, structure, and functions of organisms.</p>	<p>Describe the characteristics, structure, and functions of organisms.</p>	<p>Recognize characteristics that are similar and different between organisms.</p> <p>#2A Get in Touch with Trees</p> <p>#3 Peppermint Beetle</p> <p>#21A Adopt-A-Tree</p> <p>#27 Every Tree for Itself</p> <p>#43 Have Seeds, Will Travel</p> <p>#61 The Closer You Look</p> <p>#62 To Be a Tree</p> <p>#64 Looking at Leaves</p> <p>#68A Name that Tree</p>	<p>Group or classify organisms based on a variety of characteristics.</p> <p>#2A Get in Touch with Trees</p> <p>#3 Peppermint Beetle</p> <p>#7 Habitat Pen Pals</p> <p>#12 Invasive Species</p> <p>#13 We All Need Trees</p> <p>#21 Adopt-A-Tree</p> <p>#22B Trees as Habitats</p> <p>#23 The Fallen Log</p> <p>#43 Have Seeds, Will Travel</p> <p>#68A Name that Tree</p> <p><i>Classify a variety of living things into groups using various characteristics.</i></p> <p>Describe the function of organ systems</p> <p>#4B Sounds Around</p>	<p>Describe and explain the relationship and interaction of organ systems.</p>		<p>Know and apply fundamental concepts of the life sciences.</p> <p>Understand and correctly use essential principles, organizations, concepts, terminology, and notations from a field of science.</p> <p>Use information, skills, and investigative processes employed in a field of science.</p> <p>Investigate, through research and inquiry, important principles, theories, and relationships from a field of science.</p>

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LIFE SCIENCE, continued

Common Curriculum Goals	Content Standards	Benchmark 1 (Grade 3)	Benchmark 2 (Grade 5)	Benchmark 3 (Grade 8)	CIM/CAM	PASS Criteria
			<i>Classify organs by the system to which they belong.</i>	<i>Identify organ systems at work during a particular activity and describe their effect on each other.</i>		
		Describe the basic needs of living things. #7 Habitat Pen Pals #27 Every Tree for Itself #41V How Plants Grow #62 To Be a Tree #63V Tree Factory	Describe basic plant and animal structures and their functions. #3 Peppermint Beetle #7 Habitat Pen Pals #10 Charting Diversity #23 The Fallen Log #27 Every Tree for Itself #42 Sunlight and Shades of Green #43 Have Seeds, Will Travel #62 To Be a Tree #63 Tree Factory #65 Bursting Buds #76A Tree Cookies	Describe and explain the structure and functions of an organism in terms of cells, tissues, and organs. #63 Tree Factory #76A Tree Cookies <i>Identify differences and similarities between plant and animal cells.</i> <i>Recognize how structural differences among organisms at the cellular, tissue, and organ level are related to their habitat and life requirements.</i>	Describe, explain, and compare the structure and functions of cells in organisms.	
			<i>Associate specific structures with their functions in the survival of the organism.</i>	#27 Every Tree for Itself <i>Identify photosynthesis as the process by which plants use the energy from light to make</i>	<i>Describe how biological systems can maintain</i>	(See Page 6)

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			<p>#25 Birds and Worms #63 Tree Factory #65 Bursting Buds #76A Tree Cookies</p>	<p><i>sugars out of carbon dioxide and water, and that this food can be used immediately for fuel or materials or it may be stored for later use</i></p> <p>#27 Every Tree for Itself #28 Air Plants #42 Sunlight & Shades of Green</p> <p><i>Explain how our understanding of cells and microbes has changed over time.</i></p>	<p><i>equilibrium (homeostasis).</i></p> <p><i>Identify unique structures in cells from plants, animals, and prokaryotes.</i></p> <p><i>Identify cell organelles and state how their activities contribute to a particular type of cell carrying out its functions.</i></p> <p><i>Explain the role of the cell membrane in cell transport.</i></p> <p><i>Distinguish between active and passive transport, including diffusion and osmosis, explaining the mechanics of each.</i></p> <p><i>Describe photosynthesis as a chemical process and part of the carbon cycle.</i></p> <p><i>Explain how the development of tools and technology, including microscopes, has</i></p>	

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					<i>aided in the understanding of cells and microbes.</i>	
HEREDITY Understand the transmission of traits in living things.	Understand the transmission of traits in living things.	Describe how related plants and animals have similar characteristics. #7 Habitat Pen Pals #64 Looking at Leaves #68A Name that Tree	Describe the life cycle of an organism. #7 Habitat Pen Pals #8 The Forest of S. T. Shrew #12 Invasive Species #23 The Fallen Log #43 Have Seeds, Will Travel #49B Tropical Treehouse #69 Forest for the Trees #79 Tree Lifecycle <i>Describe the life cycle of common organisms.</i> #65 Bursting Buds <i>Recognize that organisms are produced by living organisms of similar kind, and do not appear spontaneously from inanimate</i>	Describe how the traits of an organism are passed from generation to generation. #79 Tree Lifecycle <i>Distinguish between asexual and sexual reproduction.</i> #43 Have Seeds, Will Travel <i>Identify traits inherited through genes and those resulting from interactions with the environment.</i>	Explain laws of heredity and their relationship to the structure and function of DNA. <i>Describe the structure of DNA and the way that DNA functions to control protein synthesis.</i> <i>Recognize and understand the differences between meiosis and mitosis in cellular reproduction.</i> <i>Recognize that</i>	(See Page 6)

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			<i>materials.</i>	<i>Use simple laws of probability to predict patterns of heredity with the use of Punnett squares. Explain how our understanding of heredity has changed over time.</i>	<i>changes in DNA (mutations) and anomalies in chromosomes create changes in organisms. Apply concepts of inheritance of traits, including Mendel's laws, Punnett squares, and pedigrees, to determine the characteristics of offspring. Recognize the existence of technology that can alter and/or determine inherited traits.</i>	

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<p>DIVERSITY/INTER-DEPENDENCE</p> <p>Understand the relationships among living things and between living things and their environments.</p>	<p>Explain and analyze the interdependence of organisms in their natural environment.</p>	<p>Describe a habitat and the organisms that live there.</p> <p><i>#7 Habitat Pen Pals</i></p> <p><i>#8 The Forest of S. T. Shrew</i></p> <p><i>#22A Trees as Habitats</i></p> <p><i>#27 Every Tree for Itself</i></p> <p><i>#46 School Yard Safari</i></p> <p><i>#47V Are Vacant Lots Vacant?</i></p> <p><i>#49A Tropical Treehouse</i></p>	<p>Describe the relationship between characteristics of specific habitats and the organisms that live there.</p> <p><i>#7 Habitat Pen Pals</i></p> <p><i>#8 The Forest of S. T. Shrew</i></p> <p><i>#12 Invasive Species</i></p> <p><i>#21B Adopt-A-Tree</i></p> <p><i>#22B Trees as Habitats</i></p> <p><i>#23 The Fallen Log</i></p> <p><i>#26 Dynamic Duos</i></p> <p><i>#27 Every Tree for Itself</i></p> <p><i>#45 Web of Life</i></p> <p><i>#88A&B Life on the Edge</i></p>	<p>Identify and describe the factors that influence or change the balance of populations in their environment.</p> <p><i>#12 Invasive Species</i></p> <p><i>#22B Trees as Habitats</i></p> <p><i>#23 The Fallen Log</i></p> <p><i>#27 Every Tree for Itself</i></p> <p><i>#29B&C Rain Resources</i></p> <p><i>#77A Trees in Trouble</i></p> <p><i>#88A&B Life on the Edge</i></p>	<p>Describe and analyze the effect of species, including humans, on an ecosystem.</p>	<p>(See Page 6)</p>

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			<p><i>Use drawings or models to represent a series of food chains for specific habitats.</i></p> <p>#45 Web of Life #46 School Yard Safari</p> <p><i>Identify the producers, consumers, and decomposers in a given habitat.</i></p> <p>#45 Web of Life</p> <p><i>Recognize how all animals depend upon plants whether or not they eat the plants directly.</i></p> <p>#45 Web of Life</p> <p><i>Explain the relationship between animal behavior and species survival.</i></p> <p><i>Describe the living and nonliving resources in a specific habitat and the adaptations of organisms to that habitat.</i></p> <p>#49B Tropical Treehouse</p>	<p><i>Identify that sunlight is the major source of energy in most ecosystems and that energy then passes from organism to organism in food webs.</i></p> <p>#28 Air Plants</p> <p><i>Identify populations of organisms within an ecosystem by the function that they serve.</i></p> <p>#45 Web of Life</p> <p><i>Differentiate between relationships among organisms including predator-prey, producer-consumer, and parasite-host.</i></p> <p>#26 Dynamic Duos #45 Web of Life</p> <p><i>Explain the importance of niche to an organism's ability to avoid direct competition for resources.</i></p>	<p><i>Predict outcomes of changes in resources and energy flow in an ecosystem.</i></p> <p><i>Explain how humans and other species can impact an ecosystem.</i></p> <p><i>Explain how the balance of resources will change with the introduction or loss of a new species within an ecosystem.</i></p>	<p>(See Page 6)</p>

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	Describe and analyze diversity of species, natural selection, and adaptations.	Identify how some animals gather and store food, defend themselves, and find shelter. #3 Peppermint Beetle #7 Habitat Pen Pals #8 The Forest of S. T. Shrew #22A Trees as Habitats #25 Birds and Worms	Describe how adaptations help a species survive. #7 Habitat Pen Pals #11A Can It Be Real? #12 Invasive Species #25 Birds and Worms #43 Have Seeds, Will Travel	Describe and explain the theory of natural selection as a mechanism for evolution. #12 Invasive Species #43 Have Seeds, Will Travel	Analyze how living things have changed over geological time, using fossils and other scientific evidence.	
			<i>Describe changes to the environment that have caused the population of some species to change.</i> #25 Birds and Worms #29B Rain Reasons <i>Identify conditions that might cause a species to become endangered or extinct.</i> #45 Water Wonders #69 Forest for the Trees	<i>Identify and explain how random variations in species can be preserved through natural selection.</i> <i>Describe how animal and plant structures adapt to environmental change.</i> #11A Can It Be Real?	<i>Recognize that, over time, natural selection may result in development of a new species or subspecies.</i> <i>Recognize that natural selection and its evolutionary consequences provide an explanation for the fossil record as well as an explanation for the molecular similarities among varied species.</i> <i>Explain how biological evolution can account for the diversity of species</i>	(See Page 6)

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					<i>developed over time. Explain the relationship between genetics, mutations, and biological evolution. Explain how our understanding of evolution has changed over time.</i>	

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EARTH AND SPACE SCIENCE, continued

Common Curriculum Goals	Content Standards	Benchmark 1 (Grade 3)	Benchmark 2 (Grade 5)	Benchmark 3 (Grade 8)	CIM/CAM	PASS Criteria
			<p><i>Recognize that the supply of many resources is limited, and that resources can be extended through recycling and decreased use.</i></p> <p>#52A&B A Look At Aluminum</p> <p>#73 Waste Watchers</p> <p>#85 In the Driver's Seat</p> <p><i>Recognize that discarded products contribute to the problem of waste disposal.</i></p> <p>#37 Reduce, Reuse, Recycle</p> <p>#83 A Peek at Packaging</p>			
Understand changes occurring within the lithosphere, hydrosphere, and atmosphere of the Earth.	Explain and analyze changes occurring within the lithosphere, hydrosphere, and atmosphere of the Earth.	Identify daily and seasonal weather changes.	Describe patterns of seasonal weather.	Explain the water cycle and its relationship to weather and climatic patterns.	Analyze the relationship between global energy transfer and climate.	(See Page 12)

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			<p><i>Describe weather in measurable quantities including temperature, wind direction, wind speed, and precipitation.</i></p> <p><i>Interpret data over a period of time and use information to describe changes in weather from day to day, week to week, and season to season.</i></p> <p>#84 The Global Climate</p>	<p><i>Explain the water cycle</i></p> <p>#44A Water Wonders.</p> <p><i>Identify factors that cause or affect weather patterns.</i></p> <p>#84 The Global Climate</p> <p><i>Identify factors that affect the rate of evaporation, condensation, and cloud formation.</i></p> <p>#44A Water Wonders</p> <p><i>Identify the difference between weather and climate.</i></p> <p><i>Explain how geography affects climate.</i></p>	<p><i>Describe the effect of various gases in the atmosphere on the amount of energy retained by the Earth system.</i></p> <p><i>Describe how solar radiation and the amount that reaches Earth is affected by stratospheric ozone.</i></p> <p><i>Describe how differential heating of the Earth's surface, atmosphere, and oceans produces wind and ocean currents.</i></p>	
			<p>Identify causes of Earth surface changes.</p> <p><i>Identify effects of wind and water on Earth materials using appropriate models.</i></p> <p>#44B Water Wonders</p> <p><i>Identify effects of</i></p>	<p>Describe the Earth's structure and how it changes over time.</p> <p><i>Recognize the solid Earth is layered with a lithosphere, a hot convecting mantle, and a dense metallic core.</i></p>	<p>Analyze evidence of ongoing evolution of the Earth system.</p> <p><i>Describe methods of determining ages of rocks and fossils.</i></p> <p><i>Use rock sequences and fossil evidence to determine geologic</i></p>	(See Page 12)

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			<p><i>rapid changes on Earth's surface features including earthquakes and volcanoes.</i> #44B Water Wonders</p>	<p><i>Identify the processes that result in different kinds of landforms.</i> <i>Identify factors affecting water flow, soil erosion, and deposition.</i> #44B Water Wonders #70B Soil Stories</p> <p><i>Give examples of landform changes that occur at different rates.</i> #44B Water Wonders</p> <p><i>Describe the evidence for and the development of the theory of plate tectonics.</i></p> <p><i>Explain the rock cycle in terms of constructive (crustal deformation, volcanic eruption, and sediment deposition) and destructive (weathering and erosion) forces in land formation.</i></p>	<p><i>history.</i> <i>Describe and analyze theories of Earth's origin and early history using scientific evidence.</i> <i>Describe how earthquakes, volcanic eruptions, mountain building, and continental movements result from slow plate motions.</i> <i>Describe how the evolution of life caused dramatic changes in the composition of the Earth's atmosphere, which did not originally contain oxygen.</i> <i>Identify how volcanic eruptions and impacts of huge rocks from space can cause widespread effects on climate.</i></p>	

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Common Curriculum Goals	Content Standards	Benchmark 1 (Grade 3)	Benchmark 2 (Grade 5)	Benchmark 3 (Grade 8)	CIM/CAM	PASS Criteria
				<i>Describe that the total amount of Earth material stays the same as its forms change in the rock cycle.</i>		
THE EARTH IN SPACE Understand the Earth's place in the solar system and the universe.	Explain relationships among the Earth, sun, moon, and the solar system.	Identify and trace the movement of objects in the sky.	Describe the Earth's place in the solar system and the patterns of movement of objects within the solar system using pictorial models. <i>Describe Earth's position and movement in the solar system.</i> <i>Recognize that the rotation of the Earth on its axis every 24 hours produces the night-and-day cycle.</i>	Explain the relationship of the Earth's motion to the day, season, year, phases of the moon, and eclipses. <i>Explain the relationship between the cycle of seasons and the tilt of the Earth on its axis.</i>	Explain how mass and distance affect the interaction between Earth and other objects in space. <i>Recognize that the sun's gravitational pull holds the Earth and other planets in their orbits, just as the planets' gravitational pull keeps their moons in orbit around them.</i> <i>Explain that the force of gravity between Earth and other objects in space depends only upon their masses and the distances between them.</i>	(See Page 12)

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SCIENCE

Adopted April 2001

Student accountability on statewide assessments for these standards began in 2002-03.

EARTH AND SPACE SCIENCE, continued

Common Curriculum Goals	Content Standards	Benchmark 1 (Grade 3)	Benchmark 2 (Grade 5)	Benchmark 3 (Grade 8)	CIM/CAM	PASS Criteria
THE UNIVERSE Describe natural objects, events, and processes outside the Earth, both past and present.						(See Page 12)

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SCIENCE

Adopted April 2001

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SCIENTIFIC INQUIRY: Use interrelated processes to pose questions and investigate the physical and living world.

These standards are assessed through Oregon's Official Scientific Inquiry Scoring Guides for the purpose of classroom work sample assessment.

Common Curriculum Goals	Content Standards	Benchmark 1 (Grade 3)	Benchmark 2 (Grade 5)	Benchmark 3 (Grade 8)	CIM/CAM	PASS Criteria
<p>FORMING THE QUESTION/HYPOTHESIS</p> <p>Formulate and express scientific questions or hypotheses to be investigated.</p>	<p>Make observations. Formulate and express scientific questions or hypotheses to be investigated based on the observations.</p>	<p>Make observations. Based on these observations, ask questions or form hypotheses, which can be explored through simple investigations.</p> <p><i>#24 Nature's Recyclers</i></p> <p><i>#47 Are Vacant Lots Vacant?</i></p> <p><i>#48V Field, Forest & Stream</i></p> <p><i>#70A Soil Stories</i></p>	<p>Make observations. Ask questions or form hypotheses based on those observations, which can be explored through scientific investigations.</p> <p><i>#4C Sounds Around</i></p> <p><i>#9 Plant Diversity</i></p> <p><i>#24 Nature's Recyclers</i></p> <p><i>#29A Rain Reasons</i></p> <p><i>#38 Every Drop Counts</i></p> <p><i>#41 How Plants Grow</i></p> <p><i>#47 Are Vacant Lots Vacant?</i></p> <p><i>#48 Field, Forest & Stream</i></p> <p><i>#70A&B Soil Stories</i></p> <p><i>#73 Waste Watchers</i></p> <p><i>#77B Trees in Trouble</i></p>	<p>Based on observations and scientific concepts, ask questions or form hypotheses that can be explored through scientific investigations.</p> <p><i>#4C Sounds Around</i></p> <p><i>#24 Nature's Recyclers</i></p> <p><i>#29A Rain Reasons</i></p> <p><i>#38 Every Drop Counts</i></p> <p><i>#41 How Plants Grow</i></p> <p><i>#47 Are Vacant Lots Vacant?</i></p> <p><i>#48 Field, Forest & Stream</i></p> <p><i>#70B Soil Stories</i></p> <p><i>#71A Watch on Wetlands</i></p> <p><i>#72A Air We Breathe</i></p> <p><i>#73 Waste Watchers</i></p> <p><i>#77B Trees in Trouble</i></p>	<p>Based on observations and scientific concepts, ask questions or form hypotheses that can be answered or tested through scientific investigations.</p>	<p>Determine areas of inquiry, frame scientific problems, and pose research questions and hypotheses involving scientific relationships.</p>

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Common Curriculum Goals	Content Standards	Benchmark 1 (Grade 3)	Benchmark 2 (Grade 5)	Benchmark 3 (Grade 8)	CIM/CAM	PASS Criteria
<p>DESIGNING THE INVESTIGATION</p> <p>Design safe and ethical scientific investigations to address questions or hypotheses.</p>	<p>Design scientific investigations to address and explain questions or hypotheses.</p>	<p>Plan a simple investigation.</p> <p><i>#24 Nature's Recyclers</i></p> <p><i>#70A Soil Stories</i></p>	<p>Design a simple scientific investigation to answer questions or test hypotheses.</p> <p><i>#4C Sounds Around</i></p> <p><i>#24 Nature's Recyclers</i></p> <p><i>#29A Rain Reasons</i></p> <p><i>#38 Every Drop Counts</i></p> <p><i>#41 How Plants Grow</i></p> <p><i>#70A&B Soil Stories</i></p> <p><i>#73 Waste Watchers</i></p> <p><i>#77B Trees in Trouble</i></p>	<p>Design a scientific investigation to answer questions or test hypotheses.</p> <p><i>#4C Sounds Around</i></p> <p><i>#24 Nature's Recyclers</i></p> <p><i>#29A Rain Reasons</i></p> <p><i>#38 Every Drop Counts</i></p> <p><i>#41 How Plants Grow</i></p> <p><i>#70A&B Soil Stories</i></p> <p><i>#71A Watch on Wetlands</i></p> <p><i>#73 Waste Watchers</i></p> <p><i>#77B Trees in Trouble</i></p>	<p>Design a scientific investigation that provides sufficient data to answer a question or test a hypothesis.</p>	<p>Design scientific investigations that use precise and appropriate methodology to address questions, examine scientific relationships, and test hypotheses.</p>
<p>COLLECTING AND PRESENTING DATA</p> <p>Conduct procedures to collect, organize, and display scientific data.</p>	<p>Collect, organize, and display scientific data.</p>	<p>Collect data from an investigation.</p> <p><i>#24 Nature's Recyclers</i></p>	<p>Collect, organize, and summarize data from investigations.</p> <p><i>#4C Sounds Around</i></p> <p><i>#9 Plant Diversity</i></p> <p><i>#24 Nature's Recyclers</i></p> <p><i>#29A Rain Reasons</i></p> <p><i>#38 Every Drop Counts</i></p> <p><i>#41 How Plants Grow</i></p> <p><i>#48 Field, Forest & Stream</i></p>	<p>Collect, organize, and display sufficient data to support analysis.</p> <p><i>#4C Sounds Around</i></p> <p><i>#24 Nature's Recyclers</i></p> <p><i>#29A Rain Reasons</i></p> <p><i>#38 Every Drop Counts</i></p> <p><i>#41 How Plants Grow</i></p> <p><i>#48 Field, Forest & Stream</i></p> <p><i>#70B Soil Stories</i></p> <p><i>#71A Watch on</i></p>	<p>Collect, organize, and display sufficient data to facilitate scientific analysis and interpretation.</p>	<p>Conduct scientifically accepted procedures to collect, organize, and display data.</p>

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SCIENCE

Adopted April 2001

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Common Curriculum Goals	Content Standards	Benchmark 1 (Grade 3)	Benchmark 2 (Grade 5)	Benchmark 3 (Grade 8)	CIM/CAM	PASS Criteria
			#70A&B Soil Stories #73 Waste Watchers #77B Trees in Trouble	Wetlands #73 Waste Watchers #77B Trees in Trouble		

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SCIENCE

Adopted April 2001

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SCIENTIFIC INQUIRY, continued

Common Curriculum Goals	Content Standards	Benchmark 1 (Grade 3)	Benchmark 2 (Grade 5)	Benchmark 3 (Grade 8)	CIM/CAM	PASS Criteria
<p>ANALYZING AND INTERPRETING RESULTS</p> <p>Analyze scientific information to develop and present conclusions.</p>	<p>Analyze scientific information to develop and present conclusions.</p>	<p>Use the data collected from an investigation to explain the results.</p> <p><i>#24 Nature's Recyclers</i></p>	<p>Summarize, analyze, and interpret data from investigations.</p> <p><i>#4C Sounds Around</i></p> <p><i>#9 Plant Diversity</i></p> <p><i>#24 Nature's Recyclers</i></p> <p><i>#29A Rain Reasons</i></p> <p><i>#38 Every Drop Counts</i></p> <p><i>#41 How Plants Grow</i></p> <p><i>#70A&B Soil Stories</i></p> <p><i>#73 Waste Watchers</i></p> <p><i>#77B Trees in Trouble</i></p>	<p>Summarize and analyze data including possible sources of error. Explain results and offer reasonable and accurate interpretations and implications.</p> <p><i>#4C Sounds Around</i></p> <p><i>#24 Nature's Recyclers</i></p> <p><i>#29A Rain Reasons</i></p> <p><i>#38 Every Drop Counts</i></p> <p><i>#41 How Plants Grow</i></p> <p><i>#70B Soil Stories</i></p> <p><i>#71A Watch on Wetlands</i></p> <p><i>#73 Waste Watchers</i></p> <p><i>#77B Trees in Trouble</i></p>	<p>Summarize and analyze data, evaluating sources of error or bias. Propose explanations that are supported by data and knowledge of scientific terminology.</p>	<p>Analyze and interpret data and relationships, evaluate investigations, and develop supported explanations.</p>

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SCIENCE

Adopted April 2001

ADDITIONAL COMMON CURRICULUM GOALS

Instruction in the Common Curriculum Goals of Unifying Concepts and Processes, History and Nature of Science, Science in Personal and Social Perspectives, and Science and Technology is required in all Oregon school districts; however, they are not included on the statewide assessment except as specifically indicated in the eligible content (italicized in print of preceding seven pages) in Earth/Space Science, Life Science, or Physical Science.

UNIFYING CONCEPTS AND PROCESSES

Understand and apply major concepts and processes common to all sciences.

Common Curriculum Goals:

- Understand that any collection of things that have an influence on one another can be thought of as a system.
#47 Are Vacant Lots Vacant?
- Understand that a model is a tentative scheme or structure with explanatory power.
- Understand that both patterns of change and stability are important in the natural world.
#21B Adopt-A-Tree *#65 Bursting Buds*
- Understand that changes in scale influence the characteristics, properties, and relationships within a system.

PASS Criteria:

Know and apply fundamental concepts that unify the sciences.

HISTORY AND NATURE OF SCIENCE

Understand science as a human endeavor, the nature of scientific knowledge, and the history of science as it relates to and clarifies scientific inquiries.

Common Curriculum Goals:

- Understand that science is a human endeavor practiced by individuals from many different cultures.
#18 Tale of the Sun *#34 Who Works in the Forest?*
- Understand that scientific knowledge is subject to change based on new findings and results of scientific observation and experimentation.
#19 Viewpoints on the Line *#65 Bursting Buds* *#84 The Global Climate*
- Understand that scientific knowledge distinguishes itself through the use of empirical standards, logical arguments, and skepticism.

PASS Criteria:

Examine the work of scientists and the development of scientific theories or bodies of research.

Informally analyze scientific writings, theories, research, and arguments.

SCIENCE IN PERSONAL AND SOCIAL PERSPECTIVES

Understand that science provides a basis for understanding and acting on personal and social issues.

#16 A 7 B Pass the Plants, Please

SCIENCE

Adopted April 2001

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Common Curriculum Goals:

- Describe the role of science and technology in local, national, and global issues.
#37 Reduce, Reuse, Recycle *#69 Forest for the Trees*
- Describe how daily choices of individuals, taken together, affect global resource cycles, ecosystems, and natural resource supplies.

#14B Renewable or Not?

#34 Who Works in this Forest?

#37 Reduce, Reuse, Recycle

#52A&B A Look at Aluminum

#81B Living with Fires

#85 In the Driver's Seat

#15 A Few of My Favorite Things

#35 Loving It Too Much

#39B&C Energy Sleuths

#69 Forest for the Trees

#83 A Peek at Packaging

#88 Life on the Edge

#19 Viewpoints on the Line

#36 Pollution Search

#50 400-Acre Wood

#73 Waste Watchers

#84 The Global Climate

- Explain risks and benefits in personal and community health from a science perspective.

#19 Viewpoints on the Line

#72B&C Air We Breathe

#31 Plant a Tree

#81B Living with Fire

#37 Reduce, Reuse, Recycle

PASS Criteria:

Evaluate scientific, social, or ethical implications of scientific research and writings.

SCIENCE AND TECHNOLOGY

Understand the interconnections among science, technology, and society

#34 Who Works in This Forest?

#50 400-Acre Wood

#52A A Look at Aluminum

Common Curriculum Goals:

- Understand the relationship that exists between science and technology.
- Understand the process of technological design to solve problems and meet needs.

#37 Reduce, Reuse, Recycle

#85 In the Driver's Seat

#53 On the Move

#83 A Peek at Packaging

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