

State Standards for Excellence

for Grades 5–8

Language Arts

Standard 1: Students will understand and use Language Arts for communication.

Benchmark 1: Students will use a variety of language resources in a variety of contexts.

Benchmark 2: Students will use and expand vocabulary and linguistic skills to communicate effectively.

Lessons: Ecosystem Explorations Journal, Ecosystem Discovery, Energy Game, Message in a Bottle, New Mexico Life Zones, Goal Setting, Ecology Field Program, Where Does Your Lunch Come From?, Natural Change, Scavenger Hunt

Standard 2: Students will understand and use Language Arts as a learning tool.

Benchmark 1: Students will apply Language Arts knowledge and skills to solve problems that arise in other curriculum areas.

Lessons: Ecosystem Explorations Journal, Ecosystem Discovery, Energy Game, Message in a Bottle, New Mexico Life Zones, Goal Setting, Ecology Field Program, Where Does Your Lunch Come From?, Natural Change

Benchmark 2: Students will use language to understand various sources of information, local traditions, and culture as resources for learning.

Lessons: Ecosystem Explorations Journal, Goal Setting, Ecology Field Program, Where Does Your Lunch Come From?,

Benchmark 4: Students will apply critical thinking skills in listening, speaking, reading, and writing.

Lessons: Ecosystem Discovery, Energy Game, Message in a Bottle, Ecology Field Program, Natural Change

Standard 3: Students will listen and read for a variety of purposes.

Benchmark 1: Students will listen, react to, and interpret conversations, drama, music, poems, and stories delivered live and through technology.

Lessons: Ecosystem Explorations Journal, Where Does Your Lunch Come From?

Benchmark 3: Students will increase and use vocabulary through listening, reading, observing, and interacting with others.

Lessons: Ecosystem Explorations Journal, Ecosystem Discovery, Energy Game, Message in a Bottle, New Mexico Life Zones, Goal Setting, Ecology Field Program, Where Does Your Lunch Come From?, Natural Change, Scavenger Hunt

Benchmark 5: Students will use print and non-print sources to generate and apply options to solve problems in the classroom and daily life.

Lessons: Goal Setting

Standard 4: Students will use a variety of listening and reading strategies appropriately.

Benchmark 1: Students will use active listening skills to acquire information.

Lessons: Ecosystem Explorations Journal, Ecosystem Discovery, Energy Game, Message in a Bottle, New Mexico Life Zones, Goal Setting, Ecology Field Program, Where Does Your Lunch Come From?, Natural Change, Scavenger Hunt

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on our web site
www.nmnaturalhistory.org



Benchmark 2: Students will acquire and use knowledge of structural elements including rhetorical devices, figurative, descriptive, and visual language.

Lessons: Ecosystem Explorations Journal, Ecosystem Discovery, Goal Setting, Where Does Your Lunch Come From?, Scavenger Hunt

Benchmark 7: Students will use social skills of audience behavior in a variety of setting.

Lessons: Where Does Your Lunch Come From?, Ecology Field Program

Standard 5: Students will speak clearly and write effectively for a variety of audiences and purposes.

Benchmark 1: Students will use appropriate strategies to organize and deliver oral communication.

Lessons: Goal Setting, Ecology Field Program, Where Does Your Lunch Come From?,

Benchmark 2: Students will expand writing skills and explore a variety of writing forms by writing on a regular basis.

Lessons: All lessons include journal writing: Ecosystem Explorations Journal, Ecosystem Discovery, Energy Game, Message in a Bottle, New Mexico Life Zones, Goal Setting, Ecology Field Program, Where Does Your Lunch Come From?, Natural Change, Scavenger Hunt

Benchmark 5: Students will develop, write, and participate in drama, music, poems, and stories.

Lessons: Ecosystem Explorations Journal, Where Does Your Lunch Come From?

Benchmark 6: Students will draw on prior experiences, knowledge, culture, and home language to speak and write proficiently across the curriculum.

Lessons: Ecosystem Explorations Journal, Ecosystem Discovery, Energy Game, Message in a Bottle, New Mexico Life Zones, Goal Setting, Ecology Field Program, Where Does Your Lunch Come From?, Natural Change, Scavenger Hunt

Standard 6: Students will speak and write clearly, effectively, and correctly.

Benchmark 1: Students will use correct voice and body language when speaking, with an awareness of cultural conventions which influence language.

Lessons: Goal Setting, Where Does Your Lunch Come From?

Benchmark 3: Students will construct clear, concise, complete, and mechanically and grammatically correct sentences and paragraphs.

Lessons: Ecosystem Explorations Journal, Ecosystem Discovery, Message in a Bottle, New Mexico Life Zones, Goal Setting, Ecology Field Program, Natural Change, Scavenger Hunt

Standard 7: Students will respond personally, analytically, and critically to written and spoken language, and other media.

Benchmark 1: Students will analyze and critically respond to a variety of print and non-print materials in order to build understanding of content, self, and the cultures of the United States and the world.

Lessons: Ecosystem Explorations Journal, Where Does Your Lunch Come From?

Benchmark 2: Students will explore how language is used to present differing perspectives.

Lessons: Ecosystem Explorations Journals

Standard 9: Students will use language and literature to gain insight into their own and other's lives, and to build understanding of the moral and aesthetic dimensions of human experience.

Lessons: Ecosystem Explorations Journal



Mathematics

Standard 1: Students will understand and use Mathematics in problem solving.

Benchmark 1: Students will differentiate among problem-solving approaches to investigate and understand mathematical content.

Lessons: Energy Game, New Mexico Life Zones, Ecology Field Program

Benchmark 4: Students will verify and interpret results with respect to the original problem situation.

Lessons: Energy Game, Ecology Field Program

Standard 2: Students will understand and use Mathematics in Communication.

Benchmark 1: Students will interpret and explain personal mathematical thinking to make conjectures and convincing arguments.

Lessons: Ecology Field Program

Benchmark 2: Students will use drawings, discussion, reading, writing, and listening to access, learn, and communicate mathematical ideas.

Lessons: Energy Game, New Mexico Life Zones, Ecology Field Program

Standard 3: Students will understand and use Mathematics in Reasoning.

Benchmark 3: Students will verify results to justify and validate thinking.

Lessons: Energy Game, New Mexico Life Zones, Ecology Field Program

Standard 4: Students will understand and use Mathematical Connections.

Benchmark 4: Students will apply mathematical thinking and modeling to solve problems in other curriculum areas such as employability, health education, social studies, visual and performing arts, physical education language arts, and science.

Lessons: Energy Game, New Mexico Life Zones, Ecology Field Program

Standard 5: Students will understand and use numbers and number relationships.

Benchmark 4: Students will represent numerical relationships in one- and two-dimensional graphs.

Lessons: Energy Game, New Mexico Life Zones, Ecology Field Program

Standard 7: Students will understand and use computation and estimation.

Benchmark 3: Students will select and use appropriate method for computing from various processes including mental arithmetic, paper and pencil, calculators, and technology.

Lessons: Energy Game, Ecology Field Program

Benchmark 4: Students will use computation, estimation, and proportions to solve problems.

Lessons: Energy Game, Ecology Field Program

Standard 9: Students will understand measurement.

Benchmark 2: Students will select appropriate units and tools to measure to the degree of accuracy required in particular problems.

Lessons: New Mexico Life Zones, Ecology Field Program

Benchmark 3: Students will estimate, make, and use measurements to describe and compare.

Lessons: Energy Game, New Mexico Life Zones, Ecology Field Program

Standard 10: Students will understand and use statistics.

Benchmark 2: Students will construct, read, and interpret tables, charts, and graphs.

Lessons: Energy Game, New Mexico Life Zones

Benchmark 3: Students will make inferences and convincing arguments based on data analysis.

Lesson: Energy Game, New Mexico Life Zones



Standard 12: Students will understand and use patterns and functions.

Benchmark 1: Students will describe, extend, analyze, and create a wide variety of patterns.

Lessons: Energy Game, New Mexico Life Zones, Ecology Field Program

Benchmark 2: Students will describe and represent relationships with tables, graphs, and rules.

Lessons: Energy Game, New Mexico Life Zones, Ecology Field Program

Benchmark 3: Students will analyze functional relationships to explain how a change in one quantity results in a change in another.

Lessons: Energy Game, New Mexico Life Zones, Ecology Field Program

Benchmark 4: Students will use patterns and functions to represent and solve problems.

Lessons: Energy Game

Standard 13: Students will understand and apply algebraic concepts.

Benchmark 2: Students will represent situation and number patterns with tables, graphs, rules, and equations.

Lessons: Energy Game, New Mexico Life Zones, Ecology Field Program

Benchmark 3: Students will analyze tables, graphs, and equations to identify properties and relationships.

Lesson: Energy Game, New Mexico Life Zones, Ecology Field Program

Benchmark 4: Students will solve linear equations with confidence using concrete, informal, and formal methods.

Lessons: New Mexico Life Zones

Science

Standard 1: Students will understand science concepts of order and organization.

Benchmark 1: Students will apply information about the predictability and organization of the universe and its subsystems.

Lessons: Ecosystem Discovery, Energy Game, Message in a Bottle, New Mexico Life Zones, Ecology Field Program, Natural Change

Benchmark 2: Students will apply prediction to scientific problems.

Lessons: Message in a Bottle, Ecology Field Program, Natural Change

Standard 2: Students will use evidence, models, and explanations to explore the physical world.

Benchmark 1: Students will identify and organize evidence needed to predict changes in natural and artificial systems.

Lessons: Energy Game, Message in a Bottle, New Mexico Life Zones, Ecology Field Program, Natural Change

Benchmark 2: Students will organize phenomena into hypotheses, models, laws, theories, principles, and paradigms.

Lessons: Ecosystem Discovery, Energy Game, New Mexico Life Zones, Message in a Bottle, Ecology Field Program, Natural Change

Benchmark 3: Students will design and develop models.

Lessons: Ecosystem Discovery, Energy Game, New Mexico Life Zones, Natural Change

Standard 3: Students will use form and function to organize and understand the physical world.

Lessons: Ecosystem Discovery, Energy Game, Message in a Bottle, New Mexico Life Zones, Scavenger Hunt

Standard 4: Students will understand the physical world through the concepts of change, equilibrium, and measurement.



Benchmark 1: Students will illustrate that constancy and change are properties of objects and processes.

Lessons: Ecosystem Discovery, Energy Game, Message in a Bottle, New Mexico Life Zones, Ecology Field Program, Natural Change

Benchmark 2: Students will illustrate that energy and matter can be transformed and changed but the sum remains the same.

Lessons: Energy Game

Benchmark 3: Students will use elementary scientific devices to measure objects and simple phenomena.

Lessons: Ecology Field Program

Benchmark 4: Students will employ mathematics to quantify properties of objects and phenomena.

Lessons: Energy Game, New Mexico Life Zones, Ecology Field Program

Benchmark 5: Students will relate the contributions of external and internal forces to change in the form and function of objects, organisms, and natural systems.

Lessons: Energy Game, New Mexico Life Zones, Ecology Field Program, Natural Change

Standard 5: Students will acquire the abilities to do scientific inquiry.

Benchmark 1: Students will use the scientific method within the classroom and school environment.

Lessons: Ecosystem Discovery, Energy Game, Message in a Bottle, Ecology Field Program

Benchmark 2: Students will employ equipment, tools, a variety of techniques and information sources to gather, analyze, and interpret data.

Lessons: Energy Game, Message in a Bottle, New Mexico Life Zones, Ecology Field Program

Standard 6: Students will understand the process of scientific inquiry.

Benchmark 1: Students will use different kinds of methods including observation, experiments, and theoretical and mathematical models to answer a variety of scientific questions.

Lessons: Energy Game, Message in a Bottle, New Mexico Life Zones, Ecology Field Program, Natural Change

Benchmark 2: Students will use their own understanding of science to guide their scientific investigations.

Lessons: Energy Game, Message in a Bottle, New Mexico Life Zones, Ecology Field Program, Natural Change

Benchmark 3: Students will use criteria for sound scientific investigations to verify the truth of the results of their own and others' investigations.

Lessons: Message in a Bottle, New Mexico Life Zones, Ecology Field Program

Benchmark 6: Students will describe the results of investigations with teachers, peers, parents, and others.

Lessons: Energy Game, Message in a Bottle, New Mexico Life Zones, Ecology Field Program, Natural Change, Scavenger Hunt

Standard 9: Students will know and understand the concepts of energy and the transformation of energy.

Benchmark 1: Students will apply knowledge about energy and energy transformations to science problems.

Lessons: Energy Game, Ecology Field Program

Standard 10: Students will know and understand the characteristics that are the basis for classifying organisms.

Benchmark 1: Students will use information about living things.

Lessons: Ecosystem Discovery, Energy Game, Message in a Bottle, New Mexico Life Zones,



Ecology Field Program

Benchmark 2: Students will categorize organisms according to reproductive and other characteristics.

Lessons: Ecosystem Discovery, Energy Game, Message in a Bottle, Ecology Field Program, Scavenger Hunt

Standard 11: Students will know and understand synergy among organisms and the environments of organisms.

Benchmark 2: Students will describe how organisms obtain and use resources, grow, reproduce, and maintain a stable internal environment while living in a constantly changing external environment.

Lessons: Energy Game, Ecology Field Program

Benchmark 3: Students will predict behavior in relation to changes in an organism's internal and external environments.

Lessons: Energy Game, Message in a Bottle, New Mexico Life Zones, Ecology Field Program, Natural Change

Benchmark 5: Students will categorize organisms based on the function they serve within their ecosystem.

Lessons: Ecosystem Discovery, Energy Game, Message in a Bottle, Ecology Field Program, Scavenger Hunt

Benchmark 6: Students will examine the impact humans have had on other species and natural systems over time.

Lessons: Ecology Field Program, Where Does Your Lunch Come From?

Benchmark 7: Students will illustrate the impact that overpopulation might have on various regions of the world.

Lessons: Ecology Field Program, Where Does Your Lunch Come From?

Benchmark 8: Students will analyze consumption of nonrenewable resources based on population factors (birth rate, death rate, and density).

Lessons: Ecology Field Program, Where Does Your Lunch Come From?

Standard 12: Students will know and understand properties of Earth Science.

Benchmark 2: Students will experiment with the uses of Earth's materials as resources.

Lessons: Where Does Your Lunch Come From?

Benchmark 3: Students will model natural processes that shape the Earth's surface.

Lessons: Ecology Field Program, Natural Change

Benchmark 4: Students will observe, measure, and record weather changes that occur daily.

Lessons: Ecology Field Program

Benchmark 5: Students will explain how fossils are formed and how fossils provide evidence of the complexity and diversity of life over time.

Lessons: Ecology Field Program

Benchmark 7: Students will describe the interaction between the Earth's geosphere, hydrosphere, atmosphere, and biosphere.

Lessons: Ecosystem Discovery, New Mexico Life Zones, Ecology Field Program, Natural Change

Standard 15: Students will know and understand the impact between science and technology in society.

Lessons: Where Does Your Lunch Come From?

Standard 16: Students will know and understand the relationship between natural hazards and environmental risks for organisms.



Benchmark 1: Students will analyze environmental risks for personal and social costs.

Lessons: Natural Change

Benchmark 3: Students will predict the human and financial cost of slow natural events such as drought and rapid natural events such as earthquakes.

Lessons: Natural Change

Social Studies

Standard 1: Students will use knowledge and cultural understanding to explain how the world's people cope with ever-changing conditions, examine issues from multiple perspectives, and respond to individual and cultural diversity.

Benchmark 1: Students will compare and contrast elements of community including political, social, economic, and geographic aspects that distinguish New Mexico's uniqueness.

Lessons: Ecology Field Program

Benchmark 3: Students will describe how the peoples of the world are connected over time, showing similarities and differences based upon social studies knowledge of why those similarities or differences exist (e.g., geography, philosophies of governing, rise of nations, religion, etc.).

Lessons: Ecology Field Program, Where Does Your Lunch Come From?

Standard 2: Students will use democratic understanding and civic values to work together with others, make informed judgments and decisions, and act in accordance with democratic processes and principles to protect individual rights, serve their interests and promote the common good in order to become effective United States citizens (and understand the role that governments have in demonstrating this understanding).

Lessons: Goal Setting, Ecology Field Program

Standard 3: Students will know, understand and apply the language, tools, and skills of social studies.

Benchmark 1: Students will use social studies vocabulary and concepts.

Lessons: Goal Setting, Ecology Field Program, Where Does Your Lunch Come From?

Benchmark 2: Students will interpret and report social studies information from diverse sources (people, media, technology, computers, and libraries).

Lessons: Goal Setting, Ecology Field Program, Where Does Your Lunch Come From?

Standard 4: Students will know and understand the ways in which human beings view themselves and others over time.

Benchmark 3: Students will examine and describe historical periods and patterns of change within and across cultures.

Lessons: Ecology Field Program

Benchmark 4: Students will investigate the past using a variety of sources in order to understand the present and prepare for the future.

Lessons: Ecology Field Program

Standard 5: Students will know and understand the relationships and patterns in history in order to understand the past and present and to prepare for the future.

Lessons: Ecology Field Program

Standard 8: Students will know and understand the responsibilities, rights, and privileges of United States citizens.

Benchmark 1: Students will demonstrate how individuals have rights and personal responsibilities as members of social groups within family, school, community, state, tribe, and country (e.g., respecting the rights of others, obeying the law, paying taxes, taking advantage of the opportunity of being educated, etc.).



Lessons: Goal Setting, Ecology Field Program

Standard 9: Students will understand, develop and employ the civic skills necessary for participatory citizenship.

Benchmark 1: Students will demonstrate and refine the civic skills necessary for effective participatory citizenship in school and community.

Lessons: Goal Setting, Ecology Field Program

Standard 10: Students will know and understand the impact of economic systems and institutions on individuals, families, businesses, communities and governments.

Lessons: Where Does Your Lunch Come From?

Benchmark 4: Students will illustrate the role of supply and demand in the market place.

Lessons: Where Does Your Lunch Come From?

Standard 11: Students will know and understand the diverse, dynamic, and ever-changing nature of culture.

Benchmark 3: Students will examine how people and cultures respond to, interact with, and/or influence their physical environments.

Lessons: Ecology Field Program, Where Does Your Lunch Come From?

Standard 12: Students will know and understand physical environments and their relationships to ecosystems and human activities.

Benchmark 1: Students will construct and interpret physical and mental maps of locales, regions of the world to show relative location, direction, size and shape.

Lessons: Ecology Field Program, Where Does Your Lunch Come From?

Benchmark 2: Students will use geographic tools and resources such as aerial photographs, satellite images, geographic information systems, map projections, atlases, gazetteers, and other forms of cartography to generate and interpret information.

Lessons: Where Does Your Lunch Come From?

Benchmark 3: Students will describe varying land forms and geographic features such as mountains, plateaus, islands, rain forests, deserts and oceans that have a relationship with the earth's ecosystem.

Lessons: Ecosystem Discovery, New Mexico Life Zones, Ecology Field Program, Natural Change

Benchmark 4: Students will explain physical system changes such as seasons, climate and weather and the water cycle that produce identifiable geographic patterns.

Lessons: New Mexico Life Zones, Ecology Field Program

Benchmark 5: Students will understand the interrelated physical and cultural patterns reflected in land use, settlement patterns, cultural transmission of customs and ideas and changes to the ecosystem.

Standard 13: Students will know and understand the impact of science and technology on societies.

Benchmark 2: Students will describe how science and technology have changed people's perceptions of the social and physical world.

Lessons: Ecology Field Program, Where Does Your Lunch Come From?

Standard 14: Students will know and understand the role of global connections and interdependence between and among individuals, groups, societies, and nations.

Lessons: Where Does Your Lunch Come From?

