

**PROGRAM FOR LICENSING ASSESSMENTS
FOR COLORADO EDUCATORS® (PLACE®)
OBJECTIVES
FIELD 001: ELEMENTARY EDUCATION**

Subareas

Language Arts and Literacy
Science
Mathematics
Social Studies
Humanities
Wellness and Physical Education

LANGUAGE ARTS AND LITERACY

Understand the development of literacy in children.

Includes describing the development of emergent literacy in young children; identifying factors that influence literacy development (e.g., health, exposure to print materials); recognizing factors that affect a reader's construction of meaning through interactions with text (e.g., prior knowledge, characteristics of the text); analyzing how the development of reading, writing, speaking, listening, and viewing skills complement and facilitate one another; and recognizing the role of literacy in the development of competence in other disciplines.

Understand strategies for reading for different purposes and constructing meaning from a variety of reading materials.

Includes recognizing the importance of determining what needs to be known before reading and applying existing knowledge to the reading process; applying strategies for decoding words and determining their meaning (e.g., context clues, affixes); determining the main idea, supporting details, and sequence of events in a reading passage; and analyzing the use of figurative language (e.g., metaphor, idioms) in a given text.

Understand writing and speaking strategies for a variety of purposes and audiences.

Includes recognizing various purposes for writing and speaking (e.g., expository, persuasive, narrative); selecting an appropriate strategy for writing or speaking for a given audience; applying techniques for generating topics and developing ideas (e.g., brainstorming, webbing); selecting methods for organizing written and oral presentations; and using a variety of devices (e.g., precise vocabulary, nonverbal communication, dynamics) to convey meaning.

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Understand processes used in writing.

Includes applying strategies for drafting, revising, editing, proofreading, and publishing written communication.

Apply the conventions of English grammar and mechanics to writing and speaking.

Includes identifying the parts of speech; applying correct grammar and usage; using correct punctuation, capitalization, and spelling; and revising sentences to correct problems (e.g., run-on sentences, sentence fragments, misplaced modifiers).

Apply critical-thinking skills to reading, writing, speaking, listening, and viewing.

Includes recognizing how different modes of communication can be used to define and solve problems; distinguishing between fact and opinion; making predictions and drawing conclusions from given information (e.g., print, graphic, audio, visual); determining the purpose or perspective of a speaker, author, or director; recognizing, expressing, and defending points of view; and analyzing the reliability, accuracy, logic, and relevancy of information.

Understand strategies for locating, selecting, and using information from a variety of sources.

Includes selecting appropriate media, reference, and technological sources (e.g., encyclopedias, library catalog databases, Internet); using the organizational features (e.g., indexes, pull-down menus, key word searches) of these sources to locate information; applying criteria for selecting relevant information for given reading, writing, and speaking purposes; paraphrasing, summarizing, organizing, and synthesizing information from one or more sources; using technological resources to conduct research and produce end products (e.g., word-processed document, videotape); and applying accepted practices for crediting others' ideas, images, or information.

Understand characteristics of various types of literature and the role of literature as a representation of human experience.

Includes identifying characteristics of genres of literature (e.g., folk tales, myths, poetry, fiction); using literary terminology (e.g., plot, foreshadowing) appropriately; evaluating literary quality based on various elements (e.g., character development, description of setting); recognizing common human issues and interests, as reflected in given passages; recognizing characteristics of classic and contemporary literary works from the United States and from throughout the world, including works that represent diverse cultural and ethnic traditions and experiences; analyzing how an author's or illustrator's works and a reader's interpretation may be influenced by his or her background (e.g., gender, culture, region, socioeconomic status); and recognizing the role of literature in helping to understand places, people, and events.

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Apply knowledge of technology to support instruction and enhance meaning in all areas of the curriculum.

Includes demonstrating familiarity with computers, the Internet, video projection, CD-ROM, calculators, and other audiovisual and multimedia resources; and recognizing the variety of uses of technology (e.g., instructional support, word processing, assessment, record keeping).

SCIENCE

Understand the principles and processes of scientific investigation.

Includes determining the type of scientific investigation (e.g., experimentation, observation) that best addresses a given question or hypothesis; designing scientific investigations; recognizing safety issues related to scientific investigations; using appropriate methods, tools, technologies, and measurement units to gather and organize data; interpreting and evaluating data to make inferences, form conclusions, and solve problems; and communicating the results of investigations in a variety of formats (e.g., reports, models, graphs).

Understand the basic principles and concepts of physical science.

Includes recognizing basic concepts related to matter and energy (e.g., conservation); recognizing the composition and structure of matter (e.g., atoms, molecules, mixtures); identifying physical and chemical properties of matter (e.g., mass, boiling point, pH); identifying different forms of energy (e.g., heat, sound); and analyzing situations involving interactions between matter and energy in a system, including transfers and transformations of energy and changes in matter.

Understand the basic principles and concepts of life science.

Includes recognizing the basic characteristics and needs of living things and the diversity of life; analyzing how organisms interact with one another and with their environment; recognizing the processes by which nutrients and energy cycle through ecosystems and are used by organisms (e.g., photosynthesis, respiration); identifying the basic structures and functions of the human body and comparing them with those of other organisms; and applying the principles of genetics and evolutionary theory to understand how organisms change over time.

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Understand the basic principles and concepts of Earth and space science.

Includes identifying the geological composition and history of Earth; analyzing major features of Earth's surface in terms of the natural processes that shape them (e.g., erosion, volcanic activity); recognizing fundamental weather processes and phenomena (e.g., atmospheric circulation, storms) and factors that influence them; demonstrating an understanding of the water cycle; identifying the basic components and structure of the solar system; and describing the composition, motions, and interactions of objects in the universe.

Understand the relationships among science, technology, and human activities.

Includes evaluating how a given scientific or technological advance (e.g., genetic research, computers) may affect humans; analyzing the effect of human activities (e.g., consumption of natural resources, pollution) on the environment; and recognizing how humans' use of technology can create or solve problems.

Understand the nature of scientific thought and the connections among the scientific disciplines and between the sciences and other disciplines.

Includes evaluating given information in terms of the criteria of scientific thought (e.g., verifiable evidence, logical structure, openness to criticism); recognizing the dynamic nature of scientific knowledge; and applying scientific themes (e.g., patterns, change, models, systems) to help explain and make connections between seemingly diverse natural phenomena.

MATHEMATICS

Understand the development of number sense and the use of number relationships.

Includes describing the development of number sense in children and factors that can affect it; recognizing and using equivalent forms of numbers (e.g., fractions, decimals, percents); applying knowledge of the structure and properties of the real number system to compare, order, estimate, and round; and using number sense to determine the reasonableness of solutions.

Understand the use of algebraic methods to explore, model, and describe patterns and functions.

Includes recognizing and analyzing patterns in numbers, shapes, and data; using variables, expressions, equations, and inequalities to describe patterns; identifying different types of functions (e.g., linear, nonlinear); using patterns and functions to model real-world situations and make predictions; and representing patterns and functions in a variety of ways (e.g., tables, words, graphs).

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Understand the basic principles and concepts of data collection and analysis, statistics, and probability.

Includes using various methods (e.g., surveys, tables, graphs) of systematically collecting, organizing, describing, and analyzing data; identifying basic concepts and principles of statistics and probability; making valid inferences, decisions, and arguments based on analysis of given data; and using a variety of materials, models, and methods (e.g., combinations, theoretical probability) to represent and solve problems involving uncertainty.

Understand geometric concepts, properties, and relationships.

Includes recognizing geometric figures in one, two, and three dimensions and analyzing their properties (e.g., symmetry); solving problems involving perimeter, area, and volume; identifying and applying geometric transformations (e.g., reflections, translations); solving problems using coordinate geometry; connecting concepts from other areas of mathematics (e.g., measurement, probability) to their geometric representations; and applying geometric concepts and using a variety of materials and methods to model real-world situations and solve problems.

Understand the concepts, tools, and techniques of measurement.

Includes identifying the attributes of length, capacity, weight, mass, time, money, temperature, perimeter, area, volume, and angle measurement and selecting appropriate units, tools, and procedures for measuring them; applying knowledge of the metric and customary systems of measurement; using direct and indirect measurements to describe and compare real-world phenomena; determining derived measures (e.g., rates of change); and interpreting scales (e.g., graphs, maps, number lines).

Understand computational techniques and how to link various mathematical concepts and procedures in problem-solving situations.

Includes recognizing concepts and principles related to the four basic operations of addition, subtraction, multiplication, and division; developing and analyzing a variety of algorithms to solve real-world problems; applying appropriate mathematical approaches and computational techniques (e.g., estimation, mental math, paper and pencil, calculator) to solve a variety of problems; and evaluating whether given solutions to problems are reasonable.

Understand the concepts and techniques of mathematical communication.

Includes understanding the meaning of mathematical terminology, symbols, and notation; using the language of mathematical concepts in a variety of ways (e.g., graphic, symbolic, verbal); and using appropriate mathematical language to describe patterns and communicate the reasoning used to solve problems.

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SOCIAL STUDIES

Understand the basic principles and concepts of geography.

Includes using maps, globes, and other geographic tools to locate and derive information about people, places, and environments; applying the basic concepts of geography (e.g., location, movement) to the past, present, and future; analyzing interactions between human and physical systems (e.g., resource distribution); and analyzing how economic, political, cultural, and social processes interact to shape patterns of human population, interdependence, cooperation, and conflict.

Understand significant events, concepts, and themes in Colorado and U.S. history.

Includes identifying the chronology of significant events and people in Colorado and the United States; applying historical concepts and themes to analyze events, patterns, and relationships; recognizing the influence of science, technology, economic activity, and religious and philosophical ideas on societies throughout history; identifying the development of and change in political institutions and theories over time; recognizing basic concepts related to social organization and culture; and analyzing how diverse peoples have affected and been affected by U.S. society.

Understand the basic principles and concepts of economics.

Includes recognizing the fundamental principles and concepts of economics (e.g., scarcity, resources, supply and demand); identifying the features of different economic systems (e.g., command, market, mixed); recognizing how different economic systems influence resource allocation and the production, distribution, and exchange of goods and services; and analyzing patterns and results of trade, exchange, and interdependence among individuals, businesses, and governments.

Understand the structures and functions of government and the principles and democratic foundations of national, state, and local political systems.

Includes recognizing the basic purpose and concepts of government; identifying the basic constitutional principles and democratic foundations of national, state, and local political systems; identifying the structure and functions of national, state, and local governments; recognizing the role of law in the Colorado and U.S. constitutional systems; analyzing the political relationship of the United States to other nations and world affairs; and identifying the rights and responsibilities of citizenship.

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Understand common social studies themes, including culture and global connections.

Includes recognizing common social studies themes (e.g., culture, continuity, change) and how their application aids in understanding people and events; identifying the nature and implications of similarities and differences among cultures; recognizing multicultural perspectives of events and issues; recognizing the connections among and common concerns of world societies (e.g., food production and distribution, human rights) and analyzing the influence of these connections and concerns on events and people; and recognizing the connections among geography, history, economics, and civics.

Understand the principles, tools, and processes of inquiry in social studies.

Includes identifying the basic principles and procedures of inquiry in social studies (e.g., formulating hypotheses); selecting appropriate resources, media, or technology for meeting specific informational needs; organizing, comparing, interpreting, evaluating, and summarizing information presented in various forms; and applying problem-solving and decision-making skills to social studies information.

HUMANITIES

Understand basic principles and skills related to music.

Includes recognizing common musical terms and concepts; identifying types and characteristics of musical instruments; and understanding how music can be used as a form of communication, self-expression, and social expression.

Understand basic principles and skills related to creating, viewing, and responding to works of visual art.

Includes recognizing the basic terms and concepts of visual art (e.g., elements of art and principles of design); identifying types and characteristics of visual arts materials, techniques, and processes; and understanding how visual art can be used as a form of communication, self-expression, and social expression.

Understand basic forms and uses of creative drama and movement.

Includes recognizing the basic forms (e.g., puppet theater, sociodrama, expressive dance) associated with creative drama and movement; and understanding how creative drama and movement can be used as forms of communication, self-expression, and social expression.

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Understand the arts in relation to history and culture and connections among the arts.

Includes understanding the role and function of the arts in various cultures and historical periods; and recognizing the connections among the arts.

WELLNESS AND PHYSICAL EDUCATION

Understand principles and practices related to personal health and safety.

Includes identifying factors that influence physical growth and development (e.g., reproductive maturation) and the proper functioning of body systems; applying basic principles of nutrition to identify positive or negative effects of given food choices on health; recognizing the benefits of rest, sleep, and exercise; recognizing principles and practices of personal hygiene; and identifying risk factors (e.g., substance abuse) and implementing safety practices to avoid accidents and injury.

Understand principles and practices related to family, public, and consumer health.

Includes recognizing factors that affect family health; analyzing the influence of various factors (e.g., availability of health care, pollution) on public health; recognizing characteristics of disease and principles related to disease prevention and control; analyzing the implications of disease and substance abuse for the individual and society; identifying the roles of various health care providers, agencies, and organizations; identifying sources of information about health care products and services; and evaluating the reliability and validity of health information and resources.

Understand principles, concepts, and practices related to physical fitness.

Includes identifying components of fitness (e.g., cardiovascular endurance, flexibility, muscular strength, coordination) and activities that promote fitness (e.g., aerobic activities); and recognizing the role of physical fitness in an overall wellness program.

Understand the knowledge and behaviors necessary to participate in physical activities.

Includes recognizing the risks and safety factors associated with physical activities; applying knowledge of rules, strategies, and appropriate behaviors for physical activities.