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## Description of the Adaptations to the New Standards® Performance Standards and New Standards® Primary Literary Standards by DoDEA

NCEE and the University of Pittsburgh collaborated in developing the New Standards® Performance Standards, which are curriculum standards for English and Language Arts (ELA), mathematics, science, and applied learning for grades 4, 8 and 10, and the New Standards® Primary Literary Standards, which are standards for reading and writing for grades K through 3. DoDEA has developed content standards for grades Pre-K, 5, 6, 7, 9, 11 and 12 based on New Standards® Performance Standards and the New Standards® Primary Literary Standards. DoDEA will use its NCEE-based content standards as a basis for conducting subsequent curriculum and standards work, to include a collection of student work for use as exemplars of performance benchmarks, and the description of how such student work meets DoDEA content standards. It will also continue to refine existing NCEE-based standards solely for its own internal applications.

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Strand:

**E1 Reading**

Reading is a process which includes demonstrating comprehension and showing evidence of a warranted and responsible interpretation of the text. “Comprehension” means getting the gist of a text. It is most frequently illustrated by demonstrating an understanding of the text as a whole; identifying complexities presented in the structure of the text; and extracting salient information from the text. In providing evidence of a responsible interpretation, students may make connections between parts of a text, among several texts, and between texts and other experiences; make extensions and applications of a text; and examine texts critically and evaluatively.

Standard:

**E1a:** The student reads at least twenty-five books or book equivalents each year. The quality and complexity of materials to be read is based on the lexile level of grade four (600L-900L). The materials should include traditional and contemporary literature (both fiction and non-fiction) as well as magazines, newspapers, textbooks, and on-line material. Such reading should represent a diverse collection of material from at least three different literary forms and from at least five different writers.

Examples:

*Examples of activities through which students might produce evidence of reading twenty-five books include:*

- *Maintain an annotated list of works read.*
- *Generate a reading log or journal.*
- *Participate informal and informal book talks.*

Standard:

**E1b:** The student reads and comprehends at least four books (or book equivalents) about one issue or subject or four books by a single writer, or four books in one genre, and produces evidence of reading that:

Components:

- E1b.1:** makes and supports warranted and responsible assertions about the texts;
- E1b.2:** supports assertions with elaborated and convincing evidence;
- E1b.3:** draws the text together to compare and contract themes, characters, and ideas;
- E1b.4:** makes perceptive and well developed connections; and
- E1b.5:** evaluates writing strategies and elements of the author’s craft.

Examples:

*Examples of activities through which students might produce evidence of reading comprehension include:*

- *Make connections between literary works according to a common theme.*
- *Participate in formal or informal book talk.*
- *Produce a literary response paper.*
- *Participate in a Readers’ Theater production.*
- *Create an annotated book list organized according to author, theme, or genre.*
- *Produce an informative report.*

Standard:

**E1c:** The student reads and comprehends informational materials to develop understanding and expertise and produces written or oral work that:

- Components: **E1c.1:** restates or summarizes information;  
**E1c.2:** relates new information to prior knowledge and experience;  
**E1c.3:** extends ideas; and  
**E1c.4:** makes connections to related topics or information.
- Examples: *Examples of activities through which students might produce evidence of reading informational materials include:*
- *Contribute to an attribute book.*
  - *Present information to an audience of peers.*
  - *Produce a chapter book on a factual topic using more than one source.*
  - *Rewrite video game instructions for a younger reader.*
- Standard: **E1d:** The student reads aloud, accurately (in the range of 85-90%) familiar material of the quality and complexity a way that makes meaning clear to listeners by:
- Components: **E1d.1:** self-correcting when subsequent reading indicates an earlier miscue;  
**E1d.2:** using a range of cueing systems; e.g., phonics and context clues, to determine pronunciation and meanings; and  
**E1d.3:** reading with a rhythm, flow, and meter that sounds like everyday speech.
- Examples: *Examples of activities through which students might produce evidence of reading aloud accurately include:*
- *Read aloud to peers or younger children.*
  - *Analyze the use of text aids such as headlines and captions.*

Strand:

**E2 Writing**

Writing is a process through which a writer shapes language to communicate effectively. Writing often develops through a series of initial plans and multiple drafts and through access to informed feedback and response. Purpose, audience, and context contribute to the form and substance of writing as well as to its style, tone, and stance.

- Standard: **E2a:** The student produces a report that:
- Components: **E2a.1:** engages the reader by establishing a context, creating a persona, and otherwise developing reader interest;  
**E2a.2:** develops a controlling idea that conveys a perspective on the subject;  
**E2a.3:** creates an organizing structure appropriate to a specific purpose, audience and context;  
**E2a.4:** includes appropriate facts and details;  
**E2a.5:** excludes extraneous and inappropriate information;  
**E2a.6:** uses a range of appropriate strategies, such as providing facts and details, describing or analyzing the subject, and narrating a relevant anecdote; and  
**E2a.7:** provides a sense of closure to the writing.
- Examples: *Examples of reports include:*
- *An informative report.*
  - *An attribute book (a book on a single subject not necessarily developed by chapters, sometimes called an “all-about,” e.g., “all about whales,” “all about earthquakes”).*
  - *A chapter book.*

- Standard: **E2b:** The student produces a response to literature that:
- Components: **E2b.1:** engages the reader by establishing a context, creating a persona, and otherwise developing reader interest;
- E2b.2:** advances a judgment that is interpretive, analytic, evaluative, or reflective;
- E2b.3:** supports judgment through references to the text, references to other works, authors, or non-print media, or references to personal knowledge;
- E2b.4:** demonstrates an understanding of the literary work; and
- E2b.5:** provides a sense of closure to the writing.

- Examples: *Examples of responses to literature include:*
- *A literary response paper.*
  - *A book review.*
  - *A parody.*
  - *A literary analysis paper.*
  - *A comparison of a children's classic with a televised version of the same work.*

- Standard: **E2c:** The student produces a narrative account (fictional or autobiographical) that:
- Components: **E2c.1:** engages the reader by establishing a context, creating a point of view, and otherwise developing reader interest;
- E2c.2:** establishes a situation, plot, point of view, setting, and conflict (and for autobiography, the significance of events);
- E2c.3:** creates an organizing structure;
- E2c.4:** includes sensory details and concrete language to develop plot and character;
- E2c.5:** excludes extraneous details and inconsistencies;
- E2c.6:** develops complex characters;
- E2c.7:** uses a range of appropriate strategies, such as dialogue and tension or suspense; and
- E2c.8:** provides a sense of closure to the writing.

- Examples: *Examples of narrative accounts include:*
- *An autobiographical account.*
  - *An imaginative story.*
  - *A narrative picture book.*
  - *A retelling of a traditional tale from an alternative point of view.*

- Standard: **E2d:** The student produces a narrative procedure that:
- Components: **E2d.1:** engages the reader by establishing a context, creating a persona, and otherwise developing reader interest;
- E2d.2:** provides a guide to action that anticipates a reader's needs, creates expectations through predictable structures, e.g., headings, and provides transitions between steps;
- E2d.3:** makes use of appropriate writing strategies such as creating a visual hierarchy and using white space and graphics as appropriate;
- E2d.4:** includes relevant information;
- E2d.5:** excludes extraneous information;

**E2d.6:** anticipates problems, mistakes, and misunderstandings that might arise for the reader; and

**E2d.7:** provides a sense of closure to the writing.

Examples:

*Examples of narrative procedures include:*

- *A set of rules for organizing a class meeting.*
- *A chapter book developed around procedures; e.g., how to have a safe vacation, with chapters on safe swimming, safe games, and other issues of safety.*
- *A how to report to accompany a board game.*
- *A set of procedures for accessing information in the library.*
- *A rewrite of video game instructions for a younger reader.*

Strand:

**E3 Speaking,  
Listening and  
Viewing**

Speaking, listening, and viewing are fundamental processes which people use to express, explore, and learn about ideas. The functions of speaking, listening, and viewing include gathering and sharing information; persuading others; expressing and understanding ideas; coordinating activities with others; and selecting and critically analyzing messages. The contexts of these communication functions include one-to-one conferences, small group interactions, large audiences and meetings, and interactions with broadcast media.

Standard:

**E3a:** The student participates in one-to-one conferences with a teacher, paraprofessional, or adult volunteer, in which the student:

Components:

- E3a.1:** initiates new topics in addition to responding to adult-initiated topics;  
**E3a.2:** asks relevant questions;  
**E3a.3:** responds to questions with appropriate elaboration;  
**E3a.4:** uses language cues to indicate different levels of certainty or hypothesizing, e.g., “what if...,” “very likely...,” “I’m unsure whether...”, and  
**E3a.5:** confirms understanding by paraphrasing the adult’s directions or suggestions.

Examples:

*Examples of one-to-one interactions include:*

- *Book Talks with a teacher or parent.*
- *Analytical discussions of a movie or television program with a teacher or parent.*
- *Conferences regarding a draft of an essay, the student’s progress on a mathematical assignment or the status of a science project.*
- *Discussion with an adult of a collection of the student’s work.*

Standard:

**E3b:** The student participates in group meetings, in which the student:

Components:

- E3b.1:** displays appropriate turn-taking behaviors;  
**E3b.2:** actively solicits another person’s comment or opinion;  
**E3b.3:** offers own opinion forcefully without dominating;  
**E3b.4:** responds appropriately to comments and questions;  
**E3b.5:** volunteers contributions and responds when directly solicited by teacher or discussion leader;  
**E3b.6:** gives reasons in support of opinions expressed; and  
**E3b.7:** clarifies, illustrates, or expands on a response when asked to do to, asks group for similar expansions.

Examples:	<p><i>Examples of activities involving group meetings include:</i></p> <ul style="list-style-type: none"><li>• <i>Create a plan for a group project (e.g., sketching out a multiple-authored picture book; organizing a presentation to be made to the class).</i></li><li>• <i>Develop and discuss class rubrics.</i></li><li>• <i>Engage in classroom town meetings.</i></li><li>• <i>Participate in book talks with other students.</i></li><li>• <i>Work as part of a group to solve a complex mathematical task.</i></li><li>• <i>Role-play to better understand a certain historical event.</i></li><li>• <i>Participate in peer writing response groups.</i></li></ul>
Standard:	<b>E3c:</b> The student prepares and delivers an individual presentation in which the student:
Components:	<b>E3c.1:</b> shapes information to achieve a particular purpose and to appeal to the interests and background knowledge of audience members; <b>E3c.2:</b> shapes content and organization according to criteria for importance and impact rather than according to availability of information in resource materials; <b>E3c.3:</b> uses notes or other memory aids to structure the presentation; <b>E3c.4:</b> engages the audience with appropriate verbal cues and eye contact; and <b>E3c.5:</b> projects a sense of individuality and personality in selecting and organizing content, and in delivery.
Examples:	<p><i>Examples of presentation include:</i></p> <ul style="list-style-type: none"><li>• <i>A report of research on a topic of general interest to the class.</i></li><li>• <i>A presentation of project plans or a report for an Applied Learning project.</i></li><li>• <i>A recounting of various anecdotes in an attempt to persuade the class to change a class policy.</i></li><li>• <i>A presentation to parents about a project created for a science fair.</i></li></ul>
Standard:	<b>E3d:</b> The student makes informed judgments about television, radio, and film productions; that is the student:
Components:	<b>E3d.1:</b> demonstrates an awareness of the presence of the media in the daily lives of most people; <b>E3d.2:</b> evaluates the role of the media in focusing attention in forming an opinion; <b>E3d.3:</b> judges the extent to which media provide a source of entertainment as well as a source of information; and <b>E3d.4:</b> defines the role of advertising as part of media presentation.
Examples:	<p><i>Examples of activities through which students might produce evidence of making informed judgments about television, radio, and film productions include:</i></p> <ul style="list-style-type: none"><li>• <i>Present a paper or report on reasons for selecting one media choice over another.</i></li><li>• <i>Prepare a report on the benefits obtained (including information learned) from media exposure.</i></li><li>• <i>Maintain a week's log to document personal viewing habits and analyze the information collected in the log.</i></li><li>• <i>Summarize patterns of media exposure in writing or in an oral report.</i></li><li>• <i>Analyze the appeal of particularly memorable commercials.</i></li></ul>

Strand:

**E4 Conventions, Grammar, and Usage of the English Language**

Having control of the conventions and grammar of the English Language means having the ability to represent oneself appropriately with regard to current standards of correctness (e.g., spelling, punctuation, paragraphing, capitalization, subject-verb agreement). Usage involves the appropriate application of conventions and grammar in both written and spoken formats.

Standard:

**E4a:** The student demonstrates a basic understanding of the rules of the English language in written and oral work, and selects the structures and features of language appropriate to the purpose, audience and context of the work. The student demonstrates control of:

Components:

- E4a.1:** grammar;
- E4a.2** paragraph structure;
- E4a.3:** punctuation;
- E4a.4:** sentence construction;
- E4a.5:** spelling; and
- E4a.6:** usage.

Examples:

*Examples of activities through which students might demonstrate an understanding of the rules of the English language include:*

- *Demonstrate in a piece of writing the ability to manage the conventions, grammar, and usage of English so that they aid rather than interfere with reading.*
- *Proofread acceptably the student's own writing or the writing of others, using dictionaries and other resources, including the teacher or peers as appropriate.*
- *Observe conventions of language during formal oral presentations*

Standard:

**E4b:** The student analyzes and subsequently revises work to clarify it or make it more effective in communicating the intended message or thought. The student's revisions should be made in light of the purposes, audiences, and contexts that apply to the work. Strategies for revising include:

Components:

- E4b.1:** adding or deleting details;
- E4b.2:** adding or deleting explanations;
- E4b.3:** clarifying difficult passages;
- E4b.4:** rearranging words, sentences, and paragraphs to improve or clarify meaning;
- E4b.5:** sharpening the focus; and
- E4b.6:** reconsidering the organizational structure.

Examples:

*Examples of activities through which students might produce evidence of analyzing and revising work include:*

- *Incorporate into revised drafts, as appropriate, suggestions taken from critiques made by peers and teachers,*
- *Produce a series of distinctly different drafts that result in a polished piece of writing or a presentation.*
- *Consider and respond to the critiques of peers and teachers.*
- *Critique the writing or oral presentation of a peer.*

Strand:

**E5 Literature**

Literature consists of poetry, fiction, non-fiction, and essays as distinguished from instructional, expository, or journalistic writing.



Standard:	<b>E5a:</b> The student responds to non-fiction, fiction, poetry, and drama using interpretive, critical, and evaluative processes; that is, the student:
Components:	<b>E5a.1:</b> identifies recurring themes across works; <b>E5a.2:</b> analyzes the impact of authors' decisions regarding word choice and content; <b>E5a.3:</b> considers the differences among genres; <b>E5a.4:</b> evaluates literary merit; <b>E5a.5:</b> considers the function of point of view or persona; <b>E5a.6:</b> examines the reasons for a character's actions, taking into account the situation and basic motivation of the character; <b>E5a.7:</b> identifies stereotypical characters as opposed to fully developed characters; <b>E5a.8:</b> critiques the degree to which a plot is contrived or realistic; and <b>E5a.9:</b> makes inferences and draws conclusions about contexts, events, characters, and settings.
Examples:	<i>Examples of activities through which students might produce evidence of responding to literature include:</i> <ul style="list-style-type: none"><li>• <i>Determine why certain characters (either fictional or non-fictional) behave the way they do.</i></li><li>• <i>Make connections between literary works according to a common theme.</i></li><li>• <i>Produce a creative retelling of a familiar fairy tale for a group of adults.</i></li><li>• <i>Create a verse by verse paraphrase of a poem.</i></li><li>• <i>Compare a children's literary classic with a televised version of the same work.</i></li><li>• <i>Participate in formal or informal book talks.</i></li></ul>
Standard:	<b>E5b:</b> The student produces work in at least one literary genre that follows the conventions of the genre.
Examples:	<i>Examples of literary genres include:</i> <ul style="list-style-type: none"><li>• <i>A poem.</i></li><li>• <i>A short play.</i></li><li>• <i>A picture book.</i></li><li>• <i>A story.</i></li></ul>

The process standards of **problem solving, reasoning and proof, connections communication, and representation** are interwoven and independent with the content standards and are necessary for the comprehensive understanding of mathematics.

Strand: **M1 Numbers and Operations**

Pre-Kindergarten through Grade 12 instructional programs should enable all students to:

- understand numbers, ways of representing numbers, relationships among numbers and number systems;
- understand meanings of operations and how they relate to one another;
- understand how to compute fluently and make reasonable estimates.

In Grade 4, all students should:

- Standards:
- M1a:** explain the importance of place value in recognizing the magnitude of whole numbers up to a million and decimals through thousandths;
  - M1b:** identify and generate equivalent representations for the same number by decomposing and composing the number;
  - M1c:** judge the size of fractions in relation to benchmarks, i.e., 0,  $\frac{1}{2}$ , 1;
  - M1d:** identify and describe numbers according to their characteristics including primes, composites, and perfect squares;
  - M1e:** explore the relationships between fractions, mixed numbers, and decimals;
  - M1f:** model division problems and explore the meaning of remainders;
  - M1g:** use models, benchmarks, and equivalence to add and subtract fractions with like denominators;
  - M1h:** use models and benchmarks to add and subtract decimals;
  - M1i:** develop and apply strategies and methods for division of two-digit whole numbers by one-digit divisors;
  - M1j:** use the inverse relationships of addition and subtraction, and multiplication and division to solve problems and verify solutions;
  - M1k:** use estimation to make predictions and check the reasonableness of result;
  - M1l:** identify, compare and order the relative position of commonly used fractions and decimals on a number line;
  - M1m:** demonstrate proficiency in basic facts for all operations.

Essential to Know: Students explain and represent with models the relationship between whole numbers, common fractions, and decimals.  
Students select and use estimation strategies and judge the reasonableness of the answer.

Strand: **M2 Algebra**

Pre-Kindergarten through Grade 12 instructional programs should enable all students to:

- understand patterns, relations, and functions;
- represent and analyze mathematical situations and structures using algebraic symbols;
- use mathematical models to represent and understand quantitative relationships;
- analyze change in various contexts.

In Grade 4, all students should:

- Standards:
- M2a:** use models and words to describe, extend, and generalize patterns and relationships;
  - M2b:** represent and analyze patterns and functions using words, tables, and graphs;
  - M2c:** describe mathematical relationships using expressions, equations or inequalities;
  - M2d:** apply order of operations and the commutative and associative properties to algebraic expressions, equations, and inequalities;
  - M2e:** use and interpret variables, mathematical symbols, and properties to write and simplify mathematical expressions and sentences;
  - M2f:** develop and solve equations or inequalities using variables that represent problem situations;
  - M2g:** identify and describe patterns of change to make predictions that identify the relationship represented in a table or graph.

Essential to Know: Students use relationships in patterns to make predictions by using tables, charts, physical objects, and symbols.

Strand: **M3 Geometry**

Pre-Kindergarten through Grade 12 instructional programs should enable all students to:

- analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships;
- specify locations and describe spatial relationships using coordinate geometry and other representational systems;
- apply transformations and use symmetry to analyze mathematical situations;
- uses visualization, spatial reasoning, and geometric modeling to solve problems.

In Grade 4, all students should:

- Standards:
- M3a:** describe attributes of planes, points, and lines, i.e., parallel and perpendicular line segments;
  - M3b:** identify and draw right, obtuse, and acute angles;
  - M3c:** identify and draw congruent figures;
  - M3d:** investigate the results of subdividing, combining, and transforming shapes;
  - M3e:** make and use coordinate systems to specify locations and to describe paths;
  - M3f:** find the distance between points along horizontal and vertical lines of a coordinate system;
  - M3g:** predict and describe transformations to show that two shapes are congruent;
  - M3h:** identify and describe line and rotational symmetry in two-dimensional shapes and designs;
  - M3i:** identify geometric solids which could be composed of other solids.

Essential to Know: Students describe geometric properties and relationships using appropriate vocabulary.  
Students use two-dimensional coordinate grids to represent points and to graph lines and simple figures.

Strand: **M4 Measurement**

Pre-Kindergarten through Grade 12 instructional programs should enable all students to:

- understand measurable attributes of objects and the units, systems, and processes of measurement;
- apply appropriate techniques, tools, and formulas to determine measurements.

In Grade 4, all students should:

- Standards:
- M4a:** recognize that measurements are approximations;
  - M4b:** measure with accuracy using both customary and metric systems of measurement;
  - M4c:** extend recognition of measurable attributes to include area and angles;
  - M4d:** determine the possible dimensions of rectangles when the area is constant;
  - M4e:** estimate measurements of perimeter, area, and angle size;
  - M4f:** extend use of appropriate standard tools and units to include measure of perimeter and area;
  - M4g:** explore strategies to determine the perimeter and area of right triangles;
  - M4h:** develop strategies for estimating the area of irregular shapes;
  - M4i:** determine elapsed time;
  - M4j:** solve problems involving perimeter and areas of rectangles.

Essential to Know: Students carry simple unit conversions within a system of measurement.

Strand: **M5 Data Analysis and Probability**

Pre-Kindergarten through Grade 12 instructional programs should enable all students to:

- formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them;
- select and use appropriate statistical methods to analyze data;
- develop and evaluate inferences and predictions that are based on data;
- understand and apply basic concepts of probability.

In Grade 4, all students should:

- Standards:
- M5a:** describe how data collection methods affect the information that is gathered to address a question;
  - M5b:** identify the median of a data set and describe what it indicates about the data set;
  - M5c:** use the median, mode, and range to compare and contrast the characteristics of related data sets;
  - M5d:** compare different representations of the same data to evaluate how each representation shows important aspects of the data;
  - M5e:** select the appropriate data representation form for a diverse set of investigations and justify the choice in each case;
  - M5f:** relate the concepts of impossible and certain events to the numerical values of 0 (impossible) and 1 (certain);
  - M5g:** investigate experimental probability;
  - M5h:** list and count all possible combinations using one member from each of several sets.

Essential to Know: Students appropriately represent and interpret data.

Strand: **M6 Problem Solving**

- Standard: **M6a:** Instructional programs from Pre-Kindergarten through Grade 12 should enable all students to:
- build new mathematical knowledge through problem solving;
  - solve problems that arise in mathematics and in other contexts;
  - apply and adapt a variety of appropriate strategies to solve problems;
  - monitor and reflect on the process of mathematical problem solving.

Strand: **M7 Reasoning and Proof**

- Standard: **M7a:** Instructional programs from Pre-Kindergarten through Grade 12 should enable all students to:
- recognize reasoning and proof as fundamental aspects of mathematics;
  - make and investigate mathematical conjectures;
  - develop and evaluate mathematical arguments and proofs;
  - select and use various types of reasoning and methods of proof.

Strand: **M8 Communication**

- Standard: **M8a:** Instructional programs from Pre-Kindergarten through Grade 12 should enable all students to:
- organize and consolidate their mathematical thinking through communication;
  - communicate their mathematical thinking coherently and clearly to peers, teachers, and others;
  - analyze and evaluate the mathematical thinking and strategies of others;
  - use the language of mathematics to express mathematical ideas precisely.

Strand: **M9 Connections**

- Standard: **M9a:** Instructional programs from Pre-Kindergarten through Grade 12 should enable all students to:
- recognize and use connections among mathematical ideas;
  - understand how mathematical ideas interconnect and build on one another to produce a coherent whole;
  - recognize and apply mathematics in contexts outside of mathematics.

Strand: **M10 Representation**

- Standard: **M10a:** Instructional programs from Pre-Kindergarten through Grade 12 should enable all students to:
- create and use representations to organize, record, and communicate mathematical ideas;
  - select, apply, and translate among mathematical representations to solve problems;
  - use representations to model and interpret physical, social, and mathematical phenomena.

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**Science Standards  
Grade 4**

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Strand:

**S1 Scientific Inquiry**: The student demonstrates abilities necessary to do scientific inquiry and an understanding about scientific inquiry; that is, the student:

Standards: S1a: proposes questions about scientific phenomena, objects, and organisms.

Components:

S1a1. groups questions according to those that are not scientific questions; those that can be answered through scientific investigations; and those that can be answered through secondary resources.

S1a2. refines questions that can be answered through investigations.

Standards: S1b: uses observations and past experiences to make predictions and explain the reasoning behind the predictions.

S1c: plans and conducts a "fair test."

Components:

S1c1. gathers materials and/or information needed to conduct a "fair test".

S1c2. identifies variables to be controlled in a "fair test".

S1c3. follows logical steps to conduct a "fair test."

S1c4. uses simple tools (such as scales, thermometers, timers, microscopes, hot plate, etc.) and units of measure ( U.S. customary units and metric units).

S1c5. records data from investigations in an organized and appropriate format (e.g., lab book, log, notebook, t-chart, etc).

Standards: S1d: compares data, identifies patterns, and forms conclusions based on investigations.

S1e: compares and groups objects based on observable and measurable characteristics (e.g., characteristics of the phases of matter) and justifies the groups based on a logical classification scheme.

S1f: analyzes and makes statements about models and data displayed in a Venn diagram, graph and table.

S1g: communicates scientific explorations through discussions with peers, drawing, graphs, tables, reports, and poster presentations.

S1h: demonstrates safe practices in science.

Components:

S1h1. explains and conducts safe Sun viewing procedures and practices.

S1h2. explains and conducts safe use of tools.

S1h3. explains and conducts safe experiments with batteries and bulbs.

Strand:

**S2 History and Nature of Science:** The student demonstrates an understanding of science as a human endeavor, that is, the student:

Standards: S2a: realizes how difficult it can be for scientific innovators to break through the accepted ideas of their time to reach conclusions we currently take for granted.

S2b: understands that scientists value peer review and making public the result of scientific pursuits; science is not separate from society.

S2c: understands that doing science requires varying human abilities, interest, and habits of mind (such as: reasoning, insight, skill, creativity, intellectual honesty, skepticism, and openness to new ideas).

Strand:

**S3 Personal & Social Perspectives:** The student demonstrates an understanding of safety, types of resources, and changes in the environment; that is, the student:

Standards: S3a: identifies natural and human-made changes in the environment and explains how they affect resources in the environment.

S3b: recognizes that science and technology are used to identify ways to extend resources and contribute solutions to social problems.

Strand:

**S4 Science and Technology:** The student demonstrates an understanding of science and technology and the nature of technological design; that is, the student:

Standards: S4a: identifies a problem, implements a proposed solution for the problem, discusses the merit of the solution, and improves on the solution after evaluation.

S4b: identifies some of the technological solutions that make life easier and the trade-offs (safety, cost, efficiency, health and environmental side effects, etc.) involved in those solutions.

S4c: gives examples of ways technology is essential for the advancement of scientific knowledge.

Strand:

**S5 Physical Science**: The student demonstrates a conceptual understanding of matter, motion, and energy; that is, the student:

Standards: S5a: demonstrates an understanding that many of the observable properties of materials allow us to group them into categories such as solid, liquid, or gas.

Components:

S5a1. describe the properties matter.

S5a2. distinguish among solids, liquids and gases (i.e. volume, shape they take in container).

Standards: S5b: explains that water can change from one state to another by heating or cooling.

Components:

S5b1. explains that water can freeze, melt, evaporate, and condense.

S5b2. demonstrates that changes of state are reversible.

S5b3. observes and measures conservation of mass as water changes from a solid to a liquid and back.

Standards: S5c: Recognizes that heat can spread from one place to another.

Components:

S5c1. Demonstrates that heat moves from one place to another by conduction.

S5c2. Compares materials for their ability to conduct heat.

Strand:

**S6 Life Science**: The student demonstrates a conceptual understanding of organisms, and their environments; that is, the student:



Standards: S6a: builds awareness that reproduction is essential to the continuation of a species.

Components:

S6a1. examines and describes the production of offspring in observed animals (e.g., snails, fish, brine shrimp).

S6a2. investigates and provides examples of the varying reproductive strategies in organisms (e.g., lots of eggs, one offspring that is cared for, wide dispersal of seeds), citing evidence from observations and readings.

Standards: S6b: builds an awareness of variations and similarities in organisms.

Components:

S6b1. illustrates through simulations how different variations of a structure (e.g., bird beaks) are suited to specific functions (e.g., cracking seeds, digging for worms).

S6b2. describes that internal and external cues influence the behavior of organisms.

S6b3. identifies variations and similarities in the behavior of organisms.

S6b4. classifies animals according to various organizational schemes and recognizes that the organizing schemes can vary according to purpose.

Standards: S6c: differentiates between inherited physical traits and those that are not inherited in animals.

Components:

S6c1. discusses that when animals reproduce, both biological parents pass on information that determine characteristics of the offspring.

S6c2. lists physical characteristics of animals that are caused by interaction with the environment and those that are inherited.

S6c3. explains that learned behaviors are not passed on to the next generation.

Standards: S6d: explains that variations in organisms can determine whether the individual will survive and reproduce.

Components:

S6d1. describes how individuals of the same species vary and sometimes these variations can help the organism survive and reproduce.

Standards: S6e: illustrates the interdependence of organisms in an ecosystem.

Components:

S6e1. discusses and provides examples of how all organisms ultimately depend on plants.

S6e2. identifies that some organisms depend on dead plants and animals for food.

S6e3. identifies microorganisms as necessary components in all ecosystems.

S6e4. describes and explains that the world has many distinct environments (e.g., rainforest, desert, plains, wetlands).

S6e5. identifies factors in the ecosystem that enable or prevent an organism from surviving and reproducing.

S6e6. provides examples of how an organism's patterns of behavior are affected by the environment (e.g., availability of food sources, change in the number of predators).

Strand:

**S7 Earth & Space Sciences:** The student demonstrates a conceptual understanding of Earth materials, objects in the sky, and changes in Earth and sky; that is, the student:

Standards: S7a: develops an understanding of the importance of water as an earth material.

Components:

S7a1. identifies major sources of water on earth.

S7a2. verifies that water can be found underground, on the surface of earth and in the atmosphere.

Standards: S7b: explains that water on earth can exist in different states.

Components:

S7b1. investigates conditions associated with change in the states of water.

Standards: S7c: examines components and relationships in the solar system.

Components:

S7c1. describes common objects (i.e. Sun, planets, moons) in the solar system.

S7c2. observes safely, records, and describes the yearly pattern of the Sun's apparent path (i.e., seasonal change in length of day/night, changes in point of Sunrise/set, changes in noon altitude).

S7c3. identifies the predictable monthly pattern of the moon's phases (new, crescent quarter, gibbous, full).

S7c4. identifies, observes and describes the physical features of the moon (e.g. craters, plains, mountains) using photographic images.

S7c5. demonstrates and explains that the rotation of planet earth produces the night and day cycle.

## Social Studies: Grade 4 - Regions

Standards Introduction: The standards for fourth grade require the students to explore regions of the United States and the world. Historical, economic, and geographical concepts expand discussions on national topics, developmental stages of the nation, global issues, supply and demand, and the role of technology, and geographic patterns. Students should participate in the process of nomination and election of officers, understand the concept of majority, and be able to explain motivations that contribute to conflicts and cooperation.

### SK – Skills

The Social Studies program promotes essential skills to increase the students ability to acquire information and manipulate data, develop and present policies and debates, construct new knowledge, and participate in groups. Each skill is dependent upon and enriched by all other skills, so that the learner can:

- Skills:
- SK1a:** locate and analyze information from a variety of sources (books, newspapers, periodicals, and computer resources.)
  - SK1b:** determine sequence of events and identify cause and effect relationships.
  - SK1c:** organize and summarize information into usable and efficient forms (graphs, charts, maps, outlines, tables, time lines) when appropriate, using technology.
  - SK1d:** recognize the appropriate level of government to use with a given problem.
  - SK1e:** decide data necessary to support or disprove an hypothesis.
  - SK1f:** create a multimedia report using text, graphics, color, and sound.

Strand/Theme:

### SS1 Citizenship

Social studies programs should include experiences that provide for the study of the ideals, principles, and practices of citizenship in a democratic republic, so that the learner can:

- Standards:
- SS1a:** explain citizens' rights and responsibilities in given regions, states, counties, and cities.
  - SS1b:** participate as a responsible and involved citizen.
  - SS1c:** examine ways to strengthen the common good that include a range of options for citizen actions.

Strand/Theme:

### SS2 Culture

Social studies programs should include experiences that provide for the study of culture and cultural diversity, so that the learner can:

- Standards:
- SS2a:** describe cultural characteristics to include customs, arts, and traditions.
  - SS2b:** explain the value of cultural diversity within and across groups.
  - SS2c:** identify the influence of immigration and migration.

Strand/Theme:

### SS3 Time, Continuity, and Change

Social studies programs should include experiences that provide for the study of the way human beings view themselves in and over time, so that the learner can:

- Standards:
- SS3a:** trace factors influencing population movement.
  - SS3b:** explain the developmental stages of a region.

**SS3c:** identify political, religious, and economic factors that influence the settlement of specific geographical locations.

Strand/Theme:

**SS4 Space and Place**

Social studies programs should include experiences that provide for the study of space and place, so that the learner can:

Standards:

**SS4a:** use a variety of geographic tools, (e.g., maps, globes, charts, graphs, technology, map keys, and symbols) to gather and interpret data and draw conclusions about physical patterns.

**SS4b:** use the geographic concepts of location, place, human–environment interactions, movement and regions.

**SS4c:** explain how historical events have been influenced by geographic factors.

**SS4d:** identify demographic factors as they relate to geography, economics, shelter, the environment, jobs, and health.

Strand/Theme:

**SS5 Individual Development and Identity**

Social studies programs should include experiences that provide for the study of individual development and identity, so that the learner can:

Standards:

**SS5a:** explore factors that contribute to one's identity (e.g., interests, capabilities, perceptions, and location).

**SS5b:** describe personal connections to family and school.

**SS5c:** identify and describe ways regional, ethnic, and national cultures influence daily lives.

Strand/Theme:

**SS6 Individuals, Groups, and Institutions**

Social studies programs should provide for the study of the interaction among individuals, groups, and institutions, so that the learner can:

Standards:

**SS6a:** interpret group and institutions' influence on society.

**SS6b:** describe the basic institutions that serve the needs of individuals and groups.

Strand/Theme:

**SS7 Production, Distribution, and Consumption**

Social studies programs should include experiences that provide for the study of how people organize for the production, distribution, and consumption of goods and services, so that the learner can:

Standards:

**SS7a:** explain how natural resources, transportation, and geographic factors help determine the kinds of jobs available in a particular region.

**SS7b:** use economic concepts such as supply, demand, and price to explain events in a region.

**SS7c:** define the terms specialization, market, economic choice, unlimited wants with limited resources, goods and services, and scarcity when describing a region's economy.

**SS7d:** describe the various institutions that make up economic systems (e.g., households, business firms, banks, government agencies, labor unions, and corporations).

Strand/Theme:

**SS8 Power, Authority, and Governance**

Social studies programs should include experiences that provide for the study of how people create and change structures of power, authority, and governance, so that the learner can:

Standards:

**SS8a:** describe the purpose of government and its powers.

**SS8b:** distinguish among local, state, and national government.

**SS8c:** identify representative leaders and their roles (e.g., mayor, governor, and president).

**SS8d:** examine the rights and responsibilities of the individual in various situations.

Strand/Theme:

**SS9 Science, Technology, and Society**

Social studies programs should include experiences that provide for the study of the relationships among science, technology, and society, so that the learner can:

Standards:

**SS9a:** explain the need for laws and policies that affect scientific and technological applications.

**SS9b:** use environmental terminology to explain how humans shape and adapt to their environment.

**SS9c:** recognize how the needs of a region influence scientific and technological choices and advancements.

**SS9d:** explain how major inventions affect society (e.g., limitations and advantages).

Strand/Theme:

**SS10 Global Connections**

Social studies programs should include experiences that provide for the study of global connections and interdependence, so that the learner can:

Standards:

**SS10a:** explain how regions are interdependent.

**SS10b:** show how cultural elements (e.g., language, art, music, and belief systems) can both connect people and cause misunderstandings.

**SS10c:** explain the relationships and tensions among national, regional, and state interests.

In addition to the content standards, Health Education teachers must instill health literacy skills (HESK) into classroom activities. The six HESK have a two-fold benefit. First, they promote personal, family, and community health. Second, they teach essential and transferable skills that include accessing data, analyzing information, setting goals, and communicating ideas.

Strand:

**HESK Health Literacy Skills**

The student applies health literacy skills in concert with health concepts to enhance personal, family and community health; that is, the student will:

Standards:

- HESK1:** access valid health information;
- HESK2:** analyze influences on health;
- HESK3:** practice health-enhancing behavior;
- HESK4:** use interpersonal communications skills to enhance health;
- HESK5:** use goal setting and decision making skills to enhance health; and
- HESK6:** advocate for health.

Strand:

**HE1 Personal and Community Health**

The student understands the basic concepts of hygiene, health habits, and health promotion; that is, the student will:

Standards:

- HE1a:** explain the habits of a healthful lifestyle (e.g., exercise, good nutrition, adequate rest, fluids, stress management, and sleep); and
- HE1b:** identify the difference between communicable and noncommunicable diseases.

Strand:

**HE2 Safety and Injury Prevention**

The student demonstrates understanding of basic concepts related to safety, injury prevention or sudden illness, and prevention of child abuse and child neglect; that is, the student will:

Standards:

- HE2a:** identify school and community resources for first aid and safety training;
- HE2b:** analyze options for being safe on the move (i.e., walking, pedestrian behaviors, roller blade and bicycle safety);
- HE2c:** distinguish between violent and nonviolent behaviors; and
- HE2d:** identify ways one could help in specific emergency situations in the home, at school, or in the community (i.e., unconsciousness, bleeding, and choking).

Strand:

**HE3 Nutrition and Physical Activity**

The student understands how healthful nutrition and physical activity contribute to growth and energy and help prevent chronic diseases such as heart disease, cancer, and diabetes; that is, the student will:

Standards:

- HE3a:** distinguish the nutritional concepts of variety, balance, moderation, and serving quantity;
- HE3b:** create a balanced personal one-day menu;
- HE3c:** explain the relationship between nutrients and calories in healthful eating; and
- HE3d:** list the benefits of daily physical activity.

Strand

**HE4 Mental Health**

The student understands how mental health contributes to general well-being; that is, the student will:

Standards:

**HE4a:** identify methods of stress management;

**HE4b:** identify appropriate coping behaviors to deal with the demands of daily living;

**HE4c:** identify factors that contribute to the development of positive self-image; and

**HE4d:** demonstrate skills and strategies used in conflict situations.

Strand

**HE5 Alcohol, Tobacco, and Other Drugs**

The student understands licit and illicit drugs and how to prevent abuse and access intervention and treatment resources; that is, the student will:

Standards:

**HE5a:** explain the consequences of using tobacco products;

**HE5b:** identify products that are harmful if inhaled; and

**HE5c:** define chemical dependency.

Strand

**HE6 Family Life and Human Sexuality**

The student understands the developmental changes that occur as he or she grows and matures through childhood to young adulthood and how these changes prepare one for adult roles in the family and society; that is, the student will:

Standards:

**HE6a:** describe physical and emotional changes that occur in puberty;

**HE6b:** identify the stages of growth that occur during the human life cycle; and

**HE6c:** summarize personal benefits of having friends.



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Physical Education: Grade 4

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To a greater extent than in the core academic subjects, Physical Education teachers must infuse personal and social skill development in helping students meet and exceed the content standards. Consequently, the presentation of the Physical Education Standards is preceded by a list of complementary Personal and Social Development Skills (PESK). Including the PESK components in teaching the Physical Education standards is critical in promoting lifelong, healthy physical activity and in realizing the wide range of benefits associated with participation in dance, sports, games, and other physical activities.

Strand:

**PESK Personal and Social Development Skills** The student applies responsible personal and social development skills in a physical activity setting. In Grade 4 all students will:

Standards:

- PESK1:** participate fully and communicate cooperatively with others;
- PESK2:** perform activities safely and follow rules of etiquette and ethical behavior;
- PESK3:** display age appropriate self-control and discipline;
- PESK4:** display a willingness to receive and use feedback to improve performance;
- PESK5:** accept the decisions of and respond positively to teachers/officials in charge of games/activities;
- PESL6:** choose healthful physical activities to experience fun, challenge, self-expression and/or social interaction;
- PESK7:** display an interest in and assist and encourage others' efforts;
- PESK8:** display behaviors that are supportive and inclusive;
- PESK9:** self-initiate behaviors that contribute to personal and partner/group effort;
- PESK10:** adjust behavior to prevent/reconcile conflicts.

Strand:

**PE1 Motor Skills and Movement Patterns** Competency in motor skills and movement patterns is needed to perform a variety of physical activities. In Grade 4 all students will:

Standards:

- PE1a:** demonstrate combinations of motor skills, adapting to the demands of a fluid, game-like situation (e.g., changes in speed during dynamic situations);
- PE1b:** demonstrate eye-hand and eye-foot coordination using a ball and other objects (e.g., batting off a tee, catching a pass on the run);
- PE1c:** demonstrate combinations of motor skills and patterns in a variety of rhythmic/dance-related activities (e.g., tinikling, step to  $\frac{3}{4}$  time, electric slide);
- PE1d:** apply movement concepts to sequenced gymnastic routines with smooth transitions both alone and with others;
- PE1e:** recognize terminology that is used in a variety of sports/games and rhythmic/dance activities;
- PE1f:** demonstrate peer assessment;
- PE1g:** identify principles of practice and feedback to improve movement performance;

- PE1h:** compare rules and safety procedures of lead-up games; and
- PE1i:** select and use appropriate protective equipment for preventing injuries (e.g., helmets, elbow/kneepads, wrist guards, proper shoes, and clothing).

Strand:

**PE2 Physical Activity and Fitness**

A physically active lifestyle is essential to maintain a health-enhancing level of physical fitness. In Grade 4 all students will:

Standards:

- PE2a:** participate regularly in moderate-to-vigorous physical activities during physical education class and recess;
- PE2b:** engage in a variety of physical activities to develop and measure individual aerobic capacity using a heart-rate monitor to measure heart rate before, during, and after activity;
- PE2c:** perform warm-up before and cool-down after activity;
- PE2d:** use fitness activities to develop and measure body strength and muscular endurance (e.g., curl-ups, push-ups);
- PE2e:** use fitness activities to develop and measure flexibility;
- PE2f:** demonstrate diaphragmatic breathing and muscle tension and relaxation techniques;
- PE2g:** recognize how physically active lifestyles can promote health and inactive lifestyles can contribute to major lifestyle diseases;
- PE2h:** participate in simple, informal, self- and peer assessments of health- and skill-related physical fitness;
- PE2i:** monitor and begin to adapt individual level of physical activity and hydration based on changes in the body occurring during moderate-to-vigorous physical activity.

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Visual Arts: Grade 4

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Strand:

**VA1 Media, Techniques, and Processes**

Demonstrates understanding and can apply media, techniques, and processes.

Standards:

- VA1a:** The student knows the difference of various art materials, media, techniques, and their processes.
- VA1b:** The student describes how different materials, media, technology, techniques, and processes cause different results.
- VA1c:** The student explores different materials, media, technology, techniques, and processes to communicate ideas and emotions through original works of art.
- VA1d:** The student uses art materials and tools, including technology, in a safe and responsible manner.

Strand:

**VA2 Structures and Functions**

Demonstrates knowledge of structures and functions.

Standards:

- VA2a:** The student demonstrates understanding of elements of art and to principles of design to convey ideas.
- VA2b:** The student describes how the elements of art and principles of design affect the purpose and meaning of an artwork.
- VA2c:** The student uses elements of art and principles of design to communicate specific ideas.

Strand:

**VA3 Subject Matter, Symbols, and Ideas**

Chooses and evaluates a range of subject matter, symbols, and ideas:

Standards:

- VA3a:** The student explores and understands content in works of art.
- VA3b:** The student examines subject matter, symbols, and ideas of personal works of art and revises for improvement and clarity of expression.
- VA3c:** The student examines, discusses, and creates compositions of visual images using selected criteria.

Strand:

**VA4 History and Culture**

Demonstrates understanding of the visual arts in relation to history and culture.

Standards:

- VA4a:** The student understands that the visual arts have specific relationships to history and culture to include the host nation.
- VA4b:** The student identifies specific works of art that belong to particular styles, cultures, times and places..
- VA4c:** The student uses historical references to create works of art in the style of a particular period of art or culture.

Strand:

**VA5 Characteristics and Merits of Work**

Reflects upon and assesses the characteristics and merits of their work and the work of others.

Standards:

**VA5a:** The student describes, analyzes, and evaluates purposes for creating works of art by using art vocabulary.

**VA5b:** The student interprets and analyzes personal works of art and that of others.

**VA5c:** The student assesses work for improvement during production.

Strand:

**VA6 Connections to Other Disciplines**

Makes connections between the visual arts and the other disciplines.

Standards:

**VA6a:** The student applies critical and creative art thinking skills to other disciplines.

**VA6b:** The student identifies and explains how the visual arts are used throughout the world.

**VA6c:** The student creates works of art that extend knowledge to other curricular areas to include the performing arts.

Strand:

**VA7 Technology Integration**

Understands and creates art through technology.

Standards:

**VA7a:** The student acquires technical skills and vocabulary as developmentally appropriate.

**VA7b:** The student selects elements of art and principles of design to create works of art using technology.

**VA7c:** The student integrates traditional art production techniques with new technology to create art.

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Music: Grade 4

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Strand:

**MU1**

Performs alone and/or with others a varied repertoire of music

Standards:

**MU1a:** The student sings on pitch and begins to exhibit breath control.

**MU1b:** The student plays, with appropriate technique, increasingly difficult music.

**MU1c:** The student begins to use simple musical expression and interpretation.

Strand:

**MU2**

Reads and notates music

Standards:

**MU2a:** The student reads whole, half, dotted half, quarter, eighth notes and rests in duple and triple meters.

**MU2b:** The student notates whole, half, dotted half, quarter, eighth notes and rests in duple and triple meters.

**MU2c:** The student uses basic symbols to indicate dynamics, tempo, articulation, expression and pitch.

Strand:

**MU3**

Listens to, responds to, and describes music

Standards:

**MU3a:** The student listens to simple forms such as AB, ABA, Rondo, and Theme and Variation.

**MU3b:** The student responds to simple forms.

**MU3c:** The student describes various examples of form in music.

**MU3d:** The student explores simple improvisation.

Strand:

**MU4 History and Culture**

Demonstrates understanding of music in relation to history and culture.

Standards:

**MU4a:** The student listens to music from historical periods of western music.

**MU4b:** The student identifies and discusses similarities among main historical periods of western music.

**MU4c:** The student performs appropriate music related to history and culture, to include the host nation.

Strand:

**MU5 Characteristics and Merits of Works and Performances**

Reflects upon and assesses the characteristics and merits in performances in their music and the music of others.

Standards:

**MU5a:** The student compares musical works and performances from main historical and contemporary periods of western music.

**MU5b:** The student identifies criteria for evaluating musical works and performances.

**MU5c:** The student appropriate terminology to explain personal preferences for specific styles of music and musical works.

Strand:

**MU6 Connections to Other Disciplines**

Makes connections between music and the other disciplines.

Standards:

**MU6a:** The student identifies ways that main historical periods of Western Music are connected to other disciplines (Visual Arts, Social Studies, Literature) in the curriculum.

**MU6b:** The student integrates what is learned in main historical periods of Western Music with other curricular areas.

**MU6c:** The student names and discusses music career opportunities.

Strand:

**MU7 Technology Integration**

Understands and creates music through technology.

Standards:

**MU7a:** The student acquires technology skills and vocabulary that are developmentally appropriate.

**MU7b:** The student expands and uses technology skills to create music.