MISSOULA COUNTY PUBLIC SCHOOLS

Forward Thinking, High Achieving.

PRE-KINDERGARTEN FOUNDATION FOR THE MONTANA COMMON CORE STANDARDS

ADOPTED JUNE, 2013

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MISSION

At Missoula County Public Schools (MCPS), our mission is to ensure that each student achieves his/her full and unique potential. (*Approved by Board of Trustees 2009)*

VISION

MCPS provides a broad education, recognized for its quality, for every student in a safe, stimulating learning environment. All MCPS students are challenged to develop critical thinking skills, citizenship responsibilities, communication competency, value for the arts, literature, and sciences, understanding of the importance of health and wellness, a love for learning, and preparation for life beyond high school regardless of their vocational pathway. The community trusts and supports the MCPS Board of Trustee's leadership and vision because the Board: Seeks out and values input from the community through useful public participation strategies and is known for fiscal responsibility and efficiency. Hires highly qualified and competent administration and staff and encourages ongoing education for them as well as Board members. Searches out and is successful at finding alternative and non-traditional funding sources to support District programs. Is perceived by the public as competent, consistent, and having integrity.

MEASURABLE DISTRICT GOALS

- Achievement and graduation for all students, regardless of their circumstances and abilities.
- Refine and implement a quality evaluation and supervision program for all staff.
- Define and implement a quality professional development program that encompasses best practices and supports the needs of all staff.
- Restructure the organization to become more efficient, effective, and accountable to support the goals of the district.
- Cultivate and enhance staff, student, parent, business and community involvement.

Provide an education for preschool-aged children with disabilities together with their peers in a joyful, safe, and nurturing environment.

MCPS website, Early Learning Preschool
http://www.mcpsmt.org/domain/848

It is the goal of the people to establish a system of education which will develop the full educational potential of each person. Equality of educational opportunity is guaranteed to each person of the state.

Constitution of Montana -- Article X Education and Public Lands, Section 1. Educational goals and duties. **(1)**

PRE-KINDERGARTEN REVIEW COMMITTEE

Hall, Julia	Special Education Teacher
Moss-Larson, Melissa	Special Education Teacher
Nerison, Kathleen	Special Education Coordinator
Nugent, Janice	Speech-Language Pathologist
Reed, Nanci	Special Education Teacher
Vaneps, Alanna	Curriculum Coordinator
Waldum, Marit	School Psychologist

INTRODUCTION

Carefully developed early learning expectations linked to K-12 standards contribute to a more cohesive, unified approach to young children's education. The mission of the Pre-kindergarten Review Committee, to define Missoula County Public Schools (MCPS) Pre-kindergarten Foundation for Common Core Standards, led to two important challenges. The Foundation for the Common Core Standards had to be defined in such a way as to acknowledge and support the unique developmental learning of preschool age children. The pre-kindergarten document refers to and is aligned with the K12 Montana Common Core Standards. While pre-kindergarten children are ages three through five, this document presents skills expected at the completion of preschool.

The committee researched the work of other states, including Massachusetts, New Jersey, California and New York. The New York State Pre-Kindergarten Foundation for the Common Core is organized into five broad developmental and interrelated domains. The work of this committee was informed by and emerges primarily from the New York document.

This document focuses extensively on the learning styles of young children and addresses this unique stage of developing learning abilities as well as targeted information and specific skills.

The five distinct, but highly interrelated domains provide the structure for MCPS Pre-kindergarten Foundation for Common Core Standards.

1. Approaches to Learning – initiating and enhancing children's involvement in learning and acquiring knowledge.
2. Physical Development and Health – children's physical health, movement, and ability to engage in daily activities.
3. Social and Emotional Development – emerging emotional competence and ability to build positive relationships that add meaning to children's experiences in the home, school, and larger community.
4. Communication, Language, and Literacy – children's creation, communication, and understand of meaning.
5. Cognition and Knowledge of the World – children's needed knowledge and understanding about their world and how they apply what they know. This domain is the most direct reflection of the content competencies and knowledge of the Common Core Learning Standards.

Pre-kindergarten teachers, caregivers, and parents can determine what children are learning, what they enjoy, and what they have mastered, through careful observation of their play, work, and interactions with others, both in the classroom and in other environments. Listening and conversing with children, as well as examining and commenting on their creations and explorations, provide valuable information about each child's individual learning and development. The Montana Common Core Standards provide an essential beginning for developing and implementing high quality curriculum, creating meaningful and appropriate learning experiences for preschool age children across Montana, and informing other critical processes such as designing learning environments, planning standards-based instruction and assessment, as well as pre-service and in-service training for administrators and teachers, and results-oriented parent engagement.

The MCPS Preschool Common Core Standards and Success for All Students

The primary purpose of pre-kindergarten standards is to ensure that all MCPS children have rich and varied early learning experiences that prepare them for success in school and lay the foundation for college and career readiness.

Preschool Children with Disabilities

The MCPS Pre-kindergarten Foundation for the Common Core Standards will assist all early childhood professionals in setting high expectations for children. Pre-kindergarten children with disabilities and their typically developing peers are all capable of learning, achieving, and making developmental progress. Pre-kindergarten children with disabilities need specially designed instruction, related services, and supports designed to address their disabilities and ensure their participation in age-appropriate activities with non-disabled peers. Each pre-kindergarten child with an identified disability has an individualized educational program (IEP) which documents his/her individual goals, supports, and services as determined by his/her needs, strengths, and abilities. These individual supports, accommodations, and services are designed to assist the child to meet the goals in his/her IEP as well as to achieve the learning standards.

Indian Education for All

The MCPS Pre-Kindergarten Foundation for the Common Core Standards reflects the constitutional mandate that all educators must provide instruction including the distinct and unique heritage and contemporary contributions of American Indians in a culturally responsive manner. The wide variety of methods, materials, activities, and resources incorporated in pre-kindergarten education will include those by and about American Indians, to gain a better understanding of themselves and their fellow citizens.

GUIDING PRINCIPLES FOR THE DEVELOPMENT OF THE MISSOULA COUNTY PUBLIC SCHOOLS PRE-KINDERGARTEN FOUNDATION TO THE COMMON CORE

1. All children are capable of learning, achieving, and making developmental progress. The MCPS Pre-kindergarten Learning Standards are intended for all children regardless of economic, linguistic, and cultural differences, or physical, learning, and emotional challenges.

2. Children develop at different rates and each child is unique in his/her own development, growth, and acquisition of skills. Appropriate and reasonable supports and accommodation must be provided to enable all children to learn.

3. Children are active learners. A primary approach to learning is through purposeful play. Intentional planning promotes rich learning experiences that invite participation, involve multiple contexts, and engage the senses that help children explore their environment.

4. Early learning and development are multi-dimensional. Children's learning is integrated and occurs simultaneously across all domains, which are interrelated and interactive with one another.

5. Children learn in the context of interactions and relationships with family members, caregivers, teachers, and other children in their immediate environment and in their community.

6. The family is a significant contributor to children's lifelong learning and development. Actively engaging parents in the early education of their children is essential to children's success in the elementary classroom and later learning.

7. These Learning Standards may be used as tools to empower parents, teachers, and caregivers to better support and enhance young children's learning and development.

8. These Learning Standards acknowledge and respect children's rich backgrounds, their heritage, cultures, and linguistic differences.

9. The content of these Learning Standards is guided by research and effective practice to strengthen instruction and educational experiences across all settings. These Learning Standards are systematically aligned with Montana Common Core Standards, National Head Start outcomes, and the National Association for the Education of Young Children guidelines.

SUMMARY STATEMENTS

The following summary statements reinforce the guiding principles, relevant literature on early learning standards, and developmentally appropriate practice in early childhood programs.

The Missoula County Public Schools Pre-kindergarten Foundation for the Common Core IS:

- A resource for guiding the design, selection, and implementation of a high quality curriculum.
- A guide for planning experiences and instructional activities that enable children to meet the standards.
- A framework for all pre-kindergarten children regardless of language, background, or diverse needs.
- A focus for discussions regarding the education of young children by educators, policy makers, families, and community members.

The Missoula County Public Schools Pre-kindergarten Foundation for the Common Core is NOT:

- Intended to be used as a checklist but can inform the development or selection of screening and progress monitoring tools.
- Intended to be used as an assessment tool.
- Intended to be used as a curriculum.
- Meant to bar children from kindergarten entry.
- Meant to stifle the creativity of teachers, caregivers, or parents.
- Intended to mandate specific teaching practices or materials.

APPROACHES TO LEARNING

DOMAIN

Standards for Approaches to Learning: Pre-Kindergarten

Note: Standards refer to outcomes by the end of pre-kindergarten.

Standards	***Engagement***
1. Actively and confidently engages in play as a means of exploration and learning.	a. Interacts with a variety of materials through play. b. Participates in multiple play activities with same material. c. Engages in pretend an imaginative play – testing theories, acting out imagination/ d. Self-selects play activity and demonstrates spontaneity. e. Demonstrates awareness of connections between prior and new knowledge. f. Participates in small or large group activities for storytelling, singing, or finger plays.
2. Actively engages in problem solving.	a. Identifies a problem and tries to solve it independently b. Attempts multiple ways to solve a problem. c. Communicates more than one solution to a problem. d. Engages with peers and adults to solve problems. e. Uses "trial and error" method to figure out a task, problem, etc.
Standards	***Creativity and Imagination***
3. Approaches tasks, activities and problems with creativity, imagination and/or willingness to try new experiences or activities.	a. Chooses materials/props and uses novel ways to represent ideas, characters, and objects. b. Identifies additional materials to complete tasks. c. Experiments to further his/her knowledge. d. Seeks additional clarity to further his/her knowledge. e. Seeks out connections, relations and assistance from peers and adults to complete a task. f. Uses existing objects to represent desired or imagined objects in play or other purposeful way (e.g., plastic banana for a phone).
Standards	***Curiosity and Initiative***
4. Exhibits curiosity, interest, and willingness in learning new things and having new experiences.	a. Asks questions using who, what, how, why, when, what if. b. Expresses an interest in learning about and discussing a growing range of ideas. c. Actively explores how things in the world work. d. Investigates areas of interest. e. Takes objects and materials apart and attempts to be reassemble them (e.g., puzzles, models, nuts and bolts). f. Seeks out activities and materials that support his/her curiosity.
Standards	***Persistence***
5. Demonstrates persistence.	a. Maintains focus on a task. b. Seeks assistance when the next step seems unclear or appears too difficult. c. Modifies strategies used to complete a task.

PHYSICAL DEVELOPMENT & HEALTH

DOMAIN

Standards for Physical Development and Health: Pre-Kindergarten

Student:	***Physical Development***
1. Uses senses to assist and guide learning.	a. Identifies sights, smells, sounds, tastes, and textures. b. Compares and contrasts different sights, smells, sounds, tastes, and textures. c. Uses descriptive words to discuss sights, smells, sounds, tastes, and textures.
2. Uses sensory information to plan and carry out movements.	a. Demonstrates appropriate body awareness when moving in different spaces. b. Exhibits appropriate body movements when carrying out a task. c. Demonstrates awareness of spatial boundaries and the ability to work within them.
3. Demonstrates coordination and control of large muscles.	a. Displays an upright posture when standing or seated. b. Maintains balance during sitting, standing, and movement activities. c. Runs, jumps, walks in a straight line, and hops on one foot. d. Climbs stairs using alternating feet. e. Puts on age appropriate clothing items, such as shirts, jackets, pants, shoes, etc.
4. Combines a sequence of large motor skills with and without the use of equipment.	a. Navigates age appropriate playground equipment. b. Throws, catches, or kicks a large, light-weight ball (8" – 10"). c. Participates in a series of large motor movements or activities such as dancing, follow the leader, or Simon Says.
5. Demonstrates eye-hand coordination and dexterity needed to manipulate objects.	a. Uses pincher grasp (index finger and thumb). b. Demonstrates ability to engage in finger plays. c. Uses materials such as pencils, paint brushes, eating utensils, and blunt scissors effectively. d. Manipulates small objects with ease (fits objects into holes, strings wooden beads, stacks mini blocks, uses geo boards, etc.).

Standards for Physical Development and Health: Pre-Kindergarten

Student:	***Health and Well Being***
6. Demonstrates personal care and hygiene skills.	a. Demonstrates independence in personal hygiene skills such as washing hands and toileting. b. Exhibits independence when dressing, cleaning up, and eating. c. Recognizes and communicates when experiencing symptoms of illness or requiring help.
7. Demonstrates awareness and understanding of healthy habits.	a. Recognizes the importance of good nutrition, water, rest, sleep, and exercise in order to be healthy. b. Talks about food choices in relationship to allergies and overall health. c. Describes the role of doctors, dentists, and other health care workers in keep him/herself healthy.
	Health and Safety
8. Demonstrates awareness and understanding of safety rules.	a. Verbalizes and demonstrates safety rules. b. Communicate to peers and adults when observing unsafe behavior. c. Understands that some practices could be unsafe. d. Participates in fire evacuation drills, understands what the alarm bell is and how to respond. e. Explains how to get help in emergency situations.

SOCIAL AND EMOTIONAL

DOMAIN

Standards for Social and Emotional Development: Pre-Kindergarten

Note: Standards refer to outcomes by the end of pre-kindergarten.

Student:	***Self-Concept and Self Awareness***
1. Recognizes himself/herself as unique individual having his/her own abilities, characteristics, feelings, and interests.	a. Identifies self as being part of a family and/or identifies being connected to at least one significant adult. b. Demonstrates knowledge of his/her own uniqueness (talent, interests, preferences, gender, culture, etc.) c. Exhibits self-confidence by attempting new tasks independent of prompting or reinforcement. d. Compares and/or contrasts self to others (e.g., physical characteristics, preferences, feelings, abilities). e. Identifies the range of feelings he/she experiences, and that his/her feelings may change over time, as the environment changes, and in response to the behavior of others. f. Displays accomplishment, contentment, and acknowledgement when completing a task or solving a problem by himself/herself (e.g., wants to show a peer or adult).
Student:	***Self-Regulation***
2. Regulates his/her responses to needs, feelings, and events.	a. Expresses feelings, needs, opinions, ideas, and desires both verbally and non-verbally in a way that is appropriate to the situation. b. Appropriately names types of emotions (e.g., frustrated, happy excited, sad) and associates them with different facial expressions, words and behaviors.
Student:	***Relationships with Others***
3. Demonstrates and continues to develop positive relationships with significant adults (primary caregivers, teachers and other familiar adults).	a. Interacts with significant adults. b. Seeks guidance from primary caregivers, teachers and other familiar adults. c. Transitions into unfamiliar setting with the assistance of a familiar adult.
4. Develops positive relationships with their peers.	a. Approaches children already engaged in play. b. Interacts with other children (e.g., in play, conversation, etc.). c. Shares materials and toys with other children. d. Sustains interactions by cooperating, helping, and suggesting new ideas for play. e. Develops close friendship with one or more peers. f. Offers support to another child or shows concern when a peer seems distressed.
5. Demonstrates pro-social problem solving skills in social interactions.	a. Seeks input from others about a problem. b. Uses multiple pro-social strategies to resolve conflicts (e.g., trade, take turns, problem solve). c. Uses and accepts compromise, with assistance.

Standards for Social and Emotional Development: Pre-Kindergarten

Note: Standards refer to outcomes by the end of pre-kindergarten.

Student:	***Accountability***
6. Understands and follows routines and rules.	a. Displays an understanding of the purpose of rules. b. Engages easily in routine activities (e.g., story time, snack time, circle time). c. Uses materials purposefully, and safely as set by the group rules. d. Understands that breaking rules have a consequence. e. Applies rules in new, but similar situations.
Student:	***Adaptability***
7. Adapts to change.	a. Easily separates himself/herself from parent or caregivers. b. Transitions with minimal support between routine activities and new/unexpected occurrences. c. Adjusts behavior as appropriate for different settings and/or events. d. Uses multiple adaptive strategies to cope with change (e.g., seeking social support from an adult or peer, taking deep breaths, engaging in another activity). e. Willingly engages in new experience and activities.

COMMUNICATION, LANGUAGE, AND LITERACY

DOMAIN

COLLEGE AND CAREER READINESS ANCHOR STANDARDS FOR ENGLISH LANGUAGE ARTS

The PreK–12 reading standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Reading

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

Craft and Structure

4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas

7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently.

Reading Standards for Literature

The following standards offer a focus for instruction each year and help ensure that students gain adequate exposure to a range of texts and tasks. Rigor is also infused through the requirement that students read increasingly complex texts through the grades. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

Pre-Kindergarten (older 4-year-olds to younger 5-year-olds)	**Kindergarten**
Key Ideas and Details	
PK.RL.1. With prompting and support, ask and answer questions about a story or poem read aloud.	K.RL.1. With prompting and support, ask and answer questions about key details in a text.
PK.RL.2. With prompting and support, retell a sequence of events from a familiar story read aloud.	K.RL.2. With prompting and support, retell familiar stories, including key details.
PK.RL.3. With prompting and support, act out characters and events from a story or poem read aloud.	K.RL.3. With prompting and support, identify characters, settings, and major events in a story.
Craft and Structure	
PK.RL.4. With prompting and support, ask and answer questions about unfamiliar words in a story or poem read aloud.	K.RL.4. Ask and answer questions about unknown words in a text.
PK.RL.5. (Begins in kindergarten.)	K.RL.5. Recognize common types of texts (e.g., storybooks, poems).
PK.RL.6. With prompting and support, identify text versus illustrations on a page.	K.RL.6. With prompting and support, name the author and illustrator of a story and define the role of each in telling the story.
Integration of Knowledge and Ideas	
PK.RL.7. With age appropriate support, make inferences about what happens next in a picture book after examining and discussing the illustrations.	K.RL.7. With prompting and support, describe the relationship between illustrations and the story in which they appear (e.g., what moment in a story an illustration depicts).
PK.RL.8. (Not applicable to literature.)	K.RL.8. (Not applicable to literature)
PK.RL.9. With prompting and support, make connections between a story or poem and one's own experiences, including American Indian stories.	K.RL.9. With prompting and support, compare and contrast the adventures and experiences of characters in familiar stories <u>including American Indian stories</u>.
Range of Reading and Level of Text Complexity	
PK.RL.10. Listen actively as an individual and as a member of a group to a variety of age-appropriate literature read aloud.	K.RL.10. Actively engage in group reading activities with purpose and understanding.

Reading Standards for Informational Text

Pre-Kindergarten (older 4-year-olds to younger 5-year-olds)	Kindergarten
Key Ideas and Details	
PK.RI.1. With prompting and support, ask and answer questions about an informational text read aloud.	K.RI.1. With prompting and support, ask and answer questions about key details in a text.
PK.RI.2. With prompting and support, recall important facts from an informational text after hearing it read aloud.	K.RI.2. With prompting and support, identify the main topic and retell key details of a text.
PK.RI.3. With prompting and support, represent or act out concepts learned from hearing an informational text read aloud (e.g., make a skyscraper out of blocks after listening to a book about cities or, following a read-aloud on animals, show how an elephant's gait differs from a bunny's hop), include text by and about American Indians.	K.RI.3. With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text. Include texts by and about American Indians.
Craft and Structure	
PK.RI.4. With prompting and support, ask and answer questions about unfamiliar words in an informational text read aloud, including words with cultural significance to American Indians.	K.RI.4. With prompting and support, ask and answer questions about unknown words in a text. Recognize words and phrases with cultural significance to American Indians.
PK.RI.5. Identify the front and back cover of a book. Display correct orientation of a book and page turning skills.	K.RI.5. Identify the front cover, back cover, and title page of a book.
PK.RI.6. With prompting and support, describe the role of an author and illustrator (e.g., main idea).	K.RI.6. Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text.
Integration of Knowledge and Ideas	
PK.RI.7. With prompting and support, describe important details from an illustration or photograph from an informational text.	K.RI.7. With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).
PK.RI.8. (Begins in kindergarten or when the individual child is ready.)	K.RI.8. With prompting and support, identify the reasons an author gives to support points in a text.
PK.RI.9. With prompting and support, identify several books on a favorite topic or several books by a favorite author or illustrator.	K.RI.9. With prompting and support, identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).
Range of Reading and Level of Text Complexity	
PK.RI.10. Listen actively as an individual and as a member of a group to a variety of age-appropriate informational texts read aloud.	K.RI.10. Actively engage in group reading activities with purpose and understanding.

Reading Standards: Foundational Skills

These standards are directed toward fostering students' understanding and working knowledge of concepts of print, the alphabetic principle, and other basic conventions of the English writing system. These foundational skills are not an end in and of themselves; rather, they are necessary and important components of an effective, comprehensive reading program designed to develop proficient readers with the capacity to comprehend texts across a range of types and disciplines. Instruction should be differentiated: good readers will need much less practice with these concepts than struggling readers will. The point is to teach students what they need to learn and not what they already know—to discern when particular children or activities warrant more or less attention.

Note: Standards refer to outcomes by the end of pre-kindergarten.

Pre-Kindergarten (older 4-year-olds to younger 5-year-olds)	Kindergarten
PK.RF.1. With guidance and support, demonstrate understanding of the organization and basic features of printed and written text: books, words, letters, and the alphabet. a. Handle books respectfully and appropriately, holding them right-side-up and turning pages one at a time from front to back. b. (Begins in kindergarten or when the individual child is ready.) c. (Begins in kindergarten or when the individual child is ready.) d. Recognize and name some uppercase letters of the alphabet and the lowercase letters in one's own name.	K.RF.1. Demonstrate understanding of the organization and basic features of print. a. Follow words from left to right, top to bottom, and page by page. b. Recognize that spoken words are represented in written language by specific sequences of letters. c. Understand that words are separated by spaces in print. d. Recognize and name all upper- and lowercase letters of the alphabet.
PK.RF.2. With guidance and support, demonstrate understanding of spoken words, syllables, and sounds (phonemes). a. With guidance and support, recognize and produce rhyming words (e.g., identify words that rhyme with */cat/* such as */bat/* and */sat/*). b. (Begins in kindergarten or when the individual child is ready.) c. Identify the initial sound of a spoken word and, with guidance and support, generate several other words that have the same initial sound. d. (Begins in kindergarten or when the individual child is ready.) e. (Begins in kindergarten or when the individual child is ready.)	K.RF.2. Demonstrate understanding of spoken words, syllables, and sounds (phonemes). a. Recognize and produce rhyming words. b. Count, pronounce, blend, and segment syllables in spoken words. c. Blend and segment onsets and rimes of single-syllable spoken words. d. Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words.* (This does not include CVCs ending with /l/, /r/, or /x/.) e. Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words.

*Words, syllables, or phonemes written in /slashes/refer to their pronunciation or phonology. Thus, /CVC/ is a word with three phonemes regardless of the number of letters in the spelling of the word.

Reading Standards: Foundational Skills

Note: Standards refer to outcomes by the end of pre-kindergarten.

Pre-Kindergarten (older 4-year-olds to younger 5-year-olds)	Kindergarten
PK.RF.3. Demonstrate beginning understanding of phonics and word analysis skills. a. Link an initial sound to a picture of an object that begins with that sound. b. (Begins in kindergarten or when the individual child is ready.) c. Recognize one's own name and familiar common signs and labels (e.g., STOP). d. (Begins in kindergarten or when the individual child is ready.)	K.RF.3. Know and apply grade-level phonics and word analysis skills in decoding words. a. Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary sound or many of the most frequent sounds for each consonant. b. Associate the long and short sounds with common spellings (graphemes) for the five major vowels. c. Read common high-frequency words by sight (e.g., *the*, *of*, *to*, *you*, *she*, *my*, *is*, *are*, *do*, *does*). d. Distinguish between similarly spelled words by identifying the sounds of the letters that differ.
PK.RF.4. (Begins in kindergarten or when the individual child is ready.)	K.RF.4. Read emergent-reader texts with purpose and understanding.

COLLEGE AND CAREER READINESS ANCHOR STANDARDS FOR ENGLISH LANGUAGE ARTS

The PreK–12 writing standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Writing

Text Types and Purposes

1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing

10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

Writing Standards

The following standards for pre-k–5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. Each year in their writing, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas, and they should address increasingly demanding content and sources. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.* The expected growth in student writing ability is reflected both in the standards themselves and in the collection of annotated student writing samples in Appendix C of the *Common Core State Standards*.

Pre-Kindergarten (older 4-year-olds to younger 5-year-olds)	Kindergarten
Text Types and Purposes	
PR.WR.1. Use a combination of dictating, writing, and drawing to express a preference or opinion about a topic (e.g., "I would like to go to the fire station to see the truck and meet the fire fighters.").	K.WR.1. Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book (e.g., My favorite book is . . .).
PR.WR.2. Use a combination of dictating, writing, and drawing to explain information about a topic.	K.WR.2. Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.
PR.WR.3. Use a combination of dictating, writing, and drawing to tell a real or imagined story.	K.WR.3. Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened.
Production and Distribution of Writing	
PR.WR.4. (Begins in grade 3.)	K.WR.4. (Begins in grade 3)
PR.WR.5. With guidance and support, respond to questions and suggestions, and add details to strengthen illustrations or writing as needed.	K.WR.5. With guidance and support from adults, respond to questions and suggestions from peers and add details to strengthen writing as needed.
PR.WR.6. Recognize that digital tools (e.g., computers, cell phones, cameras, and other devices) are used for communication and, with support and guidance, use them to convey messages in pictures and/or words.	K.WR.6. With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.
Research to Build and Present Knowledge	
PR.WR.7. (Begins in kindergarten or when an individual student is ready.)	K.WR.7. Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them). Include sources by and about American Indians.
PR.WR.8. (Begins in kindergarten or when an individual student is ready.)	K.WR.8. With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. Include sources by and about American Indians.
PR.WR.9. (Begins in grade 4.)	K.WR.9. (Begins in grade 4)
Range of Reading and Level of Text Complexity	
PR.WR.10. (Begins in grade 3.)	K.WR.10. (Begins in grade 3)

COLLEGE AND CAREER READINESS ANCHOR STANDARDS FOR ENGLISH LANGUAGE ARTS

The PreK–12 speaking and listening standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Speaking and Listening

Comprehension and Collaboration

1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas

4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

Speaking and Listening Standards

The following standards for pre-k–5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades.*

Pre-Kindergarten (older 4-year-olds to younger 5-year-olds)	Kindergarten
Comprehension and Collaboration	
PK.SL.1. Participate in collaborative conversations with diverse partners during daily routines and play. a. Observe and use appropriate ways of interacting in a group (e.g., taking turns in talking, listening to conversation partners, waiting to speak until another person is finished talking, asking questions and waiting for an answer, initiating conversation). b. Continue a conversation through multiple exchanges.	K.SL.1. Participate in collaborative conversations with diverse partners about *kindergarten topics and texts* with peers and adults in small and larger groups. a. Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion). b. Continue a conversation through multiple exchanges.
PK.SL.2. Listen attentively for information presented orally or through other media and confirm understanding by asking and answering questions about key details and requesting clarification if something is not understood.	K.SL.2. Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.
PK.SL.3. With prompting and supports, ask and answer questions in order to seek help, get information, or clarify something that is not understood.	K.SL.3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood
Presentation of Knowledge and Ideas	
PK.SL.4. With prompting and support, describe personal experiences; tell real or imagined stories.	K.SL.4. Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.
PK.SL.5. With prompting and support, create representations of experiences or stories (e.g., drawings, constructions with blocks or other materials, clay models, visual media) and explain them to others.	K.SL.5. Add drawings or other visual displays to descriptions as desired to provide additional detail.
PK.SL.6. With prompting and support, speak intelligibly and express thoughts, feelings, and ideas.	K.SL.6. Speak audibly and express thoughts, feelings, and ideas clearly.

COLLEGE AND CAREER READINESS ANCHOR STANDARDS FOR ENGLISH LANGUAGE ARTS

The PreK–12 language standards on the following pages define what students should understand and be able to do by the end of each grade. They correspond to the College and Career Readiness (CCR) anchor standards below. The CCR and grade-specific standards are necessary complements—the former providing broad standards, the latter providing additional specificity—that together define the skills and understandings that all students must demonstrate.

Language

Conventions of Standard English

1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Knowledge of Language

3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Vocabulary Acquisition and Use

4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.

5. Demonstrate understanding of figurative language, word relationships and nuances in word meanings.

6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.

Language Standards

The following standards for grades pre-k–5 offer a focus for instruction each year to help ensure that students gain adequate mastery of a range of skills and applications. *Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades*. Beginning in grade 3, skills and understandings that are particularly likely to require continued attention in higher grades as they are applied to increasingly sophisticated writing and speaking are marked with an asterisk (*). See the table on page 41 for a complete list and Appendix A of the *Common Core State Standards* for an example of how these skills develop in sophistication.

Pre-Kindergarten (older 4-year-olds to younger 5-year-olds)	Kindergarten
Conventions of Standard English	
PK.LS.1. Demonstrate use of oral language in informal everyday activities. a. Write first name legibly. b. Use frequently occurring nouns and verbs. c. Form regular plural nouns. d. Understand and use question words (e.g., *who*, *what*, *where*, *when*, *why*, *how*). e. Use the most frequently occurring prepositions (e.g., *to*, *from*, *in*, *out*, *on*, *off*, *for*, *of*, *by*, *with*). f. Demonstrate the ability to speak in complete sentences.	K.LS.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Print many upper- and lowercase letters. b. Use frequently occurring nouns and verbs. c. Form regular plural nouns orally by adding /s/ or /es/ (e.g., *dog*, *dogs*; *wish*, *wishes*). d. Understand and use question words (interrogatives) (e.g., *who*, *what*, *where*, *when*, *why*, *how*). e. Use the most frequently occurring prepositions (e.g., *to*, *from*, *in*, *out*, *on*, *off*, *for*, *of*, *by*, *with*). f. Produce and expand complete sentences in shared language activities.
PK.LS.2. (Begins in kindergarten.)	K.LS.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Capitalize the first word in a sentence and the pronoun *I*. b. Recognize and name end punctuation. c. Write a letter or letters for most consonant and short-vowel sounds (phonemes). d. Spell simple words phonetically, drawing on knowledge of sound-letter relationships.
Knowledge of Language	
PK.LS.3. (Begins in grade 2.)	K.LS.3. (Begins in grade 2)

Language Standards

Pre-Kindergarten (older 4-year-olds to younger 5-year-olds)	Kindergarten
Vocabulary Acquisition and Use	
PK.LS.4. Ask and answer questions about the meanings of new words and phrases introduced through books, activities, and play. a. With guidance and support, generate words that are similar in meaning (e.g., *happy/glad, angry/mad*). b. (Begins in kindergarten.)	K.LS.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *kindergarten reading and content*. a. Identify new meanings for familiar words and apply them accurately (e.g., knowing *duck* is a bird and learning the verb *to duck*). b. Use the most frequently occurring inflections and affixes (e.g., *-ed*, *-s*, *re-*, *un-*, *pre-*, *-ful*, *-less*) as a clue to the meaning of an unknown word.
PK.LS.5. With guidance and support from adults, explore word relationships and nuances of word meanings. a. Demonstrate understanding of concepts by sorting common objects into categories (e.g., sort objects by color, shape, or texture). b. (Begins in kindergarten.) c. Apply words learned in classroom activities to real-life examples (e.g., name places in school that are quiet or noisy). d. (Begins in kindergarten.)	K.LS.5. With guidance and support from adults, explore word relationships and nuances in word meanings. a. Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent. b. Demonstrate understanding of frequently occurring verbs and adjectives by relating them to their opposites (antonyms). c. Identify real-life connections between words and their use (e.g., note places at school that are *colorful*). d. Distinguish shades of meaning among verbs describing the same general action (e.g., *walk*, *march*, *strut*, *prance*) by acting out the meanings.
PK.LS.6. Understand and use words and phrases acquired through conversations, listening to books read aloud, activities, and play.	K.LS.6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.

COGNITION AND KNOWLEDGE OF THE WORLD

DOMAIN

Montana PreK-12 Mathematics Standards for Mathematical Practice

The Standards for PreK-12 Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with long-standing importance in mathematics education. The first of these are the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council's report *Adding It Up*: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy).

1. Make sense of problems and persevere in solving them.
Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches. Building on the inherent problem-solving abilities of people over time, students can understand that mathematics is relevant when studied in a cultural context that applies to real-world situations and environments.

2. Reason abstractly and quantitatively.
Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

3. Construct viable arguments and critique the reasoning of others.
Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions within a cultural context, including those of Montana American Indians. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

4. Model with mathematics.
Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. This includes solving problems within a cultural context, including those of Montana American Indians. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

5. Use appropriate tools strategically.
Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or

solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

6. Attend to precision.
Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

7. Look for and make use of structure.
Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well-remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

8. Look for and express regularity in repeated reasoning.
Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x^2 + x + 1)$, and $(x – 1)(x^3 + x2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Pre-Kindergarten Mathematics Overview

The preschool/pre-kindergarten population includes children between at least 2 years, 9 months until they are kindergarten eligible. A majority attend programs in diverse settings—community-based early care and education centers, family child care, Head Start, and public preschools. Some children do not attend any formal program. These standards apply to children who are at the end of that age group, meaning older four- and younger five-year olds.

In this age group, foundations of mathematical understanding are formed out of children's experiences with real objects and materials. The standards can be promoted through play and exploration activities, and embedded in almost all daily activities. They should not be limited to "math time." The standards should be considered guideposts to facilitate young children's underlying mathematical understanding.

In preschool or pre-kindergarten, activity time should focus on two critical areas: (1) developing an understanding of whole numbers to 10, including concepts of one-to-one correspondence, counting, cardinality (the number of items in a set), and comparison; (2) recognizing two-dimensional shapes, describing spatial relationships, and sorting and classifying objects by one or more attributes. Relatively more learning time should be devoted to developing children's sense of number as quantity than to other mathematics topics.

(1) These young children begin counting and quantifying numbers up to 10. Children begin with oral counting and recognition of numerals and word names for numbers. Experience with counting naturally leads to quantification. Children count objects and learn that the sizes, shapes, positions, or purposes of objects do not affect the total number of objects in the group. One-to-one correspondence with its matching of elements between the sets, provides the foundation for the comparison of groups and the development of comparative language such as, *more than, less than,* and *equal to*.

(2) Young children explore shapes and the relationships among them. They identify the attributes of different shapes including the length, area, weight by using vocabulary such as: *long, short, tall, heavy, light, big, small, wide, narrow*. They compare objects using comparative language such as: *longer/shorter, same length, heavier/lighter*. They explore and create 2- and 3-dimensional shapes by using various manipulative and play materials such as: popsicle sticks, blocks, pipe cleaners, and pattern blocks. They sort, categorize, and classify objects and identify basic 2-dimensional shapes using the appropriate language.

Counting and Cardinality

- Know number names and the counting sequence.
- Count to tell the number of objects.
- Compare numbers.

Operations and Algebraic Thinking

- Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

Measurement and Data

- Describe and compare measurable attributes.
- Classify objects and count the number of objects in each category.
- Work with money.

Geometry

- Identify and describe shapes (squares, circles, triangles, rectangles).
- Analyze, compare, create, and compose shapes.

Based on the Massachusetts Curriculum Framework for Mathematics, March 2011 by the Massachusetts Department of Elementary and Secondary Education.

Standards for Mathematical Practice: Pre-Kindergarten Explanations and Examples

Standards	***Explanations and Examples***
Students are expected to:	The Standards for Mathematical Practice describe ways in which students ought to engage with the subject matter as they grow in mathematical maturity and expertise.
PK.MP.1. Make sense of problems and persevere in solving them.	Pre-Kindergarten students may use concrete objects or pictures to help them conceptualize and solve problems. They may check their thinking by asking themselves, "Does this make sense?" or they may try another strategy.
PK.MP.2. Reason abstractly and quantitatively.	Pre-Kindergarten students begin to recognize that a number represents a specific quantity. Then, they connect the quantity to written symbols.
PK.MP.3. Construct viable arguments and critique the reasoning of others.	Pre-Kindergarten students construct arguments using concrete referents, such as objects, pictures, drawings, and actions. They also begin to develop their mathematical communication skills as they participate in mathematical discussions involving questions like "How did you get that?" and "Why is that true?"
PK.MP.4. Model with mathematics.	Pre-Kindergarten students experiment with representing problem situations in multiple ways including numbers, words (mathematical language), drawing pictures, using objects, acting out, making a chart or list. Students need opportunities to connect the different representations and explain the connections.
PK.MP.5. Use appropriate tools strategically.	Pre-Kindergarten students begin to consider the available tools (including estimation) when solving a mathematical problem and decide when certain tools might be helpful.
PK.MP.6. Attend to precision.	Pre-Kindergarten students begin to develop their mathematical communication skills.
PK.MP.7. Look for and make use of structure.	Pre-Kindergarten students begin to discern a pattern or structure (i.e., abab patterns).
PK.MP.8. Look for and express regularity in repeated reasoning.	(Begins in kindergarten.)

Mathematics Standards: Counting and Cardinality

Pre-Kindergarten (older 4-year-olds to younger 5-year-olds)	Kindergarten
Know number names and the count sequence	
PK.CC.1. Count to 10 by ones.	K.CC.1. Count to 100 by ones and by tens.
PK.CC.2. (Begins in kindergarten.)	K.CC.2. Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
PK.CC.3. Represent a number of objects by matching to a written numeral 0 – 5 (with 0 representing a count of no objects).	K.CC.3. Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
Count to tell the number of objects	
PK.CC.4. Understand the relationship between numerals and quantities to 10. a. When counting objects, say the number names in the standards order, pairing each object with one and only one number name and each number name with one and only one object from a variety of cultural contexts, including those of Montana American Indians. b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. c. Understand that each successive number name refers to a quantity that is one larger.	K.CC.4. Understand the relationship between numbers and quantities; connect counting to cardinality. a. When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object from a variety of cultural contexts, including those of Montana American Indians. b. Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. c. Understand that each successive number name refers to a quantity that is one larger.
PK.CC.5. Count to answer "how many?" questions about as many as 10 things arranged in a line, a rectangular array, or a circle, or as many as 5 things in a scattered configuration; given a number from 1-10, count out that many objects from a variety of cultural contexts, including those of Montana American Indians.	K.CC.5. Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects from a variety of cultural contexts, including those of Montana American Indians.
Compare numbers	
PK.CC.6. Identify "first" and "last" related to order or position.	K.CC.6. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.
PK.CC.7. (Begins in kindergarten.)	K.CC.7. Compare two numbers between 1 and 10 presented as written numerals.

Mathematics Standards: Operations and Algebraic Thinking

Pre-Kindergarten (older 4-year-olds to younger 5-year-olds)	Kindergarten
Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from	
PK.OA.1. With support and prompting, demonstrate an understanding of addition and subtraction by using objects, fingers, and responding to practical situations (e.g., if we have 3 apples and add 2 more, how many apples do we have in all?).	K.OA.1. Represent addition and subtraction with objects, fingers, mental images, drawings[2], sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
PK.OA.2. (Begins in kindergarten.)	K.OA.2. Solve addition and subtraction word problems from a variety of cultural contexts, including those of Montana American Indians, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.
PK.OA.3. (Begins in kindergarten.)	K.OA.3. Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).
PK.OA.4. (Begins in kindergarten.)	K.OA.4. For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.
PK.OA.5. (Begins in kindergarten).	K.OA.5. Fluently add and subtract within 5.

Mathematics Standards: Number and Operations in Base Ten

Pre-Kindergarten (older 4-year-olds to younger 5-year-olds)	Kindergarten
Work with numbers 11-19 to gain foundations for place value	
PK.NBT.1. (Begins in kindergarten).	K.NBT.1. Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (such as 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

Mathematics Standards: Measurement and Data

Pre-Kindergarten (older 4-year-olds to younger 5-year-olds)	Kindergarten
Describe and compare measurable attributes	
PK.MD.1. Recognize the attributes of length, area, weight, and capacity of everyday objects using appropriate vocabulary (e.g., *long, short, tall, heavy, light, big, small, wide, narrow*).	K.MD.1. Describe measurable attributes of objects, such as length or weight.
Classify objects and count the number of objects in each category	
PK.MD.2. Compare the attributes of length and weight for two objects, including longer/shorter, same length; heavier/lighter, same weight; holds more/less, holds the same amount.	K.MD.2. Describe several measurable attributes of a single object.
PK.MD.3. Sort, categorize, and classify objects by more than one attribute.	K.MD.3. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. *For example, directly compare the heights of two children and describe one child as taller/shorter.*
PK.MD.4. (Begins in kindergarten.)	K.MD.4. Classify objects from a variety of cultural contexts, including those of Montana American Indians, into given categories; count the numbers of objects in each category and sort the categories by count.

Mathematics Standards: Geometry

Pre-Kindergarten (older 4-year-olds to younger 5-year-olds)	Kindergarten
Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres)	
PK.G.1. Identify relative position of objects in space, and use appropriate language (e.g., *beside, inside, next to, close to, above, below, apart*).	K.G.1. Describe objects, including those of Montana American Indians, in the environment using names of shapes, and describe the relative positions of these objects using terms such as *above, below, beside, in front of, behind,* and *next to*.
PK.G.2. Identify various two-dimensional shapes regardless of their size.	K.G.2. Correctly name shapes regardless of their orientations or overall size.
PK.G.3. (Begins in kindergarten.)	K.G.3. Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").
Analyze, compare, create, and compose shapes	
PK.G.4. Analyze, compare, and sort two- and three-dimensional shapes and objects of different sizes, using informal language to describe their similarities, differences, and other attributes (e.g., color, size, shape).	K.G.4. Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having sides of equal length).
PK.G.5. Create and represent three-dimensional shapes (ball/sphere, square box/cube, tube/cylinder) using various manipulative materials (e.g., popsicle sticks, blocks, pipe cleaners, pattern blocks, clay).	K.G.5. Model shapes in the world from a variety of cultural contexts, including those of Montana American Indians, by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
PK.G.6. (Begins in kindergarten.)	K.G.6. Compose simple shapes to form larger shapes. *For example, "Can you join these two triangles with full sides touching to make a rectangle?"*

Standards for The Arts: Pre-Kindergarten **Note: Standards refer to outcomes by the end of pre-kindergarten.**	
Standards	***Visual Arts***
1. Expresses oneself and represents what s/he knows, thinks, believes, and feels through visual arts.	a. Experiments with a variety of mediums and methods of using art materials (such as using a big brush to paint broad strokes, combining colors, etc.). b. Shows an interest in what can be created with tools, texture, color, and technique. c. Uses materials to build and create "pieces" that represent another item (blocks become a cast; clay becomes a snake). d. Chooses materials and subjects with intent and purpose. e. Paints, draws, and constructs models based on observations.
2. Responds and reacts to visual arts created by themselves and others.	a. Expresses an interest in drawings, sculptures, models, paintings, and art creations of others. b. Identifies similarities and differences among sample of visual art. c. Shares opinions about visual arts, creations, and experiences.
Standards	***Music***
3. Expresses oneself by engaging in musical activities.	a. Participates with increasing interest and enjoyment in a variety of music activities including listening to music, singing songs, performing finger plays, and experimenting with various musical instruments. b. Engages in singing, making-up silly and rhyming verses, imitating rhythmic patterns, and using music to tell stories and express feelings. c. Engages in music activities having different moods, tempos, and rhythms. d. Creates sounds using a variety of instruments.
4. Responds and reacts during musical activities.	a. Moves and keeps rhythm to different kinds of music. b. Reacts to music through oral, written, or visual expression. c. Compares and contrasts different samples of music. d. Repeats, responds, and/or reacts to lyrics and/or melodies.
Standards	***Theatre/Dramatic Play***
5. Participates in a variety of dramatic play activities to represent fantasy and real life experiences.	a. Represents fantasy, real-life, imagination, and literature through dramatic play. b. Assumes the role of something or someone else and attempts to speak in the appropriate manner and tone. c. Participates in teacher-guided and/or spontaneous dramatic play activities such as acting out a story. d. Uses basic props, and costume pieces to establish time, setting, and character.
Standards	***Dance/Creative Movement***
6. Expresses what s/he knows, thinks, feels, and believes through dance and creative movement.	a. Uses movement to interpret or imitate feelings, animals, and such things as plants growing, or a rainstorm. b. Uses his/her body in a variety of ways (dance, march, hop, jump, sway, clap, snap, stomp, twist, turn, etc.). c. Uses creative movement props such as crepe paper, streamers, hoops, and scarves to create special movements and dances. d. Learns simple, repetitive dance steps and routines. e. Moves in spontaneous and imaginative ways to music, songs, rhythm, and silence.

Standards for Social Studies: Pre-Kindergarten

Note: Standards refer to outcomes by the end of pre-kindergarten.

COMING SOON: New Montana Common Core Standards for Literacy in History/Social Studies

Standards for Science: Pre-Kindergarten

Note: Standards refer to outcomes by the end of pre-kindergarten.

COMING SOON: New Montana Common Core Standards for Literacy in Science and the Next Generation Science Standards

►APPENDICES◄

I New York State Prekindergarten Foundation for the Common Core Research and Supporting Material

II NAEYC NAECS-SDE Joint Statement

III Board Policy #2450 Recognition of American Indian Peoples' Culture and Heritage in the Curriculum Process

IV Teaching About Controversial Issues

V Adopted Materials

APPENDIX I

NEW YORK STATE PREKINDERGARTEN FOUNDATION FOR THE COMMON CORE

RESEARCH AND SUPPORTING MATERIAL

DOMAIN 1: APPROACHES TO LEARNING

While all of the domains are undoubtedly equal in importance, Approaches to Learning captures the very essence of children: their inclinations, their dispositions, their attitudes, and their personal styles. Approaches to Learning is influenced by such profound constants as gender, temperament, family expectations, and cultural values – constants present at birth and increasingly significant throughout the school years.[2]

Approaches to Learning were formally recognized as a separate and distinct domain integral to the development of children to their full potential almost twenty years ago. In 1989, the National Education Goals Panel (NEGP) was established to help improve the quality of education in the United States. Its very first national goal, "all children will start school ready to learn," prompted the release of Reconsidering Children's Early Development and Learning. This widely accepted and still highly regarded work brought together the input of over 350 scholars on what exactly young children should know and be able to do. To the four domains historically associated with children's development – physical, socio-emotional, language, and cognitive – was added a fifth, somewhat new, domain that required explanation:

Learning styles [how children approach learning situations] are composed of aggregated variables that characterize ways of responding across situations. Learning styles, in contrast to dispositions, are malleable and include variables that affect how children attitudinally address the learning process: their openness to and curiosity about new tasks and challenges; their initiative, task persistence, and attentiveness; their approach to reflection and interpretation; their capacity for invention and imagination; and their cognitive approaches to tasks.[1]

Since then, Approaches to Learning has clearly infiltrated the mainstream thinking of educators. Most State educational agencies that have established early learning standards – what children should know and be able to do before kindergarten entry – have either included approaches to learning as a distinct domain or have folded aspects of it, such as curiosity or persistence, into their standards. Studies of school readiness, and even of later success in school, now specifically address approaches to learning. For example, the nation-wide Early Childhood Longitudinal Study, Kindergarten Class of 1998-99 directly assessed the developmental status of children entering kindergarten across five domains, one of which was approaches to learning.

Since its debut, Approaches to Learning has been regarded as the less well-defined of the domains. As scholars debate and policy makers try to implement, the burning question is, "What does it mean for teachers? . . . for parents? . . . for children?" The answer: teachers and parents must intentionally design learning environments that foster children's natural curiosity, initiative, engagement, persistence, and creativity. The environments must be safe for students to ask questions, to embark on and embrace new tasks, to persevere, and to suggest original solutions. It is absolutely essential that such learning environments are not contrived, but rather, engaging and relevant to the child and reflective of the child's interests.

[2] National Education Goals Panel, 2002.

Learning what motivates each child will help teachers, parents and caregivers support individual differences and help children discover their own learning style.

Curiosity

"Why?" "How come?" "What if …?"

As any caregiver of young children knows, the preschool years are peppered with seemingly endless questions. Preschoolers are curious about themselves, about their relationships with others, and about the worlds they are encountering. But, even before the pre-school stage, children are expressing their curiosity, albeit nonverbally. A new-born visually tracks interesting objects. An older baby "tastes" anything and everything – edible or not – to find out more about it.

Throughout the early years, children's curiosity prompts exploration and experimentation. They take it upon themselves to learn more – by mimicking, questioning – about whatever has piqued their interest. Research shows, in fact, that self-initiated activity "makes it possible for young children to be involved in intrinsically interesting experiences that help them to construct understandings of their world, remain focused during activity, and develop a love for learning."[3] By observing where children's natural curiosity leads them, caregivers can create environments in which children can direct their own learning. Scholars in early education concur that "preschool curriculum is most effective when it takes advantage of children's own interests and curiosity."[4]

Initiative

Whereas curiosity may be a characteristic universal to all children, the degree and manner in which that curiosity is acted upon by each child varies tremendously. Initiative is the willingness to take on tasks or reasonable risks to learn more. Consider, for example, two children playing with race cars. Their pre-school teacher comments "Look at those cars move! What do you think makes them go?" The seed thus planted, one child is content to independently look at a book describing the parts of a car, while another's curiosity isn't satisfied until an adult or peer helps disassemble the car and put it back together again. Both children have taken the initiative to find out more; at the same time, they may have revealed clues to their preferred learning styles – print-oriented and independent in one instance, kinesthetic and small group in the other.

It is easy to fall into assumptions about learning styles based on a child's temperament: "Of course, our print-oriented friend chose a book, he's so shy." And, there is some validity to this connection between personality and approaches to learning. One pilot study of doctoral students used a five factor model (extraversion, agreeableness, conscientiousness, neuroticism, and openness) to explore the relationship between personality and learning. It found statistical evidence that certain personalities adopt either a strategic, surface, or deep approach to learning.[5] However, other research keeps alive the decades-old argument of nature versus nurture. A study of infants' exploration of new objects found that "infants who have spent a lot of time with caregivers who name, show, and demonstrate objects typically spend more time with caregivers and objects together," whereas infants who have not received such interaction will spend more time exploring the objects only.[6]

[3] Hohmann & Weikart as cited in Alabama Performance Standards for 4-year-olds: Alabama's Pre-Kindergarten Initiative, 2004
[4] Bowman, Donovan, and Burns (2001) *Eager to Learn: Educating Our Preschoolers* as cited in Head Start Child Outcomes Framework, Domain 7: Approaches to Learning
[5] Heinstrom (2000). The Impact of Personality and Approaches to Learning on Information Behavior.

This finding provokes thought about how influential familial values and cultural expectations can be on children's initiative. Among different families and cultures, there is a broad spectrum of belief about the role children play in their own learning, whether expected to learn through "observation, imitation, and non-verbal communication," encouraged to actively engage in discussion with children and adults, or regarded as quiet recipients of parents' instruction.[7] In any case, fostering initiative in children can only be effective within the context of both:

The children's temperament – Are there different expectations for different temperaments (e.g., quiet and shy versus people-oriented)?

The style of care they have received – How children are encouraged to learn at home and through their cultural experiences.

Engagement

"Engage," as a transitive verb, means "to obtain and hold the attention of." Transitive verbs express action that is carried from subject to object, such as "To engage her students, the preschool teacher connected the lesson to their holiday celebration." Alternatively, the intransitive meaning of the verb is "to involve oneself," suggesting an internal source of action. "Tamika was so engaged in her play, she lost track of time." For either definition, young children's engagement – in learning, but also in play as a means of learning – is paramount to their development and success.

As noted earlier, self-initiated activity, or learning more about something already of interest, lends itself to a love of learning. It has been noted that "infants and toddlers usually show pleasure when they are successful at manipulating their environment and at overcoming barriers to reach a goal." This prompted at least one early researcher to maintain that young children are motivated to explore their surroundings, overcome obstacles, and master their environment – in other words, to engage.[8]

In the ideal world, all subjects are either so appealing by nature, or presented so appealingly by skillful teachers, that learners' engagement is automatic. Despite educators' best efforts, however, school tasks and activities are not always of intrinsic interest to every child. Learning to engage in challenging or frustrating tasks is an indicator of children's school readiness.

How is engagement encouraged? Start by harnessing the pride and satisfaction children gain from self-chosen play or projects. The natural desire to excel in that which they are interested will propel them to overcome challenges. Point out that hard work and effort, rather than intelligence or luck, powered their success. When this is realized, according to researchers, children become engaged and motivated.[9] When faced with the next challenge – learning something "off the radar" of interest, for example – that sense of accomplishment can be re-invoked.

[6] Wachs and Combs. (1995) as cited in Iowa Early Learning Standards.
[7] NEGP. Reconsidering Children's Early Development and Learning, 1995.
[8] White (1995) as cited in Iowa Early Learning Standards.
[9] Dweck (1999) as cited in Head Start Child Outcomes Framework, Domain 7: Approaches to Learning.

Persistence

Learning how to persevere is not only key to success in school, but an important life skill as well. A recent study found that persistence "is one of the critical elements in successful learning [and] the ability to foster, nourish, and support the development of persistence is a crucial skill set for teachers."[10] When leaders in business were asked about the characteristics needed to guide companies through change, "perseverance" was most often cited.[11]

What does persistence mean for preschoolers? It's maintaining focus on, and investing energy into, a task. It's tuning out distractions and interruptions. It's following a series of steps to create a project. It's knowing when to accept, and when to seek help from an adult or another child when the next step is unclear or too difficult.

As with all of the components associated with approaches to learning, persistence varies among children. This variation may be attributed, in part, to the child's temperament, but other factors have surfaced as being influential as well.[12] Parents and teachers who participated in a longitudinal study of children entering kindergarten reported that "girls persist at tasks more often than boys, older kindergartners persist at tasks more often than the younger, and children not at risk persist at tasks more often than children at risk."[13] Based on the study's definition of "at risk," it appears that persistence can be impacted by the physical (gender), the developmental (age), and the socio-economic status of mothers, particularly single mothers, and/or mothers with less than a high school education.

These findings – that persistence is more than what one is born with – are important for caregivers of young children to understand. Both consciously and unconsciously, parents and early childhood educators are shaping this critical skill. Adults are often overheard expressing encouragement ("Oh, what a beautiful picture you've colored! What can you tell me about it?), but do their actions transmit the same message about persistence? According to researchers Stipek and Greene (2001), "toddlers show more persistence in activities when caregivers promptly respond to their requests for help." If asking for assistance is a signal of a child's desire to persist, it is important that caregivers be responsive to that need. The value of persistence is thereby reinforced.

Creativity

According to Dr. Sharon Lynn Kagan, renowned expert on early learning standards and author of Young Children and Creativity: Lessons from the National Education Goals Panel, "creativity in American early childhood education has often been understood as a focus on specific activities associated with creative expression: art, music, and drama." She goes on to say, however, that today's view of creativity, "embraces it as an approach that encourages invention and problem-solving in all aspects of the curriculum: science, social studies, literacy, and numeracy."[14]

Creativity, then, is the ability to solve problems. It is creating new connections from previous experiences and applying familiar strategies to new situations. Creative learners seek one or more solutions to a problem by actively exploring through trial and error and by observing and interacting with others. This has been observed in children as young as infants.

[10] QIA Motivating Skills for Life Learners to Progress, Persist, and Achieve, 2006.
[11] Kotter, John P. (1996) Leading Change. Harvard Business School Press.
[12] Stipek and Greene (2001) as cited in Iowa Early Learning Standards.
[13] U.S. Department of Education (Fall 1998) Early Childhood Longitudinal Study, Kindergarten Class of 1998-99.
[14] Sharon Lynn Kagan, Ed.D (2003) *Young Children and Creativity: Lessons from the National Education Goals Panel*

For example, when unable to reach a toy at the edge of her blanket, a baby might instead tug on the blanket until the toy is in reach. A three-year-old has discovered something stuck in his cup. Having seen his father pry things out with a screwdriver, the boy proceeds to poke his play drumstick into the cup to loosen the object. Both of these children were creative in addressing the task at hand.

Both children were allowed the opportunity to be creative. Had an adult intervened in either case, by handing the toy to the baby or offering to dislodge the object from the cup, the child would have no need to problem-solve.

It is important for caregivers to recognize naturally occurring opportunities for children to problem-solve and to allow children the autonomy to experiment in those opportunities. As concluded by Piaget, caregivers can encourage problem-solving and can promote creativity "by making problem-solving opportunities available with a wide variety of materials, by encouraging infants and toddlers to experiment with solutions, by not interfering too quickly to solve problems for them, and by helping them notice the results of their experiments."

DOMAIN 2: PHYSICAL DEVELOPMENT AND HEALTH

In all of the ways young children develop, perhaps the most dramatic and probably the earliest observed, is physical growth. New parents are astounded at how quickly their infants grow – on average, tripling in weight and doubling in length during their first year. While that rate does slow somewhat, children are still gaining up to 3.5 inches in height, per year, when they enter kindergarten. [15] Furthermore, the first five years mark an amazing transformation in children's bodies. Their bones, muscles, joints, nerves, and synapses learn to work together to produce that first smile, that first "DaDa," that first step – before long the baby is an independent preschooler riding a tricycle.

Information about children's physical milestones is abundant. At wellness visits, pediatricians talk in percentiles, comparing the height and weight of the patient to his or her peers. Women, Infants, and Children programs provide information and resources on what constitutes healthy growth to the parents who receive their services. Numerous books, pamphlets, and internet sites feature descriptions of children's ages and expected abilities. Even well-meaning grandmothers are happy to share their opinion on the best age to toilet-train. If parents and caregivers somehow escape this deluge of information, it is nonetheless inevitable that they will – on their own – notice differences between their children and their playmates. "Why can't my daughter form letters as well as her friend does?" "Our Johnny connects with the ball every time, but some of his teammates…"

Expectations that derive from comparing children to their peers – whether formally presented in the guise of height/weight percentiles or informally observed during play – can be both valuable and dangerous. At the first sign of deviance from the "normal," it may be natural for parents to hit the panic button and ask, "What's wrong with my child?" In most cases, there is nothing wrong. Children's growth is highly dependent on many factors, such as genetic potential, quality of prenatal care, and overall nutrition. To expect "by the-book" growth at every checkpoint is unrealistic. On the other hand, repeated occurrences of slower-than-expected growth or patterns of failing to meet physical milestones may be cues for investigating further into possible causes, such as infections or chronic disease, psychosocial health, growth hormone deficiency, and other disorders.[16]

[15] M.J. Hockenberry and D. Wilson (2007) "Nursing Care of Infants and Children (8th Ed.) St Louis: MI, Mosby Elsevier

Many children with delayed growth can also have delays in other areas of development, so it is important to rule out metabolic problems.

It is also important to consider the impact that physical development has on learning. As coordination improves and bones grow, children can undertake increasingly complex physical endeavors. They learn to roll over, to scoot or crawl, to walk, to run, and so on. They progress to the next level of complexity when their bodies are able to support that level. Children learning to write, for example, go through distinct stages based, in part, on physical ability. Scribbling is often recognized as an important precursor to writing, but the process of learning to write actually begins far earlier than the first time the child puts crayon to paper. Being able to hold that crayon requires the fine-motor skill of coordinating index finger and thumb. By their first birthday, babies demonstrate this "pincer grasp" by picking up small objects like cheerios. But, babies are progressing toward this skill from as early as six months, when they pick up large objects by pushing their whole hand over a toy and curling their fingers around it. [17]

Between three and four months, babies begin developing the gross-motor skills that will eventually allow them to control a pencil, which "depends on stability of the shoulder and arm."[18] Babies strengthen their shoulders and arms every time they push up to raise their heads and shoulders during "tummy-time" and later, when they begin crawling. Crawling also reinforces the ability to cross the body's midline, developing directionality, an important skill for writing left to right.[19] Remarkably, even the act of gazing into babies' eyes helps them learn to focus their vision, which develops into the eye-hand coordination necessary for forming letters. Proper sensory development, then, is also integral to the multifaceted process of writing.

Placing objects within reach, providing plenty of tummy-time, and interacting one-on-one, eye-to-eye are but a few of the ways that caregivers can promote the fine-motor, gross-motor, and sensory development of children. Perhaps the greatest gift a caregiver can offer, however, is to respect each child as an individual who will develop at a rate unique to him or herself. For each child, there will be abilities, there will be challenges, and there will be supports for those challenges. A child diagnosed with autism may require occupational therapy to address sensory problems. A preschooler struggling with writing may benefit from a pencil grip. It is important that every child, regardless of physical ability or physical challenge, receives the support necessary to not only engage in daily activities, but also to learn.

Teachers' informal observations of the relationship between children's physical well-being and their ability to learn have been confirmed by numerous studies. For example, research shows that children who don't eat breakfast have trouble concentrating at school, becoming restless by late morning as glucose levels, the brain's basic fuel, drop. This news is made more troubling by a finding in a Carnegie Foundation Report (1990) in which more than half of the teachers surveyed stated that poor nourishment is a problem at their school. Furthermore, "children who suffer from poor nutrition during the brain's formative years score much lower on tests of vocabulary, reading comprehension, arithmetic, and general knowledge."[20]

[16] U.S. National Library of Medicine and the National Institutes of Health. *MedLine Plus: Delayed Growth.* http://www.nlm.nih.gov/medlineplus/ency/article/003021.htm

[17] Graham, Janice. Wondertime, "Get a Grip". http://wondertime.go.com/learning/article/get-a-grip-pincer-grasp.html (date retrieved : 10/7/09)

[18] Neuman, Susan B., Carol Copple, & Sue Bredekamp. Learning to Read and Write: Developmentally Appropriate Practices for Young Children (2000) National Association

[19] Shamberg, Shoshana. Preparing Mind and Body for Childhood Development. Simple sensory motor strategies for childcare providers (2009)

On the other hand, children who do eat a nutritious breakfast not only maintain their attention in late morning, but also display a quicker and more accurate working memory, are better able to perform complex tasks, and make fewer errors in problem-solving activities.[21] It has also been found that regular physical activity can help improve mathematics, reading, and writing test scores, increase concentration, and reduce disruptive behavior, suggesting strongly that the "physical well-being of students has a direct impact on their ability to achieve academically." [22]

How can children be expected to learn if they are depressed, bullied, stressed, or abused? The National Association of State Boards of Education perhaps summarizes it best: "Health and success in school are interrelated" (1998). While proper nutrition and physical fitness are key contributors to good health, other factors impacting a child's sense of wellbeing have also been identified. The United States Department of Education's belief that "[t]oo many of our children start school unready to meet the challenges of learning, and are adversely influenced by… drug use and alcohol abuse, random violence, adolescent pregnancy, AIDS, and the rest," is backed by both state and federal mandates for tobacco-free buildings, drug- and gun-free zones, immunization requirements, and the 2004 Child Nutrition Reauthorization Act.[23,24] The American Cancer Society maintains that children "who face violence, hunger, substance abuse, unintended pregnancy, and despair cannot possibly focus on academic excellence. There is no curriculum brilliant enough to compensate for a hungry stomach or a distracted mind."[25]

DOMAIN 3: SOCIAL AND EMOTIONAL DEVELOPMENT

Historically, the quality of many educational systems has been determined by measures of reading, writing and mathematics. Standardized tests and screening devices may well capture the extent to which students – whether incoming kindergartners, fourth-graders, eighth-graders, or high school graduates – can understand and express ideas or compute figures, but many such tests are less able to portray "non-academic" skills that are the keys to success in school and in life. It is imperative that individuals are able to form positive relationships with others, for it is those relationships that give meaning to their experiences in the home, in school, and in the larger community.

In this increasingly globalized and shrinking world, ensuring the healthy social and emotional development of preschoolers is now more critical than ever. Preschool children must learn to be aware of and comfortable with themselves and others and to recognize and manage their emotions. At this age, engaging in respectful two-way interactions with adults is as important as forming positive relationships with peers. Children should demonstrate trust with familiar adults and cooperation with their peers. They must also know when to seek guidance from adults and how to problem-solve with their peers and independently. It is with these skills that children will be best prepared to self-regulate and adapt to new situations.

[20] Brown, L and Pollitt, E. 1996 "Malnutrition, poverty, and intellectual development." as cited in Action for Healthy Kids. "The Role of Sound Nutrition and Physical Activity in Academic Achievement."
[21] Dairy Council of California. "Good Nutrition: The First Step in Getting Kids Ready to Learn." (1997)
[22] Shephard, R.J. 2008 "Curricular Physical Activity and Academic Performance" as cited in Action for Healthy Kids. "The Role of Sound Nutrition and Physical Activity in Academic Achievement."
[23] United States Department of Education. "America 2000: An Education Strategy Sourcebook" as cited in Association of State and Territorial Health Officials (ASTHO) and the Society of State Directors of Health, Physical Education and Recreation (SSDHPER). "Making the Connection: Health and Student Achievement." 2002
[24] Marx, E., Wooley, S., and Donica, B. "A Coordinated Approach to Health and Learning." The Healthy Child. Vol 85, No. 3. Jan/Feb 2006. Retrieved 5/28/08 from www.nawsp.org/ContentLoad.do?contentId=1788&action=print
[25] American Cancer Society. "*National Action Plan for Comprehensive School Health Education*" as cited in Association of State and Territorial Health Officials (ASTHO) and the Society of State Directors of Health, Physical Education and Recreation (SSDHPER). "Making the Connection: Health and Student Achievement." 2002

Dr. Edward Zigler, renowned child development expert and one of the architects of Head Start, writes:

> "…cognitive skills are not the sole determinant of how successful a child will be in school or in life. Nor does intelligence develop independently of social-emotional and other systems of human development. Think about the not-so-simple task of learning how to tie a shoe. A child must have the cognitive ability to memorize the steps involved and their order, the fine motor skills and eyesight needed, and the motivation to want to learn the task and to keep trying until he or she succeeds."[26]

The measure of social and emotional development has long been the "missing piece" of intelligence testing. Alfred Binet, creator of the first modern intelligence test and so-called "father" of IQ testing, cautioned that his scale was designed to identify children who should be placed in special schools where they would receive more individual attention, not to serve as a definitive statement of a child's intellectual capacity. He, in fact, argued:

> ". . . in intelligence, there is a fundamental faculty, the alteration or the lack of which, is of the utmost importance for practical life. This faculty is judgment, otherwise called good sense, practical sense, initiative; the faculty of adapting one's self to circumstances. Indeed the rest of the intellectual faculties seem of little importance in comparison with judgment."[27]

David Wechsler, creator of the Wechsler Adult Intelligence Scale (1939), Wechsler Intelligence Scale for Children (1949), and the Wechsler Preschool and Primary Scale of Intelligence (1967), believed that intelligence is "the global capacity to act purposefully, to think rationally, and to deal effectively with [one's] environment."[28]

These early allusions to social and emotional dimensions of child development were formally presented by Howard Gardner in his groundbreaking work on multiple intelligences. He argued that interpersonal intelligence (the capacity to understand the intentions, motivations and desires of other people) and intrapersonal intelligence (the capacity to understand oneself, to appreciate one's feelings, fears and motivations) were as important as the cognitive types of intelligence traditionally measured by IQ tests.

That social and emotional skills are integral to the holistic development of children and to their success in pre-school, as well as in later schooling, has been confirmed by many studies.

In separate studies, researchers established young children's social status (a proxy for social and emotional skills) in very early grades as highly predictive of social and academic performance in the third grade[29] and of school success and mental health adjustment in adolescence.[30]

[26] Zigler, E., Gilliam, W. S. and Jones, S.M., 2006 A vision for universal education. New York: Cambridge Press
[27] Plucker. J.A. (Ed.) (2003). Human Intelligence: Historical influences, current controversies, teaching resources. Retrieved 10/7/09 from http://www.indiana.edu/~int.
[28] Cited in Kaplan & Saccuzzo, Psychological Testing: Principles, Applications, And Issues (2008) Wadsworth Publishing Company. p. 256
[29] Wasik, B.H. 1997. Kindergarten predictors of elementary children's social and academic performance. In *Influences on and Linkages between Children's Social and Academic Performance: A Developmental Perspective*. B.H. Wasik, chair. Symposium conducted at the annual meeting for Social Research in Child Development, Washington, D.C.
[30] Lynch, M. and D. Cicchetti. 1997. Children's relationships with adults and peers: An examination of elementary and junior high school students. *Journal of School Psychology* 35 (1): 81-99.

Raver found that children who are emotionally well-adjusted have a greater chance of early school success.[31] In another study, she and Zigler found that children who are able to build positive relationships with others have a greater chance of academic success.[32]

Joseph and Strain found that problem behaviors decrease and social skills improve when children are taught to understand their own and others' emotions, handle conflicts, problem-solve and to develop relationships with others.[33] This is particularly important for children whose life circumstances may prompt them to be labeled "at-risk." Several "risk factors" have been identified as possible inhibitors of a child's ability to meet society's standards for behavior, including homelessness, maternal depression, abuse, exposure to violence, and negative values in the school or neighborhood. Children who are living with four or more these factors are more likely to have social-emotional difficulties.[34]

Reporting on a series of studies of preschoolers, Rubin and Coplan found that children who were non-social or withdrawn during preschool were more likely to suffer from peer rejection, social anxiety, loneliness, depression, and negative self-esteem in later childhood and adolescence. Negative implications for academic success were also suggested.[35]

The impact of healthy social and emotional development remains strong past the preschool years, extending perhaps to adulthood. A study of over 280 programs addressing "social-emotional learning" (SEL) found that students who receive instruction on recognizing and managing emotions, understanding and interacting with others, making good decisions, and behaving ethically and responsibly experienced an increased 11-percentile-point achievement gain in comparison to students who do not participate in SEL programs.[36] Successful leaders in today's corporate world rely on social and emotional competencies for effective communication, sensitivity, initiative, and interpersonal skills. Economics Nobel Laureate James Heckman notes that the most effective interventions take place during and prior to kindergarten, and that investing in social-emotional skills is a cost-effective approach to increasing the quality and productivity of the workforce through fostering workers' motivation, perseverance, and self-control.

In an analysis of early childhood education research, the Northwest Regional Educational Laboratory (NWREL) confirmed the lifelong influence of social and emotional development. The numerous longitudinal studies reviewed in the analysis showed that children who graduated from preschool, as compared to those who did not participate, generally had a greater degree of success in later schooling and in life. (See Chart A). Indeed, NWREL found "it is in the non-cognitive realm that the greatest benefits of preschool experience occur."

[31] Raver, C.C. 2002. Emotions matter: Making the case for the role of young children's emotional development for early school readiness. *SRCD Social Policy Report, XVI* (3). Ann Arbor, MI: Society for Research in Child Development. Http: www.srcd.org/spr.html.
[32] Raver, C.C. & Zigler, E.F. 1997. Social competence: An untapped dimension in evaluating Head Start's success. *Early Childhood Research Quarterly*, 12, 363-385.
[33] Joseph, G.E. & P.S. Strain. 2003. Comprehensive evidence-based social-emotional curricular for young children: An analysis of efficacious adoption potential. *Topics in Early Childhood Special Education*. 23 (2):65-76.
[34] Bowman, B. 2006. School readiness and social-emotional development. In B. Bowman & E.K. Moore (Eds.) *School Readiness and Social Emotional Development: Perspectives on Cultural Diversity*. National Black Child Development Institute, Inc.
[35] Rubin, K. & R.J. Coplan. 1998. Social and nonsocial play in childhood: An individual differences perspective. In O.N. Saracho & B. Spodek (Eds.) *Multiple perspectives on play in early childhood.* (pp. 144 – 170). Albany: State University of New York Press.
[36] Durlak, J.A., Weissberg, R.P., Dynmicki, A. B., Taylor, R.D., Schellinger, K.B. *The impact of enhancing students' social and emotional learning: meta-analysis of child-based universal interventions.* Child Development (in press).

Chart A: Task-related, Social, and Attitudinal Outcomes Associated with Preschool Participation	
fewer referrals for remedial classes or special education	lower incidents of illegitimate pregnancy, drug abuse, and delinquent acts
less likely to repeat grades	higher employment rates and better earnings
less often absent or sent to detention	fewer arrests and antisocial acts
greater academic motivation, on-task behavior, and capacity for independent work	better relationships with family members
more positive attitudes toward school	higher incidence of volunteer work
more frequent high-school graduations or GED completion	better self-esteem and a greater locus of control

Cotton, K. & Conklin, N.F. 2001. *Research on Early Childhood Education. Topical Synthesis #3 of the School Improvement Research Series.* Northwest Regional Educational Laboratory. http://www.nwrel.org/scpd/sirs/3/topsyn3.html

It is already clear that social and emotional development is paramount to success; it is becoming clearer that such development requires cultivation. The ability to get along with others, to recognize one's own strengths, to adapt, and to self-regulate are not merely natural by products of children maturing and interacting with peers; they are a learned skill set. Increasingly, early educators are finding that children are very much in need of this type of learning. Social-emotional development has been cited by many states as the area in which children are least prepared for kindergarten, and the number of kindergarten-aged children who are considered not "ready to learn" has been reported to be as high as fifty percent.[37] More troubling still, it has been estimated that between 16 and 30 percent of children entering kindergarten have emotional or behavioral problems that pose ongoing problems to teachers.[38] Researchers have also reported that forty percent of children in a Head Start program exhibited problem behaviors (such as kicking or threatening others) at least once a day.

[37] Rimm-Kaufman, S.E., Pianta, R.C. and Cox, M.J., 2000 *Teacher's judgement of problems in the transition of kindergarten.* Early Childhood Research Quarterly, 15 (2, 147-166).

[38] National Center for Children in Poverty. 2002. Building Services and Systems to Support the Healthy Emotional Development of Children: Promoting the Emotional Well-being of Children. Volume 12: No. 3 NCCP

How do early educators address these problems? Bodrova and Leong have suggested that the fourth "r" teachers must attend to – along with readin', writin', and 'rithmetic – is regulation. Self-regulation has two dimensions: the ability to control one's impulses (not grabbing a coveted toy from a peer's hands) and the capacity to do something because it's needed (asking to play with the desired toy and then waiting one's turn). According to Bodrova and Leong, self-regulation is used in both social interactions and in thinking, providing the research-based example of having to

The Teaching Pyramid

overcome the desire to focus on the picture of a dog when reading its caption of "cat." Children's self-regulation behaviors in the early years are regarded by researchers as more predictive of school achievement in reading and math than their IQ scores. [39, 40]

Critics seeking to minimize the role of self-regulation in a child's development may argue that such behavior can only occur when the child is physiologically ready. There is some truth in this argument, as brain research does indicate that the ability to regulate is tied to the development of the prefrontal cortex, which is also important to controlling one's emotions and focusing one's attention.[41] However, it has also been proven that those necessary neural pathways are constructed and strengthened by positive interactions with others. [42, 43]

One model for promoting the social and emotional development of all children in the classroom extends to teachers the power of positive interactions with others. As depicted in the diagram, the Teaching Pyramid builds upon a base of "positive relationships with children, family, and colleagues." This model urges teachers to focus on their relationships with children and families and to include developmentally appropriate, child-centered classroom environments that promote children's developing independence, successful interactions, and engagement in learning. Such nurturing and responsive caregiving will address the social and emotional needs of most children. For those children whose challenging behavior indicates that these "universal practices" are not adequately addressing their social/emotional status, teachers can reframe the problem behavior into a skill-learning opportunity. The desired behavior is modeled for the child, practiced by the child, and maintained in both familiar and new situations.[44]

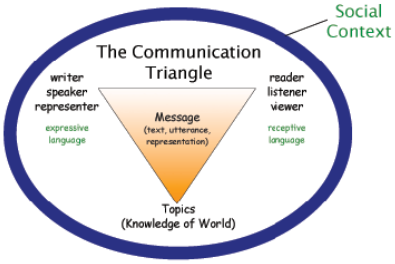
[39] Bodrova, E. & D Leong. 2008. Developing Self-Regulation in Kindergarten – Can We Keep All the Crickets in the Basket?
[40] Blair, C. 2002. School readiness: Integrating cognition and emotion in a neurobiological conceptualization of children's functioning at school entry. *American Psychologist* 57 (2):111-27.
[41] Blair, C & RP Bazza. 2007. Relating effortful control, executive function, and false belief understanding to emerging math and literacy ability in kindergarten. *Child Development*. 78 (2):647-63.
[42] Brodrova, E. & D. Leong. 2005. Self-Regulation as a Key to School Readiness
[43] Eisenberger, N.I., Taylor, S.P., Gable, S.L., Hilmert, C.J., Lieberman, M.D., 2007, *Neural pathways link social support to attenuated neuroendocrine stress responses.* NeuroImage, 35, 1601-1612. 49
[44] Promoting Children's Social and Emotional Development through Preschool Education; Crockenberg, S. & Leerkes, E. 2003. Infant negative emotionality, caregiving, and family relationships. In A.C. Crouter & A. Booth (eds.). Learning to Read the World: Language and Literacy in the First Three Years. (pp. 557-78). Mahwah, NJ:Erlbaum

Lest educators be overwhelmed by a "fourth r," it is important to remember that fostering social and emotional development should occur within the context of everyday life. Of course, there are plenty of "teachable moments" – when Ben punches Denzel for stealing the ball, when Grace blurts out the answer to the question addressed to Taritha. But, in a more positive approach, the childhood act of play needs to be taken seriously as a very real avenue to social and emotional development. For it is through "activities in which children – and not adults – set, negotiate, and follow the rules" that pre-schoolers are best able to access one of the important gateways to success: self-regulation.[45], [46]

DOMAIN 4: COMMUNICATION, LANGUAGE AND LITERACY

Communication, in its purest form, is neither the telephone nor the computer; it is the ability "to express oneself in such a way that one is readily and clearly understood." Evolving technology: cell phones, instant messaging, email, and teleconferencing has seemingly propelled us into an age of telecommunication, one in which our messages can be instantaneously shared through speech, text, graphics, and video.

The ability to express oneself is displayed from the moment children are born. When infants cry, they are conveying a need arising from hunger, discomfort, pain, or distress. Parents and other caregivers are often soon able to detect exactly what the baby wants by the distinctive sound of the cry. Young babies may also communicate feelings of displeasure by hiccupping, yawning, stretching out their arms, grimacing, or even falling asleep.[47] As early as six weeks, babies begin to express their contentment by cooing, making squeals, gurgling, and even making vowel sounds such as "ah-ah."[48] At around this same time, babies exhibit their first "real" smiles. Although parents often notice their baby smiling earlier – perhaps while sleeping or staring at a picture, those smiles are regarded as spontaneous, not requiring "the complex thought process of a social smile. One of the most special things about the social smile is that it opens up a whole new way of communicating with your baby."[49]



This connection between baby, parents and/or caregiver sets the stage for the "dance" of communication, a dance that becomes increasingly intricate as very young children acquire language. Daniel J. Siegel, a leader in the field of attachment and parenting, has proposed the idea of "contingent communication," in which the mind of one person joins the other. Basically, the child sends a need. The parent perceives the need, interprets the need, and responds promptly and sensitively to it. Babies learn that they can rely on their parents' responsiveness, thereby forming a secure attachment to the parent. Research by Shonkoff and Phillips indicates that infants whose parents respond appropriately and consistently to their efforts to communicate are more advanced on virtually all assessments of

[45] Fox, L. & R.H. Lentini: 2006. "You got it!" Teaching social and emotional skills. *Beyond the Journal.* National Association for the Education of Young Children.
[46] Zigler, E.F., Singer, D.G. and Bishop-Josef, S.J.: 2004 *Children's play: The roots of reading.* Washington D.C., Zero to three.
[47] Reinhartsen, D. & P. Pierce, P. (no date) Developing communication abilities." In *Baby Power: A Guide for Families for Using Assistive Technology with their Infants and Toddlers,* ed. P. Pierce. Chapel Hill, NC: The Center for Literacy and Disabilities Studies, University of North Carolina at Chapel Hill. Retrieved 6/6/08 from www2.edc.og/ NCIP/LIBRARY/ec/Power_7.htm
[48] Papalia, D. & S. Wendkos Olds. 1987. *A Child's World: Infancy through Adolescence*. Fourth Edition. New York: McGraw-Hill Book Company. 50
[49] *Smiling: What Experts Say*. Retrieved 6/6/08 from http://family.go.com/parentpedia/baby/milestones-development/baby-smiling/

developmental and cognitive status.[50] It has also been noted that mothers with securely attached children of preschool age tend to read more and give more reading instruction than mothers with children who are less securely attached, again suggesting the interactive nature of communication and of language development.[51,52]

That language exists within a social context is not a new idea. In his book, Closing the Circle: A Practical Guide to Implementing Literacy Reform, K-12, author Sean Walmsley traces the roots of what is known as the "communication triangle" to Aristotle. The communication triangle "represents the basic relationships among those who create and express ideas (writers, speakers, and representers), those who receive and make sense of them (readers, listeners, and viewers), the topics or ideas themselves, and the actual text. All of these interactions lie within a social context that influences – in some cases, controls – these interactions."[53]

The terms "expressive language" and "receptive language" used in the diagram of the communication triangle have long been used in the study of language acquisition (and are defined below), but the listing of "representer" and "viewer" in their respective categories may be unexpected. To represent is to express ideas in a variety of media. Representing can be regarded a precursor to writing, but interestingly, writing is also one of the many forms of representing. Likewise, children "view" before they are able to read, yet the ability to make sense of what they observe will carry through as a necessary life-long skill in an increasingly visual world. That young children express themselves before knowing how to write, and acquire knowledge before knowing how to read convinces Walmsley that representing is indeed a critical and first component of expressive literacy, viewing a critical and first component of receptive literacy.[54]

If communication is the ability to express oneself, and language is one way in which to do so, what then, is literacy? Traditionally, literacy has meant the ability to read and write, but experts agree that it is much more than that. Since the mid-twenties when the concept of "reading readiness" was introduced, to the early 1970's when noted educator and researcher, Marie Clay, challenged reading readiness with the new idea of "emergent literacy," to Walmsley's present-day argument that viewing and representing are critical components, literacy has come to include a continuum of those early behaviors that lead to actual reading and writing.

Much research confirms the validity of this model. Teale and Sulzby found that literacy development begins before children participate in formal education and other researchers have identified contributors to that development.[55] According to Logue, "nothing is more important [to developing literacy skills] than regular, daily experiences of face-to-face interactions – being read to, talked to, listened to, touched, and comforted."[56] Studies by Purcell-Gates, McGee, Lomax & Head, and Neuman & Roskos found that interacting with print or seeing print on a day-to-day basis helps children learn about written language

[50] Shonkoff, J. and D. Phillips. 2000. *From Neurons to Neighborhoods*. Washington, D.C.: National Academy Press.
[51] Bus, A.G. and M.H. van Ijzendoorn. 1995. Attachment and early reading: A longitudinal study. *Journal of Genetic Psychology* 149: 199-210.
[52] Bus, A.G. and M.H. van Ijzendoorn. 1988. Mother-child interactions, attachment and emergent literacy: A cross-sectional study. *Child Development* 59: 1262-1273.
[53] Walmsley, S. 2008. *Closing the Circle*. San Francisco: Jossey-Bass. pg. 7
[54] Walmsley, S. 2008. *Closing the Circle*. San Francisco: Jossey-Bass.
[55] Teale, W. and E. Sulzby. 1986. *Emergent Literacy: Writing and Reading*. Norwood, NJ: Ablex Publishing Corporation
[56] Logue, M.E. 2000. *Implications for Brain Development Research for Even Start Family Literacy Programs*. Washington, D.C.: United States Department of Education.

and reading, even if they do not already read.[57, 58, 59] Nursery rhymes and rhyming, singing, and word games all promote linguistic awareness, which leads to phonemic awareness.[60, 61] Inventive spelling – when young children attempt to spell a word based on what they hear in the word – appears to Clarke and Ehri to be a step toward alphabetic knowledge.[62, 63]

These studies and many others over decades of research prompted the National Early Literacy Panel to identify characteristics of children, birth to age five, that were most closely linked to later literacy achievement: oral language development, phonological/phonemic awareness, alphabetic knowledge, print knowledge, and invented spelling. Furthermore, the Panel recommended the inclusion of high-quality early language experiences as a means to enhance young children's development.[64] The National Reading Council's recommendations for promoting literacy development in young children also includes instruction designed to "stimulate verbal interaction, to enrich children's vocabularies, to encourage talk about books, and to provide practice with the sound structure of words."[65]

Why the heavy emphasis on oral language skills? Research by Tabors and Dickinson shows language development is crucial in preparing pre-school age children for literacy and that word knowledge is closely linked to reading accomplishments.[66] The National Reading Panel credits oral vocabulary as "the key to learning to make the transition from oral to written forms" of communication. [67] From findings of numerous studies, Whitehurst and Lonigan inferred that "children who have larger vocabularies and greater understanding of spoken language have higher reading scores." A study by Larrick of children with limited language exposure, and therefore fewer words in their vocabulary by school entry, revealed that they did not understand sequence of events basic to stories and had difficulty recalling and anticipating the sequence of events in simple stories.[68]

Before they enter school, children may know and use correctly as many as 32,000 words, most of which are learned indirectly by engaging in daily oral interaction (talking with parents and other caregivers, siblings, and peers), by listening to adults read aloud (bedtime stories), and by being actively involved with books (looking at and talking about books).[69] The quality, frequency, and nature of these interactions are influenced by a great number of factors, not the least of which is the socio-economic status of the family. Hart and Risely determined that an average child in a professional family accumulates experience with 45 million words in the first four years of life, compared to 13 million

[57] Purcell-Gates, V. 2000. Family literacy. In *Handbook of Reading Research*, eds. Kamil, M., P. B. Mosenthal, P. D. Pearson, & R. Barr. Vol. III (pp. 853-870). Mahwah, NJ: Lawrence Erlbaum

[58] McGee, L., R. Lomax, & and M. Head. 1988. Young children's written language knowledge: What environmental print and functional print reading reveals. *Journal of Reading Behavior* 20: 99-118.

[59] Neuman, S.B. & K. Roskos. 1993. Access to print for children of poverty: Differential effects of adult mediation and literacy-enriched play settings on environmental and functional print tasks. *American Educational Research Journal* 30: 95-122.

[60] Bryant, P.E., M. Maclean, L. Bradley, & J. Crossland. 1990. Rhyme and alliteration, phoneme alliteration, phoneme detection, and learning to read. *Developmental Psychology* 26: 429-438.

[61] Maclean, M., P. Bryant, & L. Bradley. 1987. Rhymes, nursery rhymes, and reading in early childhood." *Merrill-Palmer Quarterly* 33: 255-81.

[62] Clarke, L. 1988. Invented versus traditional spelling in first graders' writings: Effects on learning to spell and read. *Research in the Teaching of English* 22: 281-309.

[63] Ehri, L. 1988. Movement in word reading and spelling: How spelling contributes to reading. In *Reading and Writing Connections*, ed. J. Mason & J. Newton. MA: Allyn & Bacon.

[64] International Reading Association. 2005. *Literacy Development in the Preschool Years: A Position Statement of the International Reading Association* Newark, DE: Author. Available at http://www.reading.org/downloads/ positions/ps1066_preschool.pdf

[65] Snow, C.E., M.S. Burns, & P. Griffin, eds. 1998. *Preventing Reading Difficulties in Young Children*. Washington, D.C.: National Academy Press.

[66] Dickinson, D. & Tabors, P. 2001. *Beginning Literacy with Language*. Baltimore: Paul H. Brookes. pp 139-287

[67] National Reading Panel. Undated. Teaching Children to Read: An Evidence-based Assessment of the Scientific Research Literature on Reading and Its Implications for Reading Instruction, Reports of the Subgroups. Rockville, MD: National Institute of Child Health and Human Development. pg. 4-3. Available at http://www.nichd.nih.gov/ publications/nrp/upload/report_pdf.pdf

[68] Larrick, N. 1988. *Literacy Begins at Home*. Claremont, CA: Claremont Reading Conference

[69] Voyager U Reading Academy: NYS Reading Resource Center: www.nysrrc.monroe.edu and www.voyagerlearning.com

words for the child from a family receiving public assistance. This is a concrete example of how social context influences the interactions within the communication triangle and how, as suggested by Walmsley, the players can interact in ways that support – or inhibit – growth in expressive and receptive language.[70]

The connection between vocabulary and prior knowledge is especially intriguing. Drawing on background knowledge helps children understand new words; at the same time, new words serve as tools of access to knowledge of the world around and beyond them. This interrelatedness between vocabulary development and background knowledge suggests that what children already know is as important as the new words they acquire. Studies establishing a connection between vocabulary development and literacy achievement have already been mentioned; research on background knowledge and achievement also exists. Robert Marzano, author of Building Background Knowledge for Academic Achievement, cites seven different studies that confirm that "what students already know about the content is one of the strongest indicators of how well they will learn new information relative to the content." [71,72] The significant contribution that background knowledge plays in learning to read prompted the New York State Department of Education to include it in its implementation of Reading First, an intervention strategy that focuses on improving reading instruction. New York State guidelines for scientifically based reading instruction call for a block of systematic and explicit instruction that includes "activating and building background knowledge."[73]

Clearly, cultural and background knowledge, as well as word knowledge, are key contributors to literacy and to communication, but how is such knowledge best cultivated? Again, the strategies are interrelated. Rare or unusual words can easily be introduced within the context of new experiences, which provide information for future ideas and thoughts. Intentionally engaging children in extended discourse – in meaningful conversation – about these experiences will benefit all children, but particularly those who don't naturally interact in meaningful conversation in their day-to-day lives. Snow and Tabors, in their study of low-income elementary children who were experiencing reading difficulties, found that indirect activities, such as frequency of children's outings with adults, amount of time spent interacting with adults, and other enrichment activities, were more closely related to literacy acquisition than direct activities such as helping with homework.[74]

It is perhaps of little surprise that these same activities can serve as tools of assessment. Conversing with students and observing their literacy behaviors are very real means of assessment that can, and should, be used in conjunction with scientific, evidence-based, standardized measures of achievement. In this way, assessment, as a process, can not only help inform policy makers and school districts on what works, but also fulfills its true intent of guiding instruction. This is keenly important in the preschool years, when each student arrives with very different experiences and backgrounds that affect his/her ability to learn.

70 Walmsley, S. 2008. *Closing the Circle*. San Francisco: Jossey-Bass.
71 Nagy, Anderson, & Herman, 1987; Bloom, 1976; Dochy, Segers, & Buehl, 1999; Tobia, 1994; Alexander, Kulikowich, & Schulze, 1994; Schiefele & Krapp, 1996; Tamir, 1996; and Boulanger, 1981
72 Marzano, R. 2004. *Building Background Knowledge for Academic Achievement*. Alexandria, VA: Association for Supervision and Curriculum Development. pg. 1
73 New York State Education Department. 2005. *New York State Guidelines for Scientifically Based Reading Instruction*. Retrieved July 2008 from http://principalsacademy.monroe.edu/files/NYSGuidelinesReading1stInst ruct.pdf
74 Snow, C. and P. Tabors. 1996. *Intergenerational Transfer of Literacy*. Commissioned Paper for *Family Literacy: Directions in Research and Implications for Practice -- January 1996* National Symposium. (Available at www.ed.gov/pubs/FamLit/transfer.html).

Receptive Literacy

Receptive language, referred to above, is a component of the more encompassing term "receptive literacy" put forth by Walmsley. Receptive literacy is the ability to understand meaning that originates with others.75 It is the taking in of information, whether by listening, viewing, or reading. In the first months of life, babies demonstrate receptive language skills when they respond to their mother's voice. Toddlers often recognize logos and understand them to mean a favorite restaurant or activity. Pre-schoolers decipher messages from picture books, and are beginning to pay more attention to print. They may know some words and are starting to make letter-sound associations. As they mature, children are learning how to make sense of what they hear, what they see, and what they read.

A complementary sense of receptive language is the "mental store of words and phrases."[76] As children are repeatedly exposed to a new word, they learn what the word means and how to use it. When this knowledge is securely captured, it is incorporated into the process of building background knowledge to understand more new words and to learn more about the world.

Young children understand more words than they are actually able to produce themselves, partially due to the context in which the message is being sent. In pretend play with food, for example, children may serve food to their adult "customers" who respond, "Oh yum! Doesn't this food taste good? It's so delicious!" While the child understands the connection between "delicious" and something that tastes good, he or she may not use this word until much later. By school age, children use approximately 2,500 words, in contrast to understanding 6,000 and responding to 25,000.77

Expressive Literacy

The partner to receptive literacy is expressive literacy, or the ability to create and communicate meaning. If receptive literacy is the taking in of information, so then expressive literacy is the "output" of information through representing, speaking, and writing. As children develop, their ability to express ideas in each of these venues becomes increasingly refined.

Expressive literacy is perhaps easiest to observe through the distinct stages of writing development. Scribbling soon takes the direction of left to right; first letters appear; strings of letters suddenly turn into first "words," words then look like they sound. Before long, and rather remarkably, children are expressing their ideas in conventional writing. Speaking is readily marked, from five-month-old babbling, to toddlers' one-word utterances, to the ensuing explosion of words and phrases, all of which lead to complete sentences by kindergarten entry. Children also express their ideas through their speech.

As a form of expressive literacy, representing warrants further discussion. It may be thought of as what happens before children can speak or before they can write, but it is actually a life-long skill that becomes increasingly sophisticated. Eight-month-babies are representing when they wave bye-bye.

75 Walmsley, S. 2008. *Closing the Circle*. San Francisco: Jossey-Bass.
76 Roskos, K.A., P.O. Tabors, & L.A. Lenhart. 2005. *Oral Language and Early Literacy in Preschool: Talking, Reading, and Writing*. Newark, DE: International Reading Association.
77 Pierce, P. & A. Profio. 2006. From cooing to conversation to *The Carrot Seed*: Oral and written language connections." In *Learning to Read the World: Language and Literacy in the First Three*, eds. Rosenkoetter, S. and J. Knapp-Philo. Washington, D.C.: Zero to Three Press.

Pre-schoolers are representing when they draw or scribble, work with clay, and play "fire-fighter." Older children – fully able to express themselves through speech and writing – continue to represent when they build models, when they illustrate books, when they perform in a school play. At all ages, children communicate understanding through a variety of media.

As the building blocks of literacy– vocabulary, background knowledge, expressive and receptive language, phonological and phonemic awareness, oral expression, the alphabetic principle come together, children learn to view and represent, to listen and speak, to read and write. They become increasingly sophisticated in expressing themselves in ways that are readily and clearly understood. But, true to the communication triangle, this doesn't come in isolation. Pre-school aged children also are becoming increasingly able to interpret and describe in their own words that which others have expressed, whether the moral of a story, the main point of an argument, the feeling of a poem, or the message of artwork. Pre-schoolers are, in fact, perfecting the dance of communication.

The benchmarks and benchmark indicators in this domain represent the standards for what Pre-kindergarten children should know and be able to do in order to be successful learners. Indicators are observable and demonstrative and can be accomplished through the play and active engagement of four year olds within a rich and well-designed environment.

DOMAIN 5: COGNITION AND KNOWLEDGE OF THE WORLD

Scientific research is beginning to reveal information about the physiology of our brains– nerve cells, circuitry, electrical and chemical processes – that is as fascinating as it is complex. Contrary to long-held beliefs that the brain is "hard-wired" at birth, researchers have confirmed it is actually under constant development and that the period of greatest activity is the early years. Interestingly, the brain attains 90 percent of its adult weight by the time a child reaches age five and develops faster than any other part of the body. The enormity of this physical growth aside, perhaps the most compelling finding for teachers and caregivers of young children is how significantly cognitive development can be influenced by environment and experience.

The National Scientific Council on the Developing Child analogizes cognitive development to building a house. The "blueprint" for building a brain is supplied by genetics, but it is the building materials – in this case, proper nutrition, social interactions with attentive caregivers, and absence of toxins – that brings those plans to optimal fruition. In making the house a home, builders modify blueprints to suit the needs of the family; likewise, children's experiences define which neural connections will thrive and which will be discarded. The Council summarizes by stating:

". . . the quality of a child's early environment and the availability of appropriate experiences at the right stages of development are crucial in determining the strength or weakness of the brain's architecture, which, in turn, determines how well he or she will be able to think and regulate emotions."[78]

The brain's architecture is but one aspect of cognitive development. Historically, the term "cognitive development" is most frequently associated with the work of Jean Piaget, who theorized that children

[78] National Scientific Council on the Developing Child. "The Timing and Quality of Early Experiences Combine to Shape Brain Architecture." (February 2008)

move through distinct stages of cognitive growth as the result of an adaptation process involving assimilation and accommodation. His work forwarded the idea of cognition as both the way a child thinks about something and what the child does. Learning is an active process and occurs when children interact in meaningful ways with the world around them.

Other leaders in the field of children's cognitive development also contributed to our current beliefs about how children learn. Lev Vygotsky asserted that interaction with knowledgeable others and culture are important shapers of cognitive development. Drawing from Piaget's model of cognitive stages and Vygotsky's emphasis on interpersonal communication, Jerome Bruner proposed that children's progress through four socio-cognitive stages is facilitated by interaction with adults and peers.

These models of cognitive development have spawned much discussion and unending research. Interestingly, findings have suggested that, contrary to what all three theorists believed, preschool children are capable of higher-order skills, such as hierarchical classification and quantitative reasoning. Armed with sufficient knowledge and/or experience, they can perform activities that might be considered "developmentally inappropriate" for their age or for their development in other areas. In studies by Gobbo and Chi, preschool children who knew a great deal about dinosaurs sorted them by land-living or not, meat-eating or not, etc. Researchers identified knowledge – in this case, of dinosaurs – as the key determinant of whether the pre-school children studied were able to sort by multiple criteria or not.79

Presumably, these young dinosaur "experts" acquired their vast knowledge from their interest in the topic. Parents, teachers, and other caregivers can tap into children's natural interests and their prior knowledge to promote higher-level, abstract, and critical thinking. By facilitating conversation and purposefully asking questions, adults not only provide rich experiences that encourage children to delve deeper into a topic of interest, but also challenge them to reach the next level of thinking – essentially, implementing Vygotsky's strategy of "scaffolding." Open-ended questions, in particular, prompt children to not only use more language, but also require them to recall, and put into sequence, past events.80 In the course of conversation, asking "Why do you think this dinosaur has such a long tail?" will elicit a far greater response than "Isn't this dinosaur's tail long?"

Teachers must be sure to provide age-appropriate opportunities to engage higher-order thinking. During morning hour, facilitate conversation with children about the day's weather, the clothes they are wearing, and the items they brought to school to help them draw conclusions about the four seasons. Ask children to retell – verbally or dramatically – the story behind their own or others' artwork. When reading aloud to a group of four-year-old children, prompt them to predict what will happen to Henny Penny. "Wonder aloud" with children about how life would be different if they were born at a different time or in a different world. For it is through such supportive, questioning, and attentive environments that children will acquire knowledge about language arts and literacy; mathematics; science; fine arts; social studies; and the world.

79 Bowman, B.T., Donovan, S.M. and Burns, S.M. *Editors*; Eager to Learn: Educating our Preschoolers, 2000, p.41.
80 National Scientific Council, Center on the Developing Child at Harvard University. (2007). *The Science of Early Childhood Development: Closing the Gap Between What We Know and What We Do.* Cambridge, MA.

The goal of thinking at a more critical level is infused throughout New York State's learning standards for students in kindergarten through grade twelve. It is equally important for preschool children. It is during these early years that cognitive development and brain development are integrally linked. Young children are able to make sense of their world by acquiring, adapting, practicing, applying and transferring knowledge in order to construct new or expanded concepts. It is through play, active engagement, both linguistically and experientially, experimenting, observing, exploring, manipulating, creating, listening, reflecting, problem solving, and using logic and reasoning that children become capable of more complex thinking.

Cognitive development occurs across all domains and supports children's learning about the world in which they live. This is reflected in the New York State Pre-kindergarten Foundation for the Common Core Some examples of indicators of cognitive development and where they can be found in this document are illustrated below. (Please note: This list is a selected group of examples and is not inclusive of all cognitive indicators.)

Approaches to Learning

Child actively and confidently engages in play as a means of exploration and learning.

Child uses "trial and error" method to figure out a task, problem, etc.

Physical Development and Health

Child uses description words to discuss sights, smells, sounds, tastes and textures.

Child demonstrates awareness of spatial boundaries and the ability to work within them.

Social/Emotional Development

Child understands that other children have needs and rights

Child demonstrates awareness of similarities and differences in habits, traits, preferences, abilities, motives, etc. among his/her family members and/or peers;

Child understands how his/her own emotions impact choices (likes & dislikes).

Approaches to Communication

Child initiates conversations about things around them.

Child uses words, facial expressions, body language, gestures, and sign language to express ideas.

ELA and Literacy

Child demonstrates understanding of the organization and basic features of print.

Child identifies the front cover, back cover and displays correct orientation of book and page turning skills.

Cognition and Knowledge of the World

Math

Child will understand the relationship between numbers and quantities to 10.

Child identifies measurable attributes of objects such as length and weight.

Science

Child makes predictions based on background knowledge and previous scientific experience.

Child identifies cause and effect relationships.

Child verifies predictions by explaining "how" and "why".

Child makes age-appropriate, logical conclusions about investigations.

Social Studies

Child uses words and phrases that differentiate between events that happen in the past, present and future, e.g., uses phrases like "when I was a baby…" or "before I moved to my new house."

The Arts

Child compares or contrasts different forms of dance and music

Child identifies similarities and differences among samples of visual art.

The sections of the Cognition and Knowledge of the World Domain provide benchmarks and benchmark indicators for specific content areas: science, social studies, the arts, and technology. For Mathematics, benchmark and benchmark indicators are referred to as standards and clusters. Learning environments and instructional practices in early childhood classrooms across settings will be immediately impacted by these expectations. Teachers will be empowered to align curriculum and assessment horizontally across domains as well as vertically to ensure continuity of learning, beginning in Pre-kindergarten. Programs for young children will use these expectations to plan professional development tailored to the needs of individual teachers, as well as, to engage parents in monitoring the progress of their children.

MATH

While walking to the bus stop, Treva counts her footsteps. "One, two, three, four – hey! That's how old I am!" Nodding, her Nana agrees, "You're right! Keep going. What's the next number?" Counting is a skill that many parents and caregivers recognize as being important for their children to have when they enter school, so it is not uncommon for them to encourage their preschoolers to practice. In the everyday context of their lives, however, children are also exposed – perhaps intentionally, perhaps not – to many, many other math concepts.

Math is about numeracy, but it is also about measurement, shapes, and patterns. When a new mark is added to the wall to note the latest growth spurt, children are picking up a sense of measurement, even though no numbers are involved. In fact, this type of math occurs every time a child happily exclaims, "I built the tallest tower!" or complains, "My bag is heavier than hers." The understanding that something is taller/shorter, heavier/lighter, full/empty, and bigger/smaller is a pre-number math concept that paves the way for later understanding of inches, pounds, volume, and mass.

When children notice that their bags are heavier or their towers are taller, they inevitably notice other variables, such as shape. As a math concept for preschoolers, shape and spatial relationships include recognizing and manipulating geometric forms (squares, triangles, circles, rectangles, etc.). Parents and

caregivers may be surprised to learn that correctly using words such as first, last, top, bottom, over, and under can also indicate a child's awareness of spatial relationships.

There are many other math applications hiding within "non-math" activities. What, for example, does clapping have to do with math? The answer: when there is a pattern to the clapping, i.e., teachers sometimes attracts their busy classroom's attention with a "slow clap, slow clap, pause, fast clap, fast clap, fast clap." Detecting patterns help children begin to understand how things work together, which is an important skill for later math development. Counting and measuring activities help children become more familiar with number concepts, equal values and an understanding of

length, height and weight. Opportunities abound for promoting math learning in preschool classrooms.

SCIENCE

Teachers in K-12 classrooms have long struggled with taking the "sigh" out of science. Too often, secondary-school student's associate science with memorizing periodic tables, searching for mystery body parts in formaldehyde-soaked amphibians, and determining whether a rock is sedimentary, metamorphic, or igneous. While the content of this teaching is important, its decontextualized delivery does little to ignite students' interest in the physical properties of the world around them.

Young children, on the other hand, are fueled by an innate curiosity about what works, why it works, how it works, and what's in it that makes it work. Preschoolers are constantly asking, "Why does this rock sparkle?" "How can a frog jump so high?" "What's in water?" When they pose the time-honored, "why is the sky blue?" question, preschoolers are not expecting a detailed explanation of the electromagnetic spectrum but they are purposefully gathering information about, and trying to explain, their observations.

Science is exactly that: a system of acquiring knowledge. This system uses inquiry, observation and experimentation to describe or explain phenomena. For this age group, such activity involves manipulating objects, asking questions, making predictions, developing generalizations, and learning relevant vocabulary. Scientific experiences can occur both formally and informally, but should, as much as possible, allow for hands-on activity with objects and contexts that are meaningful to the child. Teachers may present a lesson on properties of water, but explaining why popsicles drip and ice cubes melt is likely to be more meaningful to children, to have a greater impact on their understanding, and more significantly, to increase their interest in the topic at hand. By exploring the science in the child's everyday world, science is understood not just as the work of chemists, biologists, and geologists, but as an integral and inspiring part of the real life of every child – a powerful message to be learned early and reinforced throughout life.

SOCIAL STUDIES

Today's shrinking globe presents wonderful opportunities for interaction with new people, cultures, and regions. Within these opportunities is a responsibility to appreciate the unique thoughts, beliefs, and actions of the people we meet. On a much smaller scale, pre-schoolers learn to do just that as they venture out of the familiarity of their homes into the community.

When they are very young, children begin to understand their role within their families. They learn the expectations and rules that govern this basic social structure. As they mature, their social circle enlarges to include extended family, friends, neighbors, classmates, teachers, and community helpers. Children soon realize that with new people come new rules, expectations, and ways of interacting.

It is important for children to learn how to navigate the increasing complexity of their social network. Communication and cooperation are tools of navigation that often present themselves naturally between and among individuals with similar perspectives. Reaching out to people with different backgrounds, experiences and beliefs, however, may be less comfortable, therefore requiring additional navigational tools: such as, respect and empathy.

Social studies is understanding one's role within the family and within the community, but also understanding others' roles. How do these roles interact? Older students explore the rights and responsibilities of community members in "Civics" or "Government" classes, but at the pre-school age, the focus is on sharing, taking turns, and practicing being followers and leaders.

Other areas of study traditionally associated with "social studies" are applicable to pre-school as well. History provides a sense of time, including the profound and minute changes that take place over the course of their day, week, or year. To pre-schoolers, this may mean comparing their fall self-portraits to their spring self-portraits. How are the portraits different? What occurred over the course of the school year to explain the difference? This exercise can promote children's grasp of the concept of "then" and "now," but also connect past events to present and future activities.

THE ARTS

Young children engage in pretend play to process their ideas about their world and the people in it. Research findings link dramatic play to children's cognitive, language, and social development, so it is important for caregivers to provide not only props and space, but also unstructured time, encouragement and positive feedback for dramatic play to occur. Fortunately, there are many forms of art through which children can express their thoughts, ideas, feelings, and wishes. Therapists have long used the arts to help children identify and resolve their emotions through media such as drawing, painting, and sculpting. The same is true for music and movement. Exposing children to music, in all its forms, has many benefits for cognitive, physical, social, and emotional development. Experts agree that actively participating in music – whether singing, playing an instrument, or dancing – helps children perform better in reading and math, play more cooperatively with others, control their bodies in space, and build their self-esteem. Even listening to music has its benefits, such as honing a child's ability to detect patterns, which is critical for emergent reading. And, listening to the most basic instrument – one's own voice – can help children distinguish between playground voices, inside voices, whispers, and silence, attributed to strengthening discrimination skills.

TECHNOLOGY

There was a time when preschoolers were well prepared for school if they had a new art smock and a box of crayons. Today, technology is changing the way in which children learn and develop literacy,

math, language, communication, social and problem solving skills. Children must ultimately be prepared to function as knowledgeable, productive, independent, creative thinkers in a technology-based society.

Technology is the systematic application of knowledge, materials, tools, and skills that extend human capabilities. It is a visible part of children's everyday lives and it includes a broad range of tools (computers, telephones, MP3 players, cameras). While important, computers and instructional tools that use computers are only a few of the many technological advances we use today. Technologies developed through engineering include the systems that power our neighborhoods and schools and extend learning in our classrooms. Pre-kindergarten "play" has always included building with blocks, woodworking, playing with water, digging in sand, and molding clay. These activities still make up a part of the preschoolers day but involve a broader understanding of the concepts of engineering and technology. When a child constructs an object with wood and glue or can explain how a see-saw works, he or she is demonstrating an understanding of technology. Technology tools in the classroom (both traditional and digital technology) support a learner-centered and play-oriented early childhood curriculum.

Computers and other digital technology are powerful tools for supporting all learning in the early childhood classroom and can be integrated into classroom curricula, not merely as isolated curriculum components or centers. Children should be taught how to use technology and be

provided opportunities to use it independently or cooperatively as in other learning centers. Computer and digital technology have provided many new tools to assist teachers as a means of supporting educational goals and outcomes.

From the New York State Education Department. New York State Prekindergarten Foundation For The Common Core Research And Supporting Material, Internet. Available from http://www.p12.nysed.gov/ciai/common_core_standards/; accessed May 1, 2013

APPENDIX II

Joint Statement of the
National Association for the Education of Young Children
and the
National Association of Early Childhood Specialists in State Departments of Education
on the Common Core Standards Initiative Related to Kindergarten Through Third Grade

Early childhood – the period from birth through age eight – is a distinct period of life that has value in itself as well as creating foundations for later years. Policymakers at every level must consider the characteristics of early childhood as the standards movement extends into the years before kindergarten and in the early grades of school. A developmental continuum of standards, curriculum, and assessments, extending from the early years into later schooling, can support better transitions from infant/toddler care through preschool programs to kindergarten and into the primary grades, as teachers work within a consistent framework across educational settings.

Standards are not new to early childhood education. All states have developed early learning standards in at least language arts and mathematics for preschool-age children; more than half of the states have developed early learning guidelines for infants and toddlers. Since 2000, the Head Start Child Outcomes Framework has described the desired outcomes or expectations for eight domains of children's learning and development.

NAEYC and NAECS-SDE affirm that standards – challenging and achievable, appropriate to children's development, and addressing each area of children's inter-related development and learning – are an important component of teaching and learning success for every child. Our joint position statement, *Early Learning Standards: Creating the Conditions for Success*, based on the research of child development and learning and the input of numerous experts and practitioners, states that standards can be a valuable part of a comprehensive, high-quality system of services for young children.

The Common Core State Standards Initiative focused on kindergarten through twelfth grade content standards. Had the standards omitted kindergarten, first, second and third grade standards and started in fourth grade, we believe that there would be even greater potential for inappropriate alignment and pushdown of standards from the later grades, and less assurance of developmentally appropriate practices in the absence of guidance on reasonable age and grade expectations in kindergarten and the early grades.

As to our comments submitted on the March 10 draft standards, both NAEYC and NAECS-SDE separately provided specific and general recommendations. Both organizations gathered and shared with each other the reflections of a variety of developmental content experts and policy stakeholders among their members. Based on a synthesis of those comments we here highlight a few key points:

- ***We believe that taken as a whole, the draft standards were fair and age appropriate for kindergarten through 3rd grade.***
- ***We provided substitute language or additional language in many specifics of the standards –addressing both issues of clarity and appropriate learning progressions.***
- ***We each were emphatic that the final document be clarified to assure the standards should never be used to deny entry to kindergarten or retention in a grade.***
- ***Each of us stressed in our general comments that the standards in mathematics and English language arts (ELA) should not preclude focused attention in classroom practice on other standards for learning.***
- ***Throughout the core standard development process, we have jointly expressed concern to the developers that effort on only two content domains could result in the unintended consequence of narrowing curriculum and instructional practice to the detriment of student learning.***
- ***We have specifically urged the addition of social and emotional development and approaches to learning as the next necessary area for high-quality, developmentally and grade appropriate common standards work.***

We wish to be very clear that significant work lies ahead even with the best written and most comprehensive standards. There is an urgent need for the development of comprehensive and appropriate curricula and assessments, professional development for teachers and administrators in effective practice, and resources to ensure that all children have opportunities to meet challenging and achievable expectations for learning. ***Our organizations are ready to partner together and with others in these efforts to assure the best education for the Nation's young learners.***

NAEYC – ***Promoting excellence in early childhood education***
1313 L Street NW
Washington, DC 20005
www.naeyc.org
commoncore@naeyc.org
202.232.8777

NAECS-SDE – ***Supporting successful child development and continuous learning from birth to age eight***
6015 33rd Street, NW
Washington, DC 20015
www.naecs-sde.org
information@naecs-sde.org
202.244.3943

April 15, 2010

APPENDIX III

Indian Education For All

Missoula County Public Schools is committed to developing for all students an understanding of American and Montana Indian people and their histories, fostering respect for their cultures. In view of the unique role of the American Indian peoples in the development of the United States and the experience of Montana tribes in particular, their history and culture will be integrated wherever appropriate in the instruction of MCPS students, in accordance with the state constitution, statues, and curriculum standards.

ESSENTIAL UNDERSTANDINGS REGARDING MONTANA INDIANS

1. There is great diversity among the 12 tribal Nations of Montana in their languages, cultures, histories, and governments. Each Nation has a distinct and unique cultural heritage that contributes to modern Montana.

2. There is great diversity among individual American Indians as identity is developed, defined, and redefined by many entities, organizations, and people. There is a continuum of Indian identity ranging from assimilated to traditional and this is unique to each individual. There is no generic American Indian.

3. The ideologies of Native traditional beliefs and spirituality persist into modern day life as tribal cultures, traditions and languages are still practiced by many American Indian people and are incorporated into how tribes govern and manage their affairs. Additionally, each tribe has their own oral history beginning with their genesis that is a valid as written histories. These histories pre-date the "discovery" of North America.

4. Reservations are land that have been reserved by the tribes for their own use through treaties and was not "given" to them. The principle that land should be acquired from the Indians only through their consent with treaties involved three assumptions:

    a. That both parties to treaties were sovereign powers.
    b. Those Indian tribes had some form of transferable title to the land.
    c. That acquisition of Indian lands was solely a government matter not to be left to individual colonists.

5. There were many federal policies put into place throughout American history that have impacted Indian people and shape who they are today. Much of Indian history can be related through several major federal policy periods.

6. History is a story most often related through the subjective experience of the teller. Histories are being rediscovered and revised. History told from an Indian perspective conflicts with what most of mainstream history tells us.

7. Under the American legal system, Indian tribes have sovereign powers separate and independent from the federal and state governments. However, the extent and breadth of tribal sovereignty is not the same for each tribe.

Missoula County Public Schools

INSTRUCTION 2450

Recognition of American Indian Peoples' Culture and Heritage in the Curriculum Process

The Board fully supports Article X of the Montana Constitution and is actively committed to develop for all students an understanding of American and Montana Indian people and their histories, as well as foster respect for their respective cultures.

Because of the unique position and place in American history, the American Indian peoples' role in the development of the United States, with emphasis on the experience of the Montana Tribes, shall be included wherever appropriate in the instruction of Missoula County Public School students, in accordance with the state Constitution and state standards. Instructions concerning the historic and current roles of Indian people shall be delivered in a respectful, informative, and sensitive manner. When the social studies curriculum and other curricula are updated according to the District's curriculum cycle, the written curriculum shall reflect this policy. Staff development will be provided pertinent to curriculum implementation.

NOTE: The District has nondiscriminatory policies in effect, which may be referenced.

Legal Reference: Art. X, Sec. 1(2), Montana Constitution §§ 20-1-501, et seq.,

MCA Recognition of American Indian cultural heritage - legislative intent

10.55.603 ARM Curriculum Development and Assessment

10.55.701 ARM Board of Trustees

10.55.803 ARM Learner Access

Policy History:

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Adopted on: October 10, 2000

Adopted on: January 14, 2003 (Policy recodified in Series 2000 adoption)

APPENDIX IV

Teaching About Controversial Issues

Missoula County Public Schools Board Policy **INSTRUCTION** 2330

Academic Freedom

The Board recognizes and supports Academic Freedom as necessary for an environment conducive to the free exchange of ideas and learning.

Academic Freedom is the view that if teachers are to promote the growth of knowledge, they require the freedom to teach and conduct inquiry without fear of sanction or reprisals should they present an unpopular or controversial idea.

Teachers shall help students learn to objectively and respectfully examine differences of opinion, analyze and evaluate facts and their sources, and form their own reasoned judgments about the relative value of competing perspectives.

The Board directs the teaching staff to:

- Refrain from using one's classroom position to promote one's own ideology or any partisan point of view.
- Ensure that issues presented pertain to course objectives.
- Provide students opportunities to develop critical thinking: that is the ability to detect propaganda and to distinguish between fact, opinion and misinformation.
- Respect each student's right to form, choose, hold and/or change an opinion or belief.
- Create an environment in which students are free to form judgments independently.

Any person may file complaints pursuant to this policy through Board Policy 4310P, the uniform grievance procedure.

This policy may not be used to challenge educational materials themselves. Please see:
BP 2313 Dealing with Challenged Educational Resources
BP 2313P Procedure for Dealing with Challenged Educational Resources
Legal Reference: Article X, Sec. 8, Montana Constitution - School district trustees
§ 20-3-324(16) and (17), MCA Powers and duties

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APPENDIX V

Adopted Materials

- Handwriting without Tears (Preschool)
- Second Step
- Phonemic Awareness in Young Children

MISSOULA
COUNTY PUBLIC SCHOOLS

Department of Teaching & Learning
Administration Building
215 S. 6th Street W.
Missoula, MT 59801
406-728-2400
www.mcpsmt.org