

**ALIGNMENT OF MONTESSORI MATERIALS AND LESSONS WITH
Colorado Academic Standards
Preschool**

October 3, 2012

Sheila Wolfe and Kristina Baxter

Mathematics

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools <i>Italics Indicate Montessori Materials and Lessons</i>	Measuring Methods and Tools
Standard: 1. Number Sense, Properties, and Operations	<p>1. Quantities can be represented and counted</p> <p><i>a. Count and represent objects including coins to 10 (PFL)</i></p> <p><i>b. Match a quantity with a numeral</i></p>	<p><i>Red and Blue Math Rods, Spindle Boxes, Brown Stair, Pink Tower, Cylinder Blocks, Knobless Cylinders, Bead Stair, Cards and Counters, Sandpaper Numerals, counting coins,</i></p>	<p>Formative Assessments, Summative Assessments, Observations, Documentation</p>
Standard: 2. Patterns, Functions, and Algebraic Structures	<p>Expectations for this standard are integrated into the other standards at preschool through Third grade.</p>		
Standard: 3. Data Analysis, Statistics, and Probability	<p>Expectations for this standard are integrated into the other standards at preschool through Kindergarten.</p>		

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<p>Standard: 4. Shape, Dimension, and Geometric Relationships</p>	<p>1. Shapes can be observed in the world and described in relation to one another</p> <p><i>a. Match, sort, group and name basic shapes found in the natural environment</i></p> <p><i>b. Sort similar groups of objects into simple categories based on attributes</i></p> <p><i>c. Use words to describe attributes of objects</i></p> <p><i>d. Follow directions to arrange, order, or position objects</i></p>	<p><i>Geometric Solids, Geometric Cabinet, Metal Insets, Pink Tower, Brown Stair, Cylinder Blocks, Knobless Cylinders, Red Rods, Red and Blue Number Rods, Color Tablets, Fabric Box, Rough and Smooth Boards, Montessori Bells, Sound Cylinders, Practical Life Activities for sorting, matching, grouping, arranging, and position.</i></p>	<p>Formative Assessments, Summative Assessments, Observations, Documentation</p>
	<p>2. Measurement is used to compare objects</p> <p><i>a. Describe the order of common events</i></p> <p><i>b. Group objects according to their size using standard and non-standard forms (height, weight, length, or color brightness) of</i></p>	<p><i>Geometric Cabinet, Pink Tower, Brown Stair, Cylinder Blocks, Knobless Cylinders, Red Rods, Red and Blue Number Rods, Color Tablets, Montessori Bells, Sound Cylinders, sort coins by color and size, retell events/stories in</i></p>	

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	<i>measurement</i> <i>c. Sort coins by physical</i> <i>attributes such as</i> <i>color or size (PFL: Personal</i> <i>Financial Literacy)</i>	<i>sequence</i>	
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Reading, Writing, and Communicating

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools <i>Italics Indicate Montessori Materials and Lessons</i>	Measuring Methods and Tools
Standard: 1. Oral Expression and Listening	<p>1. Conceptual understanding conveyed through vocabulary words can occur using a variety of Modalities</p> <p><i>a. Identify and sort common objects, events, pictures, words, colors, shapes, and textures into various classifications</i></p> <p><i>b. Begin to identify and use special concepts (first/last, over/under, etc.)</i></p> <p><i>c. Demonstrate use of vocabulary in oral language to express ideas and events</i></p> <p><i>d. Begin to understand that everyday words such as "cold" relate to extended vocabulary such as "chilly"</i></p>	<p><i>Classified Picture Cards, Vocabulary Booklets, Three Part Cards, Classification Activities, Farm, Preposition Cards, Matching Activities, Go Together, Dictation, Sensorial Materials, Show and Tell,</i></p>	<p>Formative Assessments, Summative Assessments, Observations, Documentation</p>

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	<p>2. Listening and comprehension skills are required to be clearly understood</p> <p><i>a. Use language to express ideas in complete sentences (with support of sentence stems as needed)</i></p> <p><i>b. Recite songs, poems, and stories with repeated rhyme</i></p> <p><i>c. Listen with comprehension, and follow two-step directions</i></p> <p><i>d. Remember spoken information for a short period of time</i></p>	<p><i>Question Game, Books on Tape, poems, songs, stories, fingerplays, gross motor games.</i></p>	
	<p>3. Early knowledge of phonemic awareness is the building block of understanding language</p> <p><i>a. Recognize patterns of sounds in songs, storytelling, and poetry</i></p> <p><i>b. Understand that words are made up of one or more syllables</i></p>	<p><i>Sandpaper Letters, Moveable Alphabet, Object Boxes, Phonetic Picture Cards, Lotto Games, Syllable Word Objects and activities, rhyming words, poems, stories</i></p>	

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	<p><i>c. Recognize rhyming words and alliterations</i> <i>d. Demonstrate understanding of initial sounds in words (such as mop begins with the /m/ sound)</i></p>		
<p>Standard: 2. Reading for All Purposes</p>	<p>1. Print conveys meaning</p> <p><i>a. Hold books in upright position, turn pages sequentially, recognize correct orientation (top to bottom, left to right)</i> <i>b. Recognize print in the environment</i> <i>c. Recognize that printed material conveys meaning and connects to the reader's world</i> <i>d. Use and interpret illustrations to gain meaning</i> <i>e. Make predictions based on illustrations or portions of story or text</i> <i>f. Generate a picture or written response to a read-aloud that identifies the who or what of the story or text</i></p>	<p><i>Read Alouds, Environment Labels, Command Cards, Three Part Cards, Phonic Picture Cards, Object Boxes, ask questions to generate prediction,</i></p>	<p>Formative Assessments, Summative Assessments, Observations, Documentation</p>
	<p>2. Symbol, object, and letter recognition is a fundamental</p>	<p><i>Moveable Alphabet, Sandpaper Letters, Lotto</i></p>	

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	<p>of reading and requires accuracy and Speed</p> <p><i>a. Recognize own name in print</i> <i>b. Recognize the names of a minimum of 10 letters of the alphabet, specifically letters in own name</i> <i>c. Begin to name familiar objects, colors, letters, and numbers rapidly and in random order</i></p>	<p><i>Games, Sandpaper Numbers, Three Part Cards, Alphabet Go Together Puzzles,</i></p>	
<p>Standard: 3. Writing and Composition</p>	<p>1. Pictures express ideas</p> <p><i>a. Draw pictures to generate, represent, and express ideas or share information</i> <i>b. Orally describe or tell about a picture</i></p> <p><i>c. Use shapes, letter-like symbols, and letters to represent words or ideas</i> <i>d. Dictate ideas to an adult</i></p>	<p><i>Three Part Cards, Sequencing Cards, Dictation, Object Boxes, Moveable Alphabet, Sandpaper Letters, read alouds, retelling</i></p>	<p><i>Formative Assessments, Summative Assessments, Observations, Documentation</i></p>
	<p>2. Letters are formed with accuracy</p> <p><i>a. Begin to develop proper</i></p>	<p><i>Practical Life (polishing activities, bead stringing), Metal Insets, Sandpaper Letters, Moveable Alphabet</i></p>	

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	<p><i>pencil grip when drawing or writing</i></p> <p><i>b. Write and recognize letters in own name</i></p>	<p><i>(with capital letters), Writing Tray, Cylinder Blocks, easel, tracing activities, name labels</i></p>	
<p>Standard: 4. Research and Reasoning</p>	<p>1. Relevant information is different from non-relevant information</p> <p><i>a. Understand the difference between a question and a statement</i></p> <p><i>b. Begin to identify key features of reality versus fantasy in stories, pictures, and events</i></p> <p><i>c. Identify information that is relevant</i></p>	<p><i>Question Game, Read Alouds (fiction and non-fiction), retelling, Show and Tell</i></p>	<p>Formative Assessments, Summative Assessments, Observations, Documentation</p>
	<p>2. Problems can be identified and possible solutions can be created</p> <p><i>a. Generate questions and investigate answers about topics of interest</i></p> <p><i>b. Gather relevant information and apply it to their problem-solving process or current event</i></p> <p><i>c. Seek and generate</i></p>	<p><i>Peace Rose, Question Game, Photo Language Cards,</i></p>	

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	<i>alternative approaches to solving problems</i>		
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Science

	Standards and Evidence Outcomes	Montessori Materials, Instructional Methods, And Tools <i>Italics Indicate Montessori Materials and Lessons</i>	Measuring Methods and Tools
Standard: 1. Physical Science	<p>1. Objects have properties and characteristics</p> <p><i>a. Use senses to gather information about objects</i></p> <p><i>b. Make simple observations, predictions, explanations, and generalizations based on real-life experiences</i></p> <p><i>c. Collect, describe, and record information through discussion, drawings, and charts</i></p>	<p><i>Classification of Animals that Fly, Climb, and Swim,</i></p> <p><i>Classification of Land, Air, and Water Animal Classification Cards, Practical life activities that focus on similarities and differences, use scales, magnets, magnifying glasses, rulers,</i></p>	Formative Assessments, Summative Assessments, Observations, Documentation
	<p>2. There are cause-and-effect relationships in everyday experiences</p> <p><i>a. Recognize and investigate</i></p>	<p>simple machines (pushing, pulling, rolling, levers) use scales, magnets, magnifying glasses, rulers, sink and float</p>	

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	<p><i>cause-and-effect relationships in everyday experiences – pushing, pulling, kicking, rolling, or blowing objects</i></p>		
<p>Standard: 2. Life Science</p>	<p>1. Living things have characteristics and basic needs</p> <p><i>a. Use senses to gather information about living things</i> <i>b. Observe and explore the natural processes of growing, changing, and adapting to the environment</i> <i>c. Ask and pursue questions through simple investigations and observations of living things</i> <i>d. Collect, describe, and record information about living things through discussion, drawings, and charts</i></p>	<p><i>Classroom pets and plants, outdoor classrooms, Living and Nonliving, Plant/Animal Classification, Vertebrate/Invertebrate, Classification of Animals, Parts of the Flower, Parts the Tree, Parts of the Leaf, Parts of the Fish, Parts of the Frog, Parts of the Turtle, Parts of the Bird, Parts of the Horse, observe and explore natural environment, discuss growing, changing, and adapting,</i></p>	<p>Formative Assessments, Summative Assessments, Observations, Documentation</p>
	<p>2. Living things develop in predictable patterns</p> <p><i>a. Identify the common needs such as food, air, and water of familiar living things</i></p>	<p><i>Classroom pets and plants, outdoor classrooms, Living and Nonliving, Plant/Animal Classification, Vertebrate/Invertebrate, Classification of Animals,</i></p>	

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	<p><i>b. Predict, explain, and infer patterns based on observations and representations of living things, their needs, and life cycles</i></p> <p><i>c. Make and record by drawing, acting out, or describing observations of living things and how they change over time</i></p>	<p><i>Parts of the Flower, Parts the Tree, Parts of the Leaf, Parts of the Fish, Parts of the Frog, Parts of the Turtle, Parts of the Bird, Parts of the Horse, Life Cycles, How Seeds Grow, Observe and discuss the leaves changing color</i></p>	
<p>Standard: 3. Earth Systems Science</p>	<p>1. Earth's materials have properties and characteristics that affect how we use those materials</p> <p><i>a. Use senses to gather information about Earth's materials</i></p> <p><i>b. Make simple observations, explanations, and generalizations about Earth's materials based on real-life experiences</i></p> <p><i>c. Describe how various materials might be used based on characteristics or properties</i></p>	<p><i>Land and Water Globe, Inner Earth Globe, Layers of the Earth, Land and Water Forms, investigative activities with rocks, sand, soil, and water,</i></p>	<p>Formative Assessments, Summative Assessments, Observations, Documentation</p>

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	<p>2. Events such as night, day, the movement of objects in the sky, weather, and seasons have Patterns</p> <p><i>a. Identify, predict, and extend patterns based on observations and representations of objects in the sky, daily weather, and seasonal changes</i></p> <p><i>b. Observe and describe patterns observed over the course of a number of days and nights, possibly including differences in the activities or appearance of plants and animals</i></p>	<p>Four Seasons Classification, Daytime/Nighttime Cards, Clock activities or rubber stamps, solar system models, weather chart, calendar, daily schedule, thermometer,</p>	
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Social Studies

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Standard: 1. History	<p>1. Change and sequence over time</p> <p><i>a. Use words and phrases correctly related to chronology and time. Words to include but not limited to past, present future, before, now, and later.</i></p> <p><i>b. Select examples from pictures that illustrate past, present, and future</i></p> <p><i>c. Sequence a simple set of activities or events</i></p> <p><i>d. Identify an example of change over time on topics to include but not limited to their own growth</i></p>	<p>Classroom discussions with past, present, future, before, now, later, retelling stories in sequential order, growth chart, calendar, clocks, Child's Timeline</p>	<p>Formative Assessments, Summative Assessments, Observations, Documentation</p> <p>Communication and collaboration Skills in interpersonal and virtual settings</p>
Standard: 2. Geography	<p>1. Develop spatial understanding, perspectives, and connections to the world</p> <p><i>a. Use positional phrasing.</i></p>	<p><i>The Farm (over, under, inside, outside, etc.), Classified Picture Cards, Puzzle Map, Animals of the Continents, Continent Globe</i></p>	<p>Formative Assessments, Summative Assessments, Observations, Documentation</p>

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	<p><i>Phrases to include but not limited to: over and under, here and there, inside and outside, up and down</i></p> <p><i>b. Identify common places to include but limited to home, school, cafeteria, and gymnasium</i></p> <p><i>c. Describe surroundings</i></p> <p><i>d. Use pictures to locate familiar places</i></p> <p><i>e. Use nonlinguistic representations to show understanding of geographic terms</i></p>		
Standard: 3. Economics	<p>1. People work to meet wants and needs</p> <p><i>a. Explain that people work (produce) for an income</i></p> <p><i>b. Discuss that money is used to buy items that the student or family wants</i></p> <p><i>c. Give examples to distinguish spending from saving</i></p>	<p><i>Fundamental Needs of People, job chart, classroom discussions</i></p>	<p>Formative Assessments, Summative Assessments, Observations, Documentation</p>
	<p>2. Recognize money and identify its purpose (PFL: Personal Financial Literacy)</p>	<p>Coins and Dollars Money Set, plastic money set,</p>	

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	<p><i>a. Recognize coins and currency as money</i> <i>b. Identify how money is used as a medium of exchange</i> <i>c. Discuss why we need money</i></p>		
Standard: 4. Civics	<p>1. Individuals have unique talents and work with others in groups</p> <p><i>a. Recognize membership in family, neighborhood, school, team, and various other groups and organizations</i> <i>b. Name groups to which they belong and identify the leader(s)</i> <i>c. Identify examples of times when people can play different roles and bring unique talents to a variety of groups</i></p>	<p>Interest grouping, identify groups and leaders within community, being a role model, job chart</p>	<p>Formative Assessments, Summative Assessments, Observations, Documentation</p>
	<p>2. Rules and their purpose in allowing groups to work effectively</p> <p><i>a. Explain that groups have rules</i></p>	<p><i>Peace Rose, Peace Education, classroom rules, sharing, taking turns,</i></p>	

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	<p><i>b. Recognize interpersonal boundaries</i> <i>c. Exert self-control</i> <i>d. Interact positively with others</i> <i>e. Give examples of some rules that are permanent and some that change</i></p>		
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Music

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Standard: 1. Expression of Music	<p>1. Perform expressively</p> <p><i>a. Use voices expressively when speaking, chanting, and singing</i></p> <p><i>b. Sing a variety of simple songs and singing games</i></p> <p><i>c. Demonstrate fundamental performance skills such as correct posture and behavior</i></p>	Circle time instruction, <i>Varies by school</i>	Formative Assessments, Summative Assessments, Observations, Documentation
	<p>2. Respond to rhythmic patterns and elements of music using expressive movement</p> <p><i>a. Move to music of various tempos, meters, dynamics, modes, genres, and styles</i></p> <p><i>b. Move or use body percussion to demonstrate awareness of beat and tempo</i></p> <p><i>c. Match movement to rhythmic patterns</i></p>	<i>Varies by school</i>	

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<p>Standard: 2. Creation of Music</p>	<p>1. Improvise movement and sound responses to music</p> <p><i>a. Improvise sound effects to accompany play activities</i> <i>b. Use improvised movement to demonstrate musical awareness</i></p>	<p>Varies by school</p>	<p>Formative Assessments, Summative Assessments, Observations, Documentation</p>
<p>Standard: 3. Theory of Music</p>	<p>1. Describe and respond to musical elements</p> <p><i>a. Use an individual vocabulary to describe music</i> <i>b. Use body movement to respond to dynamics and tempo</i></p>	<p>Varies by school</p>	<p>Formative Assessments, Summative Assessments, Observations, Documentation</p>
	<p>2. Recognition of a wide variety of sounds and sound sources</p> <p><i>a. Use personal vocabulary to describe sources of sound</i> <i>b. Use invented symbols to represent musical sounds and ideas</i></p>	<p>Varies by school</p>	
<p>Standard: 4. Aesthetic</p>	<p>1. Demonstrate respect for</p>	<p>Grace and Courtesy</p>	<p>Formative Assessments,</p>

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<p>Valuation of Music</p>	<p>music contributions</p> <p><i>a. Describe appropriate listening during a musical selection, live or recorded</i></p>		<p>Summative Assessments, Observations, Documentation</p>
	<p>2. Express feeling responses to music</p> <p><i>a. Create movements in response to music</i> <i>b. Participate in music activities</i> <i>c. Talk about expressing feeling in music</i></p>	<p>Varies by school</p>	
	<p>3. Recognition of music in daily life</p> <p><i>a. Use examples such as music from cartoons, computer games, community, and home events</i> <i>b. Use a personal vocabulary to describe music from diverse cultures</i></p>	<p>Varies by school</p>	

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Visual Arts

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Standard: 1. Observe and Learn to Comprehend	<p>1. Artists and viewers identify art in daily life</p> <p><i>a. Identify individual preferences in images when presented with visual examples such as picture books, cartoons, computer games, community, and home events</i></p> <p><i>b. Use age-appropriate vocabulary to describe works of art</i></p> <p><i>c. Recognize basic characteristics and expressive features of art and design in relation to daily life</i></p>	Varies by school	Formative Assessments, Summative Assessments, Observations, Documentation
Standard: 2. Envision and Critique to Reflect	<p>1. Works of art can represent people, places, and things</p> <p><i>a. Explain that works of art communicate ideas</i></p>	Varies by school	Formative Assessments, Summative Assessments, Observations, Documentation

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	<i>b. Tell a story about a work of art</i>		
Standard: 3. Invent and Discover to Create	<p>1. Create works of art based on personal relevance</p> <p><i>a. Use trial and error to create works of art that arrive at a desired outcome</i></p> <p><i>b. Use art materials safely and with respect in any environment</i></p> <p><i>c. Create visual narratives from familiar stories and subject matter</i></p>	Varies by school	Formative Assessments, Summative Assessments, Observations, Documentation
Standard: 4. Relate and Connect to Transfer	<p>1. Artists have an important role in communities</p> <p><i>Students can:</i></p> <p><i>a. Explain what an artist does and who an artist can be</i></p> <p><i>b. Identify some of the activities in which artists participate</i></p> <p><i>c. Name some of the arts materials available to artists</i></p>	Varies by school	Formative Assessments, Summative Assessments, Observations, Documentation

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