

Iowa
Early Learning
Standards

Iowa Department of Education
Iowa Department of Human Services



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Iowa's Vision for Young Children

Every child, beginning at birth, will be healthy and successful.

To Iowa's parents, caregivers, teachers, child care, and early education professionals:

We are very pleased to join our local partners in presenting Iowa's Early Learning Standards for children ages birth to five years!

The Iowa Early Learning Standards are in response to federal requirements under President Bush's Good Start, Grow Smart Early Childhood Initiative and the Federal Child Care Development Fund, administered by the Department of Human Services. These efforts seek to strengthen Head Start, partner with states to improve early childhood services, and provide information to teachers, caregivers, and parents.

The Iowa Learning Standards are a joint effort of the Iowa Departments of Education and Human Services. The development of these standards has been possible due to the generous support from the Iowa Child Care and Early Education Network, Iowa Departments of Education and Human Services, Iowa Head Start Association, and Iowa State University. Much appreciation needs to go to the leadership, writing committees, advisory groups, and the individual regional focus group members for their contribution to this effort. In addition, we need to thank Dee Gethmann and Cathy Swackhamer for their expert leadership of the preschool writing committee, and Penny Milburn, Robin Nepper, and Beth Walling for their expert leadership of the infant and toddler writing committee. We wish to acknowledge Dr. Susan Hegland for her continual guidance in assuring that Iowa's standards are research-based, grounded in effective practice, and practical for guiding children's everyday experiences.

We hope that you will find this document useful in better understanding what you may expect to see in a child's learning and development, as well as what you can do to encourage learning every day, taking into consideration the individual differences and unique needs of every child. The standards are not intended to cover every possible aspect of early learning, but instead to offer some ideas as you think about the many ways you can promote growth, learning, and the well-being of children in your care each day.

Respectfully,



Judy Jeffrey
Director
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Iowa Association for the Education of Young Children
Iowa Child Care and Early Education Network
Iowa Child Care Resource and Referral
Iowa Community Colleges
Iowa Community Empowerment
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Iowa Early Learning Standards Information on the Web
<http://www.iowachildnetwork.org>

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INTRODUCTION

Background and Purpose

Children are born ready to learn. As they interact with people, materials, and events, they gain skills and understandings that guide their later learning. Young children develop understanding with the nurturing, sensitive guidance of caregivers, including parents, adults, teachers, and child care providers. In order to develop, infants, toddlers, and preschoolers need interactions with supportive, stimulating, and responsive caregivers.

Caregivers—parents, other family members, teachers, and child care providers in homes and centers—provide learning environments that reflect and support the diverse cultures of the children and families represented in the community. Familiar, consistent caregivers guide young children through their verbal and non-verbal explorations of materials and ideas. Infants, toddlers, and preschoolers learn to communicate, cooperate, and negotiate their physical and social environment with the support of their caregivers.

The Iowa Early Learning Standards (IELS) identify the knowledge, skills, motivation, and attitudes developed by birth-to-five-year-olds that lead to success as students in school and as adult citizens in a democracy. The Iowa Early Learning Standards are designed to:

- assist parents, professionals, and community leaders to identify, plan, and implement programs and experiences that provide high quality early care and education to all children;
- guide the planning of curriculum and assessment experiences for children in early care and education settings, in child development homes, in child care centers, and in preschool programs offered by a variety of public and private agencies;
- inform parents seeking information on the skills, understandings, and experiences their young children need for success in school and in life; and
- guide planning for pre-service professional development and adult education programs for those who work with young children in a variety of settings.

Caregivers tailor curricula and experiences provided to the skills, understanding, and experiences of the young children whom they serve. The IELS are intended to guide expectations, program planning, curriculum planning, and the implementation of instructional activities. They are NOT designed to be used as a readiness checklist or to exclude children. The Iowa Early Learning Standards are *not* intended to:

- be used as a checklist or assessment tool to assess children;
- label, sort, or diagnose children;
- exclude children from infant/toddler programs, preschools, kindergarten, or any early childhood program for which they are otherwise eligible;
- identify programs based on children's high achievement;
- serve as the sole criterion for program funding; or
- evaluate teachers or caregivers.

The goal of the IELS writing committees was to develop standards that would:

- emphasize significant, developmentally appropriate content and child outcomes;
- be developed and reviewed through informed, inclusive processes;
- be implemented with instructional and assessment strategies that are ethical and appropriate for young children; and
- be accompanied by strong financial supports and resources for early childhood programs, professionals, and families from legislators, community leaders, and policy makers (NAEYC, 2002).

The Iowa Early Learning Standards were developed based on the values and beliefs held in Iowa in which communities work together to achieve positive results for children and families. The IELS serve as a guide for children’s learning across various environments. They provide the foundation to support a seamless transition for children as they enter Iowa’s educational system. Iowa curriculum standards for kindergarten through 12th grade are established at the local rather than at the state level. However, the Iowa Early Learning Standards have been developed to be consistent with current research as well as with national curriculum standards developed by organizations such as the National Council for Teachers of Mathematics, the National Council for the Social Studies, as well as with the Carnegie Standards, The Head Start Child Outcomes Framework, the West Ed Program for Infant Toddler Caregivers, and the Primary Program. In addition, the IELS align with the core content standards that are tested in Iowa for No Child Left Behind.

After reviewing these materials and the current Iowa context, the Iowa Early Learning Standards Writing Committees chose to address six developmental areas. The standards and benchmarks in each of these areas are based on both research and theory in child development and early education.

The six areas are:

- physical well-being and motor development;
- approaches to learning;
- social and emotional development;
- communication, language, and literacy;
- mathematics and science; and
- creative arts.

In order to guide the implementation of the Iowa Early Learning Standards, the committees also provided guidance on the following topics:

- Guiding Principles;
- Terminology;
- Skills, Knowledge, and Attitudes;
- The Role of Play;
- The Roles of Caregivers;
- The Role of Assessment;
- Diversity;
- Accommodations for Children with Special Needs; and
- Policy Issues.

Guiding Principles

The Writing Committees established a set of principles to guide the selection of the standards and benchmarks, as well as the examples and caregiving supports. These principles are:

- Children construct understandings through active interactions with caregivers, peers, materials, and events.
- Learning is sequential, building on prior understandings and experiences.
- Learning proceeds at different rates in each area; children will show a range of skills and understandings in any one area of development.
- Learning in each area is interconnected. Young children learn best through integrated, meaningful experiences.
- Learning is embedded in a culture. Children learn best when their learning activities are rooted in a familiar cultural context.
- Learning begins in the family, continues in early care and education settings, and depends on parent involvement and caregiver guidance.
- All children have the potential to achieve most of these standards with appropriate supports and instruction.

Terminology

The terms used in this document follow the definitions developed by the Council for Chief State School Officers (CCSSO), Early Childhood Education (ECEA) Assessment Consortium, and the State Collaborative on Assessment and Student Standards (SCASS) Consortium, 2003.

Early Learning Standards are “statements that describe expectations for the learning and development of young children...”
(ECEA Consortium, 2003)

Benchmarks (Performance Standards) are “clear, specific descriptions of knowledge or skill that can be supported through observations, descriptions, and documentations of a child’s performance or behavior, and by samples of a child’s work often used as points of reference in connection with more broadly stated content standards.”
(ECEA Consortium, 2003)

Skills, Knowledge, and Attitudes

The standards are written to describe the understandings that infants, toddlers, and preschoolers acquire during their first five years of life that lead to successful, rewarding daily interactions with people and objects in their environment, in school, and as citizens in a democracy. The concept understanding indicates that children possess at least basic levels of skills, supported by knowledge that can be demonstrated in a wide variety of settings and with a wide variety of materials. The young child builds this knowledge through repeated interactions with people, objects, and events in a variety of settings. New understandings are most likely to generalize when they link previous experiences and knowledge to new situations and information.

The Role of Play

Play is very motivating to infants, toddlers, and preschoolers. Through play, children express their ideas and understandings as they practice skills in communication, social play, and problem solving. Howes and Smith (1995) found that young children who engaged in play and positive social interactions with caregivers also engaged in more complex social activities.

Young children typically show brief attention spans for adult-directed activities, especially where they are required to be passive observers. In contrast, they usually spend the longest periods of time in self-selected play activities. According to the educational psychologist Jerome Bruner (1985):

I have...studied hundreds of hours of play behavior. I have never, in all that time, seen a child glaze over or drop out or otherwise turn off while engaged in play. I wish I could say the same for the children I have observed in classrooms and even in one-to-one tutorials (p. 604).

Children enrolled in highly academic programs dominated by teacher-directed activities show no higher cognitive skills; rather, they showed less creativity and more test anxiety (Hyson, 2002; Rescorla, Hyson, and Hirsh-Pasek, 1991). Child-initiated play experiences give young children the opportunity to explore and practice motor, cognitive, communication, and social skills. Children who have been given opportunities to explore and play with materials are more likely to be better at problem solving with those same materials later than children who have not had similar play experiences (Bruner, 1985).

Symbolic play, where children use objects (e.g., blocks) to represent other objects (e.g., cups), helps children learn that words and objects can represent other words and objects. This understanding is a key concept in early cognitive development and a prerequisite for literacy (Dias and Harris, 1994). Furthermore, infants, toddlers, and preschoolers are most likely to learn new vocabulary when they hear new words that describe the objects and activities they are using, for example, in play activities (Woodward, Markman, and Fitzsimmons, 1994). Therefore, it is important that the Iowa Early Learning Standards be implemented in environments that encourage and support child-initiated play experiences for infants, toddlers, and preschoolers. Children benefit from early childhood environments with a balance between child-initiated play experiences and adult-directed experiences.

Young children need a variety of materials for play and learning. Although some single-purpose, closed-ended materials, such as puzzles, can provide some learning opportunities, the majority of young children's materials need to be flexible in use and open to a variety of play activities (e.g., blocks, playdough, blank paper). Such open-ended materials can be used by children at different developmental levels and for a variety of purposes. Toys that can be used in more ways by a child are typically more educational because they encourage the child to plan, explore, observe, and create (McCracken, 2000) rather than simply follow directions. Such open-ended materials need to be available and freely accessible to infants, toddlers, and preschoolers for the majority of their day.

Infants and toddlers gain the important large motor skills needed for later development when they spend most of their day free to move their arms and legs. Restraining infants

in restrictive equipment such as wind-up swings, play tables, or jumping seats for long periods of time can delay motor development. And infant walkers, which are prohibited in Iowa child care licensing standards and illegal in many countries, have led to injuries and death. Infants develop the most advanced motor and cognitive skills in physical environments that are set up for both maximum safety and maximum exploration.

The Roles of Caregivers:

Parents, other family members, teachers, and child care providers

Because caregivers play a critical role in supporting children's development, each standard includes examples of caregiving supports that are needed from parents, teachers, and child care providers. Young children—infants, toddlers, and preschoolers—develop the understanding and skills they need with supports from their familiar, consistent caregivers. Caregivers guide development through their interactions with children.

While children are engaging in child-initiated play activities, caregivers need to be actively involved in observing, facilitating, and extending children's play. Caregivers circulate among children during their play, stopping to observe children, to carry on a brief conversation about the child's activity, and, when needed, to facilitate children's problem solving. Caregivers help children's communication and cognitive development through open-ended questions—how, what, and what-if questions with correct answers that only the child knows. But open-ended questions may be too vague and non-specific for some children at some times.

Sometimes, a child systematically fails to respond to an open-ended question after the caregiver has waited for an appropriate amount of time. Then, the caregiver may need to follow up with more specific choices. For example, when a toddler or preschooler consistently wanders around the room, appearing to be overwhelmed by the alternatives, the caregiver may start with an open-ended question: "What center would you like to play in, Alex?" If the child makes no response, the caregiver may limit the options — "Alex, would you like to paint at the easel or build with the blocks?" — until the child can make a choice.

The child often needs caregiver support to begin to master a new skill. As the child struggles with a new skill, such as catching a ball, cutting with scissors, tying a bow, or counting objects, the caregiver may simplify the task, break it into smaller steps, or coach the child. For example, the parent or teacher may use a larger ball or move closer to the child. As the child improves his/her skills, the caregiver provides less and less support. Throughout this process, the parent, teacher, or family child care provider gives only the minimum amount of assistance needed so that the child completes the activity with a sense of personal accomplishment, smiling or saying, "I did it!"

Caregivers intervene only when needed, without taking away from the child the joy of achieving success and discovery through his/her own efforts. Caregivers set up learning opportunities where children can make predictions, observe events, and note discrepancies between their predictions and the actual results. The caregiver who prematurely teaches or explains a math or science concept deprives the child from discovering and, therefore, understanding the cause-and-effect sequence (Piaget, 1970).

Research by Lutkenhaus (1984) found that when caregivers intrude on children's play or finish their projects, children are less likely to continue in their play. Similarly, Stipek and her colleagues (1995) found that children in more formal, academic preschools chose easier activities, showed less pride in their accomplishments, and showed less self-confidence in their abilities. Their performance contrasted with that of children in less formal preschools, where children spent more time in self-selected activity centers and expressed both higher pride in accomplishments and higher levels of self-confidence.

Parents are the child's first teachers. Other caregivers:

- respect and support the values and goals of parents or guardians,
- partner with parents or guardians to meet the needs of the child,
- partner with parents to plan and implement developmentally appropriate activities and strategies to meet the family's goals,
- partner with parents to prepare children for transitions to new settings.

Home visitors follow family-centered practices. All caregivers involved in the child's day exchange observations and information in order to plan and respond appropriately to the child's needs. For infants, toddlers, and less verbal preschoolers, this exchange of information between parent and teacher or child care provider needs to occur daily.

The Role of Assessment

All caregivers need to monitor each child's development on an on-going basis.

Continuous monitoring serves three goals:

1. Identify the activities, interactions, and materials that will facilitate the next steps of development for *each* child.
2. Communicate with parents or professionals regarding the development of the child, including any concerns that may arise.
3. Understand when other resources, including additional assessments by specialists, are needed.

Caregivers work with parents to observe and monitor each child's development. They share observations and discuss consistent patterns of behavior that occur in multiple situations. Periodically, they meet to review the child's growth and progress and to plan for future development. Concerns regarding the child's development may originate with either the parent or the caregiver. However, the relationship of mutual respect and trust that the caregiver and parent develop over time provides the key to dealing with concerns, if and when they develop.

Caregivers use two types of assessments with young children: screening tools and curriculum-based tools. Screening instruments are brief sets of tasks used to identify which children are making appropriate developmental progress and which need to be referred for in-depth assessment. The purpose of such an in-depth assessment is to determine the need for additional interventions to treat specific delays. In choosing a screening instrument, professionals evaluate the measure's sensitivity and specificity. They look at how well the measure identifies all the children—and only those children—who need additional assessments and specific intervention services. Screening instruments are typically only used once a year, or when caregivers have concerns about a specific child's development. Furthermore, children who demonstrate delays on the screening tool must be referred for in-depth assessment by qualified professionals.

However, the performance of most children will fall above the criterion for referral on a screening instrument. Screening instruments focus on identifying only children with delays; therefore, they are not useful for identifying developmental goals useful for planning for each child. In order to plan and implement activities to meet the developmental needs of each child, caregivers need to select and use a reliable and valid curriculum-based assessment system to identify each child's strengths and needs. A valid curriculum-based assessment tool has research that links the skills and concepts assessed to more advanced skills and concepts essential for future success in school and in life. Teachers and non-parental caregivers use this information to plan activities and materials to facilitate children's progress in each developmental area. Therefore, it is important that the assessment tool match the areas and goals of the curriculum. What is assessed is usually what is taught.

All areas of development are interrelated and influence children's success in school and in life. It is important to assess and plan for all developmental areas, including motor skills development, approaches to learning, social and emotional development, communication, and cognitive development. Some assessment tools focus on skills that are easy to assess — such as the names of colors — rather than on skills and understandings that research has shown lead to later successes, such as carrying on a conversation with another person. Curriculum assessments are more useful when they include multiple steps in a developmental path so that the caregiver can see not only where the child is currently functioning, but also what is the next developmental step. Identifying the next developmental step is important for selecting appropriate activities to facilitate that development.

The Iowa Early Learning Standards can be useful in helping caregivers decide what to include in the curriculum and what to assess. Assessments of skills or knowledge that are beyond the Iowa Early Learning Standards may be inappropriate for young children.

Deciding how, when, and where to assess still presents challenges. Traditionally, assessments have been conducted using materials, at a time, and in a location selected by the caregiver. But the young child—infant, toddler, or preschooler—will usually show more advanced development in a familiar situation, using familiar materials, and in a self-selected activity (Meisels and Atkins-Burnett, 2000). Therefore, the most accurate and useful assessments of young children's skills and understandings will occur during the course of their everyday activities. Ongoing observations and assessments of the young child—in play activities and routine activities—are essential in order to plan appropriate activities and experiences for each child. Through observations of the child in multiple settings, including home and school, both parents and teachers provide evidence of the child's mastery of each benchmark.

For the most accurate assessments of children's understandings, caregivers record children's skills and understandings at the times and in the settings that they occur naturally, rather than at times and in activities more convenient for the caregiver. To illustrate this practice, the examples provided for each standard were chosen to illustrate anecdotes that could be used as evidence of at least partial mastery of selected benchmarks. Other forms of assessment, of course, are also appropriate to use, depending on the activity and the skill, including checklists, event sampling, and time sampling. For example, a checklist might be appropriate to use to assess the large motor skills of

a group of young children going through an obstacle course. Time sampling might be appropriate to use to monitor the child's increased use of appropriate social behaviors.

Although the Iowa Early Learning Standards are not intended to be used directly as an assessment of children, the Standards can be a guide to selecting a curriculum-based tool that includes the types of skills and understandings important to assess. Several assessment tools are currently available to assess children's mastery, or partial mastery, of many of the skills, understanding, and attitudes identified in the Iowa Early Learning Standards. The Creative Curriculum Developmental Continuum, the Child Observation Record, or the OUNCE Scale are examples of such curriculum-based assessment tools. Using such tools, caregivers can obtain information about the child's skills and understandings in order to plan activities and experiences to meet that child's needs.

Diversity

Young children—infants, toddlers, and preschoolers—need programs that are individually, developmentally, and culturally appropriate. Respecting the diversity of children, including each child's uniqueness, is the heart of individualizing care. Caregivers and teachers show respect, understanding, and empathy for the diverse cultural traditions and values of the children and families they serve. For example, some cultures (and some families) value interdependence over independence. Caregivers and teachers respect the values of each culture by providing opportunities that support both interdependence (in helping others), as well as independence (in learning to help oneself). Teachers and caregivers implement curricula that respect cultural differences and avoid stereotypes. Through activities, materials, foods, books, dances, songs, art traditions, and celebrations, children develop pride in the traditions of their own family, as well as respect for the traditions of others.

With infants, toddlers, and preschoolers, non-parental caregivers need to:

- arrange the room and provide materials/toys so that two or more children can play alongside each other or interact with play;
- provide opportunities for children to join in activities such as finger-plays or singing from each child's home language or culture;
- include staff or volunteers from the child's home culture.

With families, directors, teachers, and family members, child care providers need to:

- create an environment that welcomes all families and encourages them to participate in program activities and daily routines;
- give policies and procedures in the form of a handbook in the family's first language;
- review the information in the handbook verbally with each family, with an interpreter if appropriate;
- acknowledge that young children may be raised in many kinds of families.

Respecting diversity means not only respecting cultural differences and developmental differences of children. Respecting diversity also requires accommodating the individual differences of children of all ability levels and their families.

Accommodations for Children with Special Needs

The IELS are designed to identify goals, benchmarks, and caregiving supports for all children, including those with special needs. To meet these goals, all young children need individualized supports, adaptations, and accommodations by caregivers. All programs need to be fully accessible to children with special needs, including physical, social, emotional, health, and communication disabilities. As required by the American with Disabilities Act (ADA), non-parental caregivers, including preschool teachers, child care providers, and infant/toddler teachers, are legally required to make reasonable attempts to accommodate individuals with disabilities.

Teachers and other caregivers need to create an environment that welcomes all families and all children, including those with special needs or developmental delays. Caregivers, including teachers, work to implement family-centered practices that reflect the values and goals of each family. Caregivers encourage each child and family to participate in program activities and daily routines. Caregivers provide additional accommodations for children with special learning or developmental needs. Both the benchmarks themselves, as well as the caregiving supports, may need to be adapted to meet the needs of individual children with special needs. Caregivers can access additional resources from Area Education Agencies or local schools to assist in meeting the needs of children with special needs.

Caregivers use visual, verbal, and physical cues, as needed, in order to communicate and interact effectively with each child, including those with special needs. Caregivers use language familiar to the child when introducing new concepts. Caregivers use words and phrases from the child's native language, as needed, to communicate with children.

As they develop and attempt new skills, each infant, toddler, and preschooler will need individualized adaptations and supports provided by caregivers. For all children, as needed, caregivers provide and adapt:

- opportunities and support to facilitate interaction with peers who are typically developing;
- opportunities for new activities, and specific activities, as needed to meet individual needs;
- routines and other naturally occurring events to help the child learn or practice new skills;
- activities and materials to facilitate independent participation by each child;
- the minimum assistance needed for each child to be successful with an activity;
- encouragement and feedback to help the child see the link between his/her effort and the task result or outcome;
- opportunities for children to function as leaders or models for their peers;
- room arrangements that make materials and activities clearly available and accessible to all children.

Infants, toddlers, and preschoolers with special developmental, behavioral, health, or learning needs may require additional accommodations and adaptations. For example, a child may require:

- adaptations to make the early education setting fully accessible to children with disabilities or reasonable attempts to accommodate their needs;
- specific adaptive materials and equipment that provide additional support to facilitate learning and use;

- labeling and/or color-coding to aid recognition, selection, or use of materials, equipment, or tools;
- modification of activities or materials to facilitate independent use; or
- caregiver or peer support (e.g., a capable buddy) to facilitate interactions with other children or the use of materials.

This list is not intended to provide a comprehensive list of the accommodations that may be needed to meet the needs of young children. Rather, it is intended to provide a sample of some of the supports and adaptations that may be needed to facilitate development for all children, including those with special needs.

Policy Issues

Some may seek to use these standards as a set of criteria to determine the child's readiness for a given program, such as kindergarten. However, readiness cannot be determined by looking at the child alone. Instead, readiness reflects both the characteristics of the child and of the specific program. Readiness reflects a match, or a good fit, between the child and the program. Readiness requires the efforts by family members, teachers or child care providers, community members, and policy makers.

To have rewarding and successful daily experiences, as well as to prepare for successful, responsible experiences both in school and in a democratic society, each child needs:

- access to high quality early care and education experiences;
- health care, nutrition, and social-emotional nurturance; and
- parents who have the skills, understanding, and resources to foster development.

The family and community need to provide the child with safe, nurturing, nourishing, and healthy environments that are developmentally, individually, and culturally appropriate. Furthermore, early care and education settings, including kindergartens, must be ready to serve a population of children and families from diverse cultures and with diverse abilities. The collaboration of policy makers, community leaders, professionals, and families is needed to meet these needs for young children. Policy makers must build the infrastructure at both the state and community level in order for infants, toddlers, and preschoolers to gain the skills and understanding they need to arrive at kindergarten ready for success. This infrastructure includes:

- Professional development systems that exist to help those who work with young children acquire the knowledge and skills to provide high quality early care and education programs.
- Access for all families to affordable health care and nutrition services for themselves and their children.
- High quality early care and education programs that are available, accessible, and affordable for all families with young children in all communities.
- Services for young children and their families, including early childhood care and education services (e.g., child care, Head Start, and public school programs), that are linked to health, mental health, and social services.

INFANT and TODDLER Standards

Area 1 Physical Well-Being and Motor Development

1.1 Healthy and Safe Living

Standard	Infants and toddlers participate in healthy and safe living practices.
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Rationale	<p>Infants and toddlers need nutritious foods to sustain the growth, activity, and functioning of their bodies, including their brains. Severe, long-lasting malnutrition can cause long-term harm to both physical and mental development (Galler and Ross, 1993). However, the most common nutritional problems in the United States are obesity and iron-deficiency anemia (Lozoff, Klein, and Nelson, et. al., 1998; Woodruff, 1978). In order for children to make healthy nutrition choices, including both types and amounts of food, caregivers need to provide adequate supplies of nutritious foods while limiting access to sweetened or highly processed foods and beverages (Davis, 1928). Caregivers also serve as models of healthy eating at both snack and meal times.</p>
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Research in several countries has shown that rates of Sudden Infant Death Syndrome (SIDS) decline dramatically when infants are placed on their back to sleep (National Institute for Child Health and Development, NICHD, 2005). Accordingly, since 1994, the NICHD has been promoting a Back to Sleep campaign to urge parents and caregivers to place infants on their backs to sleep until the child can roll from back to stomach unaided.

Accidents, or unintentional injuries, are the leading cause of death for infants and toddlers from 1 to 3 years of age and the fourth leading cause of death for infants and toddlers below one year of age (National Safety Council, 1996). The injury rate is higher for boys than for girls. Because young exploring children lack the judgment to avoid dangerous situations, caregivers have the responsibility to provide safe routines and environments, including removing dangerous substances, such as medicines and cleaning products; dangerous objects, such as guns, thumbtacks, and scissors; and small objects, such as buttons, raisins, balloons, or peanuts (Karns, 2004).

Benchmarks	<p>The infant:</p> <ol style="list-style-type: none">1. sleeps on the back until he/ she can roll from back to stomach.2. takes in fluids from the breast or bottle, progressing to solid foods and drinking from a cup. <p>The toddler:</p> <ol style="list-style-type: none">3. participates in healthy self-care routines, such as washing hands and brushing teeth, with assistance from a familiar caregiver.4. eats healthy foods at the table with other children or caregivers.5. participates in safe behaviors regarding the environment, such as around stairs or hot surfaces.
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Examples of Benchmarks

Andy snuggles into the caregiver's arms, gazes up at her, and begins to suck.

Lunch is ready. Brett walks to the bathroom, where the caregiver helps him wash his hands.

The caregiver puts a plate in front of Bieu. She picks up and eats the chicken and pieces of bread. She leaves the cooked carrots, which is a new food, on her plate until she sees the caregiver eat some carrots. Caregiver: "Mmm. I like carrots." Bieu eats a carrot.

Carrie points to the potty while her diaper is being changed. Her caregiver says, "Do you want to sit on the potty?" and takes her to it. Carrie sits on the potty.

Caregiving Supports

With infants and toddlers, caregivers:

- place *each* infant on the back for sleeping and the stomach for play.
- provide nutritious daily meals, including breast milk, that are responsive to *each* child's physical, developmental, and cultural needs.
- use safe, healthy caregiving practices in diapering, meal, toileting, and nose-wiping routines with *each* child.
- ensure that the environment is safe for *each* child by removing or limiting access to hazardous substances or situations, such as electrical outlets, hot surfaces, stairs, and cleaning products.
- individualize strategies to assist *each* child to engage in safe and healthy practices as independently as possible.

Area 1 Physical Well-Being and Motor Development

1.2 *Play and Senses*

Standard	Infants and toddlers engage in play to learn.
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Rationale	Infants and toddlers learn through play (Sroufe, 1977, p. 93): “Play is learning and learning is play.” For infants, play is voluntary and self-motivating. Through play, infants and toddlers typically build understanding and skills in cognitive, communication, motor, social, and emotional development. Piaget (1971) argued that play allows infants and toddlers to build their understanding of how things work, including their own bodies, and allows them to test their understandings. Infants and toddlers need sufficient time, space, and materials to self-select and explore toys, objects, and activities. Caregivers also foster play by responding to infants’ and toddlers’ play initiatives.
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Benchmarks	The infant or toddler: <ol style="list-style-type: none">1. uses sights, smells, sounds, textures, and tastes to explore and experience activities and materials.2. chooses and participates in a variety of play activities.3. imitates behaviors in play.
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Examples of Benchmarks	Kayla turns the pages of the touch-and-feel book. She touches the fur on the lamb and says, “Baaa.”
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Cyndi pulls out the nesting cubes. She carefully takes apart each cube and makes a circle of them all around her. Later, she runs outdoors to the tyke bike. She walks the bike around.

The caregiver starts doing the actions to *Itsy Bitsy Spider*. Joseph watches, then, imitates the actions with the caregiver.

Caregiving Supports

With infants and toddlers, caregivers:

- prepare the physical environment to encourage children’s play by providing a variety of sufficient materials to facilitate development in all areas.
- provide daily opportunities for play, including indoor/ outdoor play, active/ quiet play, and large/ fine motor play for *each* child.
- adapt materials as needed so that *each* child can explore the environment through play.
- engage in turn-taking games, such as making faces, vocalizing, and imitating actions with *each* child.
- match activities to the interests and abilities of *each* infant or toddler, occasionally showing the next steps, as needed.



Area 1 Physical Well-Being and Motor Development

1.3 Large Motor Development

Standard	Infants and toddlers develop large motor skills.
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Rationale	Infants and toddlers move for exploration and fun; they use movement to get to both people and toys. They typically make significant gains in balance, strength, coordination, and locomotion during the first 30 months. These advances in their motor skills also affect their cognitive, social, and emotional development. For example, although infants can distinguish between shallow and high drop-offs, they show no fear of heights until they can crawl on their own (Bertenthal and Campos, 1990). Complex motor skills, such as learning to walk up a slope, require the development of visual perception, physical strength, coordination, and balance gained through their previous motor experiences (Adolph, 1997). To help infants and toddlers develop large motor skills, caregivers provide physical environments that are both safe and challenging to explore.
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Benchmarks	<p>The infant:</p> <ol style="list-style-type: none">1. shows increasing balance, strength, and coordination in activities such as sitting and standing.2. shows increasing control in large motor skills such as reaching, rolling over, crawling, standing, and walking. <p>The toddler:</p> <ol style="list-style-type: none">3. shows increasing control in motor skills such as catching a ball, throwing a ball underhand, kicking a ball, and jumping.4. shows increasing balance in activities such as running, climbing stairs, and moving a riding toy using his/her feet.
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Examples of Benchmarks	Sarah is on her tummy on the floor. She raises her head to watch the caregiver.
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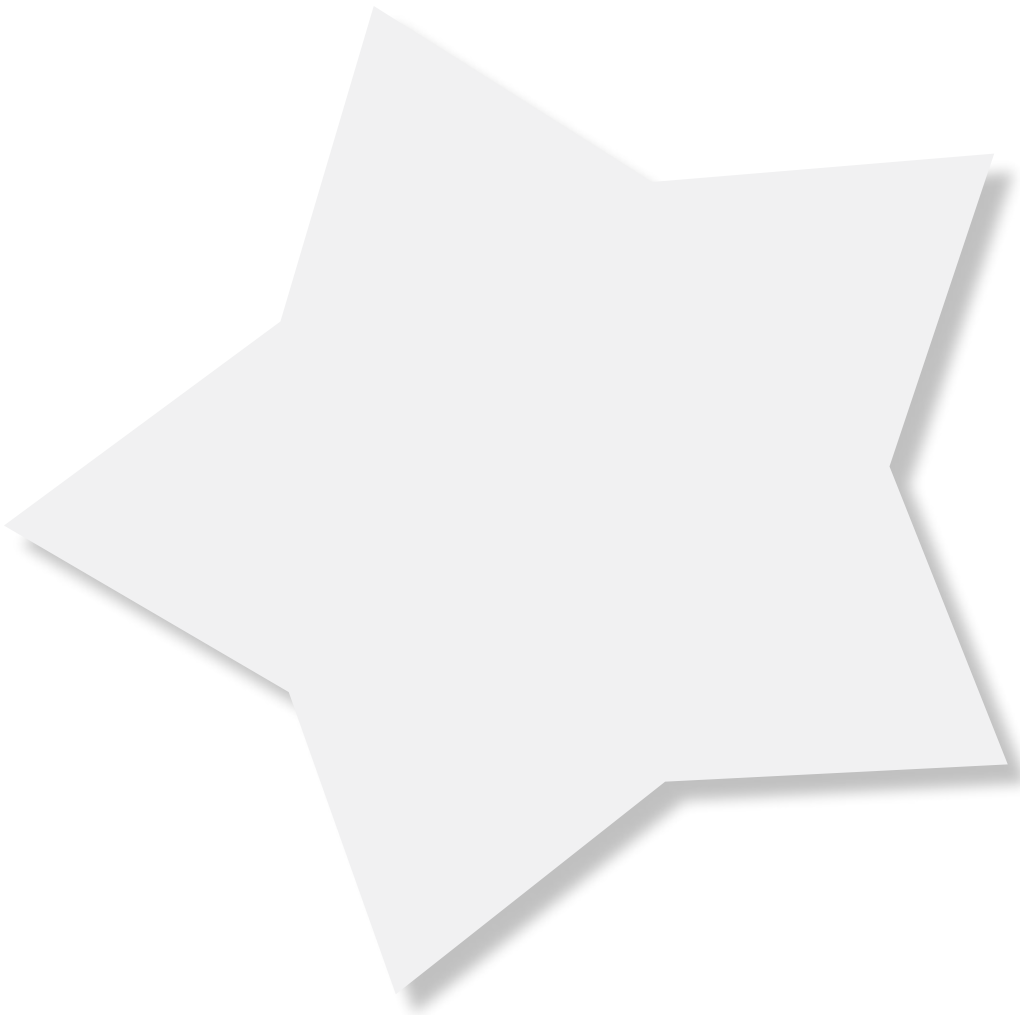
Lani is sitting on the floor. She pulls herself up to stand at the table. She lets go one hand, wobbles, and then grabs the table again.

Jorge climbs on a riding toy without pedals and moves it across the room using his feet.

Caregiving Supports

With infants and toddlers, caregivers:

- provide daily a variety of developmentally appropriate indoor and outdoor activities and materials to stimulate *each* child's large muscle activities.
- provide help as needed for *each* child to practice large motor skills by using strategies and materials such as positioning pillows, play gyms for reaching, surfaces to crawl over, stable surfaces to pull up, push toys, walk-along toys, and riding toys.
- vary the height of toys offered to encourage movement by *each* child.
- reposition *each* infant often.



Area 1 Physical Well-Being and Motor Development

1.4 Fine Motor Development

Standard Infants and toddlers develop fine motor skills.

Rationale With the development of fine motor skills, the infant gains self-help skills such as eating. Fine motor skills affect the development of self, cognitive, and social skills (Smitsman, 2004). For example, after learning to reach, grasp, and pick up an object, the infant can use an object to learn its properties, such as whether it is hard, soft, sweet, or cold. Similarly, when the infant learns to bring the hands together, the infant can take part in social activities such as clapping. These games, in turn, promote additional caregiver-infant interactions. As with large motor skills, maturation, visual perception skills, and experience affect the development of fine motor skills (Smitsman, 2004).

Benchmarks The infant:

1. uses hand-eye coordination to perform self-help and fine motor tasks, such as eating food, picking up objects, placing objects, and transferring objects from hand to hand.

The toddler:

2. uses hand-eye coordination to perform self-help and fine motor tasks such as eating with a fork or spoon, completing simple puzzles, stacking blocks, dressing self with assistance, scribbling with crayons or markers.

Examples of Benchmarks The caregiver holds a ball out. Sawyer reaches for the ball.

Jamar is sitting at the table with a bowl of round cereal pieces. He picks up each piece by palming it and then licks his hand clean.

Sarah is seated on the floor holding a shovel in her right hand. She uses her left hand to grab the shovel and lets go with her right hand. She repeats the transfer again and again.

Caregiving Supports

With infants and toddlers, caregivers:

- provide a variety of activities and materials to stimulate *each* child's fine muscle activities.
- provide help as needed for *each* child to be successful in fine muscle activities.
- provide time, equipment, and encouragement for *each* child to develop self-help skills such as undressing, feeding, zipping, snapping, buttoning, and hand-washing.
- use strategies that allow *each* child to increase self-help and fine motor skills.



Area 2 Approaches to Learning

2.1 Curiosity and Learning

Standard	Infants and toddlers express curiosity and initiative in exploring the environment and learning new skills.
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Rationale	Infants show interest in exploring their environment, often choosing new toys over familiar toys (Thompson, 2001). As part of their exploring, infants typically put anything into their mouths. After repeated exposure to the same toys, infants and toddlers typically explore new ways of using these materials (Piaget, 1952). Toddlers may explore objects vigorously, occasionally breaking objects.
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The infant gains interest in exploring objects through activities that are different from those that lead to exploring people (Wachs and Combs, 1995). Infants who have spent a lot of time with caregivers who name, show, and demonstrate objects typically spend more time playing with caregivers and objects together. However, these infants spend less time exploring objects on their own. In contrast, infants in environments with lots of interesting objects to explore typically spend more time exploring those objects. In order to build infants' and toddlers' curiosity, interest, and initiative in exploring new experiences, caregivers should regularly observe children. This information should then guide the caregivers in providing infants and toddlers with space, time, and materials to explore, as well as opportunities to play jointly with caregivers and objects.

Benchmarks	The infant or toddler: <ol style="list-style-type: none">1. shows interest in people, objects, and events.2. chooses, explores, and manipulates a variety of objects or toys.
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Examples of Benchmarks	The caregiver places her hands in front of her face. Shannon watches the caregiver move her hands and say, "Peek-a-boo." Shannon laughs. The caregiver repeats the action; Shannon laughs again.
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The caregiver has attached a new "busy box" to the wall. Ricki pokes each button, waits for the sound or picture, then pokes a different button.

Caregiving Supports

With infants and toddlers, caregivers:

- prepare an environment with a variety of familiar and new materials that can be used in different ways to encourage *each* child's choices and exploration.
- watch, ask, and adapt activities to meet *each* child's needs and interests.
- respect the process of *each* child's explorations, without expecting finished "products," such as egg-carton caterpillars or toilet-roll butterflies.
- safeguard the environment, giving *each* child freedom to explore.
- support *each* child's exploration through smiling, nodding, and talking.



Area 2 Approaches to Learning

2.2 Engagement and Persistence

Standard	Infants and toddlers purposefully choose, engage, and persist in experiences and activities.
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Rationale	Infants and toddlers usually show pleasure when they are successful at manipulating their environment and at overcoming barriers to reach a goal. Therefore, White (1959) argued that infants and toddlers are motivated to explore their surroundings, to overcome obstacles, and to master their environment. Toddlers differ in their interest in engaging and persisting in activities as a result of differences in temperament and in the styles of caregiving that they have received (Stipek and Greene, 2001). For example, toddlers show more persistence in activities when caregivers promptly respond to their requests for help (Lutkenhaus, 1984). Caregivers foster young children’s engagement and persistence by providing sufficient interesting materials for young children to use and time for them to explore these materials as long as they are interested. Caregivers may need to provide physical adaptations to enable each child to engage and persist in the exploration of materials.
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Benchmarks	The infant or toddler: <ol style="list-style-type: none">1. holds attention of familiar caregiver, for example, through eye contact or vocalizations.2. repeats a newly learned activity.3. engages and persists towards a goal with an activity, toy, or object.
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Examples of Benchmarks	<p>The caregiver smiles and talks to Madeleine as she changes her diaper. Madeleine smiles and says, “Ahgoo.” The caregiver smiles and repeats, “Ahgoo.” The caregiver and Madeleine continue to exchange sounds.</p> <p>Jose puts his head through the neck hole and pulls his shirt over his head. He puts one arm in each sleeve. “I did it!” Caregiver: “You put your shirt on all by yourself! Now, let’s turn it around so the picture is in front.”</p> <p>Raeann crawls over to the pop-up toy and pushes the buttons several times. She looks to the caregiver. The caregiver helps Raeann push each button using hand-over-hand assistance.</p> <p>Leilani lets go of the caregiver’s hand, takes a wobbly step, and falls down. She pushes up to standing again and takes two steps before falling down again.</p>
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Caregiving Supports

With infants and toddlers, caregivers:

- provide protected spaces and adequate time for *each* child to choose toys and to play without being interrupted.
- reintroduce toys multiple times to determine *each* child's interest.
- allow *each* child to take the lead in play.
- provide additional support and assistance for *each* child to engage and persist with toys.



Area 2 Approaches to Learning

2.3 Problem Solving

Standard	Infants and toddlers demonstrate strategies for reasoning and problem solving.
Rationale	Infants show the beginning of problem solving when they use a series of actions to reach a goal—for example, pulling a string to reach an attached toy (Piaget, 1952). Infants will imitate the problem-solving behaviors shown by others if the behaviors are within their abilities (Meltzoff, 1988). Toddlers deliberately vary their actions, observing the effects of each change in trial and error. Following active experimentation with materials, infants and toddlers will think through trial-and-error solutions with similar materials (Uzgiris and Hunt, 1975). Caregivers help young children develop reasoning and problem-solving skills by making problem-solving opportunities available with a wide variety of materials, by encouraging infants and toddlers to experiment with solutions, by not intervening too quickly to solve problems for them, and by helping them notice the results of their experiments (Piaget, 1980).
Benchmarks	The infant or toddler: <ol style="list-style-type: none">1. uses an object, action, or caregiver as a means to a goal, such as pulling a string to reach a toy or pushing a button to hear a sound.2. uses trial-and-error to find a solution to a problem.3. imitates a caregiver action to solve a problem.
Examples of Benchmarks	<p>Melissa is trying to walk up the ramp. She loses her balance and sits down. She crawls up the ramp.</p> <p>Antoine lies on a blanket on the floor. He reaches for a toy on the edge of the blanket. When he cannot reach it, he grasps the blanket and pulls it toward him until the toy is in reach.</p> <p>Robin takes her snack plate to the trash to scrape off the crumbs. She shakes the plate but cannot make the crumbs fall off. The caregiver cleans other plates with a scraper. Robin reaches for the scraper and the caregiver lets her use it to scrape her own plate.</p>

Caregiving Supports

With infants and toddlers, caregivers:

- provide toys and materials that can be used in different ways to encourage problem solving and exploration.
- acknowledge new learning.
- wait for the child to signal for help.
- guide the learning process rather than provide solutions.



Area 3 Social and Emotional Development

3.1 Self

Standard	Infants and toddlers display a positive sense of self.
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Rationale	Infants and toddlers learn that they can make things happen and begin to initiate activities. Meltzoff (1990) showed that infants usually prefer caregivers who imitate their activities, and when caregivers imitate infants, the infants realize that they can make things happen. During the second year, most toddlers learn to recognize images of themselves; they also demand the right to make some independent choices and to refuse some activities (Bullock and Lutkenhaus, 1990). They usually learn to choose activities that they can do successfully, but they rely heavily on caregiver reactions to their actions (Stipek, Gralinski, and Kopp, 1990). Caregivers foster the development of self by imitating infants and by respecting their choices (Bronson, 2000). Toddlers develop self awareness and self-understanding based upon the evaluations of others, especially those caregivers to whom the child is attached emotionally (Thompson, 2001). Caregivers need to accommodate each child’s distinct blend of personality characteristics, interests, and abilities.
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Benchmarks	The infant or toddler: <ol style="list-style-type: none">1. explores his/her own body.2. shows awareness of self (for example, by responding to own image in mirror).3. shows preferences for toys and activities.4. expresses enjoyment (for example, after succeeding in an activity).
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Examples of Benchmarks	<p>Alex is kicking the sides of the crib. He looks at his feet and starts to suck on his toes. The caregiver says admiringly, “Alex, you found your toes!”</p> <p>Mai looks at the mirror. She smiles, reaches for her reflection, pats her reflection, and pats her face.</p> <p>The toys in the room are arranged on low child-accessible shelves. Fatima takes the stacking toy off a shelf, sits down on the floor, and takes off the rings.</p> <p>Greg picks up a cube and tries to force it through the round hole of a sorting toy. He looks at the cube, looks at the lid, and then puts the cube through the square hole. He turns to the caregiver and smiles. His caregiver responds: “You did it, Greg! You found the square hole.”</p>
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Caregiving Supports

With infants and toddlers, caregivers:

- point out and correctly name *each* child's body parts during daily routines such as diapering, toileting, and bathing.
- give opportunities for *each* child to explore awareness of self and familiar others through touch, photographs, mirrors, and video and sound recordings.
- provide opportunities for *each* child to choose toys and/or activities.
- show pleasure in the activities and accomplishments of *each* child.



Area 3 Social and Emotional Development

3.2 *Self-Regulation*

Standard	Infants and toddlers show increasing awareness of and ability to express emotions in socially and culturally appropriate ways.
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Rationale	<p>From birth, infants and toddlers show individual differences in the ability to self-regulate. Self-regulation is one component of temperament (Thomas, Chess, and Birch, 1970). Temperament refers to individual styles of behavior, for example, how active children are, how easily they accept new things or adapt to changes, and their general mood. Children’s temperaments are present from birth. Self-regulation refers to infants’ abilities to respond in an organized, effective way to events in their world and to become aware of their emotions in order to help them understand what they need and want and how to get it in socially acceptable ways. Infants and toddlers who receive sensitive and responsive care from caregivers are more likely to develop secure attachments to those caregivers. These children are better able to control and effectively express their emotions (Thompson, 1998).</p>
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Toddlers usually make great gains in the ability to regulate their behavior. Self-regulation increases as they see themselves causing changes and can focus on the results of those actions (Bullock and Lutkenhaus, 1988). Young children typically show early self-regulation skills that lead to a desired goal or a desired activity (Thompson, 2001). As a result of the evaluations of others, toddlers usually add emotional responses that show guilt, embarrassment, pride, and shame (Thompson, 2001). Caregivers provide the physical contact, sensitive social stimulation, and responsiveness needed to foster early self-regulation (Bronson, 2000). To build children’s self-regulation, caregivers also recognize each infant’s or toddler’s individual temperament and adjust their responses to best fit each child’s temperament.

Benchmarks	<p>The infant or toddler:</p> <ol style="list-style-type: none">1. indicates need for assistance by actions such as crying, gesturing, vocalizing, using words, or approaching familiar caregivers.2. comforts him or herself when distressed or tired by actions such as sucking, stroking a blanket, or hugging a toy.3. responds to emotions expressed by others (for example, by comforting another child or crying in response to the cries of others).4. shows increasing ability to recognize own feelings, control behavior, and follow simple rules and limits.
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Examples of Benchmarks

Mother has just left the room. Caitlin starts to pout and suck her thumb. She walks over to the caregiver and holds her hands up. The caregiver gives her a hug, saying, "It's hard to watch mom go. She will be back after work." Caitlin holds on to the caregiver.

Jason is tired. He gets his blanket, lies down on the pillow, and rubs the binding on the blanket.

Lisa starts to cry when Celia takes her toy. The caregiver says calmly, "It looks like you want to play with the block. You need to remember to wait until Lisa is done. You can play with this block while you wait." Lisa stops crying and resumes playing with the toy. The caregiver holds up another block for Celia.

Olivia falls and starts crying. Another child goes to Olivia and asks, "You okay?"

La'Chara starts to climb on top of the table. The caregiver guides her down, saying, "You can sit on a chair or on the floor." La'Chara sits on the chair.

Caregiving Supports

With infants and toddlers, caregivers:

- provide a consistent, predictable, caring, responsive environment for *each* child.
- respond promptly to *each* child's needs.
- model the expression of their own emotions in socially appropriate ways.
- encourage *each* child to express emotions in socially and culturally appropriate ways.
- set, discuss, remind, and follow through on simple rules and limits.

Area 3 Social and Emotional Development

3.3 Relationships with Caregivers

Standard	Infants and toddlers develop and maintain positive relationships with significant caregivers.
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Rationale	Over the first year of life, infants become attached to a few consistent, responsive, sensitive caregivers. In new situations, or with new caregivers, infants prefer to be close to these familiar caregivers to whom they are attached, sometimes seeking physical contact with them. This attachment helps infants regulate their emotions, learn to interact with objects and people in their environment, and become aware of themselves as people (Thompson, 1998). Although infants usually establish an attachment relationship with one person, they can become attached to several individuals, including parents, grandparents, older siblings, and caregivers who are consistent, sensitive, and responsive. The infant typically uses this secure attachment to familiar caregivers as a base to explore the environment, while returning occasionally to re-establish physical or visual contact with the familiar person (Ainsworth, Blehar, Waters, and Wall, 1978). Caregivers support the development of infants' secure relationships by providing the child with frequent contact with familiar caregivers who are caring, sensitive to the infant's signals, and cooperate to help the infant reach his/her goals (Ainsworth, Blehar, Waters, and Wall, 1978).
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Benchmarks	The infant or toddler: <ol style="list-style-type: none">1. distinguishes between familiar and unfamiliar caregivers (for example, is comforted by the sight of the parent or the sound of the parent's voice).2. accepts assistance and comfort from familiar caregivers.3. seeks and maintains contact with familiar caregivers (for example, through looking at the caregiver, hearing his/her voice, or touching the caregiver).4. shows discomfort at separations from familiar caregivers.5. seeks help from familiar caregivers in uncertain situations.
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Examples of Benchmarks	An unfamiliar adult comes into the room. Danny turns to his caregiver and holds on. She hugs him back. He stays close until the stranger leaves. Jonathan's mother has left the room. He follows her to the door and cries. The caregiver approaches him. "You miss Mom, don't you?" Jonathan holds on to the caregiver.
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Caregiving Supports

With infants and toddlers, caregivers:

- interact and play with *each* child daily.
- provide stable, consistent, responsive, and sensitive care to *each* child.
- talk to and touch *each* child affectionately during caregiving routines.
- respond appropriately to *each* child's attempts to make contact.
- help *each* child transition between family members and caregivers.



Area 3 Social and Emotional Development

3.4 Relationships with Children

Standard	Infants and toddlers respond to and initiate interactions with other children.
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Rationale	<p>Interactions between infants during the first year are usually simple and brief. Infants often make eye contact with other infants and typically show distress when they see the distress of another infant. Later, they typically exchange smiles and vocalizations with other infants. Toddlers typically will imitate another infant's actions and begin some reciprocal play (Lamb, Bornstein, and Teti, 2002). However, most toddlers show very limited ability to take turns or share materials.</p>
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Toddler friendships usually develop among peers who engage in positive interactions with each other. However, as many as 50 percent of the peer interactions among toddlers involve conflicts, which typically involve possession of objects (Coie and Dodge, 1998). In preventing a peer from taking a toy, toddlers usually find verbal responses such as "NO!" more effective than physical resistance such as holding on to the toy. During the toddler years, aggressive conflicts do not usually decrease, but toddlers typically increase their use of speech and attempts to resolve conflicts without fighting (Coie and Dodge, 1998). Caregivers help children develop peer relationships by providing supervised opportunities for infants and toddlers to interact in an environment with adequate space and materials to minimize conflicts (Eckerman and Peterman, 2004).

Benchmarks	<p>The infant or toddler:</p> <ol style="list-style-type: none">1. responds through gestures and vocalizations during interactions with other children.2. initiates interactions with other children through gestures, vocalizations, and/or body contact.3. accepts help from familiar caregivers in interactions with other children.
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Examples of Benchmarks

Robin and Delora are rolling the ball back and forth. They smile.

Kathy has taken the truck away from Jamar. Jamar shouts, "No!" and grabs the truck back; Kathy screams, "Mine." Caregiver: "Kathy, here is another truck on the shelf that you can use. Jamar is still playing with this one. Now you have one and Jamar has one." Each child plays with a truck.

Two children are playing on the floor with their caregiver. Beth gleefully squeals. Zach startles and cries in response. Caregiver: "It's okay; Beth scared you. She just wants to play with you." The caregiver rubs Zach's back and he calms.

Caregiving Supports

With infants and toddlers, caregivers:

- provide opportunities for children to play with similar materials in the same area.
- play turn-taking games, such as rolling a ball, with *each* child or small groups of children.
- coach the toddler to resolve conflicts through active listening and help to ensure that *each* child's messages are understood by others.

Area 3 Social and Emotional Development

3.5 *Sense of Community*

Standard	Infants and toddlers demonstrate a sense of comfort within their family, program, community, and culture.
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Rationale	Infants and toddlers who have warm, nurturant relationships with their parents and caregivers usually develop better social skills than those with poor relationships (Belsky and Cassidy, 1995; Howes and Hamilton, 1993). Infants and toddlers typically engage in cooperative, pretend play with peers around familiar activities and routines, such as housekeeping. However, infants and toddlers show little evidence of awareness of membership in a group. Caregivers can help children develop a sense of community by providing repeated opportunities to interact with other children and caregivers in familiar settings. Building a sense of community involves respecting and reflecting each child’s home culture.
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Benchmarks	The infant or toddler: <ol style="list-style-type: none">1. shows enjoyment at being in a familiar setting or group.2. chooses and participates in familiar activities, including songs and stories from the home culture.
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Examples of Benchmarks	A caregiver is playing a circle game with the children. José, whose family speaks primarily Spanish at home, sings along. Brittany signs the verses. The caregiver alternates singing the verses in English and Spanish while encouraging the children to make the gestures that go with the words.
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Bobby is playing with the blocks. Mark goes over and sits beside Bobby. Each plays with a set of blocks.

Chi’s father, who is from Vietnam, visits the classroom during snack. He shows the toddlers how he uses chopsticks to eat his food and lets them explore using child-sized chopsticks with their food. Chi beams.

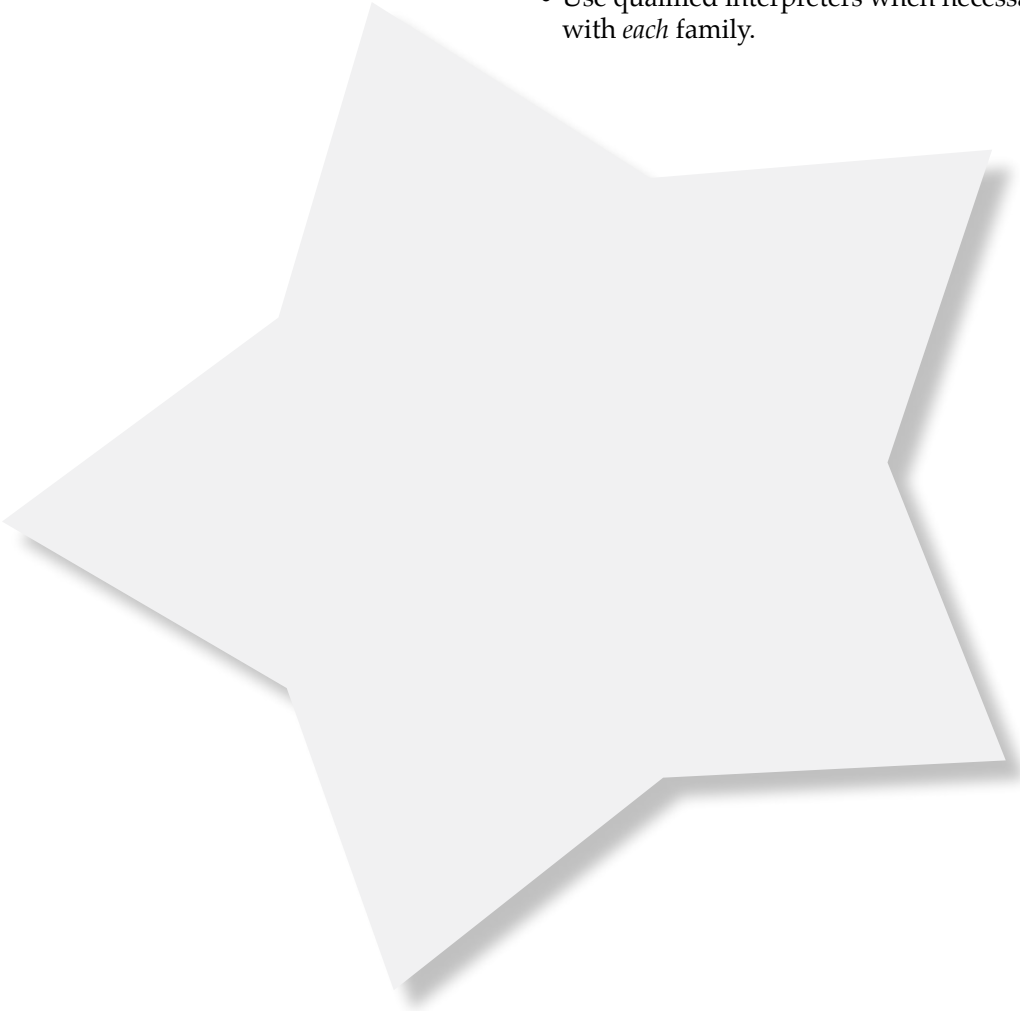
Caregiving Supports

With infants and toddlers, caregivers:

- arrange the room, adjust space, and provide materials/toys so that two or more children, including those with special health concerns, can play alongside each other or interact with play.
- provide a labeled space where *each* child's possessions are kept.
- provide opportunities for *each* child to join in activities such as finger-plays or singing songs from the child's home language or culture.
- include staff or volunteers from *each* child's home culture.

With families, caregivers:

- create an environment that welcomes *each* family and encourages them to participate in program activities and daily routines.
- give policies and procedures in the form of a handbook in the first language of each family. The director or caregiver reviews the information in the handbook verbally with *each* family, with an interpreter, if appropriate. The words used to refer to families acknowledge that young children may be raised in many kinds of families.
- Use qualified interpreters when necessary to fully communicate with *each* family.



Area 4 Communication, Language, and Literacy

4.1 *Language Understanding and Use*

Standard	Infants and toddlers understand and use communication and language for a variety of purposes.
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Rationale	<p>Infants respond to caregiver vocalizations from birth (Lock, 2004). Through interaction with caring and nurturing caregivers, infants and toddlers acquire both listening and speaking vocabulary. Young infants typically make sounds and take turns in “conversations” with caregivers (Lock, 2004). Older infants use gestures, such as pointing or reaching up, as part of communication (Camaioni, 2004). Infants typically develop some listening vocabulary before their first birthday. Most infants move from one-word to two-word to three-word phrases; however, some toddlers begin talking in sentence-length phrases (Camaioni, 2004). Language use influences and is influenced by cognitive development (Shonkoff and Phillips, 2000). When caregivers speak more during routine activities such as diaper changing, dressing, or feeding, infants and toddlers develop larger vocabularies (Hoff-Ginsberg, 1991). Caregivers influence the types, use, and rate of learning language, especially in conversations that focus on activities and objects that interest the infant instead of on necessary tasks and activities (Hart and Risley, 1995). Communication patterns vary, however, between cultures (Rogoff, Mistry, Goncu, Mosier, 1993).</p>
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Caregivers monitor and respond to signs of early hearing problems in infants and toddlers because hearing problems can limit language, cognitive, social, and emotional development. Children with any degree of hearing impairment benefit from early intervention services by staff trained and qualified to work with these children and their families (Farran, 2000). Caregivers use sign language and adaptive communication devices to foster the development of communication skills in children with hearing impairments and/or communication delays.

Benchmarks	<p>The infant or toddler:</p> <ol style="list-style-type: none">1. responds to the vocalizations and communications of familiar caregivers.2. uses vocalizations and gestures to gain attention from others.3. increases both listening and speaking vocabulary. <p>The toddler also:</p> <ol style="list-style-type: none">4. uses simple sentences to communicate.5. participates in conversations.
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Examples of Benchmarks

Gail stands by the couch, watching the caregiver read a book to Sandi. Gail: "Me read." Caregiver: "Would you like to join us, Gail? You can sit right here." Gail smiles and climbs on to the couch next to the caregiver.

Carrie looks at the small kitten that Alyssa brought today. Carrie: "Puppy." Caregiver: "It is a little like the puppy at your house, Carrie. But this is a kitten." Carrie looks: "Kitten."

Joshua is sitting in a chair. He watches the caregiver move around the room and talk to him about what she is doing, such as "Are you looking for me? Here I am getting lunch for us." Joshua coos and pounds the table. She responds with, "Oh you are hungry, aren't you?"

Caregiving Supports

With infants and toddlers, caregivers:

- describe *each* child's activities.
- repeat and expand *each* child's vocalizations.
- support attention-getting strategies to gain interaction as needed with *each* child.
- take turns exchanging vocalizations with *each* child using his/her home language.
- make eye contact with *each* child while speaking or listening, whenever possible, and with respect for cultural needs, hearing impairment, or developmental delay.
- individualize strategies to facilitate communication with *each* child.

Area 4 Communication, Language, and Literacy

4.2 *Early Literacy*

Standard	Children engage in early reading activities.
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Rationale	Infants and toddlers develop literacy skills through their verbal interactions and shared book experiences with caregivers who have been warm and responsive to them (Bus, Belsky, van Ijvendoorn, and Crnic, 1995). Young children who notice differences and similarities in sounds typically show better later reading skills (Whitehurst and Lonigan, 2001). Early awareness of rhymes (for example, through exposure to nursery rhymes) influences the development of phoneme (sound) awareness and later reading skills (Bryant, MacLean, Bradley, and Crossland, 1990). Two-year-olds with more complex sentences and more accurate pronunciation skills usually show fewer difficulties later when they learn to read (Scarborough, 1991). Caregivers who talk with toddlers about events and objects that are not present (decontextualized language) help build children’s later reading skills (Dickinson and Tabors, 2001). When caregivers talk with children during their play as well as during their daily routines, children are more likely to build the vocabulary they need for later reading (Hart and Risley, 1999). Caregivers who share discussions involving books with toddlers help build toddlers’ language skills, which influence their later reading skills (Whitehurst and Lonigan, 1998).
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Benchmarks	<p>The infant or toddler:</p> <ol style="list-style-type: none">1. explores or shows interest in books by picking them up, mouthing them, carrying them, or going through pages.2. focuses on a book or the reader when hearing stories read.3. points to or gazes at pictures in books.4. responds to or engages in rhymes with the caregiver. <p>The toddler also:</p> <ol style="list-style-type: none">5. points to pictures or names items in books on request.6. labels or talks about objects, events, or people in books.7. enjoys and repeats rhymes.
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Examples of Benchmarks

Kai and Ben are sitting by the caregiver, listening to the book. Kai points to a picture, "Butterfly." Caregiver: "Right—that's a butterfly, Kai."

Caregiver: "Pat a cake, pat a cake, baker's man. Make me a cake as fast as you can." Tiwana does the patting motions. Kareem says the rhyme, emphasizing the rhyming words *man* and *can*.

Becca is looking at an animal book with her caregiver. The caregiver names the animals and turns the pages after a few seconds. Becca grabs the page and turns back saying, "Dog!" The caregiver repeats the word and pauses for a short while for Becca to look. Becca then turns the page.

Caregiving Supports

With infants and toddlers, caregivers:

- talk with *each* child during routine activities, such as diapering and mealtime.
- read books daily to *each* child.
- respond to *each* child's interest in a book, talking about pictures and actions.
- provide a variety of books, including both fiction and non-fiction books, and textures for *each* child to explore.
- provide opportunities each day for *each* child to participate in finger-plays, rhymes, and songs, including those in sign language, the home language, or representing the home culture.

Area 4 Communication, Language, and Literacy

4.3 Early Writing

Standard	Infants and toddlers engage in early writing activities.
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Rationale	Infants and toddlers' writing skills reflect their development in cognition, such as using symbols to stand for objects, communication, and their fine motor development (Dyson, 2001). Infants and toddlers develop skills in using writing instruments as they use a variety of tools, such as spoons, hairbrushes, and toy hammers (McCarty, Clifton, and Pollard, 2001). Infants and toddlers use hand-held tools in a variety of ways (Greer and Lockman, 1998). Toddlers use writing in a pictographic way where writing conveys meaning through pictures. Scribble-like markings that they label as writing usually have meaning only to themselves (Whitehurst and Lonigan, 2001). Caregivers help young children develop writing skills by providing them opportunities to use a variety of tools, such as spoons, markers, or brushes, while allowing them to hold the tool in the manner most comfortable to them. Caregivers individualize strategies to encourage the use of tools by all children.
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Benchmarks	The infant or toddler: <ol style="list-style-type: none">1. grasps a variety of objects for eating and play in his/her environment, with and without handles, such as blocks, spoons, markers, etc. The toddler also: <ol style="list-style-type: none">2. uses a variety of writing tools or other manipulative objects (such as markers, bristle blocks, stringing beads, pegboards, pencils, crayons, paint brush, spoons, etc.).3. scribbles spontaneously.
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Examples of Benchmarks	Tami picks up the crayon in her fist, turns it to the paper, and makes several scribble marks. Collin uses his fingers to poke the playdough. He picks up a plastic knife and makes cutting marks in the playdough.
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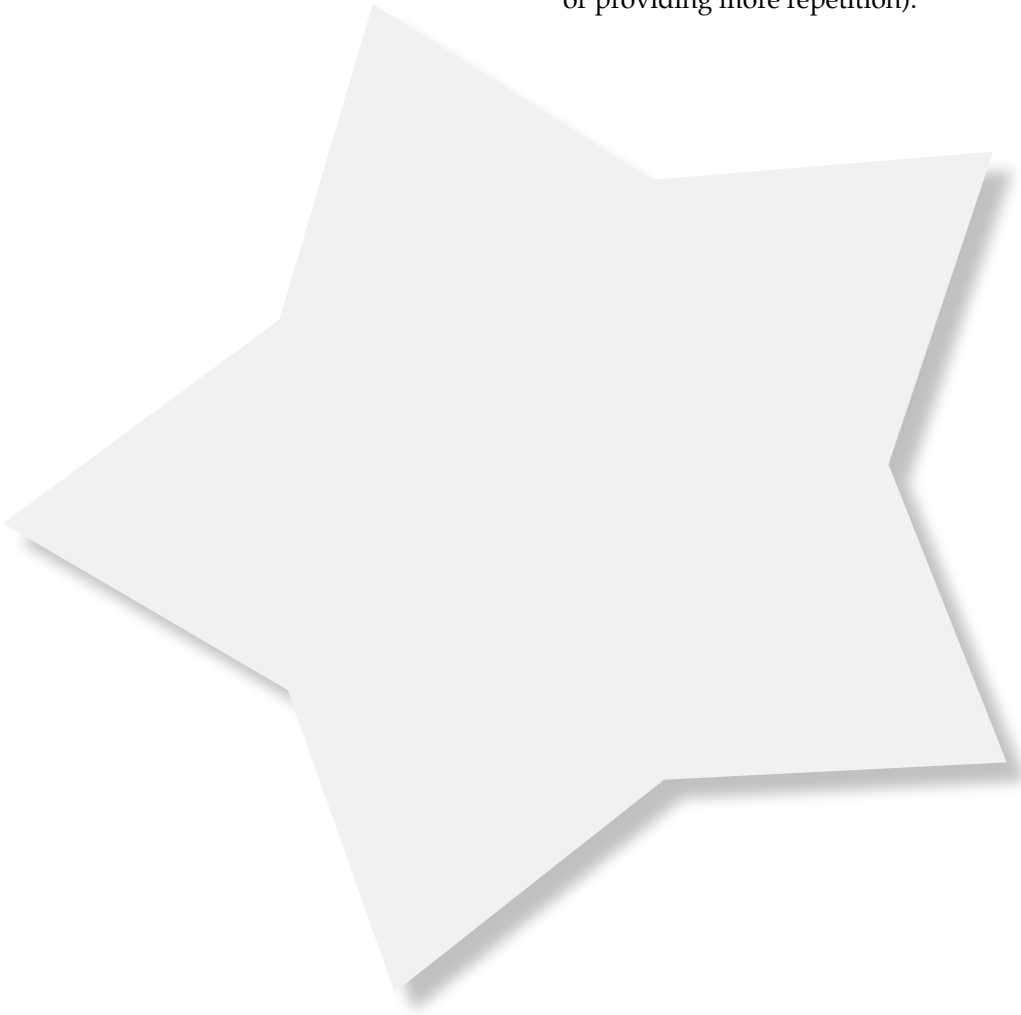
Caregiving Supports

With infants, caregivers:

- provide time for *each* infant to be on his/her stomach, using their arms to push up.
- provide sensory experiences for *each* child, including opportunities to use early fine motor movements and wrist rotation in a variety of activities such as water- or sand-play, stacking blocks, dumping and filling tubs, etc.
- give *each* child supervised opportunities to use the pincer grasp (finger-thumb) skills in a variety of activities such as eating or grasping.

With toddlers, caregivers:

- provide *each* child with daily access to writing tools, such as crayons or markers, and paper on horizontal and vertical surfaces.
- provide opportunities for *each* child to observe the caregiver's own writing.
- encourage *each* child to explore ways to practice scribbling or early drawing (for example, by breaking down the skill, adding prompts, or providing more repetition).



Area 5 Mathematics and Science

5.1 *Comparison and Number*

Standard	Infants and toddlers show increasing understanding of comparisons and amount, including use of numbers and counting.
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Rationale	<p>Young infants show awareness of small quantity differences (Starkey, Spelke, and Gelman, 1983). Infants and toddlers build their understanding of numbers as they manipulate sets of five and fewer objects (Mix, Huttenlocher, and Levine, 2002). Young children learn number skills as they work with small groups of objects in meaningful, routine tasks. Through counting rhymes, they learn that numerals have a constant sequence. In counting activities, they practice tagging numerals to objects in one-to-one correspondence. Through repeated experiences counting small groups of objects, they learn that the last number in the counting sequence represents the total quantity rather than the name of the last object (Gelman and Gallistel, 1978). Caregivers help children understand numbers and amount by providing many opportunities for children to explore and count small groups of objects and to hear and repeat familiar counting rhymes.</p>
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Comparison involves finding a relationship between two things or two groups of things. We know from their behaviors that infants and toddlers are continually comparing objects—mentally grouping objects that are similar in shape, quantity, size, texture, etc. (Thompson, 2001). Comparisons provide the basis for the development of measurement concepts and skills in older infants and toddlers. Caregivers who attach a verbal label to an object or comparison of focus for infants or toddlers (big / small, heavy / light, hot / cold), help children build vocabulary and understanding (Camaioni, 2004).

Working with both two- and three-dimensional shapes provides the basis for geometry (National Council of Teachers of Mathematics, 2000). Infants and toddlers learn to sort or group three-dimensional shapes based on their uses (Rosch, Mervis, Gray, Johnson, and Boyes-Braem, 1976). Infants and toddlers note and use shape differences before they have labels for shapes; for example, they separate objects into those that will roll and those that will not roll. Caregivers help children learn about shapes through providing a variety of toys and materials for young children to explore, compare, and classify, including puzzles and sorting canisters. Caregivers also help children understand shapes by labeling shapes that children are exploring and by using words that suggest comparisons, such as bigger, smaller.

Benchmarks

The infant:

1. begins to notice characteristics of objects such as size, color, shape, or quantity.

The toddler also:

2. matches and sorts objects by size, color, shape, or quantity.
-

Examples of Benchmarks

At snack time, Carlos finishes all his crackers. He turns to the caregiver and holds up his plate, saying, "All gone." Caregiver: "You want some more crackers, Carlos?" Carlos says and signs: "More." The caregiver puts some crackers on his plate.

The caregiver is helping Mandi get her mittens on. "One, two." Mandi holds up her hands, one at a time, and repeats, "One, two."

Brandon has a large peg board. He puts all the blue pegs in one row, then all the red pegs in another row.

The caregiver sets a box of children's socks on the floor. "Can you help me find the socks that match?" She pulls one sock out to start and Aydan reaches into the box to find the matching sock.

Caregiving Supports

With infants and toddlers, caregivers:

- describe the groups of objects that the child makes.
- provide space and materials with multiple colors, shapes, and sizes for sorting and grouping.
- use numbers to label actions such as counting shoes or toes or crackers in routine dressing and feeding activities with *each* child.
- use counting finger-plays, rhymes, and songs (for example: one, two, buckle my shoe) with *each* child.

Area 5 Mathematics and Science

5.2 Patterns

Standard	Infants and toddlers understand patterns.
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Rationale	<p>Patterning involves making or finding regular sequence in sounds, sights, or motor activities. Infants notice and remember patterns that they see or hear. Infants visually group objects that are close together (Baillargeon, 1987). They recall and anticipate familiar sequences of events and use these memories to predict events and respond accordingly. Infants learn the patterns of daily routines, eating, or diaper changing. Recognizing, predicting, and repeating patterns is a basic standard in mathematics education, as infants and toddlers “recognize, extend, and create a wide variety of patterns” (NCTM, 2000). Seriating involves ordering objects in a regular order or pattern.</p>
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Toys, such as nesting cubes and stacking rings, help infants and toddlers explore and practice pattern-making. Sorting objects into groups of similar objects also involves recognizing patterns. Toddlers may group objects on the basis of visual characteristics (shape or color) or on the basis of themes and sequences of events. Some cultures and some infants and toddlers prefer to group on the basis of themes (functional uses: spoon with bowl) rather than using visual characteristics (spoon and fork). With practice and development, infants and toddlers come to recognize, create, and extend more complex patterns. Caregivers help children become aware of patterns by providing ordered materials for them to explore and by pointing out patterned sequences in events and materials.

Benchmarks	<p>The infant:</p> <ol style="list-style-type: none">1. demonstrates expectations for familiar sequences of events. <p>The toddler also:</p> <ol style="list-style-type: none">2. shows recognition of sequences in events or objects.3. repeats actions in sequence, such as finger-plays.
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Examples of Benchmarks	<p>Amni sees the caregiver putting food on the table. She gets her bib and crawls up to the table. Caregiver: “Pretty soon lunch will be ready, Amni. After you wash your hands, we can eat.”</p>
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The caregivers and some of the children are singing “Eensy Weensy Spider.” Meneacka repeats the appropriate action with each line.

Mei-Mei takes the nesting cubes apart and puts them in order from largest to smallest.

Caregiving Supports

With infants and toddlers, caregivers:

- label patterns in events and objects for *each* child.
- use language to describe patterns or sequences of events (for example, “First, we put your coat on. Then, we’ll go outside.”).
- use finger-plays and songs with repeatable action patterns.



Area 5 Mathematics and Science

5.3 Shapes and Spatial Relationships

Standard	Infants and toddlers show increasing understanding of spatial relationships.
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Rationale	Young infants begin to note spatial relationships. The development of binocular vision (seeing with two eyes) at about four months of age (in most children) helps this skill (Slater, 2004). They usually reach for closer objects rather than ones that are further away. Infants and toddlers distinguish shallow surfaces from deep ones and avoid deep steps when they see them (Gibson and Walk, 1960).
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Benchmarks	The infant: <ol style="list-style-type: none">1. takes objects apart.2. fills and empties containers. The toddler also: <ol style="list-style-type: none">3. takes objects apart and attempts to put them together.4. shows awareness of his/her own body space.
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Examples of Benchmarks	<p>Rekha fills up the container with water, then, empties it and repeats the action.</p> <p>Riley is working with a four-piece puzzle. He takes out the apple, then, puts it back in its hole.</p> <p>The caregiver is singing “Head, shoulders, knees, and toes” while she shows the actions. Matt touches each body part as it is named.</p>
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Caregiving Supports	With infants and toddlers, caregivers: <ul style="list-style-type: none">• describe spatial relationships, such as “in” and “out,” while <i>each</i> child is exploring the environment.• provide simple, multi-part toys, such as pop beads, snap-together blocks, simple puzzles.• provide multiple containers of various size and shape to fill and empty with toys and for use in sand- or water-play.• provide defined areas that allow <i>each</i> child, including those with movement limitations, to experience personal space for movement or activities.
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Area 5 Mathematics and Science

5.4 *Scientific Reasoning*

Standard	Infants and toddlers observe, describe, and predict the world around them.
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Rationale	Through daily experiences and routines, young infants learn about cause and effect, that is, that some events lead to others (Spelke, et al., 1994). They show surprise when events occur that don't follow expected sequences. For example, four-month-old infants show surprise when a toy train disappears into a tunnel without emerging on the other side (Baillargeon, 1987). This expectation is the beginning of object permanence; however, actually retrieving an object that disappears in an unusual location requires motor control of reaching, which develops later. Infants typically observe the results of their actions and sometimes repeat them, showing surprise if the results are not the same as before. Toddlers deliberately vary their actions, watching what happens each time (Piaget, 1971). Caregivers promote the development of scientific reasoning by providing young children with safe environments and responsive materials to explore (Wachs and Combs, 1995).
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Benchmarks	The infant or toddler: <ol style="list-style-type: none">1. explores and manipulates natural materials such as water and sand.2. shows understanding of object permanence (that people exist when they cannot be seen and objects exist even when hidden under a blanket) by looking for people and objects that have disappeared.3. notices their own individual needs (for example, hunger, thirst).4. begins to notice and label objects and events in the environment.
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Examples of Benchmarks	Rheta fills the largest cup with water and pours it into the smaller cup. Then she fills the smaller cup with water and pours it into the larger cup.
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Cho Wei rolls a ball across the floor and watches it go under a cupboard. He looks under the cupboard to find the ball.

Miguel is outside playing. He runs to the caregiver, saying, "Agua." The caregiver gives him a cup of water.

Kim walks to the window, points, and signs, "Snow." The caregiver comes over: "Yes, it's snowing."

Caregiving Supports

With infants and toddlers, caregivers:

- allow and encourage repetitive activities, such as dropping and picking up objects or playing games like “Peek-a-boo” with *each* child.
- allow free exploration of safe natural materials, if culturally appropriate, such as leaves, grass, snow, or food materials.
- describe natural events, such as a squirrel on the lawn or a bird flying overhead.



Area 6 Creative Arts

6.1 Art

Standard	Infants and toddlers explore art through a variety of safe two- and three-dimensional media.
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Rationale	Infants and toddlers approach each new media—clay, paint, crayons—through exploration (Lowenfeld and Brittain, 1987). Through scribbling, infants and toddlers learn what the material can do. Infants and toddlers explore media through using tools, such as pencils or brushes, or through direct manipulation, using their hands to explore clay, playdough, or fingerpaint. Through repeated exposure to each medium, infants and toddlers gain control and begin to intentionally plan and direct their use of the media (Lowenfeld and Brittain, 1987). Infants’ and toddlers’ art is affected by the development of small motor skills, cognition, and perception, as well as by their experience with the specific medium or materials (Seefeldt, 1999). Caregivers help young children develop art skills by providing repeated opportunities to explore both new and familiar media such as playdough, crayons, and paint. Caregivers individualize strategies to enable each child to acquire skills in manipulating art media.
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Benchmarks	<p>The infant:</p> <ol style="list-style-type: none">1. gazes at a picture, photo, or mirror images.2. with supervision, experiments with a variety of art materials.3. engages in experiences that support creative expression. <p>The toddler also:</p> <ol style="list-style-type: none">4. chooses various materials, such as playdough, crayons, water, markers, and paint, to explore and create art.
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Examples of Benchmarks

Tran, during tummy time, picks his head up and turns towards his smiling reflection in the mirror.

Paolo picks up the marker. First, he makes vertical marks on the paper, then, horizontal. Then he makes dots. Then he puts the marker on the side and rolls it back and forth.

Pat places her finger in the red fingerpaint and touches the paper. She swirls her finger on the paper, making a mark. She then puts her hand in the paint and places it on the paper. "Sun!" she exclaims.

Joathim paints sidewalk designs with a short-handled four-inch brush and small pail half-full with water colored green.

Tristen pounds her fist on top of a small ball of playdough, chanting, "Roll it; pat it; mark it with T."

Caregiving Supports

With an infant or a toddler, caregivers:

- provide supervised daily opportunities for creative expression that reflect the home cultures of the families served.
- use descriptive words to point out colors, shapes, and textures during a creative art experience.

With toddlers, caregivers:

- provide a variety of safe art materials (crayons, markers, paper, brushes) for *each* child to explore while supervised.
- encourage *each* child to explore all art materials in a variety of ways, rather than focusing on finished "products," such as toilet-roll butterflies, pre-patterned art, or coloring books.

Area 6 Creative Arts

6.2 Music, Rhythm, and Movement

Standard	Infants and toddlers participate in a variety of rhythm, music, and movement experiences.
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Rationale	Infants are sensitive to musical sounds and patterns even before birth. Young infants move their bodies rhythmically to music and respond to the patterns in songs (Trehub, Schellenberg, and Hill, 1997). Simple rhythmic songs with repeated phrases, rhymes, and refrains help infants and toddlers learn language patterns, including sound (phoneme) patterns (Carlton, 2000). Moving to music helps infants and toddlers develop large muscle control and dexterity (Weikart, 1998). Caregivers help children develop skills in music and movement by providing repeated opportunities for young children to sing, to chant, and to move to new and familiar songs and music.
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Benchmarks	The infant or toddler: <ol style="list-style-type: none">1. experiments with a variety of sound-making objects.2. explores moving rhythmically.3. enjoys exploring ways of interacting with others through touch and motion. The toddler also: <ol style="list-style-type: none">4. sings simple songs and finger-plays.5. shows interest in songs, tones, rhythms, voices, and music.
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Examples of Benchmarks	<p>Ngemi picks up the spoon and hits the pot several times. Next, she hits the frying pan, then, hits the pot again.</p> <p>The caregiver plays music. Andy starts moving his feet to the music and bobbing up and down as the caregivers clap their hands.</p> <p>The caregivers and children are singing. Hyun-Joo joins in, "The wheels on the bus go round and round...." She moves her hands in a circular motion while singing.</p> <p>Chris is crying and restless. The caregiver plays soothing music. Chris calms with familiar quiet music.</p> <p>Caden shakes his tambourine in time to the music and moves his body in time to the music.</p>
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Caregiving Supports

With infants and toddlers, caregivers:

- join *each* child in daily singing and movement activities to music.
- provide *each* child with opportunities to experience musical activities and traditions reflecting the home cultures of the families served.



Area 6 Creative Arts

6.3 Dramatic Play

Standard	Infants and toddlers engage in dramatic play experiences.
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Rationale	Most infants develop the ability to imitate what they see and then imitate what they recall. They typically learn to let one object stand for another and act out sequences of actions that they have observed, as well as new patterns they have planned. Later, they usually act out sequences of actions involving objects (Sluss, 2005). Occasionally, these play sequences may involve other infants and toddlers as well. These actions help them develop motor, cognitive, social, emotional, and communication skills (Weiser, 1991). Some infants and toddlers prefer to use real-life props and objects in their play and use objects to substitute for props, such as using a block on a plate to represent a piece of cake (Wolf and Grollman, 1982). These infants and toddlers are often interested in designs and in visual-spatial relationships. Other infants and toddlers typically focus on objects, people, and events that are not present; their play involves more fantasy and make-believe.
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Benchmarks	The infant or toddler: <ol style="list-style-type: none">1. imitates the sound, facial expression, or gesture of another person.2. imitates the actions and sounds of people, animals, and objects in the environment. The toddler also: <ol style="list-style-type: none">3. engages in pretend play.
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Examples of Benchmarks	<p>Jason is lying down. The caregiver pats his back. Toni watches the caregiver, then comes over and pats Jason's back.</p> <p>Amy is mouthing a toy telephone. She hears the real phone ring and puts the toy phone receiver to her ear.</p> <p>Maria is rocking the baby-doll in her child-sized rocker. She hums a tune, says, "Love you baby," and bends down to kiss the doll. She looks to the caregiver and says: "You kiss baby, too." The caregiver does so.</p> <p>Mary Sue picks up a block and pretends to drink from it. She hands it to the caregiver, who also pretends to drink from the block. Mary Sue then takes the block and holds it to the teddy bear's mouth, saying, "Drink, teddy."</p>
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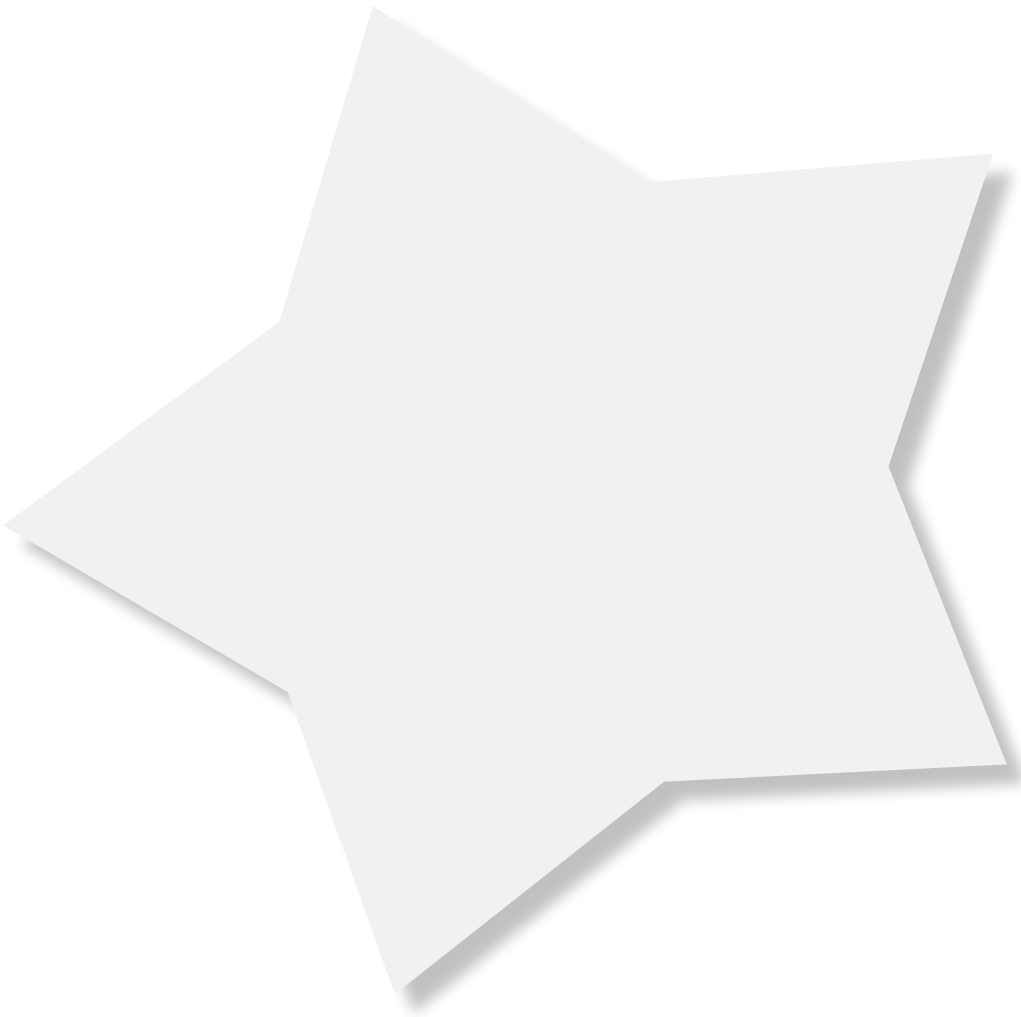
Caregiving Supports

With infants and toddlers, caregivers:

- provide space, time, and materials from the home culture for *each* child to use in imitating actions, simple roles, and in pretend play.
- play with *each* child in pretend play (such as pretending to eat, drink).

With toddlers, caregivers:

- provide opportunities for *each* child to play and interact with others during pretend play, such as washing the baby dolls together.



PRESCHOOL Standards

Area 7 Physical Well-Being and Motor Development

7.1 *Healthy and Safe Living*

Standard	Children understand healthy and safe living practices.
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Rationale	Children’s physical well-being provides the foundation for their ability to learn. Young children are beginning to establish life-long eating habits that can help prevent disease, obesity, and other health problems (U. S. Department of Health and Human Services, 1996). Healthy eating provides needed nourishment for children’s brains and for their physical activities. Accidents are the chief cause of death in young children (Maternal and Child Health Bureau, 2003). Appropriate levels of risk encourage exploration without undermining children’s safety. Even very young children can begin to learn about personal safety.
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Benchmarks	The child: <ol style="list-style-type: none">1. begins to recognize and select healthy foods.2. follows healthy self-care routines (brushing teeth and washing hands).3. demonstrates safe behaviors regarding environment (stranger, tornado, fire, traffic), substances (drugs, poisons), and objects (guns, knives, scissors).
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Examples of Benchmarks	The children are eating lunch family-style. The caregiver helps herself to the broccoli and passes it around the table. Abdul puts a spoonful on his plate: “They’re little trees.” Caregiver: “Tell me why you think they look like trees.” Abdul: “They’re green and leafy.” Caregiver takes a bite. “I like broccoli.” Abdul takes a bite: “Me, too.” Caregiver: “And broccoli helps our bodies grow.” Abdul: “I’m going to grow as big as my dad.”
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Kendal’s nose is running. Caregiver: “I see your nose is running. How can you take care of that?” Kendal gets a tissue and wipes his nose. He returns to play. Caregiver: “Kendal, you need to wash your hands after you wipe your nose.” Kendal washes his hands.

Caregiving Supports

With preschoolers, caregivers:

- model appropriate mealtime behavior and engage *each* child with appropriate mealtime conversations to make mealtime pleasant.
- encourage *each* child to learn and develop self-help skills (e.g., washing hands) during mealtimes and food activities.
- plan and implement emergency and safety procedures, such as fire, disaster, and tornado drills.
- teach *each* child to use medications with caregiver supervision and to avoid poisons.
- provide nutritious meals and snacks, including giving *each* child opportunities to prepare nutritious foods.
- uses adaptive equipment to help children with special needs develop self-help skills.



Area 7 Physical Well-Being and Motor Development

7.2 Play and Senses

Standard	Children engage in play to learn.
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Rationale	According to Bruner (1985, p. 905): “Playful, negotiatory, flexible, mindful interaction early on may become a model later for what you do when you encounter problems. Having played around in fact, and with good effects, you may now feel encouraged to play around in your own head.” Numerous research studies link daily physical activity to health at all ages (U. S. Department of Health and Human Services, 1996). Current recommendations are for children to have several hours of unstructured movement each day (National Association for Sports and Physical Education, 2003). Children develop physical fitness (i.e., strength, flexibility, and endurance) from a variety of child-initiated and caregiver-directed activities.
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Benchmarks	The child: <ol style="list-style-type: none">1. participates in a variety of indoor and outdoor play activities that increase strength, endurance, and flexibility.2. uses sights, smells, sounds, textures, and tastes to discriminate between, explore, and experience activities and materials.
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Examples of Benchmarks	Cyndi is climbing on the jungle gym. “I’m a pirate and I’m climbing to the top of the mast.” Caregiver: “You are climbing high in the air, Cyndi.” Cyndi: “I’m at the top of the mast now. I can see China!” Caregiver: “What do you see?” Cyndi: “I can see the tops of the trees and the road and cars.” Caregiver: “You’re so high in the air; you can see farther than I can!” Cyndi: “I’m on top of the world!”
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Caregiving Supports	With preschoolers, caregivers: <ul style="list-style-type: none">• use the outdoor environment and natural settings as an integral part of <i>each</i> child’s active and quiet learning.• provide materials and encourage <i>each</i> child to use all their senses to explore materials.• provide materials in both outdoor and indoor environments that are easily accessible by <i>each</i> child.
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Area 7 Physical Well-Being and Motor Development

7.3 Large Motor Development

Standard	Children develop large motor skills.
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Rationale	Development of large motor skills (running, jumping, throwing, catching, balancing, climbing) is influenced both by maturation and experience (Cratty, 1970). While young children are learning motor skills, they typically show a variety of ways of performing the skill. With experience, children are able to perform skills more consistently. By five years of age, children show more integrated skills, such as the use of arms to aid jumping or a shift in weight to aid throwing.
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Benchmarks	The child: <ol style="list-style-type: none">1. shows control and balance in locomotor skills, such as walking, running, jumping hopping, marching, galloping, and skipping.2. shows abilities to coordinate movements with balls, such as throwing, kicking, catching, and bouncing.
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Examples of Benchmarks	<p>The children are in a large circle. The caregiver puts on a CD with the William Tell Overture (Lone Ranger theme). "How does this music make you want to move? Let's move in this direction." All the children move clockwise around the circle. Briana gallops; Tsama hops. Caregiver: "Look how Briana is using her feet—she's galloping." A few children start galloping. Caregiver: "Tsama has a good idea; he's hopping on one foot." A few more children hop. After a few minutes, the caregiver stops the CD. The children stop.</p> <p>The caregiver has placed an empty basket against the wall with a basket of foam balls close by. Mira throws a ball that bounces off the wall. Mira: "Teacher, I can't get it in the basket." Caregiver: "What could you try, Mira?" Mira: "I could move closer." Caregiver: "Good idea. Let's see what happens." Mira moves closer to the empty basket, picks up another ball, and throws it into the basket. Caregiver: "You made a basket." Mira smiles.</p>
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Caregiving Supports

With preschoolers, caregivers:

- provide space, time, and materials for *each* child to explore and practice large motor activities such as balancing, running, jumping, climbing, throwing, catching, kicking, and bouncing.
- play games with *each* child that involve catching, kicking, and bouncing balls, coaching *each* child and modifying the games to both challenge *each* child and to allow them to be successful.
- provide adaptive large motor equipment that allows *each* child with physical disabilities to practice large motor skills.



Area 7 Physical Well-Being and Motor Development

7.4 Fine Motor Development

Standard	Children develop fine motor skills.
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Rationale	Fine (small) motor skills require the child to manipulate objects with accurate, controlled, precise movements. With practice, children also become skilled in self-care skills, such as buttoning, snapping, and zipping. Through manipulating small objects, such as stringing beads, young children gain fine muscle control needed for using tools (Cratty, 1970). With experience, young children gain skills in using tools such as eating utensils, crayons, and brushes. Initial scribbles become letter-like forms as children watch caregivers model writing (Iowa Department of Education, 2001). These skills provide the basis for handwriting and other fine-motor skills needed for success in daily life and in school.
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Benchmarks	The child: <ol style="list-style-type: none">1. uses hand-eye coordination to perform self-help and fine-motor tasks with a variety of manipulative materials.2. shows increased skills in using scissors and writing tools for various learning activities.
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Examples of Benchmarks	Beth has been painting a picture at the easel: "Teacher, I'm done." Caregiver: "Where are you going to put your name?" Beth: "Here. You do it. Here." She points to the upper left corner. Caregiver prints 'Beth.' Beth takes the paintbrush and prints her name in all capital letters below where the caregiver printed her name.
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Jamar has cerebral palsy. When he tries to spoon up applesauce, the bowl slides away. The caregiver puts a non-slip pad under the bowl and a rubber tube on his spoon handle. Jamar feeds himself without the bowl slipping.

Nieseem is trying to zip his jacket, but he can't get the two parts together. "Teacher, help!" Caregiver: "What's wrong, Nieseem?" Nieseem: "I can't get the zipper to work." Caregiver: "It is hard, isn't it? Do you want me to start it for you?" Nieseem: "Yes." The caregiver puts the ends of the zipper together starts the pull. "Here—you can finish it now." Nieseem pulls up the zipper. "Let's go outside!"

Caregiving Supports

With preschoolers, caregivers:

- provide a variety of fine motor tools and materials (beads, pegboards, scissors, crayons, paintbrushes, hammers) that are available and accessible for use in child-directed activities.
- coach *each* child to improve self-help skills (dressing, toileting, buttoning).
- teach *each* child to use utensils (spoons, forks, knives) during meals, snacks, and supervised cooking activities.
- provide adaptive equipment that allows *each* child with physical disabilities to increase their fine motor skills.



Area 8 Approaches to Learning

8.1 Curiosity and Initiative

Standard	Children express curiosity, interest, and initiative in exploring the environment, engaging in experiences, and learning new skills.
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Rationale	Erikson (1950) represented the internal conflict of initiative versus guilt as central to the preschool years. Initiative—trying activities—is a key part of the development of competence. When the child has lots of failures, especially those the child sees as his/her “fault,” the child is less likely to try new activities and to learn new skills. Children who hesitate and avoid new experiences often have experienced repeated failures (Smiley and Dweck, 1994). Children are more likely to initiate and explore activities when they see that the results depend on their actions (Bandura, 1997). Caregivers influence this development by making such activities available for children and encouraging them to try activities at which they are likely, with effort, to be successful (Kopp, 1991). Children are more likely to repeat activities when caregivers give them encouragement and feedback that links their effort to results (Skinner, 1995).
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Benchmarks	The child: <ol style="list-style-type: none">1. explores and experiences activities and ideas with eagerness, flexibility, imagination, independence, and inventiveness.2. chooses to explore a variety of activities and experiences with a willingness to try new challenges.
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Examples of Benchmarks	Chris is standing in front of the blocks. “I’m going to build a fire station like the one we visited.” Caregiver: “Good plan, Chris. We need fire stations so fire fighters can put out fires.” Chris builds four walls. He puts the fire engines inside. He attempts to put blocks on top of the building, but they fall through. Chris: “Teacher, the roof keeps falling down.” Caregiver: “Looks like these blocks aren’t long enough. What else could you use?” Chris: “I could put those big pieces of cardboard for the roof.” He puts a piece of cardboard on top, stands back, and smiles. Caregiver: “You did it, Chris. You built a fire station to hold all the fire trucks.”
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Emily is looking at the fish tank. “Teacher, every day the water gets lower and lower in the fish tank.” Caregiver: “You’re right, it does. Why do you think that happens, Emily?” Emily: “I think the fish are thirsty, and every day they drink more and more of the water.”

Caregiving Supports

With preschoolers, caregivers:

- provide an environment with a variety of activities and materials for child-initiated exploration.
- encourage *each* child to express their own ideas and exercise their imagination.
- provide a variety of activities and materials to challenge and encourage *each* child's developing skills.
- share *each* child's excitement in discoveries and exploration of the environment.
- encourage *each* child to make choices and plan interactions with people and materials in their environment.
- provide opportunities and time to explore a variety of activities and materials including those in their larger community environments.



Area 8 Approaches to Learning

8.2 *Engagement and Persistence*

Standard	Children purposefully choose and persist in experiences and activities.
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Rationale	Children who believe that success depends on their efforts, and that they are capable of being successful, are more likely to persist (Bandura, 1997). Young children who have been given some autonomy are more likely to complete tasks (Grolnick, 1984). Play provides an appropriate setting for learning about engagement, persistence, and risk-taking. Without concerns for how their work will be evaluated, children are able to experiment and explore. Caregivers encourage persistence by guiding children to tasks where their effort is likely to achieve success, by giving only the minimum help necessary to complete the task, and by giving children specific feedback that their success was due to their own efforts (Skinner, 1995).
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Benchmarks	The child: <ol style="list-style-type: none">1. persists in and completes a variety of both caregiver-directed and self-initiated tasks, activities, projects, and experiences.2. maintains concentration on a task.
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Examples of Benchmarks

Dee goes to the block corner. She carefully lays out a grid of long blocks, putting a series of blocks that are one, two, or three blocks high in the spaces of the grid. She then takes a car and drives it on the grid. Dee: "Teacher, here's our school. See the parents bringing all the kids to school." Teacher: "You worked a long time to make such a big town with so many streets, houses, and a school, too!" Dee points to a large building: "And here's the grocery store. Everyone goes there to get food for supper." Teacher: "That is an important store in the town."

Mai chose a puzzle from the rack. After a few minutes, she pushes away the partially completed puzzle: "This is too hard." Caregiver: "Let's turn over all the pieces so you can see each picture." Mai does so. She looks at all the pieces. The caregiver points to a rounded shape in the border: "Look at this. Can you find a piece with this shape?" Mai fits the shape into the space: "I did it! It's a wheel. And here's another wheel." She continues to assemble the puzzle. "I did it!" Caregiver: "You got all the pieces into the puzzle." Mai smiles, "Let's do another one."

The caregiver is reading a story about a curious monkey. Geovanni is getting restless. Caregiver: "Geovanni, what do you think George will do with the newspapers?" Geovanni: "He'll read them." Caregiver: "Let's see." She turns the page and continues to read. Geovanni sits quietly, watches, and listens.

Caregiving Supports

With preschoolers, caregivers:

- provide an environment with a variety of activities and materials for child-initiated exploration.
- provide clearly defined areas with minimal distraction and some protection to encourage sustained involvement with peers and materials.
- maintain a routine; provide opportunities and sufficient time for engagement in self-selected activities.
- guide *each* child's learning and development by responding to questions, ideas, and requests for help, by being present with and fully attending to children, and by individualizing their responses to children.
- provide support and assistance as needed to support the involvement of *each* child with special needs.

Area 8 Approaches to Learning

8.3 Problem Solving

Standard	Children demonstrate strategies for reasoning and problem solving.
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Rationale	Problem solving is natural for young children, for whom so much of the world is new. Problem solving is learned through daily living experiences involving issues important to the child. At the same time, children who repeatedly experience failures and criticism are less likely to attempt new problems (Smiley and Dweck, 1994).
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Benchmarks	The child: <ol style="list-style-type: none">1. shows interest in and finds a variety of solutions to questions, tasks, or problems.2. recognizes and solves problems through active exploration, including trial and error, and through interactions and discussions with peers and caregivers.
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Examples of Benchmarks	<p>José and Michael are running their trucks up the slide while other children are going down the slide. Caregiver: "It's not safe to have trucks and children on the slide at the same time." José: "But the trucks go faster when they go down the slide." Caregiver: "Yes, the trucks do go much faster when they go downhill. What else could we set up to make the trucks go faster?" José: "We could make a slide with blocks." Caregiver: "Let's see if that would work." José and Michael take the trucks to the block area, where they stack four blocks and tilt a board against the blocks. They put the trucks down the board. "See, they go really fast." Caregiver: "Yes, you built a ramp where trucks can go very fast."</p>
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It's story time. Damon: "I can't see." Caregiver: "What could you do so that you could see better?" Damon looks around, then moves to a spot where he can see better.

Gayle is at the water table trying to fill a bottle by using a funnel to carry the water to the bottle. Most of the water escapes before reaching the bottle. Caregiver: "I see the water is running out from the hole at the bottom of the funnel. Is there anything else you could use to fill the bottle?" Gayle looks around, then goes to the dramatic play center and returns with a toy coffee pot.

Caregiving Supports

With preschoolers, caregivers:

- provide opportunities for *each* child to try new ways of using materials.
- create environments that offer an appropriate amount of stimulation and choice for *each* child using different types of equipment and materials.
- allow *each* child time to process experiences and information as well as devise alternatives.
- select and use appropriate materials that promote creativity, self expression, number, and emerging literacy skills.
- engage *each* child in problem-solving with peers and the environment.
- provide appropriate challenges within a safe, predictable environment.



Area 9 Social and Emotional Development

9.1 Self

Standard	Children express a positive awareness of self in terms of specific abilities, characteristics, and preferences.
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Rationale	Young children typically overestimate their own abilities. At the same time, they equate effort and ability. They assume that failure represents both a lack of effort and ability (Nicholls, 1978). After repeated failures, some young children have already acquired learned helplessness, a belief that they cannot succeed in anything that they try. Learned helplessness (Dweck and Smiley, 1980) affects later subsequent learning. Therefore, it is essential to help young children see themselves as capable learners and to develop resilience.
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Benchmarks	The child: <ol style="list-style-type: none">1. expresses sense of self in terms of specific abilities.2. expresses needs, wants, and feelings in socially appropriate ways.3. shows increasing confidence and independence in a variety of tasks and routines, expresses pride in accomplishments.
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Examples of Benchmarks	<p>It is clean-up time. Rhonda goes to the story area and sits down. Caregiver: "Rhonda, we need help picking up in the block area and in dramatic play. Where would you like to work?" Rhonda goes to the block area. As she is putting blocks away, the caregiver says: "You're putting away lots of blocks—now no one will trip on them." Rhonda smiles. "No one will trip on the blocks; I put them away."</p>
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James is wandering around during self-selection time. Caregiver: "James, at that table we need help making muffins. Or you could build with the blocks over there." James: "I like blocks." He goes to the blocks.

Kai is always bringing insects. Then David brings in an insect and asks: "Teacher, what is this bug?" Caregiver: "Let's ask Kai—he's our Bug Expert!"

No children have used the dramatic play center for several days. In group time, the caregiver asks if the children have any other ideas for the center. Karen: "We could have a restaurant, like my mom works in." Tom: "We could have a vet clinic, like my mom works in." Caregiver: "We have two ideas: a restaurant and a vet clinic. We can do one first and the other later. Raise your hand if you want to do the restaurant first." The children choose to do the restaurant first.

Caregiving Supports

With preschoolers, caregivers:

- provide opportunities for *each* child to develop a sense of their physical self.
- talk with and listen respectfully to *each* child.
- provide *each* child with a safe and stimulating setting in which to explore.
- provide *each* child with opportunities to make meaningful choices and express their preferences throughout the day.
- encourage *each* child by giving specific feedback that links effort to outcomes.
- model respect for diversity.
- provide *each* child with opportunities to solve problems on their own.
- link *each* child's efforts to the outcomes they achieve.
- provide opportunities for *each* child to express their thoughts and feelings about experiences through a variety of methods.



Area 9 Social and Emotional Development

9.2 *Self-Regulation*

Standard	Children show increasing ability to regulate their behavior and express their emotions in appropriate ways.
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Rationale	Young children learn to regulate their behavior under the guidance of caregivers (Shonkoff and Phillips, 2000). The expression of emotion in young children is linked to what they like and want, as well as to what they do not like and do not want (Wellman and Wooley, 1990). With the help of caregivers, they learn to express their emotions in words and actions that are socially appropriate. Culture influences how emotions develop and how they are displayed in boys and girls (Kitayama and Markus, 1994). Very young children show empathy when they display concern over the emotional expressions of peers. During early childhood, young children learn that everyone has emotions and that they can learn how to tell how others are feeling by observing their expressions of emotions (Hyson, 2003). They also learn that emotions occur in response to different situations and that emotions can be expressed in different ways. While young children’s understanding of emotions may be restricted to “mad, sad, glad” at first, they gradually develop more differentiated understandings of emotions such as fear, surprise, disappointment, etc. Through caregiver modeling and feedback, young children learn how and when to express emotions (Thompson, 1991). Young children who are preferred as playmates tend to be those who recognize the emotions of others and who show their own emotions (Saarni, Mumme, and Campos, 1997).
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Benchmarks	The child: <ol style="list-style-type: none">1. shows increasing capacity to monitor own behavior, following and contributing to classroom procedures.2. uses materials purposefully, safely, and respectfully.3. begins to accept consequences of own actions.4. manages transitions and changes to routines.5. states feelings, needs, and opinions in difficult situations without harming self, others, or property.
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Examples of Benchmarks

Jason took the wagon from Maria. Maria screams and raises her hand, as if to hit. Caregiver: "Maria, tell Jason you don't like that." Maria: "I don't like that. It's my wagon." Jason continues to pull the wagon away. Caregiver: "Jason, Maria's talking to you. You need to listen. Tell him again, Maria." Maria: "That's my wagon and I want it back." Jason: "I want it." Maria: "You have to wait." Caregiver: "I know you want the wagon now, Jason, but you'll need to wait until Maria's done. What else would you like to play with while you wait?" Jason goes to the trikes.

Julie knocks down Fela's block tower. Fela cries out. Julie: "It was an accident! An accident." Fela raises his hand, then drops it: "I hate you. That was mine." Caregiver: "I know you're really angry, Fela. You worked a long time on that tower." Julie: "It was an accident." Caregiver: "I know you didn't mean to knock it down, Julie, but Fela is still angry. He worked hard to build it." Julie: "I'm sorry, Fela. I will help you." Fela and Julie start to rebuild.

Shamia and Tonya are sitting next to each other during group time. They talk to one another, giggle, and generally disrupt the group. After group time, the caregiver talks privately with the two girls. Caregiver: "When you sit together in group, I noticed you have a hard time paying attention and you make a lot of noise. The noise distracts the other children. What can we do so that you won't disrupt group time?" Tonya: "But she's my friend and I like to talk with her." Caregiver: "I know you're good friends. Is there another time that you could talk?" Tonya: "We can talk during free choice. We laugh." Caregiver: "So what can we do so that you can talk and laugh during free play but not during group time?" Shamia: "Maybe we shouldn't sit together at group." Caregiver: "What do you think, Tonya?" Tonya: "I guess." Caregiver: "Okay, let's try that and we'll see how it works." At the next group time, the girls sit apart, pay attention, and do not disrupt the group time.

Caregiving Supports

With preschoolers, caregivers:

- identify and explain group procedures while offering *each* child the opportunity to contribute to procedures and express thoughts, feelings, and ideas concerning them.
- assist *each* child in their feelings and the impact on others.
- model empathy and understanding.
- make *each* child aware of upcoming changes in schedule or routines.
- model self-control.
- give *each* child words to express emotions.

Area 9 Social and Emotional Development

9.3 Relationships with Caregivers

Standard	Children relate positively to caregivers who work with them.
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Rationale	Young children’s school success requires trusting relationships with familiar caregivers (Howes and Ritchie, 2002; Hyson, 2003). After developing close, affectionate relationships with their parent(s), children also develop close, affectionate relationships with other familiar and sensitive caregivers who have been nurturing and supportive to them (Sroufe, Fox, and Pancake, 1983). These bonds, referred to as <i>attachment</i> , form the basis for developing reciprocal social relationships with other caregivers and with peers (Thompson, 1998). To feel psychologically safe and free from anxiety, children must feel safe and comfortable with their caregivers.
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Benchmarks	The child: <ol style="list-style-type: none">1. interacts comfortably with a range of familiar caregivers.2. accepts guidance, comfort, and directions from a range of familiar caregivers.3. shows trust in familiar caregivers.4. seeks help as needed from familiar caregivers.
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Examples of Benchmarks	Craig has been wandering around with a downcast look. Caregiver goes to Craig and gets to his eye level. “How are you feeling, Craig?” Craig: “I’m sad.” Caregiver: “The new baby is taking lots of Mom’s time, isn’t she?” Craig nods. Caregiver: “I’ve got a book about a boy like you. Shall we read <i>Peter’s Chair</i> ?” She holds out her hand. Craig takes her hand and smiles. They sit on the couch and look at the book together. Caregiver: “How does Peter feel, Craig?” Craig: “Left out.” The caregiver puts her arm around Craig, who snuggles close to her.
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Kia comes into the classroom slowly. Her eyes are downcast and she takes long, deep sighs. Caregiver: “Kia, how are you feeling today?” Kia: “Grandma’s in the hospital. I miss her.” Caregiver: “It’s hard for her to be gone.” Kia: “I want her home.” Caregiver rubs Kia’s back. “You like spending time with Grandma, don’t you?” Kia puts her arms around the caregiver and cries. “Yes, I want her home.”

Caregiving Supports

With preschoolers, caregivers:

- ensure that a small number of educated, consistent, positive, and nurturing caregivers provide continuity of care and learning opportunities.
- intentionally spend time with *each* child, as well as with small groups of children, each day to support positive interactions and relationships.
- provide feedback that is warm, positive, and encouraging.
- show affection and caring to *each* child.



Area 9 Social and Emotional Development

9.4 Peer Interactions

Standard	Children develop the ability to interact with peers respectfully and to form positive peer relationships.
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Rationale	Improvements in social skills and reduction in aggression are linked to increases in communication, perspective-taking, memory skills, and self-regulation (Coie and Dodge, 1997). Young children behave more positively and engage in more positive social exchanges with friends than with non-friends (Gottman, 1983). Children who become friends initiate contact, sustain interactions, and resolve conflicts better than do children who do not become friends (Gottman, 1983). In contrast, poor peer relationships predict later peer rejection (Coie and Dodge, 1997). Poor peer relationships and peer rejection are associated with later problems in school and life, including social isolation, aggression, loneliness, social dissatisfaction, and low self-worth (Hymel, Rubin, Rowden, and LeMare, 1990), as well as low academic performance, school avoidance, truancy, and delinquency (Ladd, 1990; Parker and Asher, 1987). Physical aggression decreases in most children during the preschool years. In contrast, verbal aggression tends to increase, at least until four years of age (Cairns, 1979).
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Benchmarks	The child: <ol style="list-style-type: none">1. sustains interactions with peers.2. develops friendships with other peers.3. negotiates with others to resolve disagreements.4. takes turns with others.
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Examples of Benchmarks	Jacob and Kyler get out a board game. Jacob: "I go first." Kyler: "No, I do." Jacob: "You always go first." Kyler: "No, I don't." Jacob: "Yes, you do." Kyler: "I go first, or I won't invite you to my birthday party." Caregiver: "I see you're having a problem. If you don't decide soon, activity time will be over. You have about 10 more minutes to play." Jacob: "We could play two games, and we each get to go first." Kyler: "We could role the die to see who goes first." Jacob: "Okay." Kyler goes to find the die.
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Dashari, Jenny, and Margo are in the dramatic play area. Dashari: "I'm the mommy. I just got home from work." Jenny: "I'm the big sister. I'm cooking dinner." Margo: "I'm the little sister and I just spilled my milk and you yell at me." Dashari: "YOU SPILLED THE MILK!" Jenny: "It's okay. She can get a sponge and clean it up." Margo: "Okay."

Caregiving Supports

With preschoolers, caregivers:

- provide time, space, and sufficient materials for *each* child to interact with peers in common activities (blocks, dramatic play) for lengthy periods of time (60 minutes or more at a time).
- create situations in which *each* child needs to work with others to accomplish goals.
- encourage *each* child, coaching them as needed, to resolve conflicts, respect the rights of others, and reach joint decisions.
- point out and draw attention to different perspectives.



Area 9 Social and Emotional Development

9.5 Awareness of Community

Standard	Children have an increasing awareness of belonging to a family, community, culture, and program.
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Rationale	All children live in some group or community. In order to function as a member of a community, children must learn to communicate, participate, and interact with other members of the group. This socialization process begins with the family and continues as the child moves in and out of social groups throughout life. Becoming a member of the group involves a series of changes, as the child negotiates his/her role in the group and resolves conflicts with other members of the group (Bugental and Goodnow, 1998).
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Benchmarks	The child: <ol style="list-style-type: none">1. shows that he/she values others within the classroom/program, family, and community.2. shows early understanding of the concepts of justice, fairness, individual rights, and the welfare of the community and its members.3. shows responsibility as a member of a community.4. shows acceptance of persons from different cultures and ethnic groups.
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Examples of Benchmarks	The children have come in from outside. Natalie: "I never get a turn on a trike." Kareem had used one of the trikes. "We were pretending to be on the Tour de France. It's a really, really long bike race." Natalie: "It's not fair that you get the trikes so long and we don't get a turn." Caregiver: "What would be a fair rule, Natalie?" Natalie: "Everyone could get five minutes on a trike. We could use the timer like we do for the computers." Others shout: "Yeah!" Kareem: "But that's not fair. We can't do the Tour de France in five minutes! It's a long race." Others: "Yeah!" Caregiver: "Some children disagree with a five-minute limit. Any other solutions?" Marshall: "We could take turns and have a sign-up sheet like we do for cooking. You can ride as long as you want. But when someone signs up, you have to get off in five minutes." Caregiver: "We have two ideas. Everyone uses a timer and gets off in five minutes. Or you use the trike as long as you want, until someone signs up on the list. Then you have to get off in five minutes. How can we decide between the two ideas?" Emily: "We can vote." The caregiver puts two columns on a board, explains the choices, and asks each child to choose. Caregiver: "Marshall's idea got more votes. Let's try Marshall's idea for a few days and then we'll talk about how it's working."
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Caregiving Supports

With preschoolers, caregivers:

- provide *each* child with opportunities to explore their communities.
- conduct group meetings where *each* child can participate in discussions of justice, fairness, the welfare of the community and its members, and individual rights in the meaningful context of daily experiences.
- ensure a classroom atmosphere of mutual respect.
- acquaint *each* child with various community helpers.
- give *each* child meaningful jobs in the classroom (watering plants, feeding animals, cleaning tables, etc.)
- provide materials such as photographs, books, posters, games, puzzles, foods, dolls, etc., that reflect *each* child's family, community, and world.



Area 10 Communication, Language, and Literacy

10.1 *Language Understanding and Use*

Standard	Children understand and use communication and language for a variety of purposes.
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Rationale	Children understand and use communication and language for a variety of purposes. Communication occurs through both verbal and non-verbal means. Although most children move from non-verbal to verbal communication, some children need non-verbal communication aids, such as signing and writing boards. Vocabulary growth is rapid during the preschool years but varies widely among children of different cultural and economic backgrounds (Hart and Risley, 1995). At the same time, children increase their use and understanding of sentences with greater length and complexity. They also become increasingly able to use language appropriately and effectively in a variety of social contexts (Snow, Griffins, and Burns, 1998). During this development, caregivers help children become able to use language to discuss past events and absent objects. This skill, this decontextualized language, is linked to the development of reading (Neuman and Dickinson, 2001). Conversations that analyze the story—back-and-forth exchanges between caregivers and children during book reading—help children increase their vocabulary (Dickinson and Sprague, 2001). Dialogic storytelling (when the child is coached to become the story teller and to link the story to the child’s life) also appears to increase the child’s vocabulary.
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Benchmarks	The child: <ol style="list-style-type: none">1. shows a steady increase in listening and speaking vocabulary.2. initiates, listens, and responds appropriately in conversations with peers and caregivers.3. speaks in sentences of increasing length and grammatical complexity.4. follows simple oral directions that involve several actions.5. asks and answers a variety of question types.
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Examples of Benchmarks

Drew and his friends are eating lunch. Drew: "Teacher, my shirt is green like the peas." Caregiver: "Yes, both your shirt and the peas are green. What else is green?" Drew: "Grass and snakes."

Tamra: "Look, a gold button." Caregiver: "It is big gold button, Tamra. We call this big, gold, shiny button a badge. The police officer wears a badge." Tamra: "A gold badge."

The caregiver made sandwiches from pita bread for snack. Caregiver: "What is different about this bread?" Five-year-old Nelly: "The pita bread is like an envelope." Maya: "This bread is different. There's no crust." After snack, the caregiver reads the book *Bread, Bread, Bread* to the children.

While reading the book *Where's Spot?*, the caregiver asks a variety of questions. "Did Spot have a good hiding place?" Andy: "No, he could have hid behind a bush." After the story, the caregiver asks, "How do you think his mother felt when she found Spot?" Kere: "Happy. She was worried about him."

Tamage, who has a hearing loss, is in the middle of the bike path. Jody is talking at Tamage's back: "Tamage, you're in the way. Move." Caregiver: "Remember, Jody, Tamage needs to see you in order to hear you." Jody moves around so that she is facing Tamage and repeats her statement. Tamage gets off the path.

Caregiving Supports

With preschoolers, caregivers:

- expand *each* child's comments.
- model new vocabulary and explain meaning of new words encountered (in conversations, books, songs, and rhymes).
- provide many opportunities to engage *each* child in conversations, using wait time (during share time, meal time, center time).
- provide children with opportunities to practice following simple directions (in games, group time, daily routines).
- get on children's eye level when speaking with them whenever possible.
- ask a variety of yes, no, wh-, and open-ended questions in conversations.
- use adaptive strategies and equipment (communication boards, computers, hearing aids, auditory trainers) to facilitate communication with children who have speech production difficulties.
- use materials and words in children's home language (in music, games, stories, etc.)

Area 10 Communication, Language, and Literacy

10.2 Early Literacy

Standard Children engage in early reading experiences.

Rationale Early, or emergent, literacy skills build on the child’s language understanding and use. As young children develop language skills, they acquire the ability to think about language, talk about it, analyze its parts, and judge correct and incorrect forms. This thinking about language is referred to as *metalinguistic ability* and is related to early reading skills. Additional predictors of early reading include alphabet knowledge, phonological awareness, and emergent writing (Whitehurst and Lonigan, 2001). Phonological processing involves the sensitivity to, manipulation of, and use of sounds in word and requires understanding of the sounds of language. Phonological awareness includes recognizing and producing rhymes, segmenting words into syllables, and identifying words with the same beginning, middle, or ending sounds. Phonological awareness skills in preschool children are highly predictive of success in early reading skills (Cunningham, 1990; Whitehurst and Lonigan, 2001). In contrast, interventions that focus on teaching letter names do not appear to increase reading skills (Adams, 1990).

Benchmarks The child:

1. shows an interest and enjoyment in listening to books and attempts to read familiar books.
2. displays book handling knowledge (turning the book right side up, using left to right sweep, turning one page at a time, recognizing familiar books by cover).
3. shows an awareness of environmental print.
4. identifies some alphabet letters by their shapes, especially those in his/her own name.
5. recognizes the printed form of his/her name in a variety of contexts.
6. demonstrates comprehension of a book.
7. demonstrates awareness that language is made up of words, parts of words, and sounds in words.

Examples of Benchmarks

The caregiver is reading *The Hungry Caterpillar* to the children. Before reading the book, the caregiver mentioned the title and author, Eric Carle. The caregiver reads the book, which the children have heard many times before. Caregiver: "And what do you think the caterpillar will look like after eating all those foods?" Lori: "He'll look REALLY big!" Caregiver: "Let's see what happens." She turns the page. Lori: "See? He IS big." After listening to the story, children use flannel cutouts to retell the story with the help of the caregiver.

Caregiver: "I want everybody whose name starts with a \k\ sound to stand up." Chris, Candi, and Mark stand up." Caregiver: "I hear the \k\ sound starting Chris and Candi. But I hear the \k\ sound ENDING your name, Mark. So you sit down until you hear the \m\ sound that STARTS your name." Mark sits down. Caregiver: "Now I want everybody whose name STARTS with an \m\ sound to stand up." Mike, Mark, and Missy stand up. "Right. I hear the \m\ sound starting Mike, Mark, and Missy. Good listening."

The children are singing the *Name Song*. When they get to Mary, they sing "Mary, marry, bo barry, banana-fana-fo fairy, me mi mo marry. Mary!"

Rosita's mom, Consuelo, has tape-recorded some Spanish stories. Rosita brings the tape to the caregiver. Rosita: "Here are my mamma's stories." Caregiver: "Let's set up a listening center so we can listen to the stories together."

Caregiving Supports

With preschoolers, caregivers:

- read a variety of materials (books, children's magazines, big books, variety of types of literature, signs, recipes) aloud many times during the day to *each* child individually and in small groups and large groups.
- ensure that *each* child has access to a variety of books, both fiction and non-fiction, throughout the day.
- display and draw attention to print sources in the environment (signs—exit, women, men, on, off).
- have *each* child's name and an alphabet chart displayed; draw attention to letters (children's names on their storage cubbies, name charts).
- give *each* child opportunities to talk about life experiences and opportunities to retell stories after listening to books (using storybook props).
- provide many opportunities for *each* child to hear, say, and sing rhymes in finger-plays, books, and songs.
- provide opportunities for *each* child to identify initial sounds in words (such as finding all the objects on a tray that start with the \b\ sound).
- incorporates sounds and words from *each* child's home language in daily conversations and activities.

Area 10 Communication, Language, and Literacy

10.3 Early Writing

Standard	Children engage in early writing experiences.
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Rationale	Young children attempt to write through scribbling, drawing, and through pictographs that may only have meaning to the child. Children may use letters, numbers, and letter-like forms in their writing attempts. Young children may use characteristics of the object in their early writing efforts. For example, the word <i>horse</i> may be bigger than the word <i>dog</i> . Young children may also use letters to represent syllables. The use of invented spellings, in which the child may use unusual representations (the first and last sounds to represent a word: BT for <i>boat</i>), is strongly related to reading and spelling skills in the early grades (Whitehurst and Lonigan, 2001).
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Benchmarks	The child: <ol style="list-style-type: none">1. attempts to communicate with others using scribbles, shapes, pictures, and/or letters to write.2. experiments with a variety of writing tools (pencils, crayons, brushes, chalk) and materials.3. tells others about intended meaning of drawings and writing.
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Examples of Benchmarks	The children went to the post office. When they returned, many decided to send letters to their friends and parents. Some children chose to use pencils to write. Others used markers to draw while a caregiver writes a note about the drawing.
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Jessie is painting at the easel. Caregiver: "Do you want me to print your name on your picture, Jessie, or do you want to?" Jessie: "You do it." Caregiver prints "J e s s i e." Jessie looks at her name, picks up the pencil and the easel, and tries to copy it below. "J E S S I E" However, the S's are reversed, and she puts the E below the I because she has run out of room.

Caregiving Supports

With preschoolers, caregivers:

- provide a variety of writing materials and encourage *each* child to participate in a variety of writing experiences (on an easel, chalkboard, sidewalk, paper on floor).
- incorporate writing materials into play settings (in dramatic play areas).
- model using writing for communication (writing thank-you notes following field trips).
- guide *each* child to hold and use writing tools, such as pencils, correctly.
- encourage *each* child to copy (but not trace) his/her name.
- provide adaptive writing tools and materials to aid *each* child with special needs.



Area 11 Mathematics and Science

11.1 Comparison and Number

Standard	Children understand amount, including use of numbers and counting.
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Rationale	During the preschool years, children construct basic understandings of numbers and amount or “how many.” These understandings may differ from the understandings of older children and caregivers. Children initially build their understanding of amount through their hands-on actions with concrete objects. Children learn to count with understanding when they match the counting sequence, one-to-one, with a group of objects (National Council of Teachers of Mathematics, NCTM, 2000). After repeated experiences with small quantities of objects, they construct an understanding of discrete numbers. When caregivers help children link their understandings of objects with conventional numerals (2, 3), children advance their understanding to deal with larger quantities (Mix, Huttenlocher, and Levine, 2002). Counting from the first number, and counting on from one number to another, provides the basis for later skills in formal addition (Fuson and Fuson, 1992).
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Benchmarks	The child: <ol style="list-style-type: none">1. shows recognition and naming of numerals (1, 2, 3).2. counts objects, matching numbers one-to-one with objects.3. uses language such as <i>more</i> or <i>less</i> to compare quantities.
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Examples of Benchmarks	Amy, Tricia, and Alex are playing in the dramatic play area; Nadia joins them. Amy: “You can’t play here now, Nadia—only three can be here.” She points to the sign in the interest center with the numeral 3 and three stick figures [3 ♀ ♀ ♀] and then points to each of the three children in the area. “One, two, three—that’s us. You’re four. You have to wait.” Nadia goes to the block area.
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Jorge and Damon are playing a board game. Jorge rolls a die and counts with his finger: “One, two, three.” He moves his marker three spaces.

Caregiving Supports

With preschoolers, caregivers:

- use counting finger-plays, books, and number rhymes repeatedly.
- post numerals (1, 2, 3) and icons (simple pictures) in the room to indicate group size limits for each learning center.
- use daily routine activities (such as setting the table) to incorporate meaningful experiences involving counting and one-to-one correspondence.
- make available daily puzzles and manipulative materials that link numerals to pictures to represent quantity.
- provide cooking activities with recipes that link numerals to pictured objects.



Area 11 Mathematics and Science

11.2 Patterns

Standard	Children understand patterns.
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Rationale	Mathematics is the language and science of patterns (Copley, 1999). Patterns involve part-whole relationships, including the relationships among parts. Children learn patterns involving numbers, shapes, measuring, and data analysis (Copley, 2000). Recognizing patterns helps children organize their world and facilitate problem solving. Working with patterns and recognizing patterns helps children see relationships make predictions. Pattern recognition is an important precursor to algebraic understanding (NCTM, 2000). Seriation, or organizing into a sequence, is one pattern. Children learn the ordinal numbers (first, second, third, ... last) to describe the members of a sequence of objects or events.
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Benchmarks	The child: <ol style="list-style-type: none">1. shows skills in recognizing and creating some patterns.2. predicts what comes next in a pattern.
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Examples of Benchmarks	Ryan is stringing beads. He talks to himself while stringing: "First comes red, then white, then red, then red." Caregiver: "You have a pattern there, Ryan." Ryan: "Yep. It's red, white, red—just like the flag." Caregiver: "You have the same colors as the American flag: first red, next white. What's the last color you'll use?" Ryan: "Red; the flag starts and ends with red."
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Caregiving Supports	With preschoolers, caregivers: <ul style="list-style-type: none">• provide a variety of materials related to patterns, such as puzzles, stringing beads.• use, and encourage <i>each</i> child to use, series words (such as first, second, third, last) to describe <i>each</i> child's experiences.• encourage <i>each</i> child to make predictions in patterns, measurement, and data analysis.
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Area 11 Mathematics and Science

11.3 *Shapes and Spatial Relationships*

Standard	Children understand shapes and spatial relationships.
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Rationale	Spatial relationships involve ideas related to position (on, under, next to), direction, and distance (near, far, next to, close to) of objects in space. Recognizing shapes is the beginning of geometric understanding. Children construct their understanding of space from actively manipulating their own spatial environment (Clements and Battista, 1992). The understanding of shapes requires children to actively manipulate shapes and to explore the characteristics and parts of shapes, rather than simply seeing and naming them (Clements, 2003). Children’s concepts of shape may differ from mathematical concepts (children may limit triangles to only equilateral triangles, or not classify squares as rectangles). Caregiver instruction is needed to help children progress from recognizing shapes to understanding the characteristics of shapes. Spatial visualization involves seeing an object from different perspectives and both building and changing mental representations of both two- and three-dimensional objects (Clements and Sarama, 2004). Through geometric modeling and spatial reasoning, children learn to describe their physical environment and to build problem-solving skills (NCTM, 2000).
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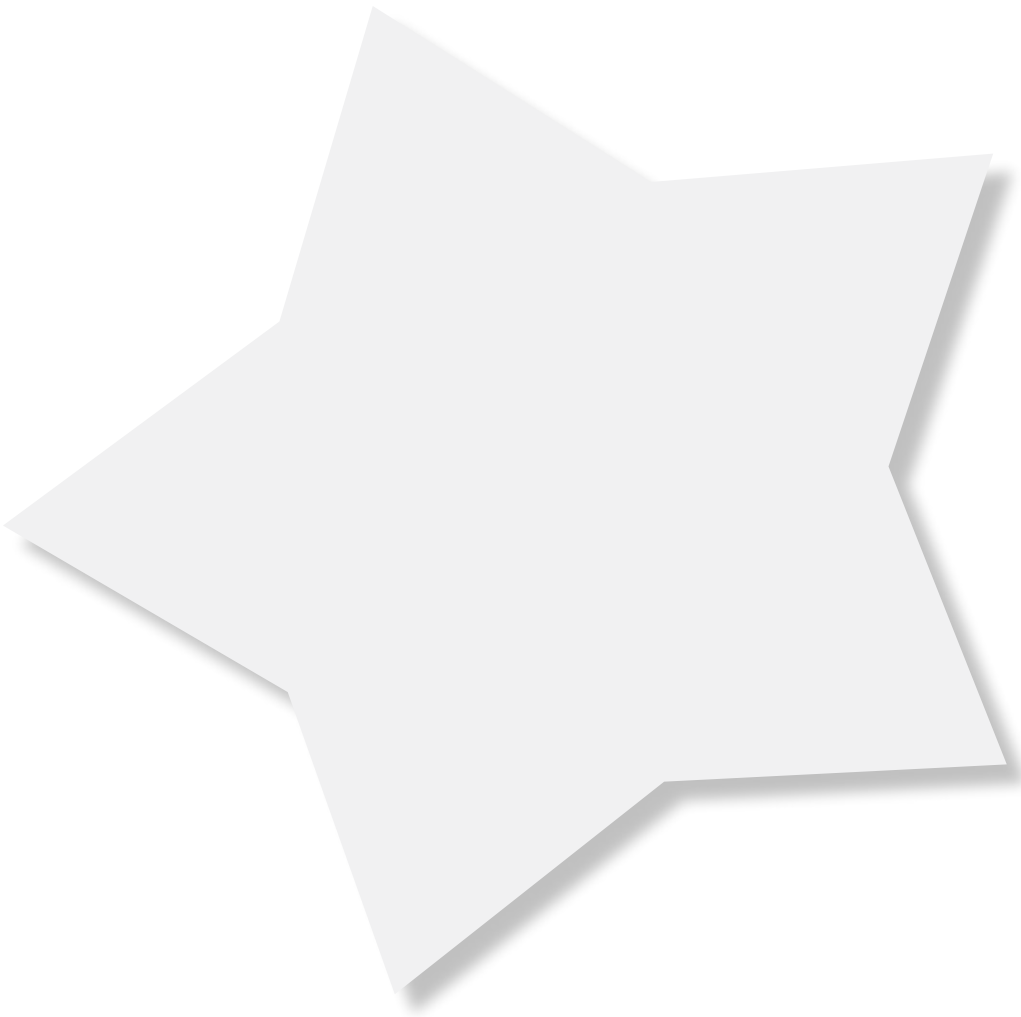
Benchmarks	The child: <ol style="list-style-type: none">1. demonstrates understanding of spatial words such as up, down, over, under, top, bottom, inside, outside, in front, and behind.2. shows more recognition for some simple shapes.3. notices similarities and differences among shapes.4. notices how shapes fit together to form other shapes.
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Examples of Benchmarks	The caregiver reads a book on shapes to the children. Katy: “I know where there is a triangle outside.” Caregiver: “Where?” Katy: “On the roof.” Caregiver: “Let’s look for it when we’re outside.” While they are outside, several children look for Katy’s triangle. “Is this it?” Katy: “No.” Finally, she points the children to the gable on the roof. “There’s my triangle.” Caregiver: “Are there other triangles outside?” The children look around and begin to find other triangles.
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**Caregiving
Supports**

With preschoolers, caregivers:

- provide a variety of books, materials, and experiences related to shapes and spatial reasoning, such as blocks, shape templates.
- use shape and spatial words to describe the environment.



Area 11 Mathematics and Science

11.4 *Scientific Reasoning*

Standard Children observe, describe, and predict the world around them.

Rationale Learning science is an active process; science is inquiry-based (National Research Council, 1996). Young children need to acquire the tools of science, rather than scientific knowledge, which will change considerably by the time they reach adulthood. Science-process skills permit children to process new experiences through their senses. Children observe, compare, classify, measure, and communicate their observations of events and objects (Charlesworth and Lind, 1999). They explore earth science, physical science, and life science as they observe and manipulate concrete objects. They infer, drawing more meaning than what is visible, and predict future events. They describe those events and compare their predictions with their observations (Piaget, 1980).

Benchmarks The child:

1. shows curiosity about living and non-living things.
2. notices, describes, and predicts changes in the environment.
3. shows respect for living things.

Examples of Benchmarks

Each child has planted a bean seed in a small paper cup, watered the soil, and placed it in a sunny window. Each day, the caregiver reminded the children to water their seeds with just a little water. Some children put lots of water on the seeds; some were absent and did not water the seeds. After a few weeks, the caregiver says: "Look at the seeds. I wonder why some of them did not grow." Gina: "Monika never watered hers." Monika: "I watered it when I planted it, but then I was sick and didn't come." Caregiver: "I wonder if the seed needed more water than that." Ivan: "I watered mine every day—look—it's really wet—like mud—and mine didn't grow." Caregiver: "I wonder if the seed needs less water than that." David: "I watered mine just a little bit every day. Mine's big." Caregiver: "Do some of you want to try growing seeds again?" Children: "Yes." Monika: "I want two seeds so I can water one and not the other." Caregiver: "That's an idea. Anyone who wants to try Monika's plan can have two seeds. Monika, how will you keep track of which seed you will water and which seed you will not water?" Monika: "I'll write 'NO' on one cup."

Roberta is using pipe cleaners to make a bubble wand at the science center, which has a large, shallow container with soap solution. She shapes the pipe cleaners into a square and dips the wand into the bubble solution. She blows, frowns, adjusts her wand, and frowns again. Caregiver: "You look frustrated, Roberta." Roberta: "I'm trying to blow a square bubble, but it keeps coming out round." Caregiver: "I wonder why?" Roberta: "I think it's too bendy." Caregiver: "What are you going to do about that?" Roberta: "I don't know. I want it to be square and not to bend." Caregiver: "Let me know if you need help."

Caregiving Supports

With preschoolers, caregivers:

- provide a variety of natural experiences that encourage *each* child to explore, describe, and classify.
- encourage *each* child to observe patterns and to make predictions.
- encourage *each* child to compare their predictions with what they see.

Area 11 Mathematics and Science

11.5 *Scientific Problem Solving*

Standard	Children apply and adapt strategies to solve problems.
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Rationale	Problem solving is finding a way to solve a problem that is not immediately evident or reachable. Problem solving is a basic characteristic of mathematical and scientific thinking as well as a major way to develop both mathematical and scientific knowledge (NCTM, 2000). Problem solving is learned through daily living experiences, including those involving science and math (NCTM, 2000). Children need time to think about problems; they need permission to make mistakes, and they need encouragement to try a variety of strategies (Charlesworth and Lind, 1999). Caregivers need to encourage children to ask questions.
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Benchmarks	The child: <ol style="list-style-type: none">1. uses his/her senses and variety of strategies to solve problems.2. invents strategies to figure out answers to problems.3. when unsuccessful at solving problems, experiments and adapts strategies.
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Examples of Benchmarks	There are magnets on the science table, together with a variety of small metal, plastic, and wooden objects. Kwang touches the magnet to the paper clips, the stapler, the pencil, the penny, and the plastic ruler. Caregiver: "Looks like the magnet sticks to some things but not others?" Kwang: "Yes; it sticks to the paper clips but not to the pencil, the penny, or the ruler." Caregiver: "What else do you think it will stick to in the room?" Kwang: "I think it will stick to the table legs." She reaches down and puts the magnet on the leg. Kwang: "See, it sticks. It won't stick to the easel." She puts the magnet on the easel; it falls off. Caregiver: "What happened?" Kwang: "It fell off. It didn't stick."
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Caregiving Supports	With preschoolers, caregivers: <ul style="list-style-type: none">• model a variety of problem solving strategies.• provide time and situations that allow <i>each</i> child to problem solve.• encourage <i>each</i> child to use problem solving strategies.• use adaptive devices as needed to help <i>each</i> child participate.
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Area 11 Mathematics and Science

11.6 Measurement

Standard	Children understand comparisons and measurement.
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Rationale	Children organize their experiences through sorting and classifying. Learning language names helps children match and compare, possibly because the words help children focus their attention and note similarities (Sandhoffer and Smith, 1999). Making comparisons and noting similarities and differences provides a basis for making patterns and generalizations. Exploring graphs provides a basis for later understanding of data analysis and probability. Measurement, which provides a basis for comparison, provides one of the most widely used applications of mathematics (NCTM, 2000). Children begin to understand measurement by comparing the size of objects. Young children explore measurement concepts but do not master accurate measurement skills with standard units or comparative (transitive) measurement judgments. Children need direct, hands-on experiences with objects while they use language to describe relationships involving size.
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Benchmarks	The child: <ol style="list-style-type: none">1. sorts, classifies, and puts objects in series, using a variety of properties.2. makes comparisons among several objects based on one or more attributes (length, size, weight) and using words such as shorter, taller, bigger, smaller, heavier, lighter.
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Examples of Benchmarks

Jeffrey and Miguel are sitting at snack with their graham crackers. Miguel breaks his cracker in half. "Now I've got more than you—you've got one and I've got two." Jeffrey breaks his cracker into many small pieces. "Now I've got more—I've got lots." Caregiver: "Tell me how they're different." Jeffrey: "I've got more." Miguel: "But mine are bigger."

Brittany and Kyung are each building a tower with unit blocks. Brittany: "Mine's taller than yours." Kyung adds a block. "Now mine's taller." Brittany adds a block but her tower collapses, taking Kyung's down also. Brittany: "Let's build towers that are the same!" They start to build their separate towers, matching block for block.

The caregiver has written "How many people are in your family?" on the board, with columns for 2, 3, 4, 5, 6, and More than 6. During writing time, each child draws a picture of all the people in his/her family, counts them (with help), and places her name card in the column under the corresponding number for his/her family. During group time, the caregiver asks: "What can we tell about our families from the chart?" Jan: "Lots of names are under the 3." Jason: "My name is under the 4; so is Teddy's." Camara: "Mine is the only card under the last one." Caregiver: "Which one has the most names?" Jan: "3—look how many: 1... 2... 3... 4... 5... 6. There are six names under 3." Caregiver: "So six children here have families with three people in them."

Caregiving Supports

With preschoolers, caregivers:

- model the use of language involving comparisons, such as more, less, and same.
- provide objects and materials for *each* child to compare and measure.
- display information in graphical form so that *each* child can compare activities and experiences (Charlesworth and Lind, 1999).

Area 12 Creative Arts

12.1 Art

Standard	Children explore art through a variety of media.
Rationale	Through repeated experiences, young children gain skills in using a variety of media or materials for art, such as drawing materials, clay or dough, paint, and markers. Young children move from scribbling, exploring the properties of the media, to more representational efforts (Kellogg, 1967). Through the arts, children learn to communicate their ideas and experiences while they make choices, gain motor coordination, and explore the physical properties of media (Althouse, Johnson, and Mitchell, 2003). As children work through their plans to build a structure from blocks or paint a picture, they build their cognitive skills (Seefeldt, 1995).
Benchmarks	The child: <ol style="list-style-type: none">1. uses a variety of two- and three-dimensional media (drawing materials, paint, clay, wood, markers) to create original works, form, and meaning.2. expresses ideas about own artwork and artwork of others, relating artwork to what is happening in the environment, life, classroom, etc.
Examples of Benchmarks	Keith dips a brush into yellow paint on the easel. He moves the brush across the paper up and down, then side to side. He dips the other brush in blue paint and paints large slashes back and forth. Caregiver: "Tell me about your painting, Keith." Keith: "I used lots of yellow and blue." Pointing to a green triangular shape, Keith says: "Hey look—there's a Christmas tree!" Caregiver: "I see the tree, too—and it is green, like a Christmas tree."
Caregiving Supports	With preschoolers, caregivers: <ul style="list-style-type: none">• provide a variety of art materials in the environment, some of which are available and accessible to <i>each</i> child each day for long periods of self-selection time.• encourage <i>each</i> child to express their own ideas in their artwork without providing models, directions, or pre-made components.• display a variety of artwork, primarily <i>each</i> child's work, at their eye level.• provide a supportive atmosphere where <i>each</i> child is encouraged to share their art experiences.

Area 12 Creative Arts

12.2 Music, Rhythm, and Movement

Standard	Children participate in a variety of music and movement experiences.
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Rationale	Aristotle is said to have asked, “What we must first seek to answer is whether music is to be placed in education or not, and what power it has... whether as education, play, or pastime” (Scripp, 2002). Although debate still continues on this issue, a large body of research supports that children learn in and through music. Musical activities such as singing, dancing or rhythmic movement, and playing or listening to music can be a catalyst to further education in a variety of areas, including spatial-temporal reasoning (Rauscher, Shaw, Levine, Wright, Dennis, and Newcomb, 1997). In addition, music can be a tool to promote social-emotional development, including self-regulation (Scripp, 2002).
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Benchmarks	The child: <ol style="list-style-type: none">1. participates in a variety of musical and rhythmic experiences, including singing, listening, and finger-plays.2. notices differences in pitch, tempo, dynamics, and timbre.
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Examples of Benchmarks	Stacey is listening to a rhythmic song on the portable CD player. She picks up some scarves nearby and begins to move to the music. Caregiver: “What does the music make you want to do?” Stacey: “I’m flying.” Caregiver: “You’re using your arms to fly. Tell me more about the music.” Stacy: “It makes me fly fast.” Caregiver: “It does have a fast tempo, doesn’t it?”
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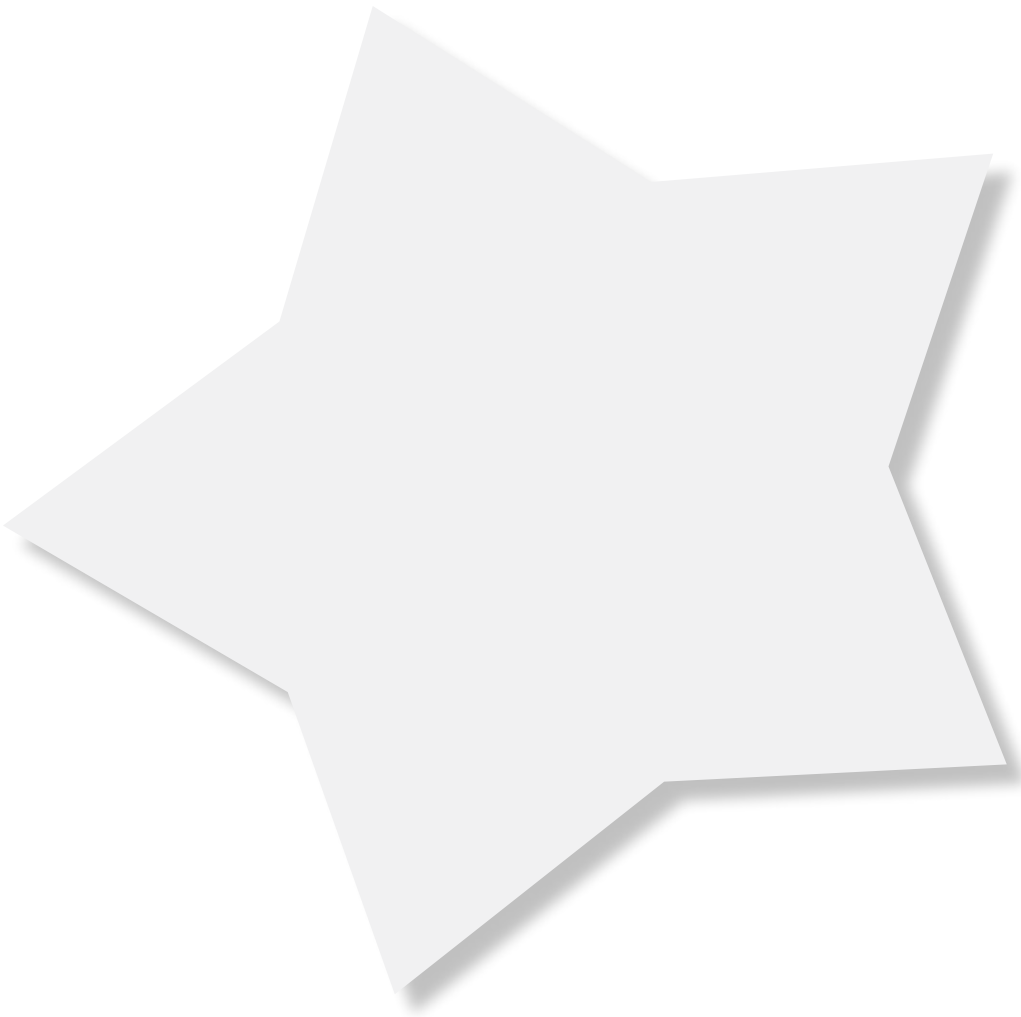
The children are singing, “I see a rabbit...” Caregiver: “What other animal can we sing about?” Abdul: “An elephant.” Caregiver and children sing: “I see an elephant.”

Children are using maracas they made and singing a song about rain. Caregiver: “Now it’s raining just a little bit, just a sprinkle. What will it sound like?” Children play the maracas very softly. Caregiver: “Now it’s beginning to rain a little bit harder.” Children play louder. Caregiver: “Now it’s raining very hard!” Children play very loudly. Caregiver: “Now the rain is slowing.” Children begin to play more softly again.

Caregiving Supports

With preschoolers, caregivers:

- provide a variety of music materials, some of which are available and accessible to *each* child each day for long periods of self-selection time.
- model and encourage *each* child to express themselves through music-related activities.
- incorporate various forms of music and movement into circle or group time.
- adapt activities and materials as needed to involve *each* child with disabilities in music and movement activities.



Area 12 Creative Arts

12.3 Dramatic Play

Standard	Children engage in dramatic play experiences.
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Rationale	Sociodramatic play (Howes, 1992) helps children learn to communicate, control and compromise, and explore intimacy and trust. In sociodramatic play, children assume different roles from their experiences and use their understandings to act out a variety of emotions and social relationships. Children who engage in dramatic play typically show more advanced skills in seeing the perspectives of others and in getting along with peers. (Garvey, 1990).
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Benchmarks	The child: <ol style="list-style-type: none">1. shows creativity and imagination to use materials and assume different roles in dramatic play situations.2. interacts with peers in dramatic play activities that become more extended and complex.
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Examples of Benchmarks	Kegan, Hunter, and Diego are in the dramatic play corner. They put on the firefighter hats and yellow slickers and aim a short hose at the playhouse. Diego: "We need lots of water to put out the fire." Hunter: "We can throw buckets of water at the fire, too." They start throwing buckets of pretend water at the playhouse. Jessica watches nearby. Caregiver: "Jessica, do you want to help the firefighters?" Jessica nods. Caregiver: "Tell them you want to help fight the fire." Jessica: "I want to fire fight." Kegan: "You could drive the firetruck." Jessica runs to put on a hat and yellow slicker and gets behind the large steering wheel.
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Caregiving Supports	With preschoolers, caregivers: <ul style="list-style-type: none">• provide an environment with sufficient space, time, props, and materials for <i>each</i> child to interact with peers, trying on and carrying out different roles, both familiar and unfamiliar.• encourage <i>each</i> child, coaching as needed, to interact with peers in dramatic play activities.
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RESOURCES and REFERENCES

Curriculum and Guidance

- Acredolo, L., & Goodwyn, S. (1996). *Baby signs: How to talk with your baby before your baby can talk*. Chicago: Contemporary Books.
- Albrecht, K., & Miller, L. (2001). *Innovations: Infant and toddler development*. Beltsville, MD: Gryphon House.
- American Academy of Pediatrics (2005). *Caring for our children* (2nd ed.).
<http://www.aap.org>
- American Academy of Pediatrics (2005). *Caring for your baby and young children* (4th ed.).
<http://www.aap.org>
- American Academy of Pediatrics (2005). *Guide to your child's nutrition*.
<http://www.aap.org>
- Armbruster, B., Lehr, F., Osborn, J., & the Early Childhood-Head Start Task Force (2002). *Teaching our youngest: A guide for preschool caregivers and child care and family providers*. Washington, DC: U.S. Department of Education and U.S. Department of Health and Human Services.
- Bergen, D., Reid, R., Torelli, L. (2001). *Educating and caring for very young children*. New York: Teachers College Press.
- Brazelton, T. B. (1992). *Touchpoints, the essential reference: Your child's emotional and behavioral development*. Reading, MA: Perseus.
- Bredenkamp, S., & Copple, C. (Eds.) (1997). *Developmentally appropriate practice in early childhood programs*. Washington, DC: National Association for the Education of Young Children.
- Bricker, D., Capt, B., & Pretti-Frontczak, K. (2002). *Assessment, evaluation, and programming system for infants and children (AEPS) Vol. 3: Curriculum for birth to three years* (2nd ed.). Baltimore, MD: Paul H. Brookes.
- Bronson, M. (1995). *The right stuff for children birth to 8: Selecting play materials to support development*. Washington, DC: National Association for the Education of Young Children.
- Burns, M. S., Griffin, P., & Snow, C. E. (1999). *Starting out right: A guide to promoting children's reading success*. Washington, DC: National Academy Press.
- Catlett, C., Winton, P. J., Mitchell, A. (2002). *Resource guide: Selected early childhood/early intervention training materials* (11th ed.). Chapel Hill, NC: Frank Porter Graham Institute, University of North Carolina.
<http://www.fpg.unc.edu/Publications/Rguide/rguide.pdf>
- Cryer, D., & Harms, T. (2000). *Infants and toddlers in out-of-home care*. Baltimore, MD: Paul H. Brookes.
- Dombro, A. L., Colker, L. J., & Dodge, D. T. (1999). *The creative curriculum for infants and toddlers* (revised ed.). Washington, DC: Learning Strategies.
- Gandini, L., & Edwards, C. P. (2001). *Bambini: The Italian approach to infant/toddler care*. New York: Teachers College Press.
- Gonzalez-Mena, J., & Eyer, D. W. (2004). *Infants, toddlers, caregivers: A curriculum of respectful, responsive care and education*. Mountain View, CA: Mayfield Publishing.
- Gonzalez-Mena, J. (2002). *Infant/toddler caregiving: A guide to routines* (2nd ed.). Sacramento, CA: California Department of Education.
- Greenman, J., & Stonehouse, J. (1996). *Prime times: A handbook for excellence in infant and toddler programs*. St. Paul, MN: Redleaf Press.
- Herr, J., & Swim, T. (2002). *Creative resources for infants and toddlers*. Albany, NY: Delmar.

- Iowa Department of Human Services (2001). *Iowa early care and education professional development standards*. Des Moines, IA: Author.
- Knoll, M., & O'Brien, M. (2001). *Quick quality check for infant and toddler programs*. St. Paul, MN: Redleaf Press.
- Lally, J. R. (Ed.) (1990). *Infant/toddler caregiving: A guide to social-emotional growth and socialization*. Sacramento, CA: California Department of Education.
- Lally, J. R., Mangione, P. L., & Young-Holt, C. L. (Eds.) (1992). *Infant/toddler caregiving: A guide to language development and communication*. Sacramento, CA: California Department of Education.
- Lally, J. R., & Stewart, J. (Eds.) (1990). *Infant/toddler caregiving: A guide to setting up environments*. Sacramento, CA: California Department of Education.
- Lane, M. B., & Signer, S. (Eds.) (1990). *Infant/toddler caregiving: A guide to creating partnerships with parents*. Sacramento, CA: California Department of Education.
- Lowenfeld, V., & Brittain, L. (1975). *Creative and mental growth*. New York: Macmillan.
- Mangione, P. L. (Ed.) (1995). *Infant/toddler caregiving: A guide to culturally sensitive care*. Sacramento, CA: California Department of Education.
- McCracken, J. (2000). *Play is FUNdamental*. Washington, DC: National Association for the Education of Young Children.
- National Network for Child Care. <http://www.nncc.org>
- Neuman, S. B., Copple, C., & Bredekamp, S. (1999). *Learning to read and write: Developmentally appropriate practices for young children*. Washington, DC: National Association for the Education of Young Children.
- Olds, A. R. (2000). *Child care design guide*. New York: McGraw-Hill.
- Ramey, C. T., & Ramey, S. L. (1998). *Right from birth: Building your child's foundation for life: Birth to 18 months*. New York: Goodard.
- Sandall, S., Hemmeter, M., Smith, B., McLean, M. (2005). *DEC recommended practices: A comprehensive guide for practical application in early intervention/early childhood special education*. Missoula, MT: Division for Early Childhood.
- Sawyers, J. K., & Rogers, C. (2004). Helping babies play. In D. Koralek (Ed.). *Spotlight on Young Children and Play*. Washington, DC: National Association for the Education of Young Children.
- Silberg, J. (1999). *125 brain games for babies: Simple games to promote early brain development*. Beltsville, MD: Gryphon House.
- Silberg, J. (2000). *125 brain games for toddlers and two's: Simple games to promote early brain development*. Beltsville, MD: Gryphon House.
- Silberg, J. (2001). *Games to play with babies* (3rd ed.). Beltsville, MD: Gryphon House.
- Silberg, J. (2002). *Games to play with toddlers* (2nd ed.). Beltsville, MD: Gryphon House.
- Sluss, D. (2005). *Supporting play birth through age eight*. Clifton Park, NY: Thomson Delmar Learning.
- Torelli, L., & Durrett, C. (Ed). *Landscapes for learning: Designing group care environments for infants, toddlers, and two-year-olds*. <http://www.spacesforchildren.com>
- WestEd. (1995). *The program for infant/toddler caregivers' trainer's manual, module I: Social-emotional growth and socialization*. Sacramento, CA: California Department of Education.
- WestEd. (1995). *The program for infant/toddler caregivers' trainer's manual, module III: Learning and development*. Sacramento, CA: California Department of Education.

- WestEd. (1997). *The program for infant/toddler caregivers' trainer's manual, module IV: Culture, family, and providers* (rev. ed.). Sacramento, CA: California Department of Education.
- WestEd. (2000). *The program for infant/toddler caregivers' trainer's manual, module II: Group care* (2nd ed.). Sacramento, CA: California Department of Education.

Developmental Assessment

- Barrera, I. (1996). Thoughts on the assessment of young children whose sociocultural background is unfamiliar to the assessor. In S. J. Meisels, & E. Fenichel (Eds.). *New visions for the developmental assessment of infants and young children* (pp. 69-83). Washington, D.C.: Zero to Three.
- Bricker, D., Capt, B., & Pretti-Frontczak, K. (2002). *Assessment, evaluation, and programming system for infants and children (AEPS) Vol. 2: Test* (2nd ed.). Baltimore, MD: Paul H. Brookes.
- Brown, W., & Barrera, I. (1999). Enduring problems in assessment: The persistent challenges of cultural dynamics and family issues. *Infants and Young Children*, 12 (1), 34-42.
- Gober, S. (2002). *Six simple ways to assess young children*. Albany, NY: Delmar.
- Meisels, S. J., Marsden, D. B., Dombro, A. L., Weston, D. R., Jewkes, A. M. (2002). *The ounce scale*. <http://www.pearsonlearning.com>
- High/Scope Educational Research Foundation (2002). *Child observation record for infants and toddlers (COR-IT)*. Ypsilanti, MI: High/Scope Press.
- McLean, M. (1998). *Assessing young children for whom English is a second language*. *Young Exceptional Children*, 1(3), 20- 25.

Early Learning Standards

- Allen-Young, D., Amundson, J. L., Bowers, L. G., Koehn, J., Triola-Maloney, S., & Vendegna, N. (2003). *Building blocks to Colorado's content standards: Mathematics*. Denver, CO: Colorado Department of Education.
- Clements, D. H., & Sarama, J. (2004). *Engaging young children in mathematics: Standards for early childhood mathematics education*. Mahwah, NJ: Erlbaum.
- CTB/McGraw-Hill. *Prekindergarten standards*. <http://www.ctb.com/prekStandards/>
- Department of Health and Human Services (2003). *The Head Start path to positive child outcomes: The Head Start child outcomes framework*. Washington, DC: Author.
- Early Childhood Education Assessment Consortium (2003). *The words we use: A glossary of terms for early childhood education standards and assessment*. Washington, DC: Council of Chief State School Officers. <http://www.ccsso.org/ECEAglossary>
- Iowa Department of Education (2001). *Every child reads*. Des Moines, IA: Author.
- Iowa Department of Education (2002). *Primary program: Growing and learning in the heartland*. Des Moines, IA: Author.
- Kendall, J. (2003, April). *Setting standards in early childhood education*. *Educational Leadership*, 64-68.

- Minnesota Department of Children, Families, and Learning. *Minnesota early childhood indicators of progress: A resource guide*. St. Paul, MN: Author.
- National Association for Sports and Physical Education (2003). *Kids in action: Fitness for children birth to age five*. Reston, VA: NASPE. http://www.aahperd.org/naspe/template.cfm?template=kids_brochure.html
- National Association for the Education of Young Children (2002). *Early learning standards: creating the conditions for success: A joint position statement of the National Association for the Education of Young Children and the National Association of Early Childhood Specialists in state departments of education*. Washington DC: Author. <http://www.naeyc.org/resources/position/statements/earlylearn.pdf>
- National Council for the Social Studies (1994). *Expectations of excellence: Curriculum standards for social studies*. <http://www.ncss.org/standards/>
- National Council of Teachers of Mathematics (2000). *Principles and standards for school mathematics*. Reston, VA: National Council of Teachers of Mathematics.
- National Head Start Training and Technical Assistance Resource Center (2003). *The Head Start path to positive child outcomes: The Head Start child outcomes framework*. Washington, DC: Department of Health and Human Services.
- National Research Council (1996). *National science education standards*. Washington, DC: National Academy Press.
- National Science Teacher Association. *National science education standards*. <http://www.nap.edu/readingroom/books/nse/html/>
- Scott-Little, C., Kagan, S., & Frelow, V. S. (2003). *Standards for preschool children's learning and development: Who has standards, how were they developed, and how are they used?* Greensboro, NC: SERVE.
- Vermont Department of Education (2003). *Vermont early learning standards: Guiding the development and learning of children entering kindergarten*. Montpelier, VT: Author.

Environmental Supports

- Armbruster, B., Lehr, F., Osborn, J., & the Early Childhood-Head Start Task Force (2002). *Teaching our youngest: A guide for preschool adults and child care and family providers*. Washington, DC: U.S. Department of Education and U.S. Department of Health and Human Services.
- Bredenkamp, S., & Copple, C. (Eds.) (1997). *Developmentally appropriate practice in early childhood programs*. Washington, DC: National Association for the Education of Young Children.
- Burns, M. S., Griffin, P., & Snow, C. E. (1999). *Starting out right: A guide to promoting children's reading success*. Washington, DC: National Academy Press.
- Charlesworth, R., & Lind, K. K. (1999). *Math and science for young children* (3rd ed.). New York: ITP.
- Iowa Department of Human Services (2001). *Iowa early care and education professional development standards*. Des Moines, IA: Author.
- McCracken, J. (2000). *Play is FUNdamental*. Washington, DC: National Association for the Education of Young Children.
- Neuman, S. B., Copple, C., & Bredenkamp, S. (1999). *Learning to read and write: Developmentally appropriate practices for young children*. Washington, DC: National Association for the Education of Young Children.

Theory and Research

- Adams, M. J. (1990). *Learning to read: Thinking and learning about print*. Cambridge, MA: MIT Press.
- Althouse, R., Johnson, M. H., & Mitchell, S. (2003). *The colors of learning: Integrating the visual arts into the early childhood curriculum*. New York: Teachers College Press.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman.
- Berti, A. E., & Bombi, A. S. (1988). *The child's understanding of economics*. New York: Cambridge.
- Bruner, J. (1985). On teaching thinking: An afterthought. In S. Chipman, J. Segal, & R. Glaser (Eds.). *Thinking and learning skills. Vol. 2: Research and open questions* (pp. 597-608). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Bugental, D. B., & Goodnow, J. J. (1998). Socialization processes. In W. Damon, & N. Eisenberg (Eds.). *Handbook of child psychology (Vol. 3): Social, emotional, and personality development* (pp. 389-462). New York: John Wiley and Sons.
- Burns, M. S., Griffin, P., & Snow, C. E. (1999). *Starting out right: A guide to promoting children's reading success*. Washington, DC: National Academy Press.
- Cairns, R. B. (1979). *Social development: The origins and plasticity of interchanges*. San Francisco: Freeman.
- Clements, D. H., & Battista, M. T. (1992). Geometry and spatial reasoning. In D. A. Grouws (Ed.). *Handbook of research on mathematics teaching and learning* (pp. 420-464). New York: Macmillan.
- Clements, D. (2003). Teaching geometry. In J. Kilpatrick, W. G. Martin, & D. Schifter (Eds.). *A research companion to principles and standards for school mathematics*. (pp. 151-178). Reston, VA: National Council of Teachers of Mathematics.
- Coie, J. D., & Dodge, K. A. (1997). Aggression and antisocial behavior. In W. Damon, & N. Eisenberg, N. (Eds.). *Handbook of child psychology. Vol. III. Social, emotional, and personality development* (pp. 619-700). New York: Wiley.
- Copley, J. V. (1999). *Mathematics in the early years*. Reston, VA: National Council of Teachers of Mathematics.
- Copley, J. V. (2000). *The young child and mathematics*. Washington, DC: National Association for the Education of Young Children.
- Cratty, B. J. (1970). *Perceptual and motor development in infants and children*. New York: Macmillan.
- Cunningham, A. (1990). Explicit versus implicit instruction in phonemic awareness. *Journal of Experimental Child Psychology*, 50, 429-444.
- DeLoache, J. S., & Smith, C. M. (1999). Early symbolic representation. In I. Sigel (Ed.). *Development of Mental Representation* (pp. 61-86). Mahweh, NJ: Erlbaum.
- Dias, M. G., & Harris, P. L. (1990). The influence of imagination on reasoning by young children. *British Journal of Developmental Psychology*, 8, 305-318.
- Dickinson, D. K., & Sprague, K. E. (2001). The nature and impact of early childhood care environments on the language and early literacy development of children from low-income families. In S. B. Neuman, & D. K. Dickinson (Eds.). *Handbook of Early Literacy Research*. New York: The Guilford Press.
- Dweck, C. S., & Licht, B. G. (1980). Learned helplessness and intellectual achievement. In J. Garber, & M. E. P. Seligman (Eds.). *Human Helplessness: Theory and Applications*. New York: Academic Press.
- Erikson, E. (1950). *Childhood and society*. New York: Norton.

- Fuson, K. C., & Fuson, A. M. (1992). Instruction to support children's counting on for addition and counting up for subtraction. *Journal for Research in Mathematics Education*, 23, 72-78.
- Garcia Coll, C. G., & Magnuson, K. (2000). Cultural differences as sources of developmental vulnerabilities and resources. In J. P. Shonkoff, & S. J. Meisels (Eds.). *Handbook of early childhood intervention* (2nd ed.) (pp. 94-114). New York: Cambridge.
- Garvey, C. (1990). *Play*. Cambridge, MA: Harvard University Press.
- Gottman, J. M. (1983). *How children become friends*. Monographs of the Society for Research in Child Development, 48 (3), Serial No. 201).
- Grolnick, W., Frodi, A., & Bridges, L. (1984). Maternal control style and the mastery motivation of one-year-olds. *Infant Mental Health Journal*, 4, 72-92.
- Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore: Paul H. Brookes Publishing Co.
- Howes, C. (1992). *The collaborative construction of pretend*. Albany: State University of New York Press.
- Howes, C., & Smith, E. (1995). Relations among child care quality, teacher behavior, children's play activities, emotional security, and cognitive activity in child care. *Early Childhood Research Quarterly*, 10, 381-404.
- Hymel, S., Rubin, K., Rowden, S., & LeMare, S. (1990). Children's peer relationships: Longitudinal prediction of internalizing and externalizing problems from middle to late childhood. *Child Development*, 61, 2004-2021.
- Hyson, M. C. (2003). Putting early academics in their place. *Educational Leadership*, 60 (7), 20-23.
- Hyson, M. C. (2002). Emotional development and school readiness. *Young Children*, 57 (6), 76-78.
- Hyson, M. C., Hirsh-Pasek, K., & Rescorla, L. (1990). Academic environments in preschool: Challenge or pressure? *Early Education and Development*, 1, 401-423.
- Kellogg, R. (1967). *The psychology of children's art*. New York: Avon.
- Kitayama, S., & Markus, H. (1994). (Eds.) *Emotion and culture*. Washington, DC: American Psychological Association.
- Kopp, C. B. (1991). Young children's progression to self-regulation. In M. Bullock (Ed.). *The development of intentional action: Cognitive, motivational and interactive processes: Vol. 22. Contributions to human development*. Basel: Karger Press.
- Lehrer, R. (2003). Developing understanding of measurement. In J. Kilpatrick, W. G. Martin, & D. Schifter (Eds.). *A research companion to principles and standards for school mathematics* (pp. 179-192.). Reston, VA: National Council of Teachers of Mathematics.
- Lutkenhaus, P. (1984). Pleasure derived from mastery in three-year-olds: Its function for persistence and the influence of maternal behavior. *International Journal of Behavioral Development*, 7, 343-358.
- Marzolf, D. P., & DeLoache, J. S. (1994). Transfer in young children's understanding of spatial relationships. *Child Development*, 65, 1-15.
- Maternal and Child Health Bureau (2003). *Child Health 2002*. Washington, DC: U. S. Department of Health and Human Services Health Resources and Services Administration.
- Meisels, S. J., & Atkins-Burnett, S. (2000). The elements of early childhood assessment. In J. P. Shonkoff, & S. J. Meisels (Eds.). *Handbook of early childhood intervention* (2nd ed.) (pp. 231-258). New York: Cambridge.
- Mix, K. S., Huttenlocher, J., & Levine, S. C. (2002). *Quantitative development in infancy and early childhood*. New York: Oxford University Press.

- Neuman, S. B., & Dickinson, D. K. (2001). *Handbook of literacy research*. New York: The Guilford Press.
- Nicholls, J. (1978). The development of the concepts of effort and ability, perceptions of academic attainment, and the understanding that difficult tasks require more ability. *Child Development, 49*, 800-814.
- Parker, J., & Asher, S. (1987). Peer relations and later personal adjustment: Are low-accepted children at risk? *Psychological Bulletin, Vol. 102(3)*, 357-389.
- Phillips, C. B. (1992). In B. Neugebauer (Ed.). *Alike and different: Exploring our humanity with young children*. Washington, DC: National Association for the Education of Young Children.
- Piaget, J., & Inhelder, B. (1969). *The psychology of the child*. New York: Basic Books.
- Piaget, J. (1980). *Experiments in contradiction* (translated by Derek Coltman). Chicago: The University of Chicago Press.
- Rauscher, F. H., Shaw, G. L., Levine, L. J., Wright, E. L., Dennis, W. R., & Newcomb, R. L. (1997). Music training helps preschool children gain long-term spatial-temporal reasoning. *Neurological Research, 19*, 1-7.
- Ritchie, S., & Howes, C. (2003). Program practices, caregiver stability, and child-caregiver relationships. *Journal of Applied Developmental Psychology, 24*, 497-516.
- Rogoff, B., Mistry, J. J., Goncu, A., & Mosier, C. (1993). Guided participation in cultural activity by toddlers and caregivers. *Monographs of the Society for Research in Child Development, 58*, 7, Serial No. 236.
- Saarni, C., Mimme, D. L., & Campos, J. J. (1997). Emotional development: Action, communication, and understanding. In W. Damon, & N. Eisenberg, N. (Eds.). *Handbook of child psychology. Vol. III: Social, emotional, and personality development* (pp. 237-310). New York: Wiley.
- Sandhoffer, C. M., & Smith, L. B. (1999). Learning color words involves learning a system of mappings. *Developmental Psychology, 35*, 668-679.
- Scripp, L. (2002). An overview on music and learning. In *Critical Links: Learning in the Arts and Student Academic and Social Development* (pp. 101- 136). Washington, DC: Arts Education Partnership.
- Seefeldt, C. (1995). Art: A serious work. *Young Children, 50(3)*, 39-45.
- Shonkoff, J. P., & Phillips, D. A. (2000). *From neurons to neighborhoods: The science of early childhood*. Washington, D.C.: National Academy Press.
- Skinner, E. A. (1995). *Perceived control, motivation, and coping*. Thousand Oaks, CA: Sage.
- Smiley, P. A., & Dweck, C. S. (1994). Individual differences in achievement goals among young children. *Child Development, 65*, 1723-1743.
- Snow, C. E., Burns, M. S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- Sroufe, L. A., Fox, N. E., & Pancake, V. R. (1983). Attachment and dependency in developmental perspective. *Child Development, 54*, 1615-1627.
- Stipek, D., Feiler, R., Daniels, D., & Milburn, S. (1995). Effects of different instructional approaches on young children's achievement and motivation. *Child Development, 66*, 209-223.
- Thompson, R. (1991). Emotional regulation and emotional development. *Educational Psychology Review, 3*, 269-307.
- Thompson, R. (1998). Early sociopersonality development. In W. Damon, & N. Eisenberg, (Eds.). *Handbook of child psychology. Vol. III: Social, emotional, and personality development* (pp. 25-104). New York: Wiley.

-
- U. S. Department of Health and Human Services (1996). *Physical activity and health: A report of the Surgeon General*. Washington DC: Author.
- Wellman, H., & Wooley, J. (1990). From simple desires to ordinary beliefs: The early development of everyday psychology. *Cognition*, 35, 134-175.
- Whitehurst, G., & Lonigan, C. (2001). Emergent literacy: Development from prereaders to readers. In S. B. Neuman, & D. K. Dickinson. (2001). *Handbook of literacy research* (pp. 11-29). New York: The Guilford Press.
- Woodward, A. L., Markman, E. M., & Fitzsimmons, C. M. (1994). Rapid word learning in 13- and 18-month-olds. *Developmental Psychology*, 30, 553-566.



References

- Adolph, K. E. (1997). Learning in the development of infant locomotion. *Monographs of the Society for Research in Child Development*, 62 (3, Serial No. 251).
- Ainsworth, M., Blehar, M., Waters, E., & Wall, S. (1978). *Patterns of attachment*. Hillsdale, NJ: Erlbaum.
- Baillergeon, R. (1987). Object permanence in 3.5- and 4.5-month-old infants. *Developmental Psychology*, 23, 655-664.
- Belsky, J., & Cassidy, J. (1995). Attachment: Theory and evidence. In M. L. Rutter, D. F. Hay, & S. Baron-Cohen (Eds.). *Developmental principles and clinical issues in psychology and psychiatry* (pp. 373-402). Oxford, England: Blackwell.
- Bertenthal, B. I., & Campos, J. J. (1990). A reexamination of fear and its relation to the visual cliff. *Psychophysiology*, 21, 413-417.
- Bronson, M. (2000). *Self-regulation in early childhood: Nature and nurture*. New York: Guilford Press.
- Bryant, P. E., MacLean, M., Bradley, L., & Crossland, J. (1990). Rhyme, alliteration, phoneme detection and learning to read. *Development Psychology*, 26, 429-438.
- Bullock, M., & Lutkenhaus, P. (1988). The development of volitional behaviors in the toddler years. *Child Development*, 59, 664-674.
- Bus, M., Belsky, J., & van Ijzendoorn, M., & Crnic, K. (1995). Attachment and book-reading patterns: A study of mothers, fathers, and their toddlers. *Early Childhood Research Quarterly*, 12, 81-98.
- Camaioni, L. (2004). Early Language. In G. Bremner, & A. Fogel (Eds.). *Blackwell handbook of infant development* (pp. 379-426). Malden, MA: Blackwell.
- Carlton, E. (2000). Learning through music: The support of brain research. *Child Care Information Exchange*, 5, 53-56.
- Davis, C. (1928). Self selection of diet by newly weaned infants. *American Journal of Diseases of Children*, 36, 651-679.
- Dyson, A. (2001). Writing and children's symbolic repertoires: Development unhinged. In S. Neuman, & D. Dickinson (Eds.). *Handbook of early literacy research*, pp. 123-159. New York: Guilford Press.
- Eckerman, C., & Peterman, K. (2004). Peers and infant social/communication development. In G. Bremner, & A. Fogel (Eds.). *Blackwell handbook of infant development* (pp. 326-350). Malden, MA: Blackwell.
- Farran, D. (2000). Another decade of intervention. In J. Shonkoff, & S. Meisels (Eds.). *Handbook of early intervention*, pp. 510-548. New York: Cambridge University Press.
- Galler, J., & Ross, R. (1993). Malnutrition and mental development. In R. Suskind, & L. Lewinter-Suskind (Eds.). *Textbook of pediatric nutrition* (2nd ed.) pp. 173-179). New York: Raven.
- Gelman, R., & Gallistel, C. (1978). *The child's understanding of number*. Cambridge, MA: Harvard University Press.
- Gibson, E., & Walk, R. (1960). The "visual cliff." *Scientific American*, 202, 64-71.
- Golinkoff, R., & Hirsh-Pasek, K. (1999). *How babies talk: The magic and mystery of language in the first three years of life*. New York: Plume.
- Greer, T., & Lockman, J. (1998). Using writing instruments: Invariances in young children and caregivers. *Child Development*, 69, 888-902.
- Hart, B., & Risley, R. R. (1995). *Meaningful differences in the everyday experiences of young American children*. Baltimore, MD: Paul H. Brookes.

- Hart, B., & Risley, T. R. (1999). *The social world of children learning to talk*. Baltimore, MD: Paul H. Brookes.
- Hoff-Ginsberg, E. (1991). Mother-child conversation in different social classes and communicative settings. *Child Development, 62*, 782-796.
- Howes, C., & Hamilton, C. E. (1993). The changing experience of child care: Changes in teachers and in teacher-child relationships and children's social competence with peers. *Early Childhood Research Quarterly, 8*, 15-32.
- Karns, J. (2004). Health, nutrition, and safety. In G. Bremner, & A. Fogel (Eds.). *Blackwell handbook of infant development* (pp. 693-725). Malden, MA: Blackwell.
- Lock, A. (2004). Preverbal communication. In G. Bremner, & A. Fogel (Eds.). *Blackwell handbook of infant development* (pp. 378-403). Malden, MA: Blackwell.
- Lowenfeld, V., & Brittain, W. (1987). *Creative and mental growth* (8th ed.). New York: Macmillan.
- Lozoff, B., Klein, N. K., Nelson, E. C., et al. (1998). Behavior of infants with iron-deficiency anemia. *Child Development, 69*, 24-36.
- Lutkenhaus, P. (1984). Pleasure derived from mastery in three-year-olds: Its function for persistence and the influence of maternal behavior. *International Journal of Behavioral Development, 7*, 343-358.
- McCarty, M., Clifton, R., Collard, R. (2001). The beginnings of tool use by infants and toddlers. *Infancy, 2*, 233-256.
- Meltzoff, A. (1988). Infant imitation after a one-week delay: Long-term memory for novel acts and multiple stimuli. *Developmental Psychology, 24*, 470-476.
- Meltzoff, A. (1990). Foundations for developing a concept of self: The role of imitation in relating self to other and the value of social mirroring, social modeling, and self practice in infancy. In D. Cicchetti, & M. Beeghly (Eds.). *The self in transition: Infancy to childhood* (pp. 139-164). Chicago: University of Chicago Press.
- Mix, K., Huttenlocher, J., & Levine, S. (2002). *Quantitative development in infancy and early childhood*. New York: Oxford University Press.
- National Safety Council (1996). *Accident facts*. Chicago: Author.
- National Council of Teachers of Mathematics (NCTM) (2000). *Principles and standards for school mathematics*. Reston, VA: National Council of Teachers of Mathematics.
- NICHD (2005). *Back to sleep campaign*. <http://www.nichd.nih.gov/sids/>
- Piaget, J. (1952). *The origins of intelligence*. New York: Norton.
- Piaget, J. (1971). *Biology and knowledge*. Chicago: University of Chicago Press.
- Piaget, J. (1980). *Experiments in contradiction*. Chicago: University of Chicago Press.
- Rochat, P. (2004). Origins of self concept. In G. Bremner, & A. Fogel (Eds.). *Blackwell handbook of infant development* (pp. 191-212). Malden, MA: Blackwell.
- Rogoff, B., Mistry, J., Goncu, A., Mosier, C. (1993). Guided participation in cultural activity by toddlers and caregivers. *Monograph of the Society for Research in Child Development, 58*(8), 1-174.
- Rosch, E., Mervis, C., Gray, W., Johnson, D., Boyes-Braem, P. (1976). Basic objects in natural categories. *Cognitive Psychology, 8*, 382-439.
- Saxe, G., Guberman, S. R., & Gearhart, M. (1987). Social processes in early number development. *Monographs of the Society for Research in Child Development* (Serial No. 2316), 52(2).
- Scarborough, H. S. (1990). Very early language deficits in dyslexic children. *Child Development, 61*, 1724 – 1734.
- Schickedanz, J. (1986). *More than the ABC's: The early stages of reading and writing*. Washington, DC: National Association for the Education of Young Children.

- Seefeldt, C. (1999). *Early childhood education: Current findings in theory and practice* (3rd ed.). NY: Teachers College Press.
- Shonkoff, J., & Phillips, D. (2000). *From neurons to neighborhoods*. Washington, D.C.: National Academy Press.
- Slater, A. (2004). Visual perception. In G. Bremner, & A. Fogel (Eds.). *Blackwell handbook of infant development* (pp. 5-34). Malden, MA: Blackwell.
- Smitsman, A. (2004). In G. Bremner, & A. Fogel (Eds.). *Blackwell handbook of infant development* (pp. 71-98). Malden, MA: Blackwell.
- Spelke, E., Katz, G., Purcell, S., Ehrlich, S., & Breinlinger, K. (1994). Early knowledge of object motion: Continuity and inertia. *Cognition*, 51, 131-176.
- Sroufe, L. (1977). *Knowing and enjoying your baby*. Englewood Cliffs, NJ: Prentice Hall.
- Starkey, P., Spelke, E., & Gelman R. (1983). Detection of intermodal numerical correspondences by human infants. *Science*, 222, 179-181.
- Stipek, D., & Greene, J. (2001). Achievement motivation in early childhood: Cause for concern or celebration. In S. Golbeck (Ed.). *Psychological perspectives on early childhood education: Reframing dilemmas in research and practice* (pp. 64-91). Mahwah, NJ: Erlbaum.
- Stipek, D., Gralinski, J. H., & Kopp, C. G. (1990). Self-concept development in the toddler years. *Developmental Psychology*, 26, 972-977.
- Thomas, A., Chess, S., & Birch, H. (1970). The origins of personality. *Scientific American*, 223, 102-109.
- Thompson, R. A. (1998). Early sociopersonality development. In W. Damon, & N. Eisenberg (Eds.). *Handbook of child psychology: Vol. 3: Social emotional, and personality development* (pp. 25-104). New York: Wiley.
- Thompson, R. A. (2001). Development in the first years of life. In R. Behrman (Ed.). *The future of children: Caring for infants and toddlers* (pp. 21-34). Los Altos, CA: The David and Lucile Packard Foundation.
- Trehub, S., Schellenberg, E., & Hikll, D. (1997). The origins of music perception and cognition: A developmental perspective. In I. DeLige, & J. Sloboda (Eds.). *Perception and cognition of music*. Hove: Psychology Press.
- Uzgiris, I. C., & Hunt, J. M. (1975). *Assessment in infancy: Ordinal scales of psychological development*. Urbana: University of Illinois Press.
- Wachs, T. D., & Combs, T. T. (1995). The domains of infant mastery motivation. In R. H. MacTurk, Y G. A. Morgan (Eds.). *Mastery motivation: Origins, conceptualizations, and applications* (pp. 147-164). Norwood, NJ: Ablex.
- Weikart, P. (1998). *Steady beat: What we now know*. Ypsilanti, MI: High/Scope Educational Research Foundation.
- Weiser, M. (1991). *Infant/toddler care and education* (2nd ed.). Columbus, OH: Merrill.
- White, R. (1959). Motivation reconsidered: The concept of competence. *Psychological Review*, 66, 267-333.
- Whitehurst, G., & Lonigan C. (2001). Emergent literacy. In S. Neuman, & D. Dickinson (Eds.). *Handbook of early literacy research* (pp. 11-29). New York: Guilford Press.
- Whitehurst, G., & Lonigan, C. (1998). Child development and emergent literacy. *Child Development*, 68, 848-872.
- Wolf, D., & Grollman, N. (1982). Ways of playing: Individual differences in imaginative play. *Contributions to Human Development*, 6, 46-63.
- Woodruff, C. (1978). The science of infant nutrition and the art of infant feeding. *Journal of the American Medical Association*, 240, 657-661.
- Wright, S. (2003). *The arts: Young children, and learning*. Boston: Pearson Learning.