

# Pre STANDARDS

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## **Executive Summary**

Pre-Kindergarten Standards: Guidelines for Teaching and Learning  
October 2002

*Developed by a panel of national experts in early childhood education and reviewed by the Carnegie Corporation of New York. Underwritten by McGraw-Hill Education. Educators and teachers may download and/or print the document, located online at [www.ctb.com](http://www.ctb.com).*

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## OVERVIEW

*Pre-Kindergarten Standards: Guidelines for Teaching and Learning (Pre-Kindergarten Standards)* provides a conceptual vision of what children between the ages of three and five can and should learn during their preschool years. *Pre-Kindergarten Standards* describes the social and motivational skills, symbol systems, and knowledge base children between the ages of three and five need to enable them to live fully and become successful learners in the future.

Teachers of young children face great challenges. Given the current trends for increased academics, teachers at every age and grade level are pressured to articulate what they are teaching and what children are learning. *Pre-Kindergarten Standards* brings teachers clarity about what today's three-, four-, and five-year-old children should be learning. With agreement about what young children should learn during the preschool years, the contents of *Pre-Kindergarten Standards* can empower teachers to plan, implement, and assess early learning programs of the highest quality.

*Pre-Kindergarten Standards* is based upon theory and current research on child growth development and learning. The introduction discusses the significance of guidelines, and is followed by the principles of child growth, development, and learning that underpinned the development of the text's contents. Each Guideline section consists of goals, experiences children need in order to achieve the goals and benchmarks that demonstrate children have achieved the goals. Vignettes illustrating appropriate teaching and authentic assessment, follow. Appendix C includes a listing of the Panel Members and Advisors, national standards, and the associations and organizations developing these that guided the production of *Pre-Kindergarten Standards*.

SIGNIFICANCE OF  
PRE-KINDERGARTEN  
STANDARDS

The early years are critical learning years (NAEYC, 2001; NRC, 2001a). Research shows that what children learn during the first years of life lays the foundation for all later learning (Lazar & Darlington, 1982; Oden, Schweinhart, & Weikart, 2000). Early enriching experiences directly affect the neurological development of the brain and will have lasting implications for children's capacity to learn (Shore, 1997).

Fortunately, preschool children are like very active learning machines. Biologically wired for learning and emotion (NRC, 2001a; Shonkoff & Meisels, 2000), children actively pursue learning. During the first five years of life children learn to organize the information they take in through looking, listening, tasting, touching, taking apart and putting together again (Hunt, 1963; Piaget & Inhelder, 1969; Vygotsky, 1986).

Through interactions with their environment, children will learn basic numeration skills and the location of things, and will gain a great deal of informal knowledge about their world, knowledge of self and others, and will acquire a motivation to learn.

Attuned to language, children learn to communicate. They will learn thousands of words and many of the rules for putting them together in sentences by the time they are four or five years old (Vacca, Vacca, & Gove, 2001). By four or five most preschool children will have learned an impressive number of songs, poems, and stories they can sing or tell you about.

Additionally, children progress rapidly in developing knowledge about themselves and others. Children learn to develop expectations for themselves and the motivation to learn. Social skills are gained, and by five years of age most children are able to interact effectively with peers and adults (Howe, 1996; Ladd, 1990).

Regardless, far too many preschool children fail to attain the knowledge, attitudes, and skills that will provide them with the foundation they need to become successful learners in the future (Kagan, 2000; NRC & IM, 2000; NRC, 2001a; Ramey & Ramey, 1998). For optimum growth and learning to occur, children require optimal environmental conditions (NRC, 2001a; Shore, 1997).

SIGNIFICANCE OF  
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The human brain is uniquely constructed to benefit from experiences and good teaching during the early years of life (NRC 2001a; Shore, 1997). Children who experience enriched educational environments, as opposed to those without these experiences, demonstrate gains through high school (Reynolds, Temple, Robertson, & Mann, 2001) and even beyond (Weikart & Schweinhart, 1992).

Whether at home or in a preschool center, all children have the right to experience enriched educational environments. To foster optimal learning environments, the National Association for the Education of Young Children has delineated developmentally appropriate methods and practices of teaching. *Developmentally Appropriate Practice in Early Childhood Programs* (Bredekamp & Copple, 1997) and *Reaching Potentials: Appropriate Curriculum and Assessment for Young Children Vol I & II* (Bredekamp & Rosegrant, 1992, 1997) have guided the planning and implementation of enriched early educational experiences.

Educators and scientists have developed standards in specific domains that guide the teaching of older children, those in elementary and secondary schools. The National Council for the Teachers of Mathematics, the Consortium of National Arts Education Associations, the National Center for History in the Schools, the National Academy of Sciences, and others have developed standards that describe what students should learn and know once they reach elementary school.

What young children can and should learn during their preschool years has, however, remained unclear. With the exception of the National Council of Teachers of Mathematics Standards 2000 Project, which includes Pre-K to 2, the standards developed by other associations generally fail to address teaching and learning during the early years of life, those prior to kindergarten.

*Pre-Kindergarten Standards* is designed to bridge the gap between our knowledge of developmentally appropriate practices and what preschool children should know and learn. *Pre-Kindergarten Standards* presents specific goals, delineates what children need to experience to achieve the goals, and describes the benchmarks indicating achievement of the goals.

PRE-KINDERGARTEN  
STANDARDS  
IS UNIQUE

While *Pre-Kindergarten Standards* describes what children should learn during the preschool years, it also:

**Presents a unified and integrated approach to preschool teaching and learning;**

**Begins with guidelines for the development of self-knowledge, knowledge of others, and achievement motivation;**

**Describes what children will need to experience in order to achieve benchmarks;**

**Includes vignettes that illustrate the teaching, learning, and authentic assessment strategies appropriate to achieving goals and benchmarks; and**

**Recognizes the importance of family in children's achievement.**

PRINCIPLES DIRECTING THE  
DEVELOPMENT OF  
PRE-KINDERGARTEN  
STANDARDS

*Pre-Kindergarten Standards* was developed for preschool children in any childcare, Head Start, part-time nursery or preschool, and for full- and half-day or part-time programs. The guidelines within are based on the latest research and theory on early childhood development and education. The principles that guided the development of the guidelines are:

### **CHILDREN ARE ACTIVE LEARNERS.**

Children are not passive recipients of knowledge. On the contrary, they construct their own knowledge through physical, social, and mental activity (Piaget & Inhelder, 1969; Bredekamp & Copple, 1997). Because children learn through firsthand actions with objects and things in their world, their learning is mediated and linked to the sociocultural context (Vygotsky, 1986).

As active learners, young children need opportunities to observe things and events in their here-and-now world, form their own hypotheses, try them out, find out what happens, and formulate their own answers (Dewey, 1944; Glassman, 2001).

Play is children's mode of finding out. All types of play—manipulative play, play with games, rough-and-tumble play, and socio-dramatic play—provide children with the opportunities to try things out, see what happens, and learn (Rubin, Bukowski & Parker, 1998).

PRINCIPLES DIRECTING THE  
DEVELOPMENT OF  
PRE-KINDERGARTEN  
STANDARDS

**CHILDREN ARE ACTIVE LEARNERS.** (continued)

Organizing children's learning spaces through centers of interest is an efficient way to meet children's active mode of learning. Centers are clearly delineated, organized, thematic play and work areas. Centers encourage children to make decisions, learn new skills, practice skills previously gained, as well as interact with others.

Centers offer children and teachers a great deal of flexibility. Because they do so, centers may support the needs of children, especially those who have special needs. For example, the needs of children with physical disabilities may be accommodated by providing pathways, low tables, or other necessary adjustments. Those children who need shielding from intrusion or stimulation can be offered quiet, protected centers, and spaces for active learning.

**DEVELOPMENT AND LEARNING ARE INTERRELATED.**

Learning about self, developing social skills and achievement motivation cannot be separated from intellectual development, learning content and skills, or from physical health and development. Children's ideas about themselves affect not only interactions with others, but also how they perceive themselves as learners (Ladd, 1990). In turn, children's intellectual abilities and their control over language are highly correlated with how they relate and interact with peers. Children who can use language efficiently to negotiate social situations, or those who have the intellectual ability to consider another's point of view, are more likely to be those with strong social skills.

Likewise, learning to write and read depends in great part on how children feel about themselves and their ability to achieve (Bandura, 1997). Children who believe they can learn, and expect to achieve, do so (Seefeldt, Denton, Galper, & Younosai, 1999).

**GROWTH AND LEARNING ARE SEQUENTIAL.**

Growth and learning proceed in a relatively orderly sequence (Berk, 2001). For instance, learning generally proceeds from the concrete to the abstract. The early years are the time children can deepen and broaden ideas about their world through concrete, firsthand experiences. These firsthand experiences will form the base from which children are able to gain symbolic knowledge and express their ideas through drawing, painting, and verbal and written descriptions (Bredekamp & Copple, 1997; Piaget & Inhelder, 1969).

PRINCIPLES DIRECTING THE  
DEVELOPMENT OF  
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**EACH CHILD IS AN INDIVIDUAL LEARNER.**

Each child is an individual. Each will grow, develop, and learn at his or her own pace. Because children's development is the result of the interaction between biological maturity and the environment, the rate of their development and learning varies. Thus, chronological age is not a good indicator of developmental maturity or what a child can learn.

Even though development and learning proceed in an orderly way, development is often uneven. Some children will spurt ahead in language learning while lagging behind in motor development. Others will demonstrate a skill one day and not repeat it for another month.

A child's genetic makeup may predict healthy growth and development, but an environment deprived of adequate nutrition or optimum language experiences may negate healthy growth. Severe disabilities affect normal growth and development as well. Children with disabilities may benefit more from early intervention than those without these disabilities.

**DEVELOPMENT AND LEARNING ARE EMBEDDED IN CULTURE.**

Culture, the social context in which children learn, grow, and develop, is defined as a complex whole of language, knowledge, beliefs, art, morals, laws, customs, and ways of living that are passed on to future generations (Cole, 1999). Social groups, the family, neighborhood, religious or ethnic groups within a society, explicitly or implicitly pass on their customs, values, or moral principles to the young.

Beginning at birth, the culture socializes children to become members of a society. But children are not just products of the culture they grow in. As children grow, they pick and choose selectively from the cultural influences they are exposed to, shaping their own cultural context over time (NRC & IM, 2001).

**FAMILY INVOLVEMENT IS NECESSARY.**

The close attachment between young children and their families demands family involvement. Consideration of each child's unique circumstances, respect for each family, and cooperative involvement between families and preschools is also critical to children's academic success and later school achievement (NRC, 2001a).

Family members and teachers must work together to create continuity of learning. Preschool experiences build on and extend what children learn at home. In turn, children's learning in school is extended and continued in the home.

PRINCIPLES DIRECTING THE  
DEVELOPMENT OF  
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STANDARDS

**CHILDREN’S LEARNING CAN BE CLARIFIED, ENRICHED,  
AND EXTENDED.**

Appropriate early educational experiences can extend, expand, and clarify the ideas, concepts, language, and social skills children gain spontaneously. With the guidance of highly knowledgeable, trained, and skilled adults who understand both children and the knowledge, skills, and attitudes children need to acquire, children can learn more than they could on their own (Vygotsky, 1986).

ORGANIZATION OF  
PRE-KINDERGARTEN  
STANDARDS

*Pre-Kindergarten Standards* is organized around three domains that are key to children’s learning. These domains are subdivided into twelve guidelines. Together, the twelve guidelines present a comprehensive and integrated approach to the early childhood curriculum.

**DOMAIN 1 | SELF-KNOWLEDGE, SOCIAL SKILLS, AND MOTIVATION TO LEARN**

- GUIDELINE I** Children Will Develop Knowledge of Self.
- GUIDELINE II** Children Will Develop Knowledge of Others and Social Skills.
- GUIDELINE III** Children Will Gain Intrinsic Motivation for Learning.

**DOMAIN 2 | BASIC SYMBOL SYSTEMS OF EACH CHILD’S CULTURE**

- GUIDELINE IV** Children Will Gain Literacy and Language Learning.
- GUIDELINE V** Children Will Possess Concepts of Mathematics.
- GUIDELINE VI** Children Will Gain Initial Knowledge of World Languages.

**DOMAIN 3 | KNOWLEDGE OF THE WORLD IN WHICH THEY LIVE**

- GUIDELINE VII** Children Will Gain Foundational Knowledge of Scientific Inquiry.
- GUIDELINE VIII** Children Will Gain Foundational Knowledge of the Physical, Life, and Earth Sciences.
- GUIDELINE IX** Children Will Gain Foundational Knowledge of Technologies.
- GUIDELINE X** Children Will Gain Foundational Knowledge of the Social Sciences.
- GUIDELINE XI** Children Will Gain Foundational Knowledge of Health and Physical Education.
- GUIDELINE XII** Children Will Gain Foundational Knowledge of Visual Arts, Theater, and Music.

**GUIDELINES** Each of the guidelines is preceded by an introduction presenting the research and theory supporting the guideline and its significance. How children best gain knowledge of the specific guideline is discussed. Production of this document was guided by the standards and position papers previously developed by national associations and professional organizations. They are recognized in Appendix A.

**GOALS** Within each guideline are multiple goals. These goals define specific knowledge, skills, or attitudes that, together, constitute the broader guideline.

**OBJECTIVES** The objectives delineate, with increasing specificity and complexity, the knowledge, skills, or attitudes children are expected to gain between the ages of three and five. Because of the variability in children’s development, age alone is not a good predictor of what children can do and learn. Thus the objectives are not divided by children’s ages. Teachers should choose objectives that match the needs, level of understanding, background of experiences, and degree of maturity of each child. The description of normal developmental stages that follows can guide educators in selecting guidelines and benchmarks for individual children as well as for the group.

**WHAT CHILDREN WILL NEED TO EXPERIENCE** Specific experiences children need to enable them to achieve individual goals are listed.

**BENCHMARKS** What children should know and be able to do to show they have achieved the goals.

**VIGNETTES** Vignettes of appropriate classroom practices and authentic assessment illustrate the principles underlying the development of the guidelines. The vignettes are recorded observations of actual incidences that occurred in Head Start programs, childcare centers, and preschools in inner cities and rural and suburban areas of our nation. These programs include full-day, half-day, and part-time programs.

The vignettes are not meant to be models for behavior, but they illustrate how typical teachers in a variety of settings have implemented and evaluated the guidelines and goals listed in this document. Since the incidences took place in actual classrooms, they also illustrate how teachers integrate the curriculum. Thus, vignettes describing math practices might illustrate how children use language, or vignettes of children practicing motor skills might revolve around children using mathematics.

## DEVELOPMENTAL STAGES

**Three-Year-Olds**

In just three years the helpless infant, equipped with a few built-in reflexes, has grown to become a rather self-sufficient three-year-old who can walk and run. Three-year-olds have lost their “baby straddle” walk and look more like children than babies. This doesn’t mean, however, that they’ve given up babyhood entirely. Threes still need a great deal of care. They need help in dressing, and although they feed themselves efficiently, may need reminders to continue eating, or to use a specific utensil.

Physically, three-year-olds are very active. Some call it the “run about” age because three-year-olds seem to be constantly on the move (Gesell, Ilg, & Ames, 1971). Their physical movements are developing from control of large muscles and large movements, to more specific, finer movements (NASPE, 2002).

Three-year-olds’ art, their drawing and painting, is more a physical, exploratory activity than an art activity. In the pre-schematic stage of art, three-year-olds produce uncontrolled scribbles in paint, crayon, and marker. They may use both hands as they scribble, and hold markers or crayons in a tight, overhand grip.

Cognitively, three-year-olds are in the period of pre-operational thought (Piaget & Inhelder, 1969). Their thought is egocentric, dominated by perception and animism. Still, threes have established object permanence, and can recall past events, even though they do not understand the meaning of the words “yesterday,” “today,” or “tomorrow.” They may count to three and then they may get confused. Rarely can they count objects with one-to-one correspondence.

Eager to learn, three-year-olds are full of “why,” “how,” and “when” questions. They want to take on the world to learn everything about it. Three-year-olds can solve problems. One three saw wrapped boxes on a top shelf of her closet. She ran and got the bench from the bathroom and stood on it to reach the boxes. When she found she still couldn’t reach them she went and got her broomstick horse and tried to push the boxes off the shelf using the horse—until her mother intervened.

Language is growing by leaps and bounds, with children achieving over 2000 words during the year. Threes often talk in monologue as if practicing language. They still have difficulty taking turns in conversation. They love to listen to stories and can tell a simple story, but not in sequence. They often forget the point of the story, focusing on favorite or remembered parts.

Three-year-olds can adapt their speech and style of non-verbal communication to listeners in culturally accepted ways, but need to be reminded of context (Bredekamp & Copple, 1997).

## DEVELOPMENTAL STAGES

Threes also know the difference between writing and drawing. One three-year-old whose father was a jockey, was asked to draw his father. He drew a line back and forth, back and forth, saying “My daddy rides fast, and faster.” He was then asked to write his daddy’s name, and he produced a horizontal line-like scribble that resembled letters.

Socially, three-year-olds often play by themselves, but enjoy being with others, playing side-by-side rather than with each other. Each child has his or her own toys and plays happily without interacting with each other. The pleasant, peaceful play ends, however, should one of the children take something belonging to another. Cooperating and sharing aren’t what three-year-olds are all about. Nevertheless, three-year-olds will show sympathy for others. One three-year-old, who had just bitten another, put her arms around the child she had just bitten saying, “Don’t cry, don’t cry.”

**Four-Year-Olds**

There doesn’t seem to be much baby left in a four-year-old. Fours have an extremely high energy level, darting and dashing everywhere. Their rapidly developing large muscle control, coupled with their high energy level, has given fours the label “out of bounds” (Gesell, Ilg, & Ames, 1971). Four-year-olds can run smoothly, stop suddenly, play tag, climb on the jungle gym, walk a balance beam, and enjoy riding bikes and trikes. Now they are beginning to learn to catch and throw a ball.

Four-year-olds develop fine motor control, enabling them to control their scribbling, repeating circles, lines, and other forms. They will hold drawing and writing tools more like an adult. Fours, who know some letter names, will begin to incorporate letters and pretend writing in their drawings and paintings. As they draw, fours will repeat forms or schema that lead them to think of something, and they’ll name their drawing. If asked what they are drawing they may reply, “Well, I don’t know yet, I’m not finished.”

Cognitively, four-year-olds are still in the preoperational stage of thinking. Fours think semi-logically, unable to keep more than one relationship in mind at a time. Thus they can solve a problem that requires a distinction between objects that are bipolar, e.g., heavy vs. light or where the only task is to count a small array of numbers (Case & Sandieson, 1987).

Four-year-olds are beginning to generalize. Four-year-old Carlos helped his mother plant flowers in her garden. His mother explained that she loved flowers because they beautified her entire world and made her smile inside and out. The next day Carlos was outside playing with friends in a neighbor’s yard filled with flowers.

## DEVELOPMENTAL STAGES

He picked as many as he could and ran home to present them to his mother. “Here,” he said proudly, “You love flowers.”

Four-year-olds can add and subtract one or two objects when they are personally and concretely involved: “You took one away, I need one more.” They understand that words such as one and two stand for numbers and can represent the quantity of objects, and they can usually count to ten. They still, however, are not capable of understanding conservation of number, quantity, or matter.

Language is exploding. Four-year-olds have increased their vocabulary by another 2000 to 4000 words and learn new vocabulary quickly when the words are directly related to their experiences. They’ve mastered nearly 90% of phonetics and syntax of language but still over-generalize verb tenses, plurals, and pronouns. Sometimes fours try to communicate more than their vocabulary allows, extending words to create new meaning: “We piled all the stuff in the baby stroller, oh I mean the cart.” Carrying on a conversation for fours is rather difficult; they can take turns, but they really want to talk about themselves and the things they did. They can talk in front of a group, but with some reticence.

Fours seem to be testing limits. Just as their physical development is often “out of bounds,” so is their language. Having discovered that some words have shock value. Perhaps fours use what preschool teachers call “bathroom” language simply because rhyming words are fun to say, or to test the limits of cultural appropriateness, or just to shock adults.

Socially, fours are out of bounds as well. One moment they’re all smiles and full of love, the next they’re bossy, resistant, and aggressive. Fours still play side-by-side with others, sometimes cooperating and sharing. They might for instance build something together, like a road on the play yard, but then play separately on the roadway.

## DEVELOPMENTAL STAGES

**Five-Year-Olds**

Five-year-olds are more like adults than like babies. They are very self-sufficient, eager to learn, and seem to be at home in the world, feeling secure and capable. Instead of fives being labeled “out of bounds,” or “run abouts,” their age is called “the golden age” (Gesell, Ilg, & Ames, 1971) because they so want to please. Five-year-olds want the approval of adults and will even ask permission to do something.

Physically, five-year-olds are agile and have strength in arms and legs. They continue to refine large and small muscle development, learning to skate, jump, gallop, jump, ride bikes, and manage a slide. Depending on the cultural context, five-year-olds may learn to swim, do gymnastics, skate, or begin to play organized sports. Fine motor skills are being refined as well, and children begin to form written letters and numerals. Fives can dress themselves, handle buttons, some can tie their shoes and feed themselves, and all can, and are even happy to, help with household or school chores with competence.

Five-year-olds are more than ready to learn. Cognitively they have expanded their knowledge of the world and the universe, and are interested in learning more and more. Fives can persist at tasks, and will experiment and invent solutions in order to solve problems. They understand a variety of cause-and-effect relations, and can form loosely held analogies, rather than coherent theories; the rain cycle is explained as “raining up” and “raining down,” not in terms of evaporation.

Children’s cognitive growth is reflected in their art and music. Five-year-olds are using schema to represent reality. Their drawings and paintings are becoming increasingly representational. Fives will be able to sing a number of songs by heart, have favorite songs, and know the names of several musical instruments. Now they can actually move to music, dancing by themselves or with others.

Fives also are eager to achieve academically. They are becoming aware of the purposes of the written word and are figuring out symbols, letters, and words. Language growth continues. Most five-year-olds have a vocabulary of 5000 to 8000 words. Their speaking ability has also increased. Five-year-olds speak in longer and more complex sentences than they did at four. Still, fives over-generalize rules, for example using “foots” instead of “feet” but correcting themselves when they do so. They can retell stories in sequence, have favorite stories, and can recognize the work of familiar authors, compose stories themselves, and enjoy acting out stories and poems. Some fives will be able to read familiar books, especially those with predictable texts. They know the names of several letters and their sounds, as well as the conventions of print. Five-year-olds can take turns in conversations; however, they still interrupt to talk about themselves, but not as frequently as they did at four.

## DEVELOPMENTAL STAGES

Math and numbers fascinate five-year-olds, who are interested in writing numerals and copying numbers. They can count to ten and through the teens. They still, however, may make mistakes in sequence and may use words like “five teen” which illustrates that they have an initial concept of base-ten. They are beginning to count using one-to-one correspondence with concrete objects. When working with the concrete, they are able to perform simple number operations, taking away and adding objects. Fives know and can name common shapes, and are developing the language of measurement and both the concepts and language to express locations, such as under and over, in and out.

Socially five-year-olds have developed a firm sense of self. They know who they are and what they can do. They have over-defined gender roles, with a tendency to stereotype what boys and girls can do. Five-year-olds enjoy playing cooperatively, and especially enjoy socio-dramatic play. They often create play themes that continue for several days. After a visit to a woodworking shop, a group of fives set up a woodworking shop themselves. With the help of the teacher who provided tools, wood, and some patterns, the children set up a rather informal assembly line to build boats and cars that they then sold to the fours, using the money to restock their fish aquarium.

Generally, five-year-olds can share well and even figure out ways of sharing one tricycle or other object. Although five-year-olds may argue and fight, they are more likely to use verbal insults than physical aggression. “You can’t do that here. Are you stupid or something? Don’t you know the rule?” a five-year-old told another child who was splashing water on the floor.

PRE-KINDERGARTEN  
STANDARDS  
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