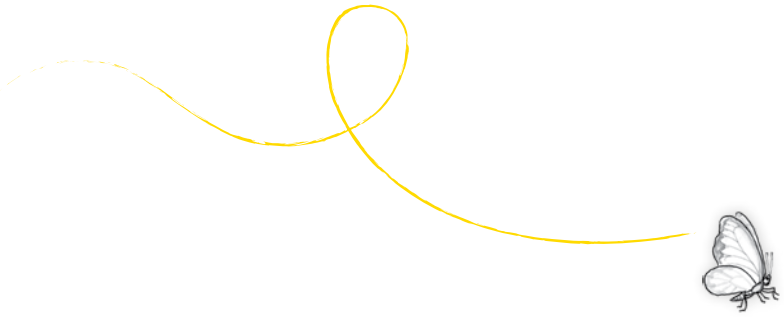
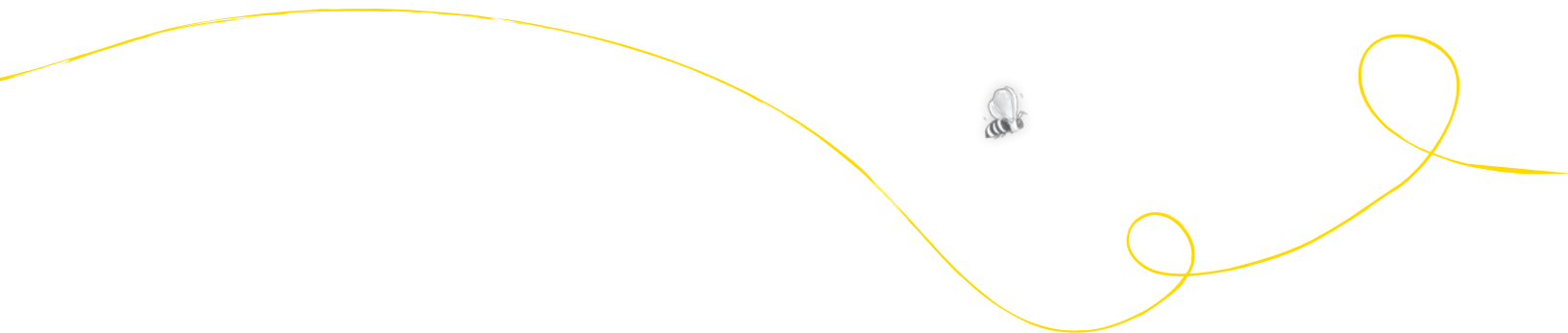
GET SET FOR SCHOOL™

Get Set for Readiness, Language, and Math: A Pre-K Roadmap for School Success



A Research Based Approach



Get Set for Readiness, Writing, Language, and Math: A Pre-K Roadmap for School Success

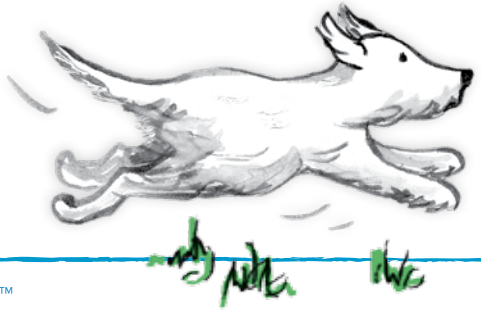
Call for a Strong Pre-K Curriculum

> According to studies by the National Research Council and the Institute of Medicine, children who attend high quality early childhood programs, where curriculum aims are integrated across the domains, learn more and are better prepared to master the complex demands of formal schooling. Recommendations call for addressing cognitive, social-emotional, and physical development as mutually supportive areas that require active attention in the preschool years.
>
> — Fulfilling the Promise of Preschool (2006), National Association of State Boards of Education

Because the preschool years are so critical to a child's academic development, the National Institute for Early Education Research (2007) recommends a curriculum that addresses children's ages, behavior, background and learning needs; includes assessments to measure whether learning objectives are being met; facilitates family involvement; and is research-based for effectiveness.

Get Set for School™ was developed based on the most relevant research about *how* young children learn best and *what* they need to be learning in Pre-K. The curriculum is developmentally appropriate to give children a sense of challenge and accomplishment. It uses hands-on teaching strategies and manipulatives because Pre-K children learn by doing—by actively participating in lessons. This provides more pathways for them to acquire and retain knowledge easily and effectively.

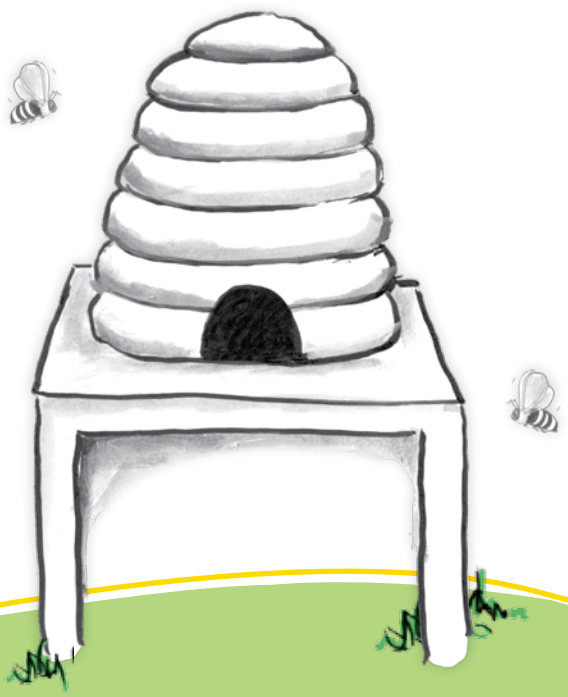
Get Set for School is organized by domains to make it easier for teachers to follow. The curriculum addresses three core, integrated learning areas of kindergarten readiness: readiness and writing, language and literacy, and numbers and math. Each lesson is designed to give teachers the opportunity to interact with children, ask questions, and encourage exploration and discovery.



Social and Economic Implications

A strong Pre-K curriculum does more than prepare children for school. It improves children's lives and contributes to a strong society and economy. In *Early Education for All* (2005), Calman and Tarr-Whelan point out that in economic research spanning 40 years, Nobel Prize-winners and Federal Reserve economists demonstrate that "the return on public investment in high quality childhood education is substantial." Some of the benefits cited in these studies include:

- Lower cost for remedial and special education, and grade repetition
- More school completion and skills
- Better job preparedness and ability to meet future labor force demands
- Higher incomes and tax payments from those who complete school
- Lower criminal justice and prison costs
- Fewer welfare payments



Improved Academic Outcomes

"In terms of what is taught, we know that children in Pre-K classrooms that spend time on the key academic content areas, such as literacy, language, and mathematics, have an academic advantage as they enter early elementary school" (Downer & Pianta 2006).

Furthermore, the International Reading Association (2005) found that children who have experiences with language and literacy in high-quality preschool settings have productive futures.

On the other hand, inadequate exposure to language, math, and readiness concepts can have a negative impact throughout the school years. The National Assessment of Educational Progress reveals that 37 percent of U.S. fourth graders fail to achieve basic levels of reading achievement. "The incidence of reading failure is even higher within low-income families, ethnic minority groups, and English language learners. Large-scale studies have shown that young children—those entering kindergarten and first grade—vary greatly in their attainment of the early precursor skills that provide the launching pad for later literacy learning" (West, Denton, & Germino-Hausken, 2000; West, Denton, & Reaney, 2000).

Readiness and Writing

Get Set for School addresses physical, social and emotional, and cognitive skills, which are crucial for school readiness. Research shows that the best learning occurs when children participate actively in a number of ways to access and retain information. Get Set for School lessons engage children with multiple learning modalities (visual, auditory, kinesthetic, and tactile). For example, when children use dough to form letters, they see, move, and touch. In talking about letters and naming them, they see and hear.

Skills (including physical, social and emotional, cognitive, and language) do not develop in isolation. It is important that practitioners understand child development in order to justify practice and meet children's needs (NAEYC 2009).

Active, hands-on activities foster a love of learning in the Pre-K classroom, which is children's home away from home. Exposure to readiness skills happens best in a context where children learn at their own pace, in their own way. They don't know they're learning. Get Set for School taps into that natural tendency toward gaining and testing knowledge with implicit hands-on instruction that, according to Jensen (2001), is more lasting and has greater meaning for children. Jensen further states that hands-on learning creates more neural networks in the brain and employs more senses.

Sensory Motor Development

"According to [research scientist David] Grissmer, neuroscience evidence suggests that the neural networks built to facilitate learning motor skills are the same networks used later in learning mathematical concepts. Inefficiency in building these networks during motor development may make later learning more difficult" (UVA Today, October 27, 2009).

Motor development and play are critical components of Get Set for School because they foster exploration and facilitate learning. There is a well-established consensus among early childhood professionals that play is an essential element of developmentally appropriate, high-quality early education programs (Alliance for Childhood, 2006; NAEYC & NAECSSDE, 2003).

Get Set for School readiness and writing activities incorporate movement and tactile experiences, which are crucial for the Pre-K learner. Research has shown that children "need to physically participate in the learning process, using as many senses as possible, to truly understand concepts" (Pica 2008).

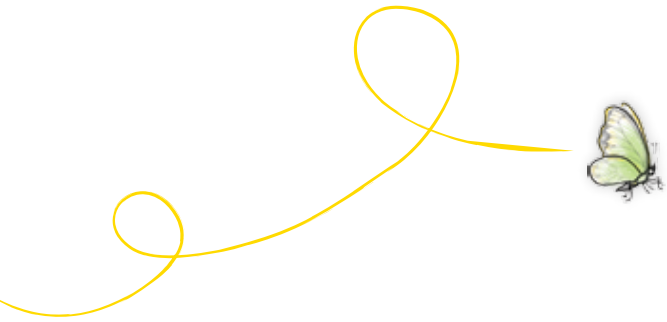
Studies also suggest that manipulatives improve children's long-term and short-term retention of new concepts by "allowing them to move from concrete experiences to abstract reasoning" (Boggan 2010; Cain-Caston).

Social-Emotional

A growing body of research shows that every competency important to school success is enhanced by play (Isenberg & Quisenberry, 2002; Singer, 2006). For example, high-quality pretend play is related to children's abilities to begin to think abstractly and to take the perspectives of others (Bergen, 2002; Berk, Mann & Ogan, 2006; Singer, Singer, Plason & Schweden, 2003).

Get Set for School lessons and activities incorporate play in different ways for effective instruction. For example, children will act out words to learn new vocabulary. They will recite a story for dictation and then act it out in correct sequence. Play also facilitates the teaching of letters with mystery letter games, drawing, and building as children make connections and learn new concepts.

According to Shonkoff (2000), play allows children to use their creativity while developing their imagination, dexterity, and physical, cognitive, and emotional strength. "Preschool children need to play, refine their motor skills, and practice their imaginative abilities" (Hirsh-Pasek, Berk, Singer & Golinkoff, 2008). Ginsburgh (2006) finds that teachers leverage children's ideas and interests to promote learning through play, circle-time, and small-group activities.



Cognitive Development

As suggested by Coulter (1995), song, movement, and musical games are "brilliant neurological exercises" vital to intellectual development.

The Get Set for School curriculum incorporates rhythmic movement with songs and playful activities to give young learners many opportunities for developing important skills in the context of readiness and writing. Children play games to learn each other's names and practice following rules in the classroom. They sing, build, draw, play, count, and engage in letter and word games. They learn how to work with others to accomplish a shared goal. Activities encourage social interaction that establishes relationships and trust in others. Lessons include modeling and guidance about how to behave in a group setting for an extended period of time. They need to learn how to take turns, share, and respect one another.

Language and Pre-Writing

To acquire writing skills effectively, children must first know the correct way to hold a writing tool. Get Set for School follows expert recommendations (Olsen 2008, Spear-Swearling 2006), incorporating a range of activities and teaching strategies that support emerging handwriting skills:

- Drawing at an easel
- Engaging in motor skill exercises, such as Air Writing letters
- Learning pre-handwriting strokes
- Making letters with manipulatives before using writing tools
- Starting with capital letter formation
- Grouping capital letters according to similar stroke
- Using small bits of chalk or crayons before using pencils

Language and Literacy

The National Institute of Child Health and Human Development (2000) identified concepts children need to become competent readers and writers, including print awareness, phonological awareness, oral language, vocabulary, reading readiness and comprehension.

The Get Set for School language and literacy program uses a hands-on approach to integrate these core concepts, filling the need for child-friendly and joyful literacy experiences. The program provides explicit literacy instruction, including rich vocabulary, to create multiple opportunities and avenues for preschool children to build strong language and literacy skills.

"Increasingly, early childhood is viewed as a sensitive period for the development of key cognitive, literacy, and language skills; in turn, these skills appear to be shaped by child characteristics and family, child care, and early classroom experiences" (Morrison & Cooney, 2002). An effective pre-kindergarten literacy program is one that, according to Vukelich & Christie (2004), provides a balanced curriculum that addresses emerging literacy skills in the context of social-emotional and cognitive developmentally appropriate experiences.

According to Adams (1990), "The literacy and language attainments children have at the start of kindergarten set the stage for their short- and long-term reading success." In addition, the National Association for the Education of Young Children and The International Reading Association (1998) suggest that the period from birth through age eight is the single best time in a child's life to develop literacy skills.

Phonological Awareness

The Get Set for School language and literacy program helps children develop phonological awareness with playful rhymes, alliteration, and with activities that focus on beginning/ending sounds, and word parts.

Extensive research has demonstrated that different language abilities are related to later reading success. Preschool language skills support the emergence of phonemic awareness (Whitehurst and Lonigan, 1998; Lonigan et al., 2000), and by the middle elementary school years play a major role in supporting reading comprehension (Storch and Whitehurst, 2002; Biemiller, 1999; Walker, Greenwood, Hart, and Carta, 1994).

"Nursery rhymes, rhyming games, and finger plays provide an engaging and fun avenue for children to learn the sounds and rhythms of language. Children who have knowledge of nursery rhymes develop stronger phonological awareness skills" (MacLean, Bryant, & Bradley, 1987).

The Get Set for School curriculum gives teachers many opportunities to engage children in conversation, teach rich vocabulary, and model language appropriately. Meaningful lesson themes and activities help children make connections between words and sounds.

"Children's skill using and understanding sentences (syntax) and extended stretches of language are related to reading success and significant problems with these areas of language often are associated with reading problems" (Bishop and Adams, 1990; Scarborough, 2001, Scarborough, 1990, 1991).

Research indicates a sequence of phonological awareness skills from easiest (segmenting and blending the parts of compound words) to hardest (segmenting and blending the individual phonemes in words). However, research also stresses the importance of developing children's skills in these areas simultaneously (Lonigan, 2008).

Print Awareness

The Get Set for School language and literacy program provides explicit literacy instruction, including rich vocabulary, to create multiple opportunities and avenues for children to build strong literacy skills. Children learn concepts about print to recognize letters and numbers, repeat letters and words with the teacher who is reading from a book or from a card or other printed item in the room. Children recite stories or narrative sequences as the teacher takes dictation and repeats the narrative back to them.

"Knowledge of book and print concepts may seem trivial; however, research indicates the importance of book and print awareness for later reading success" (National Center for Family Literacy, 2007; Snow, Burns & Griffin, 1998).

According to Stanovich (1993), "One of the most powerful experiential determinants of individual differences in vocabulary and declarative knowledge is exposure to print." Furthermore, book and print awareness are important for later reading success (National Center for Family Literacy, 2007; Snow, Burns, & Griffin, 1998).

Get Set for School lessons teach children to identify capital and lowercase letters by sight and by name. Children learn how these letter symbols work together to form printed words that have meaning, and they understand how printed words relate to spoken language.

"Alphabet recognition is one of the major early literacy skills that are predictive of children's later reading development" (IRA/NAEYC, 1998; National Center for Family Literacy, 2007).

"As with concepts about print, concepts of word and letter can evolve from teacher modeling to student participation as children become comfortable with the terms" (Beauchat, Blamey & Walpole, 2009).

Oral Language and Vocabulary

The Get Set for School language and literacy program introduces rich vocabulary and helps children make relevant connections to movement, narrative, and word and language concepts. Children learn prepositions that are crucial to language and everyday life. They string actions to form sequences, which is similar to linking words to form sentences and paragraphs. They physically express ideas such as walking slowly or skipping lightly so that adjectives and adverbs go from being abstract concepts to real world experiences. These connections foster long-lasting understanding.

Oral language skills are important in the Pre-K environment because "narrative capacity forms the foundation for reading comprehension, the ability to produce coherent writing, and the ability to understand subjects such as history, social studies, and science" (Fein & Groth, 2000; Jones & Cooper, 2006; Kim, 1999; Nicolopoulou, McDowell & Brockmeyer, 2006; Schickedanz & Casbergue, 2004).

"It is the talk that surrounds a storybook reading that gives it power, helping children to bridge what is in the story and their own lives" (Dickinson & Smith, 1994; Snow, Tabors, Nicholson, & Kurland, 1995).

Rich vocabulary is an important element of the Get Set for School curriculum because vocabulary is knowledge. When children grasp a word's meaning, they understand what that word represents, and in turn, they understand the relationships of ideas and concepts that go with that word (Stahl & Murray, 1994; Stahl & Nagy, 2006).

The Get Set for School program uses directed actions, multisensory tools, and active exercises to draw children into a lesson and help them learn new words. Children act out and describe words. The teacher introduces objects or pictures and children touch them, point to them, and

say what they are. Lessons further encourage guided discussions and exploration of new words. For example: This is an alligator. The alligator is green. Where do alligators live? Have you seen an alligator? In this fashion, new words become very real and memorable.

"Vocabulary size in Pre-K can predict children's ability to comprehend texts throughout elementary school and into middle school" (Chall, Jacobs & Baldwin 1990).

Pre-Reading

The Get Set for School language and literacy program helps children build language skills in context so that new letters (symbols) and words have meaning and relevance. Because reading and writing are skills that support each other and develop in tandem, the program gives children the foundation in letter recognition and formation to build reading skills. Children understand that print has meaning and that they can use it to express themselves. Lessons encourage storytelling and pointing to words on cards and in the room as children say the words along with the teacher. According to the National Early Literacy Panel (2009), reading instruction must be deliberate and well-planned. Literacy experts and educators know that children who receive early literacy experiences are more likely to become proficient readers.

Get Set for School teaches letter by letter, and word by word long before children are ready for paper and pencil. They learn to build, roll, or Air Write capitals and then lowercase letters by similar formation groups based on the developmental principles of Arnold Gesell, Ph.D. (Gesell, 1940). This knowledge helps children build a strong foundation for both reading and writing as they become increasingly familiar with letter symbols and meanings.

Numerous studies have demonstrated a strong relationship between alphabet knowledge and reading and writing skills (Adams, 1990; Honig, 2001; Berninger et al., 2006; Stevenson & Newman, 1986; Treiman, 1993).

Evidence also shows that early success at reading acquisition leads to a lifetime of reading habits (Juel, 1988; Juel, Griffith, & Gough, 1986; Snow, Barnes, Chandler, Goodman, & Hemphill, 1991; Stanovich, 1986, 1993). Furthermore, as children read more, they develop better comprehension, which makes reading more rewarding.

Numbers and Math

Young children show a natural interest in and enjoyment of mathematics. Seo and Ginsburg (2004) find that long before entering school, "children spontaneously explore and use mathematics—at least the intuitive beginnings—and their mathematical knowledge can be quite complex and sophisticated."

According to National Standards in Mathematics (NCTM, 2000), the key math components for preschool include number concepts, patterns and relationships (algebra), geometry and spatial awareness, measurement, data collection, and organization.

The Get Set for School numbers and math program helps children organize their math thinking so that they can make connections to everyday experiences and concepts to reinforce learning. The program engages young children with manipulatives and active lessons, helping them observe and explore the mathematical dimensions of their world. They compare quantities, find patterns, take measurements, count objects, and navigate in space.

The Get Set for School numbers and math program taps into and nurtures young learners' innate math skills to enable them to learn more advanced concepts in subsequent years. This program follows the National Research Council (2009) recommendations that early childhood math experiences "concentrate on (1) number (which includes whole number, operations, and relations) and (2) geometry, spatial relationships, and measurement" with a greater concentration of time focused on number.

The U.S. Department of Education (2009) states, "The mathematics that children learn from preschool through the middle grades provides the basic foundation for algebra and more advanced mathematics course work. Even before they enter kindergarten, most children develop considerable knowledge of numbers and other aspects of mathematics. The mathematical knowledge that children bring to school influences their math learning for many years thereafter, and probably throughout their education."

Numbers and Operations

Recent research (Duncan, et al., 2007) has shown that children's knowledge of numbers and ordinality is "one of the most powerful predictors of later learning" in all areas.

The Get Set for School numbers and math program incorporates active lessons that promote number recognition, formation, and counting. Number operations are integral to the Pre-K environment. Children manipulate and count objects in the room, sing songs that reinforce number concepts, and participate in different activities that explore numbers. They learn to count using their own bodies. For example, they learn that they have "1 head, 2 eyes, 1 nose, 10 fingers...."

The National Council of Teachers of Math (2006) recommends that Pre-K students should "develop an understanding of the meanings of whole numbers and recognize the number of objects in small groups without counting and by counting [to 10 and beyond]."

Measurement

Get Set for School lessons provide many avenues for teaching young children to measure in a way that is relevant and memorable. Activities and math tools encourage them to line up objects such as blocks or bags to see how many of those objects it takes to span a bookshelf, a table, a chair... Use of familiar music, movement, and object manipulation takes the mystery and fear out of measurement lessons.

"Measurement should not be taught as a simple skill; instead, it is a complex combination of concepts and skills that develops slowly over years." Clements and Sarama (2004) also note that emphasis should be on children solving real measurement problems to develop strong concepts and skills.

Children are ready to learn measurement concepts during the Pre-K years. "Many students use measurement instruments or count units in rote fashion" (Clements & Battista, 1992).

According to Clement and Sarama (2004), "Preschool children know that continuous attributes such as mass, length, and weight exist, although they cannot quantify or measure them accurately. At age 4-5 years, however, most children can learn to overcome perceptual cues and make progress in reasoning about and measuring quantities."

They also found that measurement is particularly relevant to young children because it is one of the real-world applications of mathematics. It bridges geometry or spatial relationships and real numbers.

Geometry and Spatial Relationships

The study of geometry and the way objects and people relate to each other in space is important to young learners as they develop an understanding of the world around them and their place in it. Get Set for School lessons give children hands-on tools to understand spatial concepts through developmentally appropriate pattern, puzzle, and sorting exercises and tools.

According to the National Research Council (2009), the study of geometry and measurement helps children develop ways to mentally structure the spaces and objects around them. "In addition, these provide a context for children to further develop their ability to reason mathematically."

Newcombe and Frick (2010) confirm that "mental spatial transformation abilities, while present in some precursory form in infants, toddlers, and preschool children, also undergo considerable development and show important individual differences which are malleable." This means that Pre-K children are capable of spatial thinking and can learn geometry concepts at the Pre-K level. Doing so helps them "improve spatial functioning in general, but also reduces differences related to gender and socioeconomic status that may impede full participation in a technological society."

Another study found that with training, "twice as many 5-year-olds produced rectilinear reaction time patterns that are indicative of mental rotation strategy" (Newcombe & Frick 2010; Platt). Get Set for School promotes such spatial thinking with tools and activities that get children to twist, turn, and flip objects to match patterns, complete sequences, and solve puzzles.

Reasoning and Problem Solving

Get Set for School provides positive experiences for using mathematics to solve problems. As a result, children develop curiosity, imagination, flexibility, and inventiveness that contributes to their future success in and out of school.

According to Sadler (2009), fostering children's ability to reason and problem solve "is a long-lasting outcome that will benefit students throughout their mathematics education."

Kimberly Brenneman, assistant research professor at NIEER and co-author of NIEER's math and science policy brief, says, "Given the opportunity, preschoolers will use math and science-related thinking to solve problems even though they may not be aware they are doing so."

Brenneman further states that high-quality Pre-K classrooms support math and science by providing experiences that encourage numerical reasoning and lead to investigations of objects by considering their sizes, quantities, measurements, spatial relationships, and various other aspects. Children engage in explorations of science ideas and content, and skilled teachers interact with them in intentional ways to help them extend their knowledge and reasoning.

Hands-On Math Instruction and Integration

According to the 2002 NAEYC/NCTM joint position statement, it is important to "weave mathematics into children's experiences with literature, language, science, social studies, art, movement, music, and all parts of the classroom environment."

The fine motor tasks presented in Get Set for School math activities will help children develop pathways that will be used in future learning of a variety of educational benchmarks. "Furthermore, other findings link math foundations with improved outcomes in literacy, science, and technology, as well" (Duncan, et al., 2007). Fine motor development, therefore, will enhance learning in subjects critical for later academic and general success.

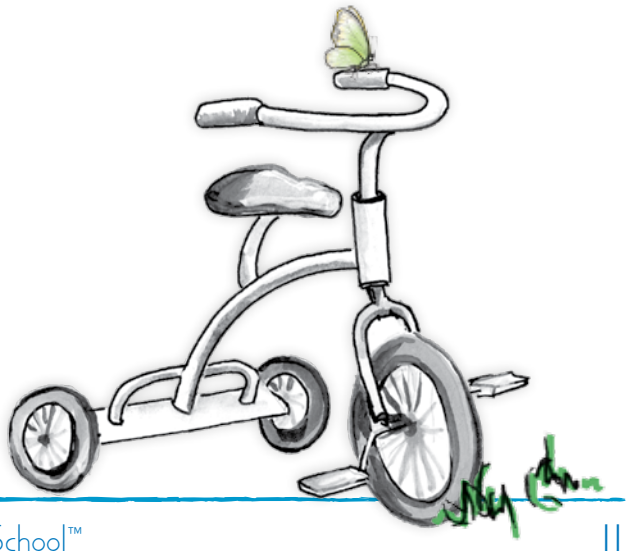
As Francis Wardle (2007) explains, "Math knowledge and dispositions are not created in a vacuum. Math is about manipulating things: objects, shapes, concepts, and relationships; reproducing and documenting the world; and constructing, building, and estimating …. Thus, we must provide a myriad of opportunities for young children to have direct, concrete experiences in the real world."

Conclusion

Preschool is a unique time in children's lives. Pre-K children are little explorers whose learning follows the path of discovery. They develop rapidly as they ask questions and seek to understand their worlds. This is the time for high quality instruction that exposes them to play-based, developmentally appropriate activities that enhance their learning and build their confidence. Get Set for School addresses children's diverse needs and learning styles and meets the demand for research based, hands-on instruction that engages children and gets them ready for school. The curriculum also gives teachers the tools to supplement their core curricula and develop effective lessons that engage children and meet state standards.

For more about the Get Set for School™ curriculum: getsetforschool.com or 301.263.2700

References



Adams, M.J. (1990). *Beginning to read: Thinking and learning about print*. Cambridge, MA: MIT Press.

Alliance for Childhood (2006). *A call to action on the education of young children*. Retrieved from: www.allianceforchildhood.org.

American Academy of Pediatrics. (2006). Ginsburg, K.R. and the Committee on Communications and Committee on Psychosocial Aspects of Child and Family Health. Clinical report: *The importance of play in promoting healthy child development and maintaining strong parent-child bonds*. Retrieved from: www.aap.org/pressroom/playFINAL.pdf.

Barnett, W.S., Hustedt, J.T., Friedman, A.H., Boyd, J.S., & Ainsworth, P. (2007). *The State of Preschool 2007*. New Brunswick, NJ: National Institute for Early Education Research.

Beauchat, K.A., Blamey, K.L., & Walpole, S. (2009). Building preschool children's language and literacy one storybook at a time. *The Reading Teacher*, 63(1): 26–39.

Bergen, D. (2002). The role of pretend play in children's cognitive development. *Early Childhood Research and Practice*, 4(1): 2–15.

Berk, L.E., Mann, T.D., & Ogan, A.T. (2006). Make-believe play: Wellspring for the development of self-regulation. In D.G. Singer, R. Golinkoff, & K. Hirsh-Pasek (Eds.) Play = learning: How play motivates and enhances children's cognitive and social-emotional growth (pp. 74 – 100). New York: Oxford University Press.

Berninger V. W., Abbott R. D., Jones J., Wolf B. J., Gould L., Anderson-Youngstrom A., et. al. (2006) Early development of language by hand: Composing, reading, listening, and speaking connections; three letter-writing modes; and fast mapping in spelling. *Developmental Neuropsychology 29*: 61–92.

Biemiller, A. (1999). *Language and Reading Success*. Cambridge, MA: Brookline.

Bishop, D.V.M. and Adams, C. (1990). A prospective study of the relationship between specific language impairment, phonological disorders and reading retardation. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 31, 1027-1050.

Boggan, Matthew, Sallie Harper, and Anna Whitmire. 2010. Using manipulatives to teach elementary mathematics. *Educational Research* 3: 1-6. http://www.aabri.com/manuscripts/10451.pdf.

Brenneman, K., Stevenson-Boyd, J. Frede, E.C. (2009). *Policy Brief – Math and Science in Preschool: Policies and Practice*. Issue 19. New Brunswick, NJ: National Institute for Early Education Research.

Cain-Caston, M. (1996). Manipulative queen [electronic version]. *Journal of Instructional Psychology* 23(4): 270-274. Retrieved December 10, 2009 from Ebscohost database.

Calman, L.J. & Tarr-Whelan, L. (2005). *Early Childhood Education for All: A Wise Investment*, Legal Momentum.

Chall, J.S., Jacobs, V.A., & Baldwin, L.E. (1990). *The Reading Crisis: Why Poor Children Fall Behind*. Cambridge, M.A.: Harvard University Press.

Clements, D.H., & Battista, M.T. (1992). Geometry and spatial reasoning. In D. A. Grouws (Ed.), *Handbook of Research on Mathematics Teaching and Learnin*g (pp. 420-464). New York: Macmillan.

Clements, D.H., Sarama, J., DiBiase, A. (2004). Measurement in pre-k to grade 2 mathematics. *Engaging Young Children in Mathematics: Standards for Early Childhood Mathematics Education*. Mahwah, New Jersey: Lawrence Erlbaum Associates, Inc.

Coulter, D. 1995. Music and the making of the mind. *Early Childhood Connections: The Journal of Music- and Movement-Based Learning* 1: 22–26.

Dickinson, D.K., & Smith, M.W. (1994). Long-term effects of preschool teachers' book readings on low-income children's vocabulary and story comprehension. *Reading Research Quarterly, 29*: 104-122.

Duncan G.J., Dowsett C.J., Claessens A., Magnuson K., Huston A.C., et al. (2007). School readiness and later achievement. *Developmental Psychology* 43(6): 1428-1446.

Ellery, V. (2005). *Creating Strategic Readers: Techniques for Developing Competency in Phonemic Awareness, Phonics, Fluency, Vocabulary, and Comprehension*. Newark, Delaware: International Reading Association.

Fein, G., Ardila-Rey, A.E., & Groth, L.A. (2000). The narrative connection: stories and literacy. In K.A. Roskos & J.F. Christie (Eds.), *Play and Literacy in Early Childhood* (pp. 27-44). Mahwah, N.J.: Lawrence Erlbaum Associates.

Frede, E., & Ackerman, D.J. (2007). Preschool Curriculum Decision-Making: Dimensions to Consider. *Preschool Policy Brief*. 3(12). New Brunswick, NJ: National Institute for Early Education Research.

Gesell, A. (1940). *The First Five Years of Life: A Guide to the Study of the Preschool Child*. New York: Harper and Row.

Ginsberg, H.P. (2006). *Mathematical play and playful mathematics: A guide for early education*. In Singer et al., op. cit. (pp. 145-165).

Hirsh-Pasek, K., Golinkoff, R., Berk, L., & Singer, D. (2008). *A Manifesto for Playful Learning in Preschool: Presenting the Scientific Evidence*. New York: Oxford.

Honig, B. (2001). Teaching our Children to Read. Thousand Oaks, CA: Corwin Press.

International Reading Association and the National Association for the Education of Young Children. (1998). Joint Position Statement: *Learning to Read and Write: Developmentally Appropriate Practices for Young Children*. Washington, DC: International Reading Association.

Isenberg, J. & Quisenberry, N. (2002). *Play: Essential for All Children. A position paper of the Association for Childhood Education International*. Retrieved from: www.acei.org/playpaper.htm.

Jensen, E. (2001). *Arts with the Brain in Mind*. Alexandria, VA: Association for Supervision and Curriculum Development.

Jones, E. & Cooper, R. (2006). *Playing to Get Smart*. New York: Teachers College Press.

Juel, C. (1988). Learning to read and write: A longitudinal study of fifty-four children from first through fourth grade. *Journal of Educational Psychology*, (80): 437-447.

Juel, C., Griffith, P.L., & Gough, P.B. (1986). Acquisition of literacy: A longitudinal study of children in first and second grade. *Journal of Educational Psychology*, (78): 243-255.

Kim, S. (1999). The effects of storytelling and pretend play on cognitive processes, short-term and long-term narrative recall. *Child Study Journal*, 29(3): 175–191.

Lonigan, C. J. (2008). (Almost) Everything you wanted to know about phonological awareness and were afraid to ask. Paper presented at the Early Reading First Grantee Meeting, New Orleans, LA.

Lonigan, C. J., Burgess, S. R., & Anthony, J. L. (2000). Development of emergent literacy and early reading skills in preschool children: Evidence from a latent-variable longitudinal study. *Developmental Psychology*, 36: 596-613.

Maclean, M., Bryant, P. and Bradley, L. (1987). Rhymes, nursery rhymes, and reading in early childhood. *Merrill-Palmer Quarterly*, 33: 255-282.

Morrison, F., & Cooney, R. (2002). Parenting and academic achievement: Multiple paths to early literacy. In J. Borkowski, S. Ramey Landesman, M. Bristol-Power (Eds.), Parenting and the children's world: Influences on academic, intellectual, and social-emotional development (pp. 141-160). Mahwah, NJ: Lawrence Erlbaum.

National Association for the Education of Young Children. (2009). Position statement: *Developmentally Appropriate Practice in Early Childhood Programs Serving Children from Birth through Age 8*. Washington, DC: National Association for the Education of Young Children.

National Association for the Education of Young Children and the National Association of Early Childhood Specialists in State Departments of Education. (2003). Joint position statement: *Early childhood curriculum, assessment, and program evaluation: Building an effective, accountable system in programs for children birth through age 8*. Retrieved from: www.naeyc.org/about/positions/pdf/CAPEexpand.pdf.

National Association for the Education of Young Children and the National Council of Teachers of Mathematics. (2003). Joint position statement: *Early Childhood Mathematics: Promoting Good Beginnings*. Washington, DC: National Association for the Education of Young Children.

National Association of State Boards of Education (2006). *Fulfilling the Promise of Preschool: The Report of the NASBE Study Group on Creating High-Quality Early Learning Environments*. National Child Care Information and Technical Assistance Center.

National Center for Family Literacy. (2007). *Developing early literacy. Report of the National Early Literacy Panel.* Washington, DC: National Institute for Literacy.

National Council of Teachers of Mathematics (2000). *Early Learning Standards in Mathematics*. Reston, VA: National Council of Teachers of Mathematics.

National Council of Teachers of Mathematics (2006). Curriculum focal points for Pre-kindergarten through grade 8 mathematics. Reston, VA. Retrieved 6/14/2009 from the web at www.nctm.org/standards/focalpoints.aspx?id=300

National Early Literacy Panel. (2009). *Developing Early Literacy: Report of the National Early Panel.* Jessup, MD: National Institute for Literacy.

National Institute of Child Health & Human Development. (2000). *Report of the National Reading Panel: Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. NIH Publication No. 00-4769. Washington, DC: U.S. Government Printing Office.

National Research Council. (2009). *Mathematics learning in early childhood: paths toward excellence and equity*. Committee on Early Childhood Mathematics. Washington, DC: The National Academies Press.

Newcombe, N.S., & Frick, A. (2010). Early education for spatial intelligence: why, what, and how. *Mind, Brain, and Education* 4(3): 102-111.

Nicolopoulou, A., McDowell, J. & Brockmeyer, C. (2006). Narrative play and emergent literacy: storytelling and story-acting meet journal writing. In Singer, D. G., Golinkoff, R. M., & Hirsh-Pasek, K. (eds.). *Play = learning: How play motivates and enhances children's cognitive and social-emotional growth*. N.Y.: Oxford University Press. 2006: 124-144.

Olsen, J. Z. (2008) *Pre-K Teacher's Guide*. Cabin John, MD: Handwriting Without Tears.

Pica, R. (2008). Learning by Leaps and Bounds: Why Motor Skills Matter. *Young Children* 63 (4): 48–9.

Platt, J.E., & Cohen, S. (1981). Mental rotation task performance as a function of age and training. *Journal of Psychology: Interdisciplinary and Applied*, 108: 173-178.

Sadler, F. H. (2009), Help! They Still Don't Understand Counting, *TEACHING Exceptional Children Plus*, 6(1) Article 3.

Scarborough, H. S. (2001). Connecting early language and literacy to later reading (dis)abilities: Evidence, theory, and practice. *Handbook of early literacy research*, edited by S. B. Neuman and D. K. Dickinson, 97-110. New York: The Guilford Press.

Scarborough, H.S. (1991). Early syntactic development of dyslexic children. *Annals of Dyslexia*, 41:207-220.

Scarborough, H.S. (1990). Very early language deficits in dyslexic children. *Child Development*, 61:1728-1743.

Schickedanz, J.A. & Casbergue, R.M. (2004). *Writing in Preschool: Learning to orchestrate meaning and marks.* Newark, DE: International Reading Association.

Seo, K.-H,. & H.P. Ginsburg. (2004). What is developmentally appropriate in early childhood mathematics education? *Engaging Young Children in Mathematics Education*, eds. D.H. Clements, J. Sarama, & A.-M. DiBiase, 91-104. Mahwah, NJ: Lawrence Erlbaum.

Shonkoff, J. & Phillips, D. (Eds.) (2000). *From Neurons to Neighborhoods: The science of early childhood development.* Washington: National Academy Press.

Singer, D.G., Golinkoff, R., & Hirsh-Pasek, K. (Eds.) (2006). *Play = learning: How play motivates and enhances children's cognitive and social-emotional growth.* New York: Oxford University Press.

Singer, D. G., Singer, J. L., Plaskon, S. L., & Schweder, A. E. (2003). The role of play in the preschool curriculum. In S. Olfman (Ed.), *All Work and no Play: How educational reforms are harming our preschoolers* (pp. 43–70). Westport, CT: Praeger.

Snow, C.E., Barnes, W.S., Chandler, J., Goodman, I.F., & Hemphill, L. (1991). *Unfulfilled Expectations: Home and school influences on literacy.* Cambridge, MA: Harvard University Press.

Snow, C.E., Burns, M.S., & Griffin (Eds) (1998). Preventing Reading Difficulties in Young Children. Committee on the Prevention of Reading Difficulties in Young Children and Commission on Behavioral and Social Sciences and Education. National Research Council. Washington, DC: National Academy Press.

Snow, C.E., Tabors, P., Nicholson, P., & Kirkland, B. (1995). SHELL: Oral language and early literacy skills in kindergarten and first-grade children. *Journal of Research in Childhood Education*, 10: 37-48.

Spear-Swerling, L. (2006). Children's reading comprehension and oral reading fluency in easy text. *Reading & Writing: An Interdisciplinary Journal*, 19: 199-220.

Stahl, S.A., & Murray, B.A. (1994). Defining Phonological Awareness and Its Relationship to Early Reading. *Journal of Educational Psychology*. 86(2): 221-234.

Stanovich, K.E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly*, 21: 360-407.

Stanovich, K.E. (1993). Romance and reality (Distinguished Educator Series). *Reading Teacher*, *47*(4): 280-91.

Stevenson, H.W., & Newman, R.S. (1986). Long-term prediction of achievement and attitude in mathematics and reading. *Child Development*, *57*: 646-659.

Storch, S. A., & Whitehurst, G. J. (2002). Oral language and code-related precursors to reading: Evidence from a longitudinal structural model. *Developmental Psychology*, 38: 934-947.

Treiman, R. (1993). *Beginning to Spell: A study of first-grade children.* New York: Oxford University Press.

UVA Today (2009). U. Va. *Researchers Receive $1M to Study Connection Between Fine Motor and Math Skills.* Retrieved from: www.virginia.edu/uvatoday/newsRelease.php?id=10150

Vukelich, C., & Christie, J. (2004). *Building a Foundation for Preschool Literacy: Effective instruction for children's reading and writing development.* Newark, DE: International Reading Association.

Walker D., Greenwood C., Hart B., & Carta J. (1994). Prediction of school outcomes Based on early language production and socioeconomic factors. *Child Development*, 65: 606-621.

Wardle, F. (2007 March/April). Math in early childhood. *Exchange*, 55-58.

West, J., Denton, K. Germino-Hausken, E. (2000). *America's kindergarteners. Statistical analysis report*, NCES2000-070. Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics.

West, J., Denton, K., & Reaney, L. (2000). *The Kindergarten Year* (NCES 2001-023). Washington, DC: U.S. Department of Education.

Whitehurst, G. J., & Lonigan, C. J. (1998). Child development and emergent literacy. *Child Development*, 69: 848-872.

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