

# VII. Physical Development, Health, and Safety

## Background and Criteria

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The emphasis in this domain is on physical development, health, and safety as integral parts of a child's well-being and educational growth. The three primary components of influence are gross motor skills; fine motor skills; and personal health, nutrition and safety. A principal focus of gross motor skills is on a child's ability to move in ways that demonstrate control, balance, and coordination. Gross motor development lays the foundation for the recommended physical exercise necessary for maintaining a healthy weight (ChildObesity 180's Active Schools Acceleration Project, 2012; Centers for Disease Control and Prevention [CDC], 2011; Berk, 2012). Additionally, gross motor movement has been found to have a positive effect on a child's academic outcome (CDC, 2010, 2011; Franke, 2005; Fredericks, Kokot, & Krog, 2006). Fine motor skills include strength, coordination, and eye-hand skills. These skills are important in laying the foundation upon which self-care skills, handwriting, and artistic expression mature. The third component addresses a child's growing ability to understand their personal health including self-care, nutrition, and physical safety.

*Note:* Preschool-3 performance indicators are noted unless the indicator starts at a higher grade. In those circumstances, the performance indicator is written starting at the lowest grade with the grade level noted in parentheses.

### A. Gross Motor Development

- 1. Moves with some balance and control.**
- 2. Coordinates basic movement patterns to perform simple tasks.**

American children are increasingly at physical risk because of the growing prevalence of childhood obesity. The Centers for Disease Control and Prevention has reported that in 2009–2010 12.1% of children ages 2–5 years and 18% of children ages 6–11 years were considered obese (Ogden, Carroll, Kit, & Flegal, 2012; National Center for Health Statistics, 2011).

Although studies have found that physical health and well-being is foundational to learning across all other domains, children are not getting as much exercise or opportunities to play outside (recess) at school (American Academy of Pediatrics, 2012). Additionally, studies on brain development indicate that the window of opportunity for developing gross motor skills is open widest during the preschool years (National Association for Sport and Physical Education; 2009). Thus, preschoolers who don't get the opportunity to acquire these skills might never realize their full movement potential.

During their preschool years, children acquire greater levels of locomotor competence in skills such as running and galloping. In addition, jumping, hopping, skipping, and leaping will continue to emerge with practice. By kindergarten, children are more interested in their physical capabilities-- seeing how high they can jump or how fast they can run. They have better balance, leaner bodies, and better social skills. This fosters cooperation with peers and better participation in group physical activities (Thelen & Smith, 1998). Children this age are also better able to more safely participate in "rough and tumble play", as they can shift weight well and vary the force of their body allowing more "give" to absorb force (Carlson, 2011). Between the ages of 6 and 7, children

become even more fluid in how they move (Sanders, 2006).

As children move into first, second, and third grades, their gross motor skills are already established. With age, they further refine these skills and become more purposeful and controlled in their movements. They have better coordination and balance as well as greater endurance. They also become more interested in the physical and social engagement that wrestling, tackling, and chasing provide. More specifically, they are interested in seeing the relative strengths and weaknesses of themselves and their peers—they ask who can run faster, swing higher, and throw farther. They are also more at risk of harming themselves, as they tend to take risks with an incomplete knowledge of their strengths and weaknesses (Carlson, 2011). While children with gross motor involved disabilities often share their classmates' interests in sports and movement, they are often left out of these activities (Foley, Bryan, & McCubbin, 2008). Additionally, research has shown a significant correlation between children who have issues with gross motor skills and learning disabilities. However, it is often more beneficial for them to participate in these activities than for their typically developing peers, even though there may be more challenges (Pica, 2004).

## **B. Fine Motor Development**

- 1. Begins to use strength and control to perform simple tasks.**
- 2. Uses eye-hand coordination to perform simple tasks.**
- 3. Explores the use of various drawing and art tools.**

Most 4- and 5-year-olds can copy triangles and other simple geometric patterns, draw a person with a body, and print some letters (American Academy of Pediatrics, 2013). Writing and drawing with precision, however, can still be difficult for preschoolers, as they are still developing comfort and agility with fine motor work. To avoid causing frustration for them, they should not be asked to do such precise work (National Association for the Education of Young Children [NAEYC], 2009). Additionally, while handedness is fairly well-established by age 4, the wrist contains cartilage that will not

harden into bone until about age 6, placing constraint on fine motor activity (Berk, 2008). As a result, most preschoolers cannot make fully circular wrist motions such as those needed for cursive writing. Open-ended activities such as drawing, painting, and working with play dough are considered developmentally appropriate at this stage. In kindergarten, children improve in activities such as stringing beads, buttoning, using scissors, and pouring juice or milk at snack time. Writing becomes more important at this stage as children develop an increased desire to communicate through written expression. Most kindergartners can grip a pencil or crayon correctly and are improving in their ability to write letters correctly (NAEYC, 2009). According to Beery and Beery (2004), by age 6, children can print all numerals, use simple tools such as a screwdriver, and cut simple pictures within  $\frac{1}{4}$  inch of the border. However, it is not until the primary grades that children can draw more complex figures, and even then, considerable variation still exists among individuals.

## **C. Self-Care, Health, and Safety**

- 1. Begins to perform self-care tasks.**
- 2. Follows basic safety rules with reminders.**

Three-year-olds are still learning how to manage their personal needs; however, with support, they are eager to start trying to do things on their own. Typically, they can put on their outside clothes (coats, hats), but are unlikely to be able to tie their own shoelaces. At ages 3 and 4, children also are better able to follow basic health and safety rules such as fire safety, traffic, and pedestrian safety, and respond appropriately to potentially harmful objects, substances, and activities. They can communicate dangerous behavior to another [e.g., "Don't touch the hot stove!"] (PBS, 2013). By age 4 or 5, they should be able to dress and undress without assistance; use a fork, spoon, and (sometimes) a table knife; and usually care for their own toilet needs (AAP, 2013.). They are also learning to identify fundamental practices for good health (e.g., eating well, getting rest, seeing a doctor for checkups), and identify consequences for unsafe behaviors (Pennsylvania Department of Education, 2002). And while kindergartners become more self-sufficient with taking care of their personal needs, they still require

opportunities and support to develop and practice self-help skills and safety rules. Additionally, adults need to be patient when there are occasional spills and accidents (NAEYC, 2009). Once in the primary grades, children are basically self-sufficient when it comes to their daily care (e.g., dressing themselves, using utensils properly, caring for their toileting needs); however, they may still need reminders to do take care of some of their needs such as washing their hands before eating and being careful when doing certain activities. They also can identify methods of health promotion and disease prevention such as the importance of eating and sleeping well and immunizations (Illinois State Board of Education, 2010).

There are another types of safety concern that are becoming prevalent in grade school: learning how to protect children from bullying and teaching them how to protect themselves. According to the American Psychological Association (2004), “bullying is a form of aggressive behavior in which someone intentionally and repeatedly causes another person injury or discomfort. Bullying can take the form of physical contact, words, or more subtle actions.” Cyberbullying also becomes more of problem in elementary schools, as children begin using texting and email to communicate (Massachusetts Aggression Reduction Center, 2010). The APA (2013) recommends that parents and teachers practice scenarios at home where the child learns how to ignore a bully and/or develop assertive strategies for coping with a bully. Parents and teachers should encourage children to identify friends and adults at school who can help them if they are worried about being bullied.

## References

- American Academy of Pediatrics. (2012). *Policy statement: The crucial role of recess in school*. Elk Grove Village, IL: Author. Retrieved from <http://pediatrics.aappublications.org/content/131/1/183.full.pdf+html>
- American Academy of Pediatrics. (2013). *Developmental milestones: 4 to 5 years old*. Retrieved from <http://www.healthychildren.org/English/ages-stages/preschool/Pages/Developmental-Milestones-4-to-5-Year-Olds.aspx>
- American Psychological Association. (2004, July). *APA resolution on bullying among children and youth*. Washington, DC: Author. Definition retrieved from <http://www.apa.org/topics/bullying/index.aspx>
- American Psychological Association. (2013). *Bully: How parents, teachers, and kids can take action to prevent bullying*. Retrieved from <http://www.apa.org/helpcenter/bullying.aspx#>. Beery, K. E., & Beery, N. A. (2004). *The Beery-Buktenica Developmental Test of Visual-Motor Integration: Administration, scoring, and teaching manual* (5th ed.). Minneapolis, MN: NCS Pearson.
- Berk, L. E. (2008). *Child development* (8th ed.). Boston, MA: Pearson/Allyn & Bacon.
- Berk, L. E. (2012). *Infants and children prenatal through middle childhood* (7th ed.). Boston, MA: Pearson.
- Carlson, F. M. (2011). *Big body play: Why boisterous, vigorous, and very physical play is essential to children's development and learning*. Washington, DC: National Association for the Education of Young Children.
- Centers for Disease Control and Prevention. (2010). *The association between school based physical activity, including physical education, and academic performance*. Atlanta, GA: Author.
- Centers for Disease Control and Prevention. (2011). *School health guidelines to promote healthy eating and physical activity*. Atlanta, GA: Author.
- ChildObesity 180's Active Schools Acceleration Project. (2012). *Increasing school-time physical activity*. Retrieved from <http://www.activeschoolsasap.org/learn>
- Foley, J., Bryan, R., & McCubbin, J. (2008). Daily physical activity levels of elementary school-aged children with and without mental retardation. *Journal of Developmental & Physical Disabilities, 20*, 365–378.
- Franke, M. J. (2005). Motor activity and improved brain function. *Missouri Journal of Health, Physical Education, Recreation and Dance, 62*–75.
- Fredericks, C. R., Kokot, S. J., & Krog, S. (2006). Using a developmental movement programme to enhance academic skills in grade 1 learners. *South African Journal for Research in Sport, Physical Education and Recreation, 28*(1), 29–42.

- Illinois State Board of Education. (2010). *Illinois learning standards for physical development and health*. Springfield, IL: Author.
- Massachusetts Aggression Reduction Center. (2010). *MARC K-5 Bullying and cyberbullying curriculum*. Bridgewater, MA: Author.
- 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: Author.
- National Association for Sport and Physical Education. (2009). *Active start: A statement of physical activity guidelines for children birth to age 5* (2nd ed.). Reston, VA: Author.
- National Center for Health Statistics. Health, United States (2011). *With Special Features on Socioeconomic Status and Health*. Hyattsville, MD: U.S. Department of Health and Human Services.
- Ogden, C. L., Carroll, M. D., Kit, B. K., & Flegal, K. M. (2012). Prevalence of obesity and trends in body mass index among US children and adolescents, 1999–2010. *Journal of the American Medical Association*, 307(5), 483–490.
- Pennsylvania Department of Education. (2002). *Academic standards for health, safety, and physical education*. Harrisburg, PA: Author.
- Pica, R. (2004). *Experiences in movement: Birth to age 8*. Clifton Park, NY: Delmar Learning.
- Pica, R. (2007, June). Ten reasons to promote emergent literacy through movement & active learning. *News from Gryphon House: Promoting Literacy Through Movement*. Retrieved from <http://www.gryphonhouse.com/news/fullStory.asp?Type=5&ID=171>
- Public Broadcasting System. (2013). *Child development and early child development advice/PBS parents: Child development tracker*. Retrieved from <http://www.pbs.org/parents/childdevelopmenttracker/three/physicalhealth.html>
- Sanders, S. (2006). Physical education in kindergarten. In D. GuUo (Ed.), *K today: Teaching and learning in the kindergarten year* (pp. 127–137). Washington, DC: National Association for the Education of Young Children.
- Thelen, E., & Smith L. B. (1998). Dynamic systems theories. In: W. Damon (Ed.), *Handbook of child psychology: Vol. 1. Theoretical models of human development*. (5th ed., pp. 563–634). New York, NY: John Wiley & Sons, Inc.

