

More than half of school-age children are under-hydrated and too many children routinely drink sugary beverages — and that makes it harder for their minds and bodies to work well. Help them hydrate the healthy way by making the availability of safe and free drinking water at schools a priority. Learn more about water access and promotion in schools at www.DrinkingWaterAlliance.org.



Staying hydrated helps children think better

- Being properly hydrated can improve children's memory and attention.^{1,2}
- Even mild levels of dehydration may result in decreased concentration, alertness and short-term memory.^{3,4}
- A drink of water can improve children's visual attention and fine motor skills.⁵



Drinking water, rather than sugary drinks, helps prevent tooth decay

- Children who primarily drink water or milk have fewer dental caries than those who drink soda.^{6,7}
- The more sugary beverages children consume, the higher their risk for dental disease.⁸
- A drink of water after meals rinses the mouth and restores a healthy pH.⁹



Children's bodies work best when hydrated the healthy way — with water!

- Water performs critical functions in the body. It's needed for biochemical reactions, temperature regulation, transportation of nutrients throughout the body, and is an important factor in cell metabolism and gene expression.^{10,11}
- Drinking plain water instead of sugary drinks can reduce weight and prevent excess weight gain in children.^{12,13}
- Childhood obesity has short- and long-term negative impacts on emotional, social, and physical health. 14,15
- $1. \quad Benton \ D, Burgess \ N. \ The effect of the consumption of water on the memory and attention of children. Appetite. 2009; 53(1):143-6.$
- Perry CS, Rapinett G, Glaser NS, Ghetti S3. Hydration status moderates the effects of drinking water on children's cognitive performance. Appetite. 2015 Dec: 95:520-7.
- Bar-David Y, Urkin J, Kozminsky E. The effect of voluntary dehydration on cognitive functions of elementary school children. Acta Paediatr. 2005; 94(11):1667-73.
- Masento NA, Golightly M, Field DT, Butler LT, van Reekum CM. Effects of hydration status on cognitive performance and mood. Br J Nutr. 2014 May 28; 111(10):1841-52.
- Booth P, Taylor B, Edmonds CJ. Water supplementation improves visual attention and fine motor skills in schoolchildren. Education and Health. 2012; 30:75-79.
- 6. Sohn W, Burt BA, Sowers MR. Carbonated soft drinks and dental caries in the primary dentition. J Dent Res 2006; 85(3):262-266.
- Marshall TA1, Levy SM, Broffitt B, Warren JJ, Eichenberger-Gilmore JM, Burns TL, Stumbo PJ. 2003. Dental caries and beverage consumption in young children. Pediatrics. 2003 Sep; 112(3 Pt 1):e184-91.
- Armfield JM, Spencer AJ, Roberts-Thomason KF, Plastow K. Water fluoridation and the association of sugar-sweetened beverage consumption and dental caries in Australian children. Am J Public Health. 2013;103:494–500.
- 9. Pediatric Dentistry: A Clinical Approach edited by Goran Koch, Sven Poulsen, Ivar Espelid, Dorte Haubek
- National Research Council. Dietary Reference Intakes for Water, Potassium, Sodium, Chloride, and Sulfate. Washington, DC: The National Academies Press, 2005.
- 11. Popkin BM, D'Anci KE, Rosenberg IH. Water, hydration, and health. Nutr Rev. 2010; 68(8):439-58.
- Malik VS, Pan A, Willett WC, Hu FB. Sugar-sweetened beverages and weight gain in children and adults: a systematic review and meta-analysis. Am J Clin Nutr. 2013; 98(4): 1084-1102.
 Zhen DM. Allman-Farinelli H. Heltmann BL. Annana A. Substitution of sugar-sweetened beverages with other beverage alternatives:
- a review of long-term health outcomes. J Acad Nutr Diet. 2015; 115(5):767-79.

 A Halfon N Largo K Studge M Association Returns Obserts and Competition Montal Health Developmental and Physical Health
- Halfon N, Larson K, Slusser W. Associations Between Obesity and Comorbid Mental Health, Developmental, and Physical Health
 Conditions in a Nationally Representative Sample of US Children Aged 10 to 17, Academic Pediatrics 2013; 13(1):6-13.
- Daniels S.R. Complications of obesity in children and adolescents. Int. J. Obes. (Lond.). 2009;33:60–65

Icons by Freepik and Prosymbols

NATIONAL Drinking Water ALLIANCE

Fact sheet created with funding from Kaiser Permanente. Content developed by the Nutrition Policy Institute, University of California, Division of Agriculture and Natural Resources and members of the Nutrition and Obesity Policy Research and Evaluation Network's (NOPREN) Water Access Working Group supported by the Prevention Research Centers at the Centers for Disease Control and Prevention. The contents are solely the responsibility of the authors and do not necessarily represent the official views/position of Kaiser Permanente, CDC or DHHS.

