Fluoride is a mineral that occurs naturally and is released from rocks into the soil, water, and air. Small amounts of fluoride can be found in all natural water sources as well as beverages and foods processed with fluoridated water. Small amounts of fluoride can also be found in other items such as dietary supplements, medications, and dental care products. Some bottled waters contain fluoride, but fluoride content in bottled water is often not known, as the FDA guidelines state that declaration of fluoride is voluntary whether it is intentionally added or naturally present, unless a claim is made about fluoride content.

When a person eats sugar and other refined carbohydrates, bacteria forms in the mouth. These bacteria produce acid that removes minerals from the surface of the tooth, leading to tooth decay. Fluoride works by stopping or even reversing the tooth decay process—it keeps tooth enamel strong and solid by remineralizing tooth surfaces and prevents cavities from forming. Studies show that water fluoridation continues to be effective in reducing dental decay by at least 25% in children and adults, even with widespread availability of fluoride from other sources, such as fluoride toothpaste.

Although all natural water sources contain some fluoride, it is not enough to prevent tooth decay. Community water fluoridation is the process of adding fluoride to drinking water supplies with an optimal concentration of 0.7 milligrams of fluoride per liter of drinking water. Community water fluoridation is a public health measure for reducing cavities and is the most equitable way to ensure that everyone in most communities receives fluoride, regardless of age, educational level, or socioeconomic status. Community water fluoridation is also one of the most cost effective strategies for preventing dental cavities in the population and avoiding restorative treatment. Estimates show that every $1 invested in water fluoridation lowers dental care costs by $38.

Kentucky law (KRS 211.190) requires the Cabinet for Health and Family Services to establish, maintain, monitor, and enforce water fluoridation programs for the protection of dental health. Kentucky administrative regulation (902 KAR 115:010) outlines the requirements for implementation, equipment, measurement, and operation of water fluoridation programs. This regulation states the optimal fluoridation level in drinking water is 0.7ppm, with an acceptable range of 0.6ppm to 1.2ppm. Water systems add fluoride to drinking water. The process and amount differs in each water system, depending on the natural composition of the source water in their area. Today, 217 fluoridated communities serve nearly 95 percent of the state's population, making Kentucky a national leader.
Kentucky ranks in the bottom five on several tooth and gum health measures and data on Kentucky’s oral health reflects low levels of dental care. In 2020, less than 60% of Kentucky adults reported having a dental visit within the past year. More than 20% of Kentucky adults over age 65 have no natural teeth due to decay or disease - among the highest rates in the nation. Tooth decay is a long-term preventable condition that starts much earlier. Community water fluoridation is one of the best ways to prevent cavities from childhood.

National survey data show that prevention of tooth decay can be maintained at the recommended level of 0.7 milligrams of fluoride per liter of drinking water.

The beneficial effects of fluoride on human oral health are well studied. A small amount of fluoride delivered to the oral cavity decreases the prevalence of dental decay and results in stronger teeth and bones, without being detrimental to overall health. The biggest risk associated with this level of fluoride consumption is mild fluorosis in those under age 8 when permanent teeth are still forming. Fluorosis is generally mild and results in minimal color changes to tooth enamel (usually visible as white spots on teeth). Fluorosis does not impact the function of teeth. There is no sufficient evidence that fluoride exposure at recommended levels negatively impacts overall health, brain, or bodily function.

Yes. The following institutions recommend fluoridated water within the recommended concentrations:
- American Academy of Pediatrics
- American Academy of Pediatric Dentistry
- American Association of Public Health Dentistry
- American Dental Association
- American Dental Hygienists’ Association
- American Medical Association
- American Public Health Association
- Centers for Disease Control and Prevention
- World Health Organization

It is safe and recommended to use fluoridated water to mix formula bottles for babies over the age of 6 months. Although babies under the age of 6 months do not need fluoride, it is safe to use in formula bottles. In December 2022, the American Academy of Pediatrics cited water fluoridation as a key preventive measure to improve children’s oral health.
LINK TO SOURCES

- Water Fluoridation Basics | Community Water Fluoridation | Division of Oral Health | CDC
- Revision of the Nutrition and Supplement Facts Labels: Guidance for Industry - Small Entity Compliance Guide
- Fluoridation FAQs | American Dental Association.
- Community Water Fluoridation | Division of Oral Health | CDC
- 211.190 Public health services to be provided by the cabinet.
- Oral Health Program
- Explore Dental Visit in Kentucky | 2022 Annual | AHR
- Explore Teeth Extractions - Ages 65+ in Kentucky | 2022 Senior | AHR
- Public Health Service (PHS) Recommendation | FAQs | Community Water Fluoridation
- Fluorosis | MouthHealthy - Oral Health Information from the ADA
- Education | American Fluoridation Society
- Fluoride for Children: FAQs- healthychildren.org
- Maintaining and Improving the Oral Health of Young Children | Pediatrics