CALCULATIONS

Calculations #1: A 12 oz. glass of water fluoridated at 0.7 mg/l, the amount proposed for Portland, would contain 0.248 mg of fluoride:

Conversions/assumptions:
1 glass = 12 ounces of water = 0.3548 liters
Proposed fluoride concentration in Portland: 0.7 mg/l

Calculation:
0.7 mg/l of fluoridated water x [0.3548 liters/1 glass of water (12 oz)]= 0.248 mg of fluoride per 1 glass (12 oz.)

Calculations based on Healthy Kids Healthy Portland PAC’s assumption an 8 oz. glass of water and 1100 ppm toothpaste

Because Healthy Kids Healthy Portland said their numbers (for which they don’t show any calculations) were based on an 8 ounce glass of water and a fluoridated toothpaste concentration of 1100 parts per million we thought it would be useful to see how many of their 8 oz. glasses of water would it take to equal the fluoride in a pea-sized amount of toothpaste. The answer: 1.66 glasses

Calculations/Assumptions: 8 ounce glass of water = 0.2365 liters

0.7 mg/l of fluoride x [0.2365 liters/1 glass of water (12 oz.)] = 0.165 mg of fluoride per glass (8 oz.)
0.25 grams of toothpaste x [1100 grams of fluoride/1,000,000 grams toothpaste] = 0.000275 grams = 0.275 milligrams (mg) in a pea-sized dab of toothpaste at 1100 ppm

# of 8 oz. glasses needed to equal 0.275 mg = 0.275 mg/ 0.165 mg/glass = 1.66 glasses (8 oz)

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1 City of Portland Water Bureau, Cost to Implement Fluoridation, June 8, 2012.
3 University of Washington oral health webpage providing toothpaste recommended doses for children and stating, “a ‘pea-size’ (.25 grams) is recommended for children 3 to 5 years” http://www.washington.edu/earlychildhood/faqs/childrens-oral-health-faqs