

## Concentration practice #2

1. The average person needs 200 mg of potassium per day to keep the acids and other fluids in their body in balance. If you consider that a 225 g banana contains 300 ppm of potassium, how many bananas would you have to eat to get your daily dose?
2. A person needs approximately 100 mg of vitamin D per day. In a slice of cheese you can find 500 ppm. How many pieces of cheese would a person need to consume per day if each cheese slice was 45 g?
3. A person needs approximately 800 mg of calcium per day. In a glass of milk 250 mL glass of milk you can find 750 ppm of calcium. How many glasses of milk would you need to get the recommended daily allowance of calcium?
4. Kim needs to increase the amount of vitamin C she has per day to prevent her from a recurring cold. A person needs approximately 1 500 mg per day. If a 250 mL glass of orange juice has 300 ppm, how many oranges must Kim eat per day to get her recommended daily allowance?
5. Iron is mineral which is found in both spinach and lettuce. Since women have a monthly menstrual cycle women need 18 mg per day while men only need 8 mg per day. If a 25 g of cereal contains 350 ppm, calculate the amount of bowls women need versus men.
6. The water in a lake is contaminated. To determine the concentration of the contaminant, a technician takes a 50 mL sample of water. After several tests, he concludes the sample contains 3.75 mg of contaminant. Calculate the concentration of the contaminant in ppm.

7. Public pools usually contain about 1 ppm of chlorine to control bacterial growth. If your pool can hold 250 L of water how much chlorine should you there be?
8. You wanted to test the ratio of salt to water in the ocean. You distilled 10 L of salt water and found there to be 2.5 g of salt. How much salt would there be in ppm?
9. Chlorine is sometimes used in a city's water filtration system to kill micro-organisms. To ensure fish in an aquarium are not affected by the chlorine, tap water could be left sitting for 24 hours to allow the chlorine to evaporate. The lethal dose of chlorine for most goldfish is 0.02 mg/L. Most water filtration systems use 25.5 ppm to kill micro-organisms. Do you need to let the water sit for 24 hours so the chlorine could evaporate?
10. In a pond, the lethal concentration of nitrate ( $\text{NO}_3^-$ ) is 0.04 g/L and phosphate's ( $\text{PO}_4^{3-}$ ) lethal concentration is 0.3 mg/L. This means if the concentrations of nitrate or phosphate is over the is over the values given, certain types of aquatic organisms will die.

You test the water and get the following values:

- Nitrate has a concentration of 45 ppm
- Phosphate has a concentration of 0.15 ppm

Determine if the pond contains any lethal doses.