

Measurement Units and Concentration Analogies

Parts Per Million (ppm)

1 milligram/kilogram (mg/kg) = 1 ppm

1 milligram/liter (mg/l) = 1 ppm

1 microgram/gram ($\mu\text{g/g}$) = 1 ppm

0.0001 % = 1 ppm

1 ppm Analogies

1 inch in 16 miles

1 minute in two years

1 second in 11.5 days

1 car in bumper-to-bumper traffic from Cleveland to San Francisco

8.34 pounds/million gallons

400,000 to 500,000 pounds in Pike Bay (approximately)

1 ppm = 1,000 ppb = 1,000,000 ppt

Parts Per Billion (ppb)

1 microgram/kilogram ($\mu\text{g/kg}$) = 1 ppb

1 microgram/liter ($\mu\text{g/l}$) = 1 ppb

1 nanogram/gram (ng/g) = 1 ppb

1 ppb Analogies

1 silver dollar in a roll stretching from Detroit to Salt Lake City

1 sheet in a roll of toilet paper stretching from New York to London

1 second in nearly 32 years

1 pound/120 million gallons of water

400 to 500 pounds in Pike Bay (approximately)

0.001 ppm = 1ppb = 1,000 ppt

Parts Per Trillion (ppt)

1 nanogram/kilogram (ng/kg) = 1 ppt

1 nanogram/liter (ng/l) = 1 ppt

1 picogram/gram (pg/g) = 1 ppt

1 ppt Analogies

1 square inch in 250 square miles

1 second in nearly 32,000 years

1 ounce in 7.5 billion gallons of water

6 to 8 ounces in Pike Bay (approximately)

0.000001 ppm = 0.001 ppb = 1 ppt