

Chemistry Practice: Scientific Notation and Conversions

1. Rewrite the following numbers in scientific notation

a.) 350 000 _____

b.) 50 _____

c.) 0.0075 _____

d.) 6 _____

e.) 305.05 _____

f.) 0.000 000 34 _____

g.) 572×10^5 _____

h.) 680 000 000 _____

i.) 0.0053×10^{-5} _____

j.) 38.03 _____

2. Rewrite the scientific notation numbers as normal numbers

a.) 1.6×10^4

b.) 3.0×10^6

c.) 6.2×10^{-9}

d.) 2×10^{-1}

e.) 8.256×10^1

f.) 6×10^0

3. Put it together: Write the appropriate abbreviation of the SI base **unit** with **prefix** for each description.

a.) _____ 1/10th of time

f.) _____ 1/1 000 000 of temperature

b.) _____ 1000 times base unit of temperature g.) _____ 1×10^6 times amt. Sub.

c.) _____ 1/100 of length h.) _____ 1×10^{-9} of time

d.) _____ 1/1000 of amount of substance i.) _____ 1/1 000 000 of mass*

e.) _____ 1000 times base unit of mass* j.) _____ 1×10^{-6} of length

4. Convert the following:

a) 52 km = _____ Mm

l) 0.002 mg = _____ kg

b) 2.4 μg = _____ mg

m) 2×10^5 cm = _____ m

c) 0.12 mol = _____ mmol

n) 0.10 mole = _____ mmole

d) 0.5 Gbyte = _____ Mbyte

o) 2000 kByte = _____ Mbyte

e) 7.2 mm = _____ cm

p) 0.0056 Ms = _____ ms

f) 2×10^{-2} g = _____ mg

q) 2×10^4 cm = _____ m

g) 5.6×10^3 nm = _____ m

r) 0.24 mg = _____ cg

h) 6.0×10^4 K = _____ kK

s) 35 Pascals = _____ kPascals

i) 0.02 kg = _____ g

t) 0.003 Ms = _____ s

j) 500 000 000 mmol = _____ mol

u) 2×10^{-3} g = _____ kg

k) 3.5 kJoules = _____ Joules

Answer: 2×10^{-3} g = 2×10^{-6} kg