

Chem 1061

SI prefix conversion practice

SI Prefixes: pico = p = 10^{-12} nano = n* = 10^{-9} micro = μ * = 10^{-6}
 milli = m* = 10^{-3} centi = c* = 10^{-2} deci = d* = 10^{-1}
 kilo = k* = 10^3 mega = M* = 10^6 giga = G = 10^9
 (* = memorize)

When setting up a conversion factor to or from a base unit, use 1 for the prefixed unit and the power of 10 for the base unit. Example: 1 mg = 10^{-3} g; 1 kg = 10^3 g.

Give all answers in scientific notation. Practice setting these up as dimensional analysis conversions with cancelling units.

Converting to or from the base unit

1. Convert 4.0 cm to m.
2. Convert 4.0 m to cm.
3. Convert 40 mm to m.
4. Convert 40 m to mm.
5. Convert 0.4 km to m.
6. Convert 0.4 m to km.
7. Convert 40.0 m to mm.
8. Convert 400.0 m to mm.
9. Convert 4 nL to L.
10. Convert 4 L to nL.
11. Convert 40.0 μ L to L.
12. Convert 40.0 L to μ L.
13. Convert 0.04 GL to L.
14. Convert 0.04 L to GL.
15. Convert 400.00 dL to L.
16. Convert 400.00 L to dL.

Converting between units with different prefixes

17. Convert 4.0 cm to mm.

25. Convert 4 mL to μL .

18. Convert 4.0 mm to cm.

26. Convert 4 μL to mL.

19. Convert 40 mm to km.

27. Convert 40.0 μL to nL.

20. Convert 40 km to mm.

28. Convert 40.0 nL to μL .

21. Convert 0.4 km to cm.

29. Convert 0.04 GL to mL.

22. Convert 0.4 cm to km.

30. Convert 0.04 mL to GL.

23. Convert 40.0 nm to mm.

31. Convert 400.00 dL to pL.

24. Convert 400.0 nm to mm.

32. Convert 400.00 pL to dL