1. Question Bank Lab Math Basics

*(Adapted from Denise Monti’s Math Module Quiz; SEA-PHAGES forums* [*https://seaphages.org/forums/topic/4387/*](https://seaphages.org/forums/topic/4387/) *07/21/17)*

1. Which of the following is the correct scientific notation for the number 0.000682?
   1. 6.82x104
   2. 682x10-3
   3. 6.82x10-4
   4. 6.82x10-6

Answer: c. 6.82x10-4

1. Convert 4,220,000 from standard notation to scientific notation.
   1. 4.22x10-6
   2. 4.22x106
   3. 4.22x104
   4. 42x106

Answer: b. 4.22x106

1. 37. Convert 5.4x10-3 from scientific notation to standard notation.
   1. a. 5400
   2. b. 0.00054
   3. c. 0.0054
   4. d. 54000

Answer: c. 0.0054

1. Convert 9.13x104 from scientific notation to standard notation.
   1. 91300
   2. 9130000
   3. 0.000913
   4. 9130

Answer: a. 91300

1. Which of the following is correct scientific notation for the number 186,000?
   1. 1.86x10-3
   2. 1.86x106
   3. 1.86x103
   4. 1.86x105

Answer: d. 1.86x105

1. Convert 0.00541 from standard notation to scientific notation.
   1. 5.41x102
   2. 5.41x10-6
   3. 5.41x10-3
   4. 5.41x10-2

Answer: c. 5.41x10-3

1. Find the correct solution to the problem: 5.0x103 \* 1.0x108
   1. 5.0x1012
   2. 500x1011
   3. 5.0x1011
   4. 5.0x105

Answer: c. 5.0x1011

1. Find the correct solution to the problem: 1.0x102 / 1.0x10-2
   1. 1.0x104
   2. 1.0x10-4
   3. c. 1.0x100
   4. d. 1

Answer: a. 1.0x104

1. 25. Find the correct solution for: 1.5x103 \* 5.0x103
   1. a. 6.5
   2. b. 6.0x103
   3. 6.5x106
   4. 7.5x106

Answer: d. 7.5x106

1. Find the correct solution for: 5.0x105 \* 4.0x104
   1. 1.0x101
   2. 5.4x109
   3. 9.0x109
   4. 2.0x1010

Answer: d. 2.0x1010

1. Find the correct solution for: 6.0x10-3 \* 2.0x10-3
   1. 1.2
   2. 3
   3. 1.2x10-5
   4. 1.2x10-6

Answer: b. 3

1. Find the correct solution for: 1.0x10-4 / 1.0x103
   1. 1
   2. 1.0 x 10-1
   3. 1.0 x 107
   4. 1.0 x 10-7

Answer: 1.0 x 10-7

1. Which of the following is the correct abbreviation for microliter?
   1. mL
   2. µL
   3. mm
   4. mg

Answer: b. µL

1. Which of the following is the correct abbreviation for milligram?
   1. g
   2. µg
   3. ng
   4. mg

Answer: d. mg

1. Which of the following is the correct abbreviation for nanogram?
   1. mg
   2. µg
   3. g
   4. ng

Answer: d. ng

1. What is the correct abbreviation for meter?
   1. cm
   2. mm
   3. m
   4. M

Answer: c. m

1. Convert 0.5mL to µL.
   1. 5µL
   2. 50µL
   3. 500µL
   4. 5000µL

Answer: c. 500µL

1. Convert 100nm to µm.
   1. 0.01µm
   2. 0.1µm
   3. 1µm
   4. 10uM

Answer: b. 0.1µm

1. Express 25µg/mL in mg/L.
   1. 2.5mg/L
   2. 25mg/L
   3. 250mg/L
   4. 2500mg/L

Answer: b. 25mg/L

1. Express 600µg/mL in mg/µL.
   1. 6.0x10-2mg/µL
   2. 6.0x10-4mg/µL
   3. 6.0x10-8mg/µL
   4. 60mg/µL

Answer: b. 6.0x10-4mg/µL

1. Convert 450mg to g.
   1. 4.5g
   2. 0.45g
   3. 0.045g
   4. 4.5x10-3g

Answer: b. 0.45g

1. Convert 0.025M to mM.
   1. 25mM
   2. 2.5mM
   3. 0.25mM
   4. 0.025mM

Answer: a. 25mM