

Concept Test Questions on Handling Exponentials:

Question designed to test magnitudes:

The number 1×10^{-3} is _____ than the number 1×10^{-6}

1. 1000 times smaller
2. 2 times smaller
3. 1000 times larger
4. 2 times larger

Correct Answer: 3. 1000 times larger

Comment to instructor: Get students into thinking about powers of 10 and how to arithmetically handle negative exponents.

Question designed for critical thinking exercise and to test knowledge of metric prefixes:

Which is a larger quantity: 400 mg or 4000 micrograms, and how much larger?

1. 400 mg, by a factor of 100
2. 400 mg, by a factor of 10
3. 4000 micrograms, by a factor of 10
4. 4000 micrograms, by a factor of 100

Correct Answer: 1. 400 mg by a factor of 100

Comment to instructor: Try to get students to agree on how to solve the problem, first. (Convert to a common unit.)
