

Pre-Assessment #1

1. What is an observation?

- information that you get through your five senses
- senses: sight, hearing, touch, taste, smell

2. What is an example of a qualitative observation?

- observations that cannot be measured
 - color of a rose
 - fragrance of a flower
 - sharpness of thorns

3. What is an example of a quantitative observation?

- observations that are based on measurements or counting
 - length of a rose's stem
 - the number of petals

4. The SI system of measurement is used by scientists. What are the seven base units of the SI system?

1. unit for length -> meter (m)
2. unit for time -> second (s)
3. unit for mass -> kilogram (kg)
4. unit for temperature -> kelvin (K)
5. unit for amount of something -> mole (mol) $[6.02 \times 10^{23}]$
6. unit for current -> ampere (A)
7. unit for light intensity -> candela (cd)

5. Name five SI prefixes.

Examples provided in class:

k - kilo

c - centi

m - milli

d - deci

h - hecto

n - nano

μ - micro (Greek letter mu)

6. How many significant digits do the following measurements have?

a) 0.67 kg -> 2 SD

b) 1.05 m -> 3 SD

c) 3.781 s -> 4 SD

d) 19.0 K -> 3 SD

e) 2.010 x 10³ mol -> 4 SD

7. Rearrange the equations for the variable in the bracket.

a) $d = vt$ [v]

b) $m = \frac{p}{v}$ [p] ← Try - Period 3

c) $v_f = v_i + at$ [v_i]

d) $v_f = v_i + at$ [a]

e) $d = v_i t + \frac{1}{2}at^2$ [v_i]

f) $d = v_i t + \frac{1}{2}at^2$ [a]

g) $d = v_i t + \frac{1}{2}at^2$ [t]