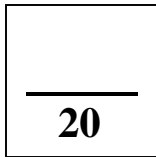


Chemistry 11 - Assignment on Basic Chemistry Definitions

Name _____

Due Date _____

1. Write a short but clear **definition** for each of the following terms:

a) Observation

b) Interpretation

c) Qualitative Observation

d) Quantitative Observation

e) Data

f) Controlled Experiment

g) Hypothesis

h) Theory

i) Laws

j) Matter

k) Substance

l) Chemistry

m) Physical Properties

n) Chemical Properties

o) Malleability

p) Ductility

q) Lustre

r) Viscosity

s) Diffusion

2. What is the main difference between a **hypothesis** and a **theory**?

Do people ever use the term "theory", when they actually mean "hypothesis" _____
If so, make sure you correct them!

3. What are the main differences between a "**law**" and a "**hypothesis**"

4. Has a "law" ever been found to be invalid?

5. Give a brief outline of the **Kinetic Molecular Theory of Gases**.

6. State **Boyle's Law**

7. Read the following article from Scientific American News and answer the questions below it:

September 10, 2007

Study finds spinach, eggs ward off cause of blindness

CHICAGO (Reuters) - Two nutrients found in eggs, spinach and other leafy green vegetables offer some protection against the most common cause of blindness among the elderly, researchers said on Monday.

Age-related macular degeneration affects 1.2 million Americans, mostly after age 65, and the irreversible condition gets gradually worse, robbing victims of the center of their vision. Many people may be susceptible due to genetic factors, while smoking is known to heighten the risk.

The two nutrients, lutein and zeaxanthin, are both carotenoids -- compounds that give many fruits and vegetables a yellow color.

They help ward off the condition, apparently by allowing the eyes to filter harmful short-wavelength light and by curtailing other damaging effects to the macula, or the center of the eye's retina, the researchers said.

"No clear associations with other nutrients were seen," including the vitamins C and E and beta-carotene, according to the researchers, led by John Paul SanGiovanni of the National Eye Institute, one of the National Institutes of Health in Maryland. (continued on the next page...)

The 6-year study asked about the dietary habits of 4,519 people aged 60 to 80 when enrolled.

Those in the top fifth of dietary consumption of foods containing the two nutrients had 35 percent less chance of developing the condition compared to those in the lowest fifth of consumption.

"Lutein and zeaxanthin may be considered as useful agents in food or supplement-based interventions designed to reduce the risk of AMD," the researchers wrote in their report, published in the journal *Archives of Ophthalmology*.

Foods considered good sources of the nutrients include eggs, spinach, kale, turnip greens, collard greens, romaine lettuce, broccoli, zucchini, corn, garden peas and Brussels sprouts.

Questions:

- a) Briefly describe the procedure of the experiment.

- b) State a quantitative observation given in this article.

- c) State the main hypothesis contained in this article. (Remember a hypothesis is a testable, tentative explanation for an observation.)

- d) Why does the writer use the word "apparently"?

- e) What do carotenoids do to vegetables?

- f) List some vegetables other than the ones mentioned here that might contain significant amounts of carotenoids.

- g) What actions does the article suggest should be taken?