

H Chemistry Summer Assignment

OVERVIEW:

Chemistry is all around us. Everyday you participate in chemical reactions. This assignment will reveal how chemistry is part of your everyday lives.

SUMMER ASSIGNMENT:

Read “Chemistry for Breakfast The Amazing Science of Everyday Life” by Dr. Mai Thi Nguyen-Kim and complete the handout. You can obtain the book from Amazon.

GRADE FOR THE SUMMER ASSIGNMENT:

You will turn in the assignment (worth 40 points) on the **first FULL day** of class. If you do not turn in the assignment on the first full day of class, it will be considered late, and 5 points will be deducted. We will discuss the book on the first full day of class and refer to the book during the year.

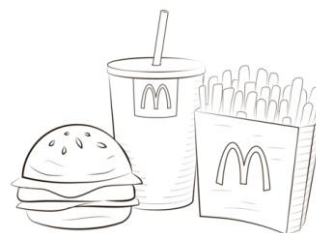
MATERIALS NEEDED FOR CLASS:

- Text: provided in August
- Binder: 1.5 – 2 inches, 3 rings
- Notebook
- Black sharpie – regular or thin
- Black ball point pen
- Lab notebook – provided in August
- Safety goggles – provided in August

If there are any questions, please contact me. I will check my email every Monday.

Dr. Rickert

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NAME: _____

H CHEMISTRY

**SUMMER ASSIGNMENT
(40 points)**

Read the novel, "*Chemistry for Breakfast*" by Dr. Mai Thi Nguyen-Kim and answer the following questions.

- 1) Explain how melatonin and cortisol play a part in sleeping and waking up.

- 2) Explain why different materials feel cold or hot when they are all at room temperature.

- 3) How does coffee cool down?

- 4) What are the three elementary particles that make up an atom?

a. _____

b. _____

c. _____

5) There are three components in the basic recipe for a battery. Name them:

a. _____

b. _____

c. _____

6) There are many ways to preserve foods, physical, chemical, natural, or artificial. Name 3 ways that foods can be preserved.

a. _____

b. _____

c. _____

7) In 1996 Karen Hanrahan bought a McDonald's cheeseburger that never went bad. Her explanation was the preservatives. What is the real scientific explanation?

8) Discuss a topic in the book that you found interesting.

9) **Vocabulary:** Write the letter of the appropriate word on the line next to the correct definition.

- | | |
|--------------------------------|---------------------------------|
| a) Anion | i) Particle model |
| b) Cation | j) Placebo |
| c) First Law of Thermodynamics | k) Point mass |
| d) Heat Conduction | l) Polymer |
| e) Hormone | m) Second Law of Thermodynamics |
| f) Hydrophobic | n) Temperature |
| g) Hydrophilic | o) Valence electrons |
| h) Ionic bonding | |

- 1) _____ pretend tablet with no effect
- 2) _____ movement of particles
- 3) _____ electrons that are located far from the nucleus.
- 4) _____ long chain molecules
- 5) _____ positively charged ion.
- 6) _____ messenger substance, a molecule that carries important information.
- 7) _____ “water loving”
- 8) _____ heat flows from something warm to something cold.
- 9) _____ mass that has practically no volume
- 10) _____ particle collisions and the transfer of kinetic energy.
- 11) _____ every substance in the universe is made up of particles.
- 12) _____ Law of Conservation of Energy – energy is neither created nor destroyed.
- 13) _____ negatively charged ion
- 14) _____ “water hating”
- 15) _____ one binding partner gives an electron to the other.