

STUDY GUIDE - Ch.2.1 - Matter consists of chemical elements in pure form and in combinations called compounds.

NAME: _____

- Please **PHYSICALLY PRINT OUT** these pages and **HANDWRITE** the answers directly on the printouts. *Typed work or digitally-produced answers will not be accepted.*
- **Importantly, guided readings are NOT GROUP PROJECTS!!!** *You, and you alone, are to answer the questions as you read. You are **not** to share them with another students or work together on filling it out. You are **not** to copy any answers from any other source including the internet. Please report any dishonest behavior to your instructor to be dealt with accordingly.*
- **Get in the habit of writing legibly, neatly, and in a NORMAL, MEDIUM-SIZED FONT.** *AP essay readers and I will skip grading anything that cannot be easily and quickly read so start perfect your handwriting.*
- Please **SCAN** documents properly and upload them to Archie. *Avoid taking photographs of or uploading dark, washed out, side ways, or upside down homework. Please use the scanner in the school's media lab if one is not at your disposal and keep completed guides organized in your binder to use as study and review tools.*
- **READ FOR UNDERSTANDING and not merely to complete an assignment.** *Though all the answers are in your textbook, you should try to put answers in your own words, maintaining accuracy and the proper use of terminology, rather than blindly copying the textbook whenever possible.*

1. Scientists have long known that chemicals play a major role in insect (and other organisms')

_____ (both between organisms and within the organism), the _____ of mates, and the _____ against predators (to name a few).

2. We say that all life on Earth is composed of matter. What is **matter**?

3. a. What is an **element**?

b. Scientists have identified 92 elements in nature. Provide an example of an element **not** mentioned in this paragraph.

c. What is a **compound**?

d. Provide an example of a compound **not** mentioned in this paragraph.

e. O₂ gas is made up of two atoms. Is O₂ a compound? Explain.

f. Explain what is meant by saying that **compounds have emergent properties**.

4. How many of the 92 elements are known to be essential to life?
5. a. What is the difference between an **essential element** and a **trace element**?
- b. Is a trace element an essential element? Explain.
6. a. List the four **essential elements** that make up **96%** of all living matter.
- b. List the seven **essential elements** that make up most of the remaining **4%** of living matter.
- c. What constitutes an essential element varies slightly from species to species. List **five trace elements that make up less than 0.01% of a human's body** (see Table 2.1).