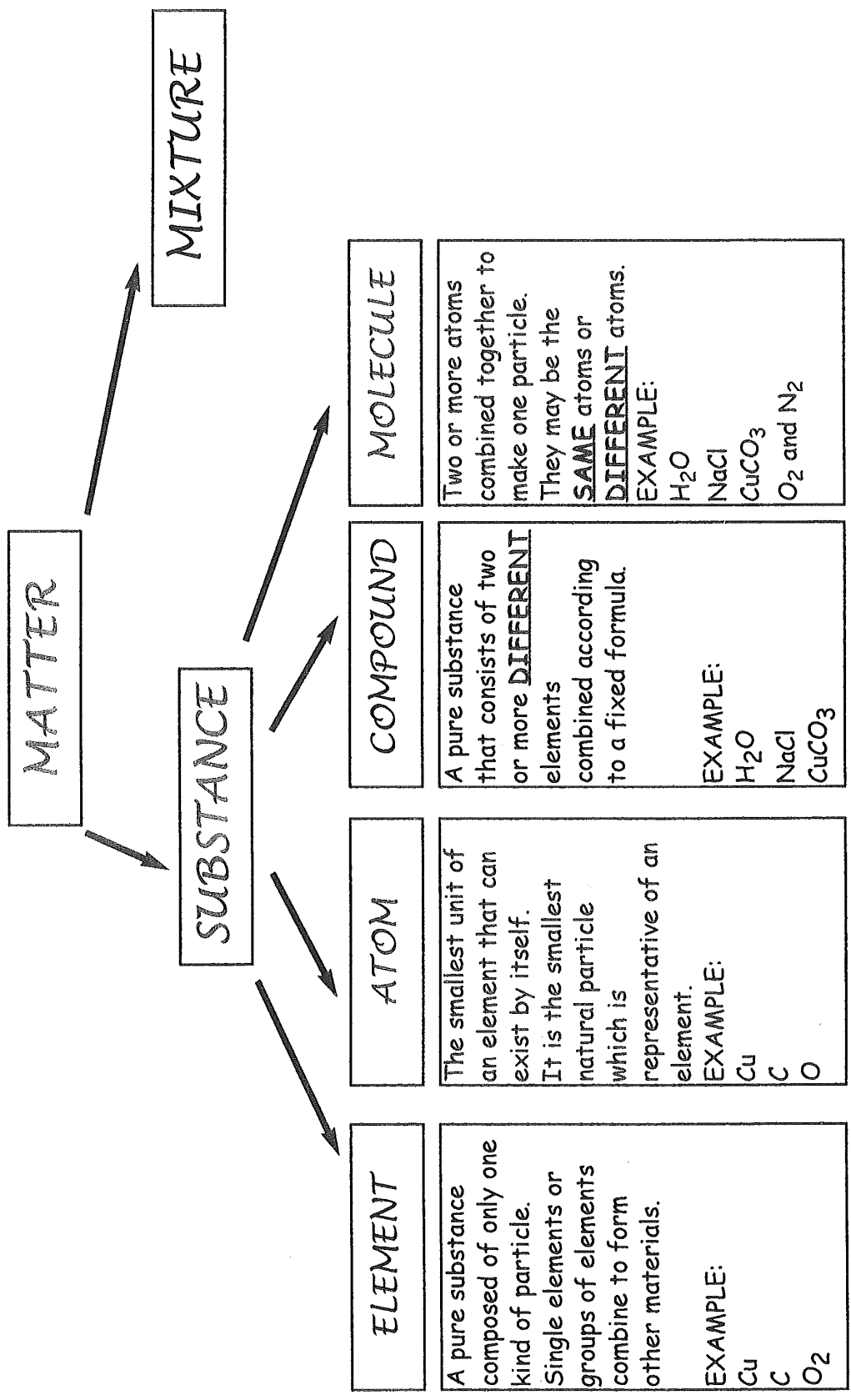


CLASSIFICATION OF MATTER...a closer look



THE STORY ON SUBSTANCES:

There are tiny particles of matter that you can not see with the naked eye.

The tiniest particles that we will discuss are called ATOMS. Atoms are listed on the periodic table. They represent the smallest particle that is representative of an element. That is why each atom occurs alone, and in a separate box on the periodic table. Atoms are written as a single representation of an element.

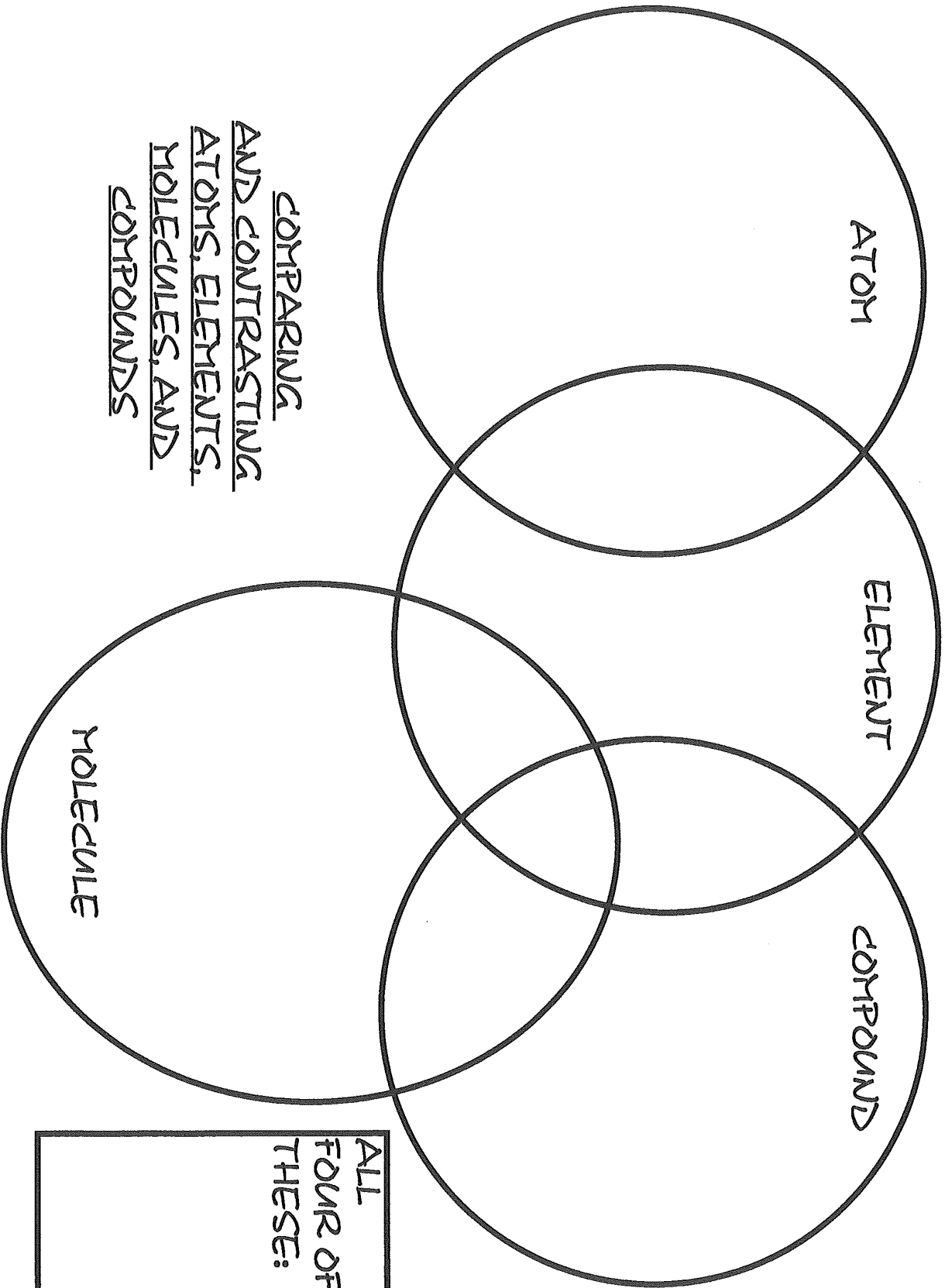
ELEMENTS on the periodic table have different properties. One of these properties is if they exist alone. For example: Li, Mg, Ca, C... Some elements would not be found alone in nature, but rather, are found in groups. For example: H₂, O₂, F₂, S₈.... Whether alone or in groups, elements can only be the same type of atom, not different atoms, joined together.

When different atoms are joined together, we call these COMPOUNDS. That is why compounds can be broken down into simpler elements; because they contain more than one element. Examples of compounds include: NaCl, CuCO₃, CoCl₂

There is a word you can use to describe elements joined together. This word does not differentiate between the same elements joined together and different elements joined together. These are MOLECULES. Molecules can also be broken down into simpler elements because they contain more than one element. Examples of molecules include: H₂, O₂, F₂, S₈, NaCl, CuCO₃, CoCl₂. Li, Mg, Ca, C can not be called molecules because these elements exist as single atoms rather than in pairs or groups with other elements.

PUT EACH OF THESE 14 STATEMENTS IN THE CORRECT LOCATION ON THE VENN DIAGRAM:

1. Atoms are written as a single representation of an element
2. Atoms joined together
3. Can be broken down into simpler elements
4. Different atoms joined together
5. Elements have different properties
6. Groups of atoms joined together. They may be the same or they may be different
7. Listed on the periodic table
8. The smallest particle that is representative of an element
9. Tiny particles of matter that you can not see with the naked eye
10. We classified each of these two as pure substances
11. Whether alone or in groups, elements can only be the same type of atoms, not different atoms, joined together
12. Elements found alone: eg. Li, Mg, Ca, C ...
13. Elements found in groups: eg. H₂, O₂, F₂, S₈ ...
14. Examples: NaCl, CuCO₃, CoCl₂



COMPARING
AND CONTRASTING
ATOMS, ELEMENTS,
MOLECULES, AND
COMPOUNDS

ALL
FOUR OF
THESE: