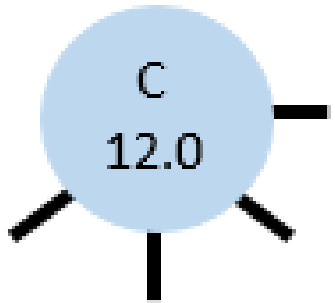


# UNIT 3 – ATOMS, ELEMENTS, MOLECULES

L10: Create a  
Table

**GUIDING QUESTION:** HOW CAN YOU USE PERIODIC TRENDS TO PREDICT THE CHARACTERISTICS OF AN ELEMENT ON THE PERIODIC TABLE.

**Do Now:** What do you notice about this element? List all the possible ways you can describe it and categorize it.

Carbon	Hard, clear solid (diamond) <i>nonmetal</i> Or soft, black solid (graphite) <i>metalloid</i>
	
Does not react with oxygen	Found in CH <sub>4</sub> gas

# NOTES

Mendeleev organized his periodic table based on the properties of the elements, such as reactivity and atomic mass. You could have sorted the cards by:

- Color – common properties
- Size of the circles – atomic radius
- Number in the middle card – atomic mass
- Number of “spokes” – valence electrons

Mendeleev’s arrangement of the elements helped predict the existence and properties of as-yet-undiscovered elements.

# NOTES

Which of these elements would be grouped together on the periodic table? Explain your thinking.

cadmium Cd	moderately soft, silvery, solid, metal	reacts very slowly with water	found in $\text{CdCl}_2(s)$
zinc Zn	moderately hard, silvery, solid, metal	reacts very slowly with water	found in $\text{ZnCl}_2(s)$
iodine I	purple, solid, nonmetal	reacts slowly with metals	found in $\text{ICl}(s)$
mercury Hg	silvery, liquid, metal	does not react with water	found in $\text{HgCl}_2(s)$

# CLOSURE

- Respond to Guiding Question
- Homework 11 due Friday, 12/1
- Achieve 3000: Throw Old Computers in the Trash?  
No Way! due Friday 12/8 at 11:59pm