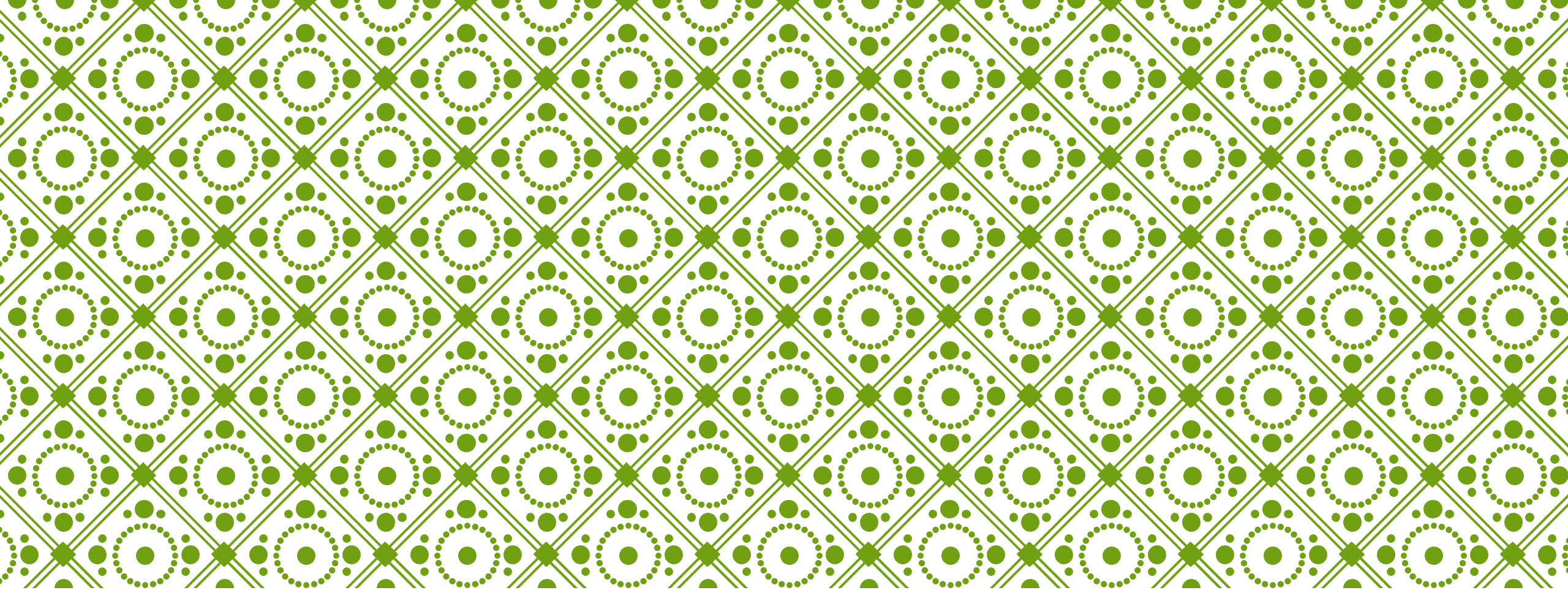


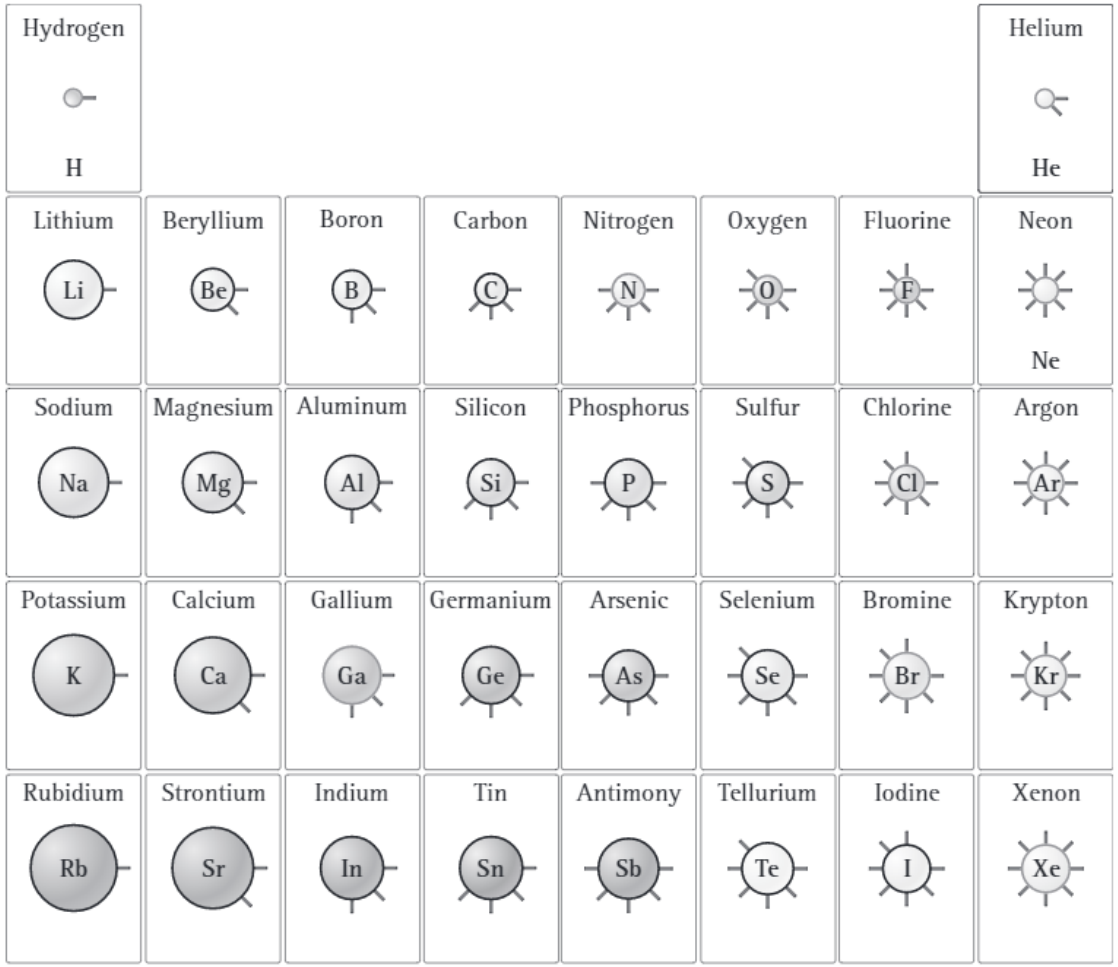
UNIT 3 – ATOMS, ELEMENTS, MOLECULES

L5: Life on the Edge

GUIDING QUESTION: EXPLAIN THE STEPS TO CREATE A SHELL MODEL DIAGRAM OF AN ATOM, PLACING THE CORRECT NUMBER OF ELECTRONS IN THE CORRECT SHELLS.

Do Now:

1. What do you notice about the number of spokes on the circles?
2. The spokes represent electrons. Do they represent the total number of electrons? Explain your thinking.



LIFE ON THE EDGE:

Purpose

To discover the arrangements of electrons within atoms

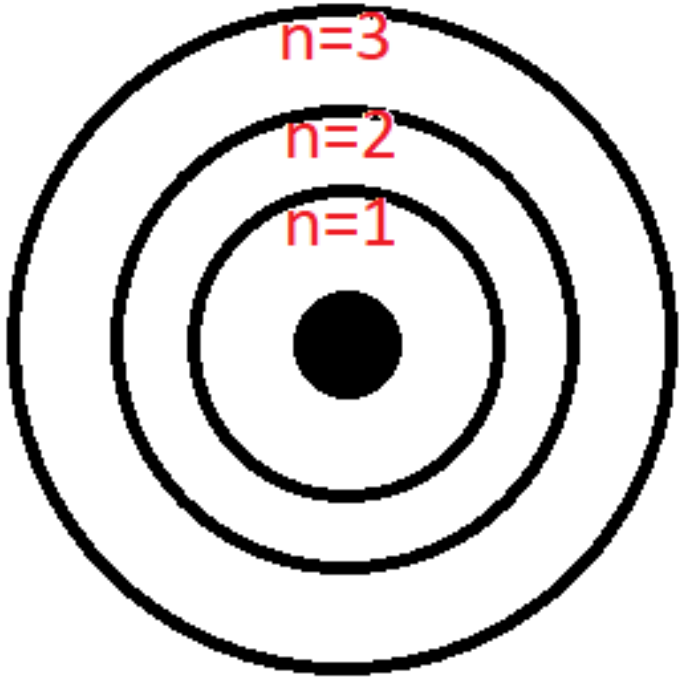
Instructions

Complete the table on page 25, filling in the missing atoms. Then answer the questions on pages 23-24.

Once you've finished, check your answer at the front and get your STAMPS!

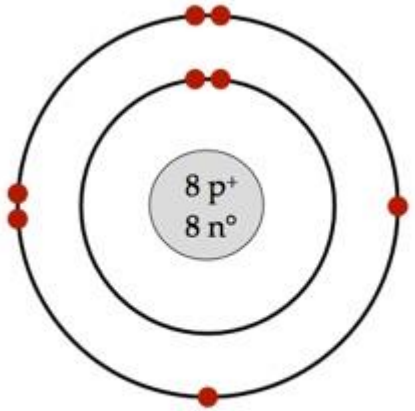
NOTES

- Electron Shell Model – (solar system model) a 2D model that shows how electrons are distributed at certain energy levels around the nucleus

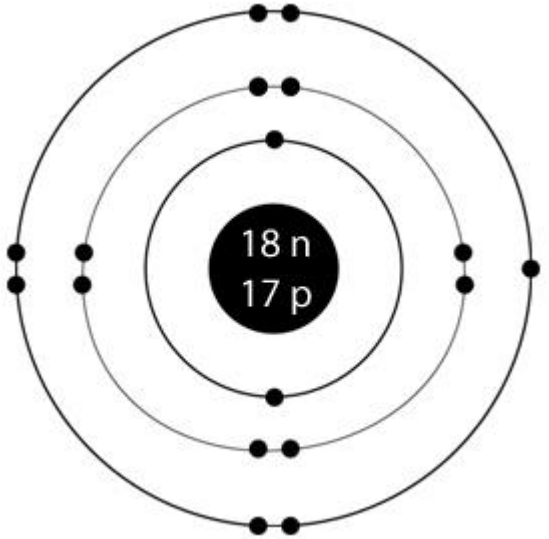


NOTES

- The number of shells we draw is equal to <u>the period</u> that an element is in on the periodic table.



Oxygen



Chlorine

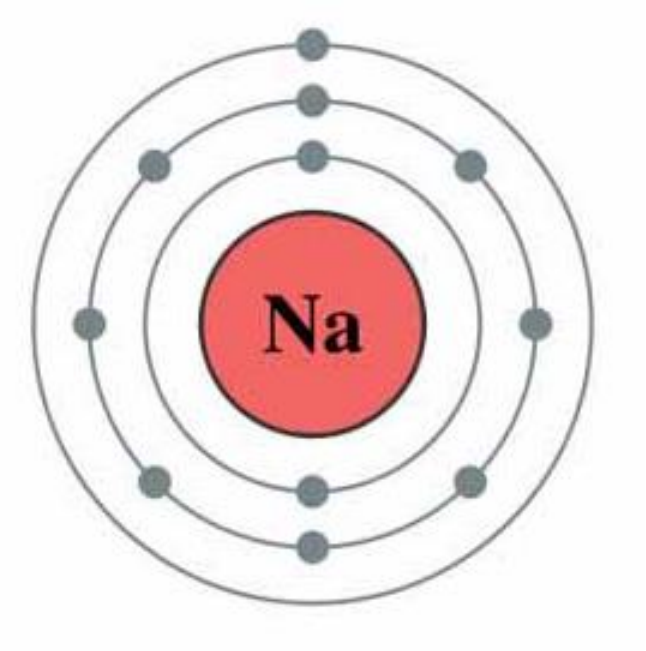
NOTES

- Each energy level, or ring, can hold maximum number of electrons. You must follow the rules for filling and only add electrons that an element has, no more and no less.

Energy Level	Number of electrons it can hold (max)
1	2
2	8
3	8; until Ca, then 18
4	8; until Sr, then 18; until Ba, then 32
5	8; until Ba, then 18; until Ra, then 32

NOTES

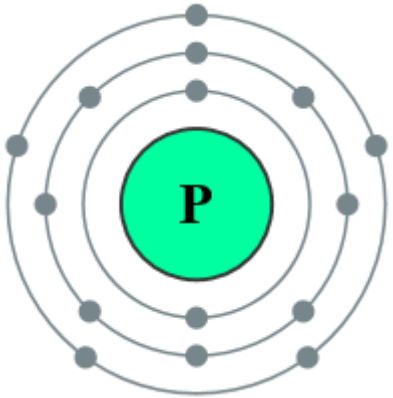
- Ex. Sodium



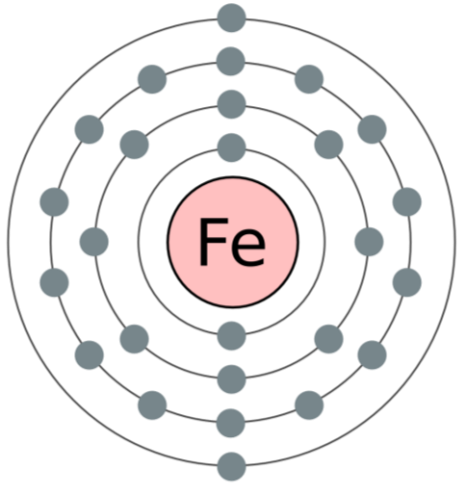
- Valence Electrons: electrons in the outer most shell; responsible for bonding with other elements; elements with same number of valence electrons will have similar properties
- Core Electrons: Electrons on the full inner shells

NOTES

- Ex. Phosphorus



- Ex. Iron



TECTONIC PLATE- PERFORMANCE TASK

If you scored below an 80% on the performance task, you are allowed to come into office hours and make points back.

You will have Tuesday and Thursday office hours to make corrections. After this week, you will NOT be allowed to make corrections.

CLOSURE

- Homework #10 due Monday, 11/13

- Achieve 3000 “There’s Gold in that Ocean” due Friday, 11/10 at 11:59pm