Unit 4 NAME

Class Work 11/25/13

4.3 Valence Electrons and Lewis Dot Diagrams

DO NOW:

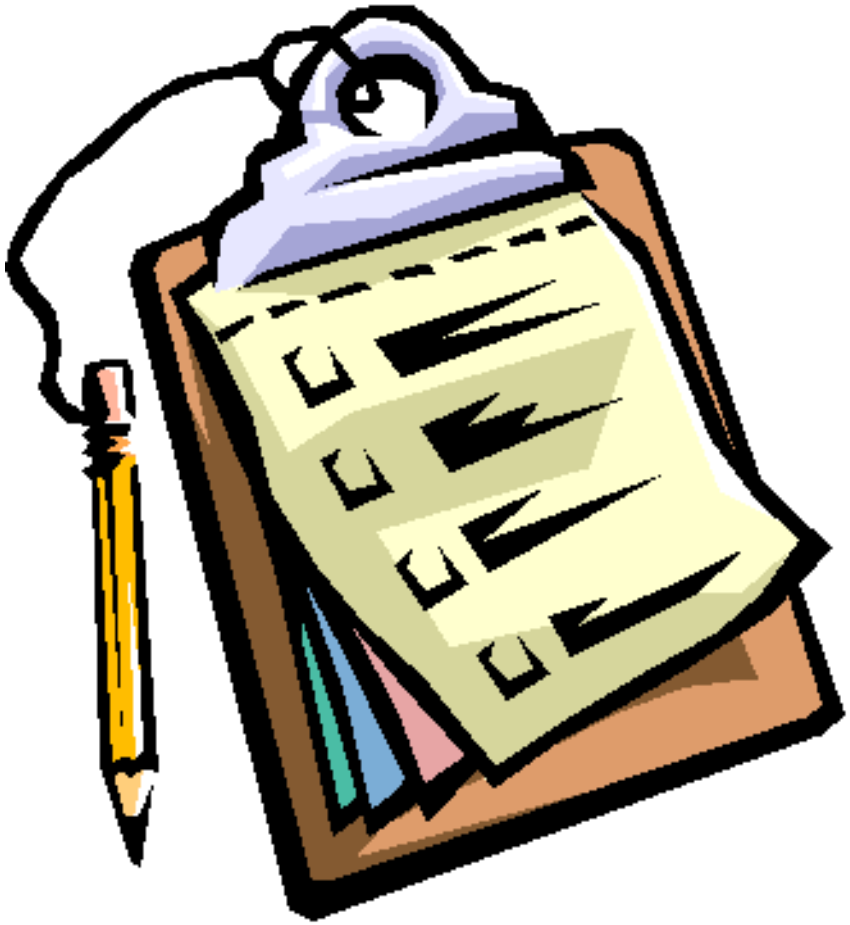
Using your periodic table, find the electron configuration of lithium and sodium. What similarities and differences do you notice?

Objective

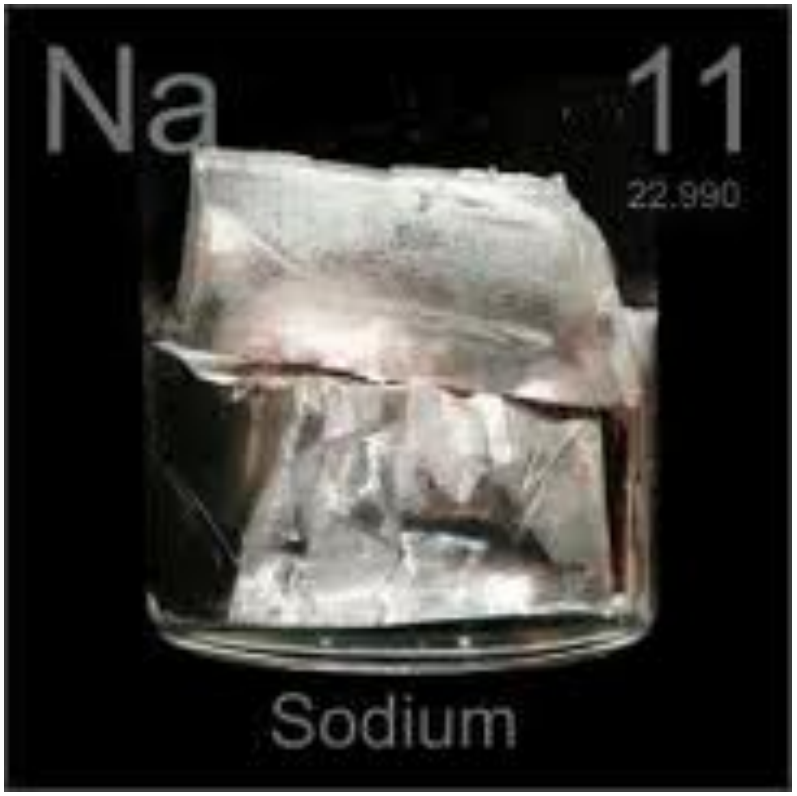
SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.

Agenda:

- Do Now/Objective
- Video Hook
- Mini Lesson
- Classwork
- Exit Ticket
- Homework



Video Hook (5 minutes)



- What are some physical similarities between these metals?

Objective: SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.

Post-Video

- What are some similarities between these metals in chemical properties?

Objective: SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.

New Vocabulary

- Lithium, sodium and potassium are in the same group in the periodic table…
- What is a group**?
- A group** on the periodic table is a vertical column

Objective: SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.

New Vocabulary

- Boron, carbon, and oxygen are in the same period in the periodic table…
- What is a period**?
- A period** on the periodic table is a horizontal row

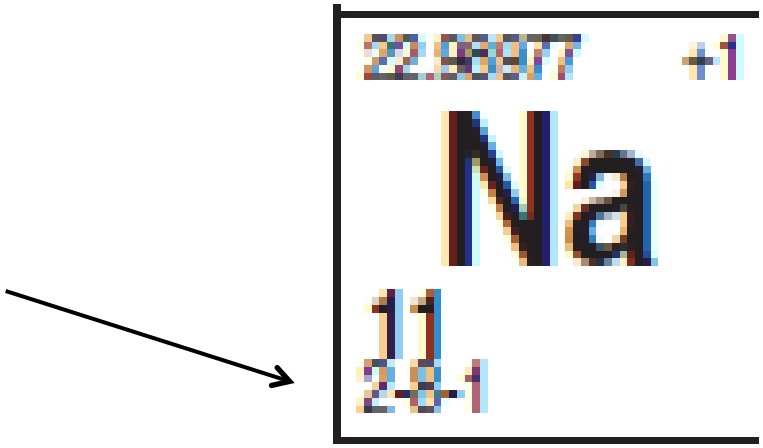
Objective: SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.

New Vocabulary

- Valence electrons** are electrons in the outermost electron shell

Objective: SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.

Example:



- How many electrons are in the first shell?
- How many electrons are in the second shell?
- How many electrons are in the third shell?
- How many valence electrons are in Na?

Objective: SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.

Your Turn

Find the electron configuration for the following elements and circle the valence electrons.

- Magnesium _____
- Potassium _____
- Xenon _____
- Ca-40 _____

Objective: SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.

Lewis dot diagram: used to show the number of valence electrons in an atom where each dot represents a valence electron!

What is the electron configuration for Cl?

How many valence electrons does it have?

Objective: SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.

Lewis Dot Diagrams

Cl

Objective: SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.

Name the steps

- What are the steps to drawing electron dot diagrams?

Objective: SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.

Quick Practice

- Draw a Lewis Dot Diagram for the following elements:
  - Hydrogen
  - Carbon
  - Oxygen
  - Fluorine
  - Sulfur
  - Bromine

Objective: SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.

Turn and Talk

- What do elements with similar chemical properties have in common in their Lewis dot structures?

Objective: SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.

- What is the total number of valence electrons in an atom of carbon in the ground state?

1. 8
2. 2
3. 14
4. 4

Objective: SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.

Classwork

- Complete 4.3 Classwork quietly with your neighbors. If you finish early, check your answers with Ms. Hart and then you can move onto independently working on your homework!

Objective: SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.

Exit Ticket

- Complete the 4.3 Exit Ticket

Objective: SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.

HOMEWORK

Complete 4.3 HW

Objective: SWBAT identify the number of valence electrons in and draw a Lewis Dot Diagram of any element.