**CHEMISTRY 2022-23 October 14, 2022**

**Today’s Agenda (Day 36)**

1. HOUSEKEEPING ITEMS

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1. Homework Check:

🡪 Chapter 6 Vocabulary

🡪 Mini Lab 6: Heats of Fusion & Vaporization

🡪 Periodic Table Reinforcement

1. Class Activity:

🡪 DAY 3: Chapter 6 PPT Review

1. **Section 6.2 – Classification of the Elements**
2. **Section 6.3 – Periodic Trends**

🡪MINI-LAB: Chapter 6

🡪MONDAY: Mock Chemistry SLC

HOMEWORK:

* READ: Chapter 6 – Periodic Table and Periodic Law
* COMPLETE: Chapter 6 Practice Problems
* STUDY: Chemicals & Symbols, Chapter 6 Test

CHAPTER 6

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| actinide series | alkali metal | alkaline earth metal | Electronegativity | Group | Halogen |
| inner transition metal | Ion | ionization energy | lanthanide series | Metal | Metalloid |
| noble gas | Nonmetal | octet rule | Period | periodic law | representative element |
| transition element | transition metal |  |  |  |  |

REMINDERS:

* ~~Periodic Table Reinforcement – Oct. 14~~
* Chapter 6 Practice Problems – Oct. 18
* Mini-Lab 6.2 Organize Elements – Oct. 19
* QUIZ**: Chemicals and Symbols [elements, polyatomic ions, acids] 🡪 Oct. 18**
* TEST: **Ch 6 🡪 Oct. 20**

**CHEMISTRY 2022-23 MINI LAB**

**MINI LAB 6: Periodicity of Molar Heats of Fusion & Vaporization**

Making and Using Graphs The heats required to melt or to vaporize a mole (a specific amount of matter) of matter are known as the molar heat of fusion (Hf) and the molar heat of vaporization (Hv), respectively. These heats are unique properties of each element. You will investigate if the molar heats of fusion and vaporization for the period 2 and 3 elements behave in a periodic fashion.

Materials either a graphing calculator, a computer graphing program, or graph paper; Reference Table R-7 or access to comparable element data references

Procedure Use Table R-7: Properties of Elements in Reference Tables [see back of textbook] to look up and record the molar heat of fusion and the molar heat of vaporization for the period 3 elements listed in the table. Then, record the same data for the period 2 elements.

Analysis

1. Graph molar heats of fusion versus atomic number. Connect the points with straight lines and label the curve. Do the same for molar heats of vaporization.

2. Do the graphs repeat in a periodic fashion? Describe the graphs to support your answer.

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**CHEMISTRY 2022-23 PRACTICE PROBLEMS**

**CHAPTER 6 – Periodic Table and Periodic Law**

**Practice Problems 6.1 –** Electron Configuration and the Periodic Table



**Practice Problems 6.2 –** Interpret Trends in Atomic Radii

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**CHEMISTRY 2022-23 MINI - LAB**

**CHAPTER 6.2 MINI LAB – Organize Elements**

**Can you find the pattern?**

**Procedure**

**1.** Read and complete the lab safety form.

**2.** Make a set of element cards based on the information in the chart at right.

**3.** Organize the cards by increasing mass and start placing them into a 4 × 3 grid.

**4.** Place each card based on its properties and leave gaps when necessary.

**Analysis**

**1. Make a table** listing the placement of each

element.

**2. Describe** the period (across) and group (down) trends for the color in your new table.

**3. Describe** the period and group trends for the mass in your new table. Explain your placement of any elements that do not fit the trends.

**4. Predict** the placement of a newly found element, Ph, that is a fuchsia gas. What would be an expected range for the mass of Ph?

**5. Predict** the properties for the element that would fill the last remaining gap in the table.

