A blue and grey logo with claws

Description automatically generated**2024-2025 Weekly Lesson Planning Document**

Template for the following:

Science, Social Studies, CTE, World Languages,

HPELW, Fine Arts, JROTC

Week of Monday, February 3, through Friday, February 7

**EDUCATOR’S NAME:** \_\_\_ Ms. Burton, Ms. Daughrity, Ms. Mitchell \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **SUBJECT:** \_\_\_\_\_\_Chemistry I\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **MONDAY** | **TUESDAY** | **WEDNESDAY** | **THURSDAY** | **FRIDAY** |
| **Lesson Title:**  **Unit:**  **Chapter:**  **Page Number(s):**  (It is suggested that you use your curriculum map.) | **Unit 6**  **Chapters 3/7/12:**  **All About the Mole**  **p. 239-241** | **Unit 6**  **Chapters 3/7/12:**  **All About the Mole**  **p. 239-238** | **41Unit 6**  **Chapters 3/7/12:**  **All About the Mole**  **p. 242-243** | **Unit 6**  **Chapters 3/7/12:**  **All About the Mole**  **p. 239-243** | **Unit 6**  **Chapters 3/7/12:**  **All About the Mole**  **p. 404-407** |
| **TN Standard(s):**  Grade level standard (include standard notation and language).  Which State Standard is your lesson addressing? This should also be on your Whiteboard Protocol. | **CHEM1.PS1.1** Understand and be prepared to use values specific to chemical processes: the mole, molar mass, molarity, and percent composition.  **CHEM1.PS1.7** Analyze solutions to identify solutes and solvents, quantitatively analyze concentrations (molarity, percent composition, and ppm), and perform separation methods such as evaporation, distillation, and/or chromatography and show conceptual understanding of distillation. Construct an argument to justify the use of certain separation methods under different conditions. | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Objective (s):**  What specifically should students be able to do at the end of the lesson? The objective is standards-based.  Write the objective in student friendly terms. For example, I can multiply binomials.  This is should also be on your Whiteboard Protocol.  What do you want students to know, understand and be able to do as a result of this lesson?  The objective should be written using the stem…  **I CAN….** | **I Can…**  Determine the empirical formula of a compound when given the molecular formula. | | **I Can…**  Determine the empirical formula from mass percent and actual mass data. | **I Can…**  Explain the concept of a molecular formula. | **I Can…**  Determine the empirical formula from mass percent and molecular mass data. | | **I Can…**  Explain the concept of concentration qualitatively. |
| **Possible Misconception (s):**  What misconception(s) are you anticipating during this lesson? | It is easy to confuse the terms formula mass and molecular mass. Although they are calculated the same way, they refer to the mass of either an ionic compound or a molecular compound.  Students often mistakenly think that the subscripts in a compound’s formula reveal a mass ratio. Point out that the subscripts actually reveal an atom ratio and a mole ratio. A mass ratio can be obtained by converting amounts in moles to masses in grams.  When determining empirical formulas from mass data, students sometimes forget to find mole ratios. Instead, they mistakenly round the number of moles calculated for each element as each element’s subscript.  When students calculate mole ratios that are not close to a whole number, they CANNOT round to the nearest whole number. In those situations, students MUST remember to multiply ALL their ratios by a value that will lead to whole number ratios for all elements.  Some students will believe that the amount of a solution is proportional to the molar concentration. Remind them that the molar concentration of a solution is independent of the volume. | | | | | | |
| **Literacy-Based DO NOW:**  This literacy-based activity should be ready for students to begin working on upon entering class. Students should have an opportunity to read, write, and/or speak. | Find the percent composition of each element in BaF2. | Which of the following pairs have the same empirical formulas:  a. C2H2, C6H6  b. C6H12O6, C2H4O2  c. C4H10, C10H22 | | Calculate the moles of 2.0 g H, 32.60 g S, and 65.30 g O. | Determine the mole ratio for H, S, and O using yesterday’s data. | Was the formula from yesterday’s “Do Now” an empirical formula, a molecular formula, neither, or both? | |
| **Agenda for the Day**  Simple outline of lesson segments or activities that is time stamped.  Teacher/class should take 2 minutes or less to review. | * Do Now *(8 minutes)* * Review Learning Objective *(2 minutes)* * I Do *(12 minutes)* * We Do *(12 minutes)* * You Do *(13 minutes)* * Exit Ticket *(5 minutes)* | * Do Now *(8 minutes)* * Review Learning Objective *(2 minutes)* * I Do *(12 minutes)* * We Do *(12 minutes)* * You Do *(13 minutes)* * Exit Ticket *(5 minutes)* | | * Do Now *(8 minutes)* * Review Learning Objective *(2 minutes)* * I Do *(12 minutes)* * We Do *(12 minutes)* * You Do *(13 minutes)* * Exit Ticket *(5 minutes)* | * Do Now *(8 minutes)* * Review Learning Objective *(2 minutes)* * I Do *(12 minutes)* * We Do *(12 minutes)* * You Do *(13 minutes)* * Exit Ticket *(5 minutes)* | * Do Now *(8 minutes)* * Review Learning Objective *(2 minutes)* * I Do *(12 minutes)* * We Do *(12 minutes)* * You Do *(13 minutes)* * Exit Ticket *(5 minutes)* | |
| **Beginning of Lesson**  **I Do**  **Science:** Engage & Explore | **I will explain the concept of an empirical formula and give examples of how to determine empirical formulas when given molecular formulas.** | **I will model the method of determining an empirical formula using percent composition data.** | | **I will explain the concept of a molecular formula and give examples of how to determine molecular formulas when given empirical formulas and molecular masses.** | **I will provide students with percent composition and molecular mass data to provide empirical formula problems to practice.** | **I will explain the concept of concentration using both qualitative examples.** | |
| **Middle of the lesson**  We Do  **Science:** Explain and Elaborate | **Respond to CFUs embedded in the guided notes to indicate mastery of the concepts covered in class today.** | **Respond to CFUs embedded in the guided notes to indicate mastery of the concepts covered in class today.** | | **Work together to determine molecular formulas when given percent composition data and molecular masses.** | **Respond to CFUs embedded in the guided notes to indicate mastery of the concepts covered in class today.** | **Respond to CFUs embedded in the guided notes to indicate mastery of the concepts covered in class today.** | |
| **End of the lesson**  You Do  **Science:** Evaluate | **Respond to CFUs embedded in the guided notes to indicate mastery of the concepts covered in class today.**  **Ask any questions I have concerning determining the empirical formula when given a molecular formula.** | **Respond to CFUs embedded in the guided notes to indicate mastery of the concepts covered in class today.**  **Ask any questions I have concerning determining an empirical formula when given percent composition data.** | | **Respond to CFUs embedded in the guided notes to indicate mastery of the concepts covered in class today.**  **Ask any questions I have concerning determining the molecular formula of a compound when given the empirical formula and the molecular mass.** | **Complete the “Molecular (True) Formulas” assignment.** | **Respond to CFUs embedded in the guided notes to indicate mastery of the concepts covered in class today.**  **Ask any questions I have concerning the concept of concentration.** | |
| **(05 MINUTES MAX)**  **Literacy Based closing activity:**  Engage students in reading and writing tasks that assess their understanding of the lesson. Students are drawn back to the objective for the day. | Complete literacy-based Exit Ticket question on paper or in Microsoft Forums. Will be based on what was discussed in lesson for the day. | Complete literacy-based Exit Ticket question on paper or in Microsoft Forums. Will be based on what was discussed in lesson for the day. | | Complete literacy-based Exit Ticket question on paper or in Microsoft Forums. Will be based on what was discussed in lesson for the day. | Complete literacy-based Exit Ticket question on paper or in Microsoft Forums. Will be based on what was discussed in lesson for the day. | Complete literacy-based Exit Ticket question on paper or in Microsoft Forums. Will be based on what was discussed in lesson for the day. | |
| **SPED Modification (s):**  What modifications are being made to accommodate the students receiving special services? | Extended time on assignments; ability to correct assignments; reduced number of problems  Planned/preferential seating  Allow breaks during class  Extended time for testing; reduced choices on multiple choice tests  Repeating directions verbatim | | | | | | |
| **ESL Modification (s):**  What modifications are being made to accommodate the students receiving special services? | Small group instruction  Read aloud for assessments  Interactive reader for computer assignments  Extended time on assignments and tests  Opportunity to redo assignments and correct tests based on teacher feedback  Bilingual support provided by translated copies, peers, and dictionaries | | | | | | |
| Formative assessment of responses to the CFUs and Exit Ticket. | Formative assessment of responses to the CFUs and Exit Ticket. | | Formative assessment of responses to the “More Mole Problems” assignment. | Formative assessment of responses to the CFUs and Exit Ticket. | Formative assessment of responses to the lab activity. | | Formative assessment of responses to the CFUs and Exit Ticket. |
| **Corrective Activity (s):**  What will I do if the student doesn’t understand the lesson? | -Weekly tutoring sessions  -Peer tutoring partners.  -Opportunity for corrections. | | -Weekly tutoring sessions  -Peer tutoring partners.  -Opportunity for corrections. | -Weekly tutoring sessions  -Peer tutoring partners.  -Opportunity for corrections. | -Weekly tutoring sessions  -Peer tutoring partners.  -Opportunity for corrections. | | -Weekly tutoring sessions  -Peer tutoring partners.  -Opportunity for test corrections. |
| **Extension/Enrichment Activity (s):**  What will I do with students who understand quicker than others? | * Ask students to explain why the problem… ”Find the formula mass of potassium chlorate, KClO3” …cannot be written as “Find the molecular mass of potassium chlorate, KClO3 .” Students should recognize that KClO3 is an ionic compound, consisting of a metal cation and a polyatomic anion. Molecular mass applies only to molecules, not to ionic compounds. * Place several formulas on the board and ask students to identify the empirical formulas. Examples can include H2O, H2O2, C6H6, O2, H2SO4, C6H12O6, and C2H10O. Have students show the empirical formulas for any that are not written as such. | | | | | | |
| **Technology Integration:**  How will the students use technology to help them master the objective. | * Use district-issued electronic device to complete online assignments, formative assessments (exit tickets), and summative assessments. | | | | | | |

|  |  |
| --- | --- |
| **IN THE FOLLOWING PAGES:**  **ONLY COMPLETE SECTION(S) BELOW IF YOUR SUBJECT IS IDENTIFIED/LISTED** | |
| **ALL SCIENCE (S):**  What is your **resource plan for each of the 5 Es** of inquiry-based science instruction?   1. Engage 2. Explore 3. Explain 4. Elaborate 5. Evaluate | **Engage**   1. Ch. 2 Section 2 Classroom Catalyst, TE p. 37 2. Ch. 2 Section 3 Classroom Catalyst, TE p. 48 3. Differentiated Instruction TE pp. 38-42; 48; 52; 57; 59-60.   **Interactive Video**   1. Chapter 2: Why It Matters: Measurements and Calculations   <https://my.hrw.com/content/hmof/science/hss2017/tn/gr9-12/hmd_chem_9781328833594_/dlo/whyitmatters/index.html?vid=1>  **Explore**  **Laboratory Activities/Investigations/Animations & Simulations**   1. Virtual Lab: Using Units and Measurements   <https://my.hrw.com/content/hmof/science/hss2017/tn/gr9-12/hmd_chem_9781328833594_/dlo/virtuallab/c02_00vl16/index.html>   1. PhET Simulation: “Density”   <http://phet.colorado.edu/en/simulation/density>   1. Uncertainty in Measurements   <http://antoine.frostburg.edu/cgi-bin/senese/tutorials/sigfig/index.cgi>   1. Precision and Accuracy   <http://www.learner.org/courses/learningmath/measurement/session2/part_c/accuracy.html>   1. “Rags to Riches” Game (Scientific Notation and the Metric System)   <http://www.quia.com/rr/83587.html>  **Explain**  **Textbook**   1. Units of Measurement, pp. 37-46 2. Using Scientific Measurements, pp. 48-61 3. Interactive Reader: Section 2.2 and 2.3   **Elaborate**   1. Cross-Disciplinary Connection: Classical Ideas About Matter (SE)   (HRW RESOURCE)   1. Differentiated Instruction (TE wrap) (HRW RESOURCE) 2. WebLinks  (HRW RESOURCE)   **Evaluate**   1. Ch. 2 Section 2 Formative Assessment, TE/SE p. 46 2. Ch. 2 Section 3 Formative Assessment, TE/SE p. 61 |
| **ALL SCIENCE (S):**  ***(Multiple opportunities to engage in science, Makes since of science content)***  What is yourplan to incorporate technology while incorporating the 5E instructional model? | **SUGGESTED OPPORTUNITIES FOR TECHNOLOGY**  1. PhET Simulations  2. Microsoft Forms  3. Virtual Lab |