**2024-2025 Weekly Lesson Planning Document**

Week of Monday, September 9, 2024 through Friday, September 13, 2024

**EDUCATORS’ NAMES:** Ms. Burton, Ms. Daughrity, Ms. Mitchell **SUBJECT:** Chemistry I

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|  | **MONDAY** | **TUESDAY** | **WEDNESDAY** | **THURSDAY** | **FRIDAY** |
| **Lesson Title: Structure and routine****Unit:****Chapter:****Page Number(s):** (It is suggested that you use your curriculum map.) | **Unit 1****Chapter 3:****Atoms: The Building Blocks of Matter****pp. 82-84** | **Unit 1****Chapter 3:****Atoms: The Building Blocks of Matter****pp. 85** | **Unit 1****Chapter 3:****Atoms: The Building Blocks of Matter****pp. 83** | **Unit 1****Chapter 3:****Atoms: The Building Blocks of Matter****pp. 69-85** | **Unit 1****Chapter 3:****Atoms: The Building Blocks of Matter****pp. 69-85** |
| **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.PS1.11**Develop and compare historical models of the atom (from Democritus to quantum model) and construct arguments toshow how scientific knowledge evolves over time, based on experimental evidence, critique, and alternative interpretations. |
| **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…**Explain the concept of the atomic mass unit and average atomic masses. | **I Can…**Define and explain the relationship between a mole and Avogadro’s number. | **I Can…**Use the concepts of average atomic mass to determine the average mass of the element “Runtium.” | **I Can…**Recall and apply all previous knowledge concerning atomic structure.  | **I Can…**Recall and apply all previous knowledge concerning atomic structure.  |

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| **Possible Misconception (s):**What misconception(s) are you anticipating during this lesson? | Emphasize that the identity of the atom is determined by the number of protons, not the number of electrons or neutrons. The numbers of electrons and neutrons can each vary and the atom will still be of the same element. But if the number of protons changes, then the atom becomes an atom of a different element.Many students confuse mass number with average atomic mass. Emphasize that the mass number is the mass of one particular atom, and average atomic mass is the average mass of a group.Many students do not understand that the mass of a nucleus is less than the sum of the masses of the protons and neutrons making up the nucleus. The difference is due to the binding energy that holds the nucleus together.It is easy to confuse the terms atomic mass and molar mass. Although they are often the same number, atomic mass is the mass of one atom, expressed in u, and molar mass is the mass of one mole of particles, expressed in g/mol. |
| **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. | Description of how to determine a class average from individual data. | N/A“Redemption” Element Quiz #1 (Mixed) | Read the procedure for your “Runtium” lab activity. | N/A“Redemption” Element Quiz #2 (Mixed) | Prepare for the Chapter 3 Test |
| **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)*
* You Do *(37 minutes)*
* Exit Ticket *(5 minutes)*
 | * Do Now *(8 minutes)*
* Test *(42 minutes)*
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| **Beginning of Lesson****I Do****Science:** Engage & Explore | **I explain the concept of a relative mass scale and how average atomic mass is calculated for elements.** | **I explain the concept of the mole.** | **I provide students with the materials to explore the concept of average mass using Runts candies.** | **I will lead the class through questions concerning all of Chapter 3 during a review game.**  | **I will distribute the Chapter 3 Test to the class.** |
| **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.** | **We will collect abundance and mass data from our sample of “Runtium.”** |  |  |
| **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 the atomic mass scale and average atomic mass.** | **Respond to CFUs embedded in the guided notes to indicate mastery of the concepts covered in class today.** **Ask any questions I have concerning moles.** | **Calculate the relative abundance and average mass of each “Runtium” isotope and use the information to calculate an average mass of the sample.** | **Answer review questions concerning Chapter 1 concepts to earn extra credit (while reviewing for the test).** | **Complete the Chapter 3 Test to demonstrate mastery of the concepts concerning Atoms: The Building Blocks of Matter.** |
| **(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 Forms. (Questions will be based on what was discussed in lesson for the day.) | Complete literacy- based Exit Ticket question on paper or in Microsoft Forms. (Questions will be based on what was discussed in lesson for the day.) | Complete literacy- based Exit Ticket question on paper or in Microsoft Forms. (Questions will be based on what was discussed in lesson for the day.) | Complete literacy- based Exit Ticket question on paper or in Microsoft Forms. (Questions will be based on what was discussed in lesson for the day.) | Complete literacy- based Exit Ticket question on paper or in Microsoft Forms. (Questions 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 problemsPlanned/preferential seatingAllow breaks during classExtended time for testing; reduced choices on multiple choice testsRepeating directions verbatim |
| **ESL Modification (s):**What modifications are being made to accommodate the students receiving special services? | Small group instructionRead aloud for assessmentsInteractive reader for computer assignmentsExtended time on assignments and testsOpportunity to redo assignments and correct tests based on teacher feedbackBilingual support provided by translated copies, peers, and dictionaries |
| **Assessment (s):**How will you know that students have reached the objective? Assessments may include:  Pre-assessment, formative assessments, summative assessment, post-assessment, discussions, performance, demonstration, etc.  | Formative assessments from the CFUs embedded in the guided notes and the exit ticket. | Formative assessments from the CFUs embedded in the guided notes and the exit ticket. | Formative assessments from the CFUs embedded in the guided notes and the exit ticket. | Formative assessments from the CFUs embedded in the guided notes and the exit ticket. | Formative assessments from the CFUs embedded in the guided notes and the 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?  | - Challenge students to tell you what they know about subatomic particles.- Have students construct an acrostic using the word “electron.” Their final acrostic must have eight statements related to atomic structure; each one beginning with one of the letters in the assigned word.- Have students calculate the mass of an electron, based on a proton having a mass 1836 times greater than the mass of an electron. Have them compare their answers to an accepted value for the mass of an electron. |
| **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. |

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| **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. 3 Section 1 Classroom Catalyst, TE pg. 69
2. Ch. 3 Section 2 Classroom Catalyst, TE pg. 74
3. Differentiated Instruction TE pg. 70
4. Quick Lab: Constructing a Model, TE/SE pg. 73
5. Demo: Cathode-Ray Tube, TE/SE pg. 75

 **Interactive Video** 1. Modern Chemistry Web Resources: [Atomic Theory & Structure](http://www.visionlearning.com/library/module_viewer.php?mid=49&l)
2. Modern Chemistry Web Resources: History of Atom and Hydrogen & Helium: [Atomic Theory I: Cathode Rays, Electrons and the Nucleus](http://www.visionlearning.com/library/module_viewer.php?mid=50)
3. [Atomic Theory II: Bohr and the Beginnings of Quantum Theory](http://www.visionlearning.com/library/module_viewer.php?mid=51)
4. [Rutherford Scattering](https://phet.colorado.edu/en/simulation/rutherford-scattering)

 **Explore** **Laboratory Activities/Investigations** 1. Modern Chemistry p. 73 Quick Lab
2. PhET labs to accompany [PhET simulations](https://colorado.edu/en/simulations/category/new%22%20%5Ct%20%22_blank)
* Molecules and Light
* Neon Lights and Other Discharged Lams
* Photoelectric Effect
* Wave on a String

  **Explain** **Articles** 1. [History of Chemistry](https://www.ck12.org/c/chemistry/history-of-chemistry/lesson/Events-in-Chemistry-History-CHEM/?referrer=concept_details)
2. Interactive Reader: [Lesson 4.1](https://my.hrw.com/content/hmof/science/hss2017/tn/gr9-12/hmd_chem_9781328833594_/teacher/tabpages/teacher/data/chap04/hss17c0401t_ir_section.pdf) & [Lesson 4.2](https://my.hrw.com/content/hmof/science/hss2017/tn/gr9-12/hmd_chem_9781328833594_/teacher/tabpages/teacher/data/chap04/hss17c0402t_ir_section.pdf)

  **Elaborate** 1. Careers in Chemistry: Nanotechnologist pg. 72
2. [Modern Chemistry Science Standards Guide](https://my.hrw.com/content/hmof/science/hss2017/tn/gr9-12/hmd_chem_9781328833594_/teacher/tabpages/teacher/data/chap00/TN_Chem_Standards_Teacher.pdf): PS1.11: Models of the Atom

  **Evaluate** 1. Ch. 3 Section 1 Formative Assessment, TE/SE pg. 73
2. [Ch. 3 Study Guide](https://my.hrw.com/content/hmof/science/hss2017/tn/gr9-12/hmd_chem_9781328833594_/teacher/tabpages/teacher/data/chap03/hssc0300t_secstudygd.pdf)
3. Alternative Assessment, TE pg. 77
4. Ch. 3 Section 2 Formative Assessment, TE/SE pg. 78
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| **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 Simulations2. Microsoft Forms3. Virtual Lab |