**UNION UNIVERSITY’S LESSON PLAN FORMAT**

**(Template available at** [**http://www.uu.edu/programs/tep**](http://www.uu.edu/programs/tep)**)**

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**Date** January 17, 2011 **Grade/Subject**  8th / Science

**If this lesson is part of a unit, what is its number?**  3/4

**TN CURRICULUM STANDARDS ADDRESSED BY GOALS AND OBJECTIVES**:

Standard 9: Chemical Equations

GLE 0807.9.8 Interpret the events represented by a chemical equation.

GLE 0807.Inq 2 Use appropriate tools to gather, organize, analyze, and interpret data when balancing chemical equations.

GLE0807. T/E. 1 Explore how technology responds to social, political, and economic needs.

**GOAL(S):**

The students will understand how to be creative, improve speaking, writing, and oral communication skills. When asked to critique a students’ creation, the students will appreciate and familiarize themselves with the use of new technology and understand how it responds to social, political, and economic needs. In addition, the students will know how to count the number of atoms and identify reactants and products in chemical equations. When given the step-by-step procedures using their voki avatar, the students will know, understand, and interpret how to balance a chemical equation. Finally, the students will be able to distinguish between an exothermic and endothermic reaction in a balanced equation.

**OBJECTIVES AND ASSESSMENT:**

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| **Learning Objectives****(stated behaviorally)** | **Assessment (formative/summative)** | **Level of Thinking (Bloom’s Taxonomy OR Webb’s Depth of Knowledge)** |
| TLW recall science vocabulary terms: atoms, reactants, products, coefficient, subscript, exothermic, and endothermic. |  Student will recall science terms through a discussion, through writing the correct coefficient, counting and recording the atoms, and completing the chart to balancing the chemical equation on the handout. | Knowledge Comprehension |
| TLW recall how to create a volki avatar and create their own from a demonstration. | Student will recall how to set up voki avatar and create their own avatar in the computer lab. Students will be assessed by observations.  | KnowledgeComprehension Synthesis Evaluation |

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| TLW apply the step-by-step procedures of the talking avarta to solve a chemical equations. | Students will be assessed by recording, writing, and creating the steps to balancing the chemical equation using thee avatar. Students will apply a step-by-step procedure using the talking avatar to solve balancing chemical equations | SynthesisEvaluation |

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| TLW gather, organize and analyze their thoughts to count atoms, identify the reactants and products, and balance a chemical equations.They will predict whether the reaction is endothermic or exothermic | After gathering, organizing, analyzing their thought, student will count the atoms, identify the reactants, product, balance the equations. Handout collected and graded at the end of the lesson. | AnalysisApplication |

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| TLW evaluate their created avata when asked to make a presentation of their creation | The students will be asked to critique their avatar in an open discussion.  | Evaluation |

**INSTRUCTION:**

 **Lesson Opener**

o **Hook:** Greet the students at the door, ask them to take out their science journal, and say “Prepare to go to the computer lab. Today you are going to be very creative in your learning. You will learn how to balance a chemical equation by creating your own voki avatar.

o **Bridge:** Ask all the students to write down these website in their journal: [http://voki.com](http://voki.com/)

 <http://www.schooltube.com/video/db41eba5cd45fcbe75/Balancing-Chemical-Equations>

 The websites will be printed and taped to their desk for student aid. Also, students

 will jot down any thing that they may know about counting atom, reactants, products,

 coefficients, and subscripts.

 Then, I will ask, “Can anyone tell me what they know about voki avatars?” Students will write in their journal any knowledge they have about avatars. We will discuss their knowledge to compare what they know with what they have learned. This will be done at the close of the lesson

 **Development of concepts and/or skills (include monitoring and assessments of student learning integrated throughout instruction related directly to objectives, description of classroom structure [groups, centers, etc.], and strategies for pre-comprehension, comprehension, and post-comprehension)**

 Student will gather in the computer lab and log on to the website written in their journal.

 We sill discuss how to balancing chemical equations. I will model how to create a voki . My created voki will be a recording of the step-by-step procedure on how to balance a chemical equation. They will count atoms, identify reactants and products, and how to balance. Then we will solve the handout “Chemical formulas and equations” sheet together. Finally, we will discuss how to determine if it is an endothermic or exothermic reaction.

 Before we begin creating voki avatars, the student will view a video about balancing chemical equations (<http://www.schooltube.com/video/db41eba5cd45fcbe75/Balancing-Chemical-Equations> ). They will take any notes needed to balance an equation and use the notes when making their recording. Their notes will include how to count atoms, which side is the reactant and which side is the product, where to place coefficients, and never change a subscript . I will look for these clues in their notes. We will compare their notes with what they know and what they have learned in the lesson at the close of the lesson. I will suggest that thy use complete sentence structure and write down what they want to say before making their recording. This information will be assessed on a chapter test at a later date.

. I will ask , “ Has anyone created their own personal avatar?” This will lead to a discussion, review, and my demonstration on how to create a voice, a message, or a text. As A quick review, I will explain how to solve balancing chemical equations . I will ask the students to follow the directions on the website.

 I will assess the students by observing if they are following the directions and correctly creating their own personal avatar. The students will create their avatar and record what they have learned about balancing chemical equations. Students will recall important science terms in their recording.

 The students will use prior knowledge of computer skills to create their personal voki avatar. They will be reminded that the maximum recording time is 60 seconds. Also, they will be reminded to record only what they have learned about balancing chemical l equations when creating their avatar. The students will recognize that they are incorporating speaking, writing, and oral communication skills when creating their avatar.

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 **Practice (if appropriate)**

 **Lesson Closure**

 Now students will write what they have learned about avatars in their journal. We will

 compare what they know and what they learned about voki avatars.

We will compare and contrast what they know and what they know and what they

 have learned about balancing chemical equations.

 Through a discussion, I will assess what they liked or did not like about

 their personal creation and how it helped in solving a chemical equation. All students will

 be asked to evaluate another students’ avatar. All students will complete question. All

 students will make a presentation using their voki avatar. The students will

 write and discuss what they liked about the other students’ Avatar.

 At the end of the lesson we will discuss how they can use the voki avatar in other

 content areas.

 The students will answer these questions?

 1. Balance the following equation: \_\_\_\_\_\_Na +Cl2→\_\_\_\_\_NaCl

 2. Identify the reactants in the equation.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Identify the products in the equation. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 3. Predict whether the reaction is an endothermic or an exothermic reaction\_\_\_\_\_\_\_\_\_

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 4. Using complete sentence structure, write your recording of your voki avatar.\_\_\_\_\_\_\_\_

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 5. View another students’ voki presentation. Write what you liked about their

 created voki.
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6. How could you use the voki in other content areas?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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 **Alternative and/or supplemental activities for additional practice**

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(<http://www.schooltube.com/video/db41eba5cd45fcbe75/Balancing-Chemical-Equations> [http://voki.com](http://voki.com/)

 **Adaptations for individual learners with disabilities (include adaptations for at least three types of disabilities)**

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| **Disability****(low/high cognition, behavioral differences, learning disabilities, hearing/visually impaired, physically impaired)** | **Type of Adaptation****(size, time, level of support, input, difficulty, output, participation, alternative, substitute curriculum)** | **Adaptation specific to this lesson** |
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**FUTURE ASSESSMENT TO DETERMINE RETENTION OF CONCEPT(S):**

**MATERIALS AND TECHNOLOGY NEEDED FOR THE LESSON:**

Computer- http://www.voki.com

Science journal

Graphic organizer

Glenco Science Notebook, Mastering the TCAP

**EMERGING TECHNOLOGIES THAT WOULD BE USED WERE THEY AVAILABLE AND A DESCRIPTION OF USE:**

**Classroom management strategies to be used:**

**Preventative: Greet, seat, complete**

 **Active learning/MI LPs**

 **Cl Mgmt Plan: Rules/consequences/routines/procedures**

 **Parents contacted**

**Supportive: Directions given**

 **Students redirected**

 **Positive learning behaviors recognized**

 **Proximity control used**

 **Individuals/small groups monitored**

 **Appropriate learning behavior cued**

 **Lesson pace considered**

 **Teacher withitness achieved**

 **Classroom management plan implemented (routines/consequences/routines/procedures)**

**Corrective: Procedures and rules cued**

 **Individual behavior observed**

 **Individual behavior described**

 **Correction for individual behavior planned**

 **Plan executed**

 **Learning behavior rethought**

**REFLECTIONS ON TEACHING AND LEARNING:**

1. As you reflect on the lesson, how did it actually unfold as compared to what you had anticipated happening as you did your planning? **IIIC**
2. Provide the data/information that you have used to determine your students’ progress toward this lesson’s goals. Include individual and group information. **IIIA and IIIC**
3. How will you use your students’ performance today as you envision the next step for these students in learning? IIIC and Planning Domain
4. If you were to teach this lesson again to these students, what changes would you make? IIIC
5. As you reflect over this lesson, what ideas or insights are you discovering about your teaching? **IIIC**
6. How did your choices and actions of classroom management support student learning?