**Name: LESSON PLAN GUIDE**

Science

8

Learn the structure of the atom and be able to correctly label the parts/locations of each component of the atom.

**TEKS:** (C2)

Grade:

Subject:

8.5(A)- Describe the structure of the atom, including the masses, electrical charges, and locations of protons, and neutrons in the nucleus and electrons in the electron cloud

**Objective:** (C3)

Specific Measureable Attainable Relevant \_Time

**Task Analysis:** (C4) What lang. must be taught: What skills must be taught:

**Strategy to teach Language:** (C4)

**Assessment:** (C5)

Vocabulary- (Atom, Proton, Neutron, Electron, Electron Cloud, etc.), theory/important people, 3-d Modeling and Critical thinking Skills

Frayer Model to Teach Vocabulary and Theory/Important People Topics

Science

-Simulation Worksheets, Assessing students in groups as they are completing the worksheets, and a Kahoot game at the very end of the lesson and a quick doodle for the closure.

|  |  |
| --- | --- |
| **Strategies for Success**: (C6)  Differentiated Instruction that uses multiple medias to enhance learning and engage students  **Learning Styles Addressed:** (C6) Visual –  Draw Examples of Atoms Given both in instruction and in Simulation Activity  Auditory – Kinesethic –  Provide Video that demonstrates and addresses the content and have the simulation include the audio feature  Use atom model building kits to build examples of atoms during both lecture and simulation activity | **Element of Technology:** (C6)  **Colorado Phet Application**- Using the following model simulations-  \*Build an Atom Simulation  **Resources / Materials needed:** (C6)   * Atom Model Building Kits * Simulations and Simulation Guided Walkthrough Worksheet * Video Recording Links: <https://www.youtube.com/watch?v=ooWfzpUIoNM>   <https://www.youtube.com/watch?v=LhveTGblGHY>   * Google Slides/Lecture Example Worksheet |
| **Higher Order Questions to ask:** (C6) 1.  How can we know that atoms exist and understand them if they are invisible?  Does the structure of the atom matter? Why or why not?  Is it important that there are positive and negative charges on an atom? What does this allow the atom to do if it is?  2.  3. | |
| **Hook:** (C7)  What Am I? –   * I am smaller than a cell * I am assortment of 3 things * Some have called me the building block of everything * And, finally, I enjoy making friends with others of my kind, except when I am shy   **What Am I?** | **Closure:** (C7)  Quick doodles- Draw three things you have learned today in science- one must be an example of what we have covered in class. |



Have students get into groups of four and work through the Colorado Phet Application Simulation entitled, “Build an Atom” and have them go through and follow along with the worksheet, making sure that they are correctly building and modeling the atoms through both peer and teacher feedback. Have students come up by group and have them demonstrate a simple atom structure and tell the parts as they build it. Ask them what part of the atom has a positive charge and what has a negative charge. Ask if there is a part with no charge and what that component would be if that is the case. Discuss misunderstandings and clarify when needed; after the students are free to continue working in groups

Once students have finished, the main simulation, they break from their groups and engage in the “Game/Quiz” part of the simulation themselves, continuing to build the models and draw them on paper, furthering the learning process. An example of the work expected will be projected on the board.

Start off with hook, then engage the students in short slide show that defines main vocabulary making sure to add in videos at appropriate times to keep focus and concentration. Model examples of what atoms look like, how to read them on a periodic table, and go through the example worksheet with students, having students use their modeling kits and pencil/paper to draw the examples while 3-d modeling it for themselves.

1. **Teacher Input / Direct Instruction / Modeling:** (C6)
2. **Student Activities / Guided Practice:** (C6)
3. **Independent Practice:** (C6)

**Modifications / Accommodations**: (E6)

**Comprehensible Input Techniques:** (R6)

N/A

N/A

Notes:

Post google slides, links to videos, and simulation models where students have it easily accessible either on Canvas, Google Classroom or similar feature.

Name:

**DELIVERY PLAN (C8)**

Learn the structure of the atom and be able to correctly label the parts/locations of each component of the atom.

OBJECTIVE:

*Rigor*

OPENING:

What Am I? –

* I am smaller than a cell
* I am assortment of 3 things
* Some have called me the building block of everything
* And, finally, I enjoy making friends with others of my kind, except when I am shy

**What Am I?**

*Retrieval*

TEACHER INPUT:

Engage students with slideshow demonstrating lesson content, making sure to play videos that also demonstrate material at appropriate times to keep concentration

*Relevance*

MODEL:

Model examples of atoms and how they are structured (for instance a hydrogen atom has 1 electron, 1 proton, and 1 neutron), draw examples of models of atoms and how they are written on the periodic table in order to build understanding of how to find that material.

*Routing*

GUIDED PRACTICE:

*Retaining / Rehearsing*

Have students get into groups of four and work through the Colorado Phet Application Simulation entitled, “Build an Atom” and have them go through and follow along with the worksheet, making sure that they are correctly building and modeling the atoms through both peer and teacher feedback. Have students come up by group and have them demonstrate a simple atom structure and tell the parts as they build it. Ask them what part of the atom has a positive charge and what has a negative charge. Ask if there is a part with no charge and what that component would be if that is the case. Discuss misunderstandings and clarify when needed; after the students are free to continue working in groups

INDEPENDENT PRACTICE:

Once students have finished, the main simulation, they break from their groups and engage in the “Game/Quiz” part of the simulation themselves, continuing to build the models and draw them on paper, furthering the learning process. An example of the work expected will be projected on the board.

CHECK FOR UNDERSTANDING:

*Recognizing*

Bring students up in groups and assess understanding of the concept by quizzing them verbally and having them demonstrate.

ASSESSMENT:

Simulation Worksheets, Assessing students in groups as they are completing the worksheets, and a Kahoot game at the very end of the lesson and a quick doodle for the closure.

RESOURCES / MATERIALS:

* Atom Model Building Kits
* Simulations and Simulation Guided Walkthrough Worksheet
* Video Recording Links: <https://www.youtube.com/watch?v=ooWfzpUIoNM>

<https://www.youtube.com/watch?v=LhveTGblGHY>

* Google Slides/Lecture Example Worksheet

CLOSURE:

*Re-exposure*

Quick doodles- Draw three things you have learned today in science- one must be an example of what we have covered in class.