THOMPSON RIVERS UNIVERSITY | Education & Social Work

Bachelor of Education (Elementary) & Bachelor of Education (Secondary) STEM Lesson Plan

Lesson Title: Names and Formulas for Ionic Compounds **Lesson #** 3 **Date:** March 2, 2021

Name: Janys Pierce **Subject:** Chemistry **Grade(s):** Science 10

Rationale:

This lesson plan is especially important for future science and chemistry courses. This lesson is the basics on naming and balancing chemical compounds.

Core Competencies:

Communication	Thinking	Personal & Social
• Connecting and engaging with others • Focusing on intent and purpose	• Questioning and investigating • Reflecting and assessing	• Self-advocating • Self-regulating

Big Ideas (Understand):

Energy change is required as atoms rearrange in chemical processes.

Learning Standards:

(DO)	(KNOW)
Learning Standards - Curricular Competencies	**Learning Standards - Content**
• Demonstrate a sustained intellectual curiosity about a scientific topic or problem of personal interest • Seek and analyze patterns, trends, and connections in data, including describing relationships between variables and identifying inconsistencies	• **Practical applications and implications of chemical processes**

Instructional Objectives & Assessment:

Instructional Objectives (students will be able to…)	Assessment
• Write the chemical name of a compound • Write formulas for ionic compounds • Understand multivalent metals - ions	• **A handout/ booklet that they hand in when finished (nomenclature packet)** • **Kahoot! quiz**

Prerequisite Concepts and Skills:

- Students should have basic chemistry knowledge from Science 9
- Students should know some basic vocabulary from Science 9
- Students should know how to follow along in notes and how to take notes
-

Indigenous Connections/ First Peoples Principles of Learning:

Universal Design for Learning (UDL):

- **I am verbally going over the notes while providing a printed version**
- **I have prepared extra questions for more practice if people are still having troubles**
- **I am using Kahoot instead of a regular paper pen quiz – although I am not taking marks, it is mainly to see where they are after the lesson**
- **The students have a booklet for extra practice**
- **White boards to write on instead of pen and paper – less permanent if they make mistakes**

Differentiate Instruction (DI):

- Allow 'thinking time', time between asking questions and expecting an answer
- Allow students to think about their answer and to discuss it with their partner to determine if it is right and then have them announce it to me
- Provide a list of the days plan at the beginning of the class so the students know what I am expecting of them and what we plan to accomplish
- I will be wandering the class during practice problems
- Providing a fun/ different way to test with Kahoot!

Materials and Resources:

- Note package
- YouTube video https://www.youtube.com/watch?v=nmFUDkj1Aq0
- Kahoot! Quiz
- Tablet and projector
- White boards – for during kahoot?

Lesson Activities:

Teacher Activities	Student Activities	Time
Introduction (anticipatory set – "HOOK"): • Begin class with a breathing exercise – from a YouTube video (let the students know they do not have to participate if they do not want) https://www.youtube.com/watch?v=nmFUDkj1Aq0 • Handout the Nomenclature packet – let them know that there are two pages from this booklet that they will need to hand in when it is complete	• Participate in the breathing exercise (or not) • Accept nomenclature packet	5 mins 1 min
Body: • Open up notes to 2-1 C&D and begin teaching about ionic compounds • Teach the students the 'swap and drop' method and show them how to use a teeter totter to 'balance or zero it out' • Let the students do a few practice questions from their booklet • Move on to multivalent metals from the notes • Let the students do a few practice questions from the booklet again – this time on multivalent metals	• Open notes up and follow along • Learn swap and drop • Do a few practice problems • Transition to notes again • Do a few practice problems	10 mins 15 mins 5 mins 10 mins 5 mins
Closure:		

• Finish class on a high with a Kahoot! Quiz – there are 15 questions 60s/ question	• Play Kahoot!	15 mins

Organizational Strategies:

- Videos loaded and ready to go
- Papers printed ahead of time
- Have my copy of the notes filled out, to make it a bit faster in filling out the notes

Proactive, Positive Classroom Learning Environment Strategies:

- Letting the students know ahead of time that I will be asking questions but do not necessarily expect them to answer
- Using Kahoot for something fun and exciting
- No negative feedback if anyone answers incorrectly, just say not quite and lead them in the right direction – and assure them that it is not an easy topic and that I have created more practice questions if people are still having difficulties

Extensions:

Reflections (if necessary, continue on separate sheet):