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| **Lesson Plan:** |

**Prescribed learning outcomes:**

**C1** use modern atomic theory to describe the structure and components of atoms and molecules

**C2** use the periodic table to compare the characteristics and atomic structure of elements

**C3** write and interpret chemical symbols of elements and formulae of ionic compounds

**C4** describe changes in the properties of matter

**MOD Learning objectives**

1. Write chemical formulae of ionic compounds, metal and non-metals, with their appropriate subscripts
2. Write the proper chemical name, given a chemical formulae of an ionic compound between a metal and a non-metal
3. Provide an example of a chemical and physical change and justify their choice
4. Identify a chemical or physical change as endothermic or exothermic and justify their choice
5. Use the Kinetic Molecular Theory to explain how added/removed heat from a substance changes the motion of particles inside the substance
6. Explain how the motion of the particles inside a substance affects the spacing between particles and the total volume the substance takes up
7. Draw Bohr models of neutral atoms from Hydrogen to Calcium

**Learning objectives**

1. Use the trends in the periodic table to predict the properties of elements with respect to their group (alkali, alkaline, halogens, noble gas, metal, non-metal, and metalloids)
2. Use KMT to explain state changes using concepts of temperature and density in your explanation
3. Categorize natural and artificial processes as physical and chemical changes (ex. state changes)
4. Use the periodic table to describe and calculate the make-up of atoms, including the number of protons, neutrons, and electrons
5. Draw Bohr models of the first 20 elements in their neutral and ionic form
6. Explain the formation of ions using the stable configuration of noble gasses
7. Recognize and correct mistakes in chemical formulas of ionic compounds
8. Draw Bohr models for ionic compounds written in their chemical formulas
9. Construct ionic compounds from at least 2 different elements

**Material and equipment needed**

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| powerpoint | notes | activity sheet | Bohr model for Blade/Don |  |

**Assessment Plan:**

**Formative -** Activity sheets

**Hook and Introduction**

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| **Time** | **Activity** | **Teaching notes** | **Assessment** |
| 8:40-8:45 | * Set up for quiz and hand in worksheets | * Can ask for what to go over |  |

**Development**

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| **Time** | **Activity** | **Teaching notes** | **Assessment** |
| 8:45-9:20 | * Quiz, part 1 | * Individual quiz * Count down timer * Blade + Donovan: If both come, review how to find number of protons/neutrons/electrons - Ms. Li goes to skills, Mr. Popov stays and invigilates * If student comes in late, they will not receive extra time on the quiz * Students who finish sooner, can start on review package |  |
| 9:20-9:50 | * Quiz, part 2 | * Group quiz - randomly assigned into groups of 3-4 * If Blade + Donovan comes, Ms. Li can stay in class to help * If they came early and can do the said type of question, they can advance to bohr models * If Donovan still needs help, can split * If student shows up after 1st half of the quiz, they cannot take the individual quiz |  |

**Closure**

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| **Time** | **Activity** | **Teaching notes** | **Assessment** |
| 9:50-9:55 | * Go over when I am free to help them | * Hand group quiz in * Review next class * Unit test following Wednesday * Day 1 lunch times, and mornings * Hand out review package | Exit Slip |