***Central School***

***Chemistry Overview – Year 13***

***Term 1 – 2020***

***MoseseVereti***

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| **WEEK** | **TOPIC** | **SUB-TOPIC** | **OBJECTIVES** | **REFERENCE** | **ACTIVITIES** |
| 1-4 | Atomic Structure, Bonding and Related Properties | Atomic Structure and Bonding | * Write the ground state electron configurations using s,p,d and f notation of the first 36 elements and their monoatomic ions * Draw Lewis structures * Determine polarity of simple molecules | Level 3 Chemistry  Pg57-72 | *Videos 1 and 2* |
| 5-8 |  | Nuclear Chemistry | * Describe nuclear transformations resulting in alpha, beta and gamma emission using nuclear equations * Differentiate between fission and fusion reactions * Use radioactive data to carry out calculations involving simple quantitative treatment of half life | Level 2 Chemistry  Pg73-84 | Experiment 1  *Video 3* |
| 9-11 |  | Transition Metals | * Describe the characteristic properties (variable oxidation state, color and formation of complex ions) of transition metals * Relate properties of transition metals to their electronic structure | Level 3  Chemistry  Pg 85-92 | Topic 1 Test  *Videos 4 and 5* |
| 12 | Oxidation and Reduction | Electrochemical Cell | * Describe the electrochemical (galvanic) cells in terms of electrodes (anode and cathode), electrolytes (anion and cation), a salt bridge, etc. * Represent electrochemical cells using IUPAC notation. * Calculate E⁰ for an electrochemical cell and use this to determine the spontaneity of a given redox reaction. | Level 3 Chemistry  Pg 19-44 | Experiment 2 |
| 13 | Topic 2 Test and completion of Project. | | | | |