GES IGCSE Chemistry Term 1 (Sept-Oct, 2019-20)

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| TOPIC: Electrolysis and Energy Changes |

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| Theme: To enable pupils to:  • take an informed interest in scientific matters.  • recognize the usefulness (and limitations) of scientific method, and how to apply this to other disciplines and in everyday life | Level: Year 11 |
| Objectives: to develop skills that:  –– are relevant to the study and practice of chemistry.  –– are useful in everyday life.  –– encourage a systematic approach to problem solving.  –– encourage efficient and safe practice.  –– encourage effective communication through the language of science. | |

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| Focussing Questions | Key Words | |
| 1. **What does electrolysis mean?**  * What is an electrolyte or a non-electrolyte? * What does the electrolysis of these compounds give   (a)Sodium chloride  (b)Lead sulphide  (c )Aluminium oxide.   * What are the products at each electrode when these aqueous solutions are electrolysed using inert electrodes?   (a)Dilute solution of copper(ii) sulphate  (b)Concentrated solution of magnesium chloride.   * How do you carry out the practical investigations on the electrolysis of brine and dilute hydrochloric acid? * How can produce and collect oxygen gas or hydrogen gas using electrolysis?   **2. Explain the difference between endo- and exothermic**   * Some reactions are endothermic. Explain why, using the ideas of bond breaking and bond making. * Sketch an energy level diagram that shows a good fuel.   3. **Explain how to investigate energy changes in exothermic and endothermic reactions.** | Neutralization, precipitation, oxidation, reduction, OILRIG, combustion, respiration, half equations, oxidation state, oxidizing and reducing agents.  Electric circuit, positive and negative terminals, electrolyte, graphite, ionic, insulators, anode, cathode.  Exothermic reactions, endothermic reactions, reactants, products, kilojoule, spontaneous, energy level diagram, bond energies, KJ/ Mol, | **Explaining words**  In order to…..  The equations states….  These are examples of….  There is a relationship between…….  This is caused by….  However….  …because…  This explains…..To demonstrate the qualities of…  …these can help to clarify…  As a result… |

**Text Book:** Complete chemistry for Cambridge IGCSE.