

Sets (s): Double LP4 2019-2020

YEAR 11

SUBJECT Chemistry

Knowledge Focus: Complete acids salts and bases and energy changes

Extracting metals

Revise oil.



Ysgol Uwchradd  
Prestatyn  
High School

**This half term : Skills, Knowledge and Understanding to be developed:**

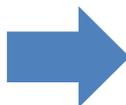
- Complete outstanding work on acids salts and bases and energy changes
- How metals are extracted
- Revision of oil topic.
- Exam preparation.

**Key Terms to be learned this half term:**

Oxidation reduction electrolysis electrode anode cathode electrolyte alumina bauxite cryolite transition metals alloy sustainability

**Week 1 and 2 Learning Objectives etc:**

- Explain the link between the method for extracting a metal from its ore and the reactivity series.
- Be able to use displacement and competition reactions to work out reactivity.
- Explain the terms reduction and oxidation and recognise when they are happening. Know that metals are extracted by reduction of metal compounds. Demonstration of thermite reaction
- Describe the extraction of iron and explain the stages in extraction. Write word and symbol equations for the reactions.
- Relate the uses of iron and steel to their properties.
- Evaluate the advantages of recycling steel (saves 50% energy and conserves iron ore and cuts down on greenhouse gas emissions) versus extraction from ore.
- Know the meanings of the key terms electrolysis electrode anode cathode electrolyte. Describe the extraction of iron and explain the stages in extraction. Write word and symbol equations for the reactions. Identify oxidation and reduction.
- Describe how the uses of iron and steel are related to their properties.
- Evaluate the advantages of recycling steel (saves 50% energy and conserves iron ore and cuts down on greenhouse gas emissions) versus extraction from ore.
- Define the key terms electrolysis electrode anode cathode electrolyte.



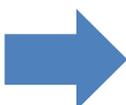
**Objective assessments:**

App acids salts and bases y11 topics

**Homework:**  
Revise for app acids salts and bases.

**Week 3 and 4 Learning Objectives etc:**

- Describe the industrial extraction of aluminium using electrolysis and know the equations and ionic equations involved.



**Objective assessments:**

Questions on extraction of iron and aluminium.

**Homework:**  
Questions on extracting metals

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Extracting metals

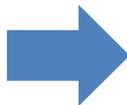
Revise oil.



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**Week 5 and 6 Learning Objectives etc:**

- Link the the properties and uses of iron (steel), aluminium, copper and titanium and describe the general properties of transition metals, including their ability to form ions with different charges.  
**HT describe the characteristic colours of compounds containing the following ions: Fe<sup>2+</sup> – pale green Fe<sup>3+</sup> – brown Cu<sup>2+</sup> – blue.**
- Define an alloy as being a mixture made by mixing molten metals, whose properties can be modified by changing its composition
- Evaluate the factors affecting economic viability and sustainability of extraction processes e.g. siting of plants, fuel and energy costs, greenhouse emissions and recycling
- Revision of oil topic from y10



**Objective assessments:**

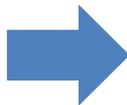
Questions on properties of iron

**Homework:**

Revision questions

**Week 7 Learning Objectives etc:**

- **Final revision and exam preparation**



**Past papers**

**Homework:**

Revision