

# Kirkcaldy High School



**Chemistry**

**National 4**

**Unit 3 - Chemistry in Society**

**TUTORIAL QUESTIONS**

## (a) Metals

1. Can metals conduct electricity?
2. What materials cannot conduct electricity?
3. Name some properties of metals.
4. If metals are un-combined in the Earth's crust what does that tell you?
5. How could you extract silver, copper and aluminium from a compound?
6. Complete the word equation for the following reactions:
  - (a) Calcium + Water →
  - (b) Magnesium + Hydrochloric acid →
  - (c) Zinc + Oxygen →
7. Put the following metals in order of most reactive to least reactive: Magnesium, copper, zinc, silver, aluminium, calcium, lead
8. What is needed for corrosion?
9. What is the corrosion of iron called?
10. How can you protect iron from rusting?
11. What is an alloy?
12. Name some alloys and describe their uses

## (b) Materials

1. What type of chemical reaction is used to make plastics?
2. What are some uses of plastics?
3. Name the polymers made from the monomers below:
  - (a) Ethene
  - (b) Propene
  - (c) Fluoroethene
  - (d) Chloroethene
  - (e) Tetrachloroethene
4. What is produced when plastics are burnt?
5. What is a biodegradable plastic?
6. What are thermosoftening and thermosetting plastics?

## (c) Fertilisers

1. Name the three essential elements required for plant growth.
2. For the nutrients to go through the roots they must be soluble. Name a soluble salt that would make a good fertiliser.
3. Name a salt that would not make a good fertiliser. Why?
4. Name environmental impacts of fertilisers.
5. Name some advantages and disadvantages of both natural and artificial fertilisers.

## (d) Nuclear Chemistry

1. Describe how elements are made
2. Name sources of background radiation

## (e) Chemical Analysis

1. Describe a way that a metal can be identified from a solution.
2. How could an insoluble salt be separated from a liquid?
3. How could a soluble salt be separated from a liquid?