

S3 Chemistry Unit 1 Metal Reactions and Extractions

Homework 3 – Reactivity Series and Extraction

1. Which statements in the grid below are TRUE for Zinc metal?

A	Reacts with water
B	Is more reactive than calcium
C	Produces hydrogen gas when placed in dilute acid
D	Burns with an orange flame when placed in water

(2)

2. From the choices in the grid name

- a) The metal that will burn most brightly when heated in oxygen
- b) 2 metals that will not produce hydrogen gas when placed in acid
- c) The most reactive metal
- d) The least reactive metal
- e) The metal that is more reactive than copper but less reactive than zinc

COPPER	MAGNESIUM
ZINC	CALCIUM
LEAD	SILVER

(5)

3. A number of different metals are shown in the grid below

A	COPPER	B	MAGNESIUM	C	ZINC
D	LEAD	E	SILVER	F	CALCIUM

- a) Name the metals in the grid that can be extracted from their ore by heating with carbon
- b) Choose one of your answers or a) and write a word equation to show what happens during the reaction
- c) Name a metal that is normally extracted from its ore using electricity
- d) What is the name of the process that uses electricity to extract metals from ores
- e) Which metal in the grid is the most difficult to extract from its ore? Why?
- f) Which metal in the grid do you think was discovered first? Why?

(6)

4. **P, Q, R and S** are 4 different metals.

- a) When **R** is heated an oxide of **R** is formed. When **P** is heated no oxide is formed. Which metal is more reactive, **R** or **P**?
- b) **S** does not react with sulphuric acid. **Q** does react with sulphuric acid to produce hydrogen gas. Which metal is more reactive, **Q** or **S**?
- c) **R** will react with water, **Q** will not. Which metal is more reactive, **R** or **Q**?
- d) The reactions of metal **S** are more vigorous than the reactions of metal **P**. Which metal is more reactive, **S** or **P**?
- e) Using all the information from questions a) to d) place the four metals in order of reactivity, starting with the most reactive first.

(5)