Oxford Cambridge and RSA

GCSE Chemistry B (Twenty First Century Science)

J258/03 Breadth in chemistry (Higher Tier)

Question Set 34

1 Lithium-ion batteries are used in phones, tablets and electric cars.

(a) Lithium reacts with chlorine to form lithium chloride.

$2Li + Cl_2 \rightarrow 2LiCl$

What mass of chlorine reacts with 1 g of lithium?

Use the equation: number of moles = $\frac{\text{mass of substance}}{\text{relative formula mass (g)}}$

Give your answer to **1** decimal place.

Mass of chlorine = ... g **[3]**

(b) Lithium reacts with water to form lithium hydroxide (LiOH) and a gas.

Write a balanced symbol equation for this reaction. **[2]**

(c) Lithium is made by the electrolysis of molten lithium chloride.

Name the product formed at each electrode.

[2]

(d) Nina does some experiments with chlorine.

(i) Nina wants to use a displacement reaction to show chlorine is more reactive than bromine.

Describe what Nina needs to do and what she will see.

[2]

(ii) Nina has to be careful when using chlorine in her experiments.

State **one** precaution she must take **and** why the precaution is needed.

[2]

Total Marks for Question Set 34 : 11

Resource Materials

The Periodic Table of the Elements