



SHS LEARNING ACTIVITY

CHEM1-02-06

Name: _____ Score/Mark: _____

Grade and Section: _____ Date: _____

Strand: STEM ABM HUMSS ICT (*TVL Track*)

Type of Activity : Concept Notes Skills: Exercise/Drill Illustration

Laboratory Report Essay/Task Report Other: _____

Activity Title: 02-06.Electrons determine the charge of the atom or ion v03

Learning Target: To calculate the charge of atoms and ions

Authors/References: Victor Sojo

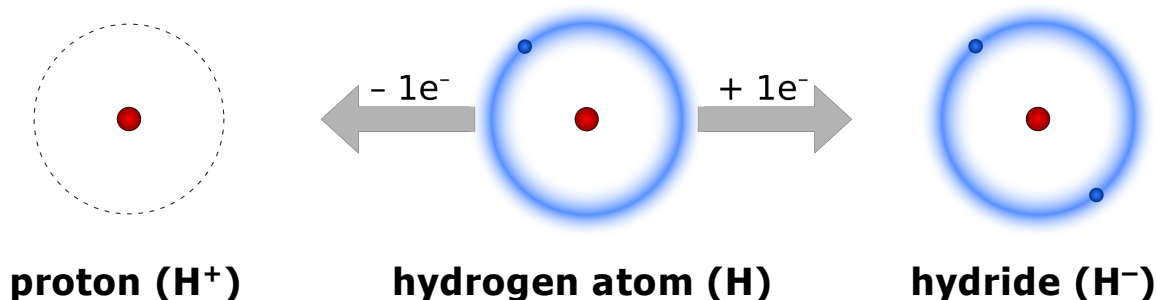
We saw how a different number of protons makes the atom into a different element. But actually, **the number of protons does not normally change** in chemical reactions. Conversely, the **number of electrons does change** rather often, and **many chemical reactions involve changes in the numbers of electrons**.

Since protons (p^+) are positive and electrons (e^-) are negative, if their numbers are not the same the atom will have a **charge**. When this happens, we don't normally call it an atom anymore, but an "**ion**" instead.

Electrons are negative, so when a neutral atom gains one it becomes a **negatively charged ion**, also called an "**anion**" (pronounced an-eye-on).

Losing electrons produces a **positively charged ion**, or "**cation**".

Charge is written in the **top-right corner** of the element's symbol.



For example, hydrogen can either lose or gain an electron. If it gains one, we end up with an anion called "hydride". If instead H loses an electron, we end up simply with a proton, so chemists normally call this the "proton ion" H^+ , or just a "proton". This can be a little confusing because of p^+ ; so "carbon has six protons" means six p^+ in its nucleus, not six H^+ ions.

Question

Draw, including the electrons, the **lithium atom** and the **lithium ion**, ${}^3Li^+$.

