History of the Battery

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The history of the battery looks at the chemistry discoveries, commercial breakthroughs and applications. All listed by year so that you can look at the development of the battery as a timeline.

Leyden Jar – developed by Ewald Georg von Kleist, this devicestored static charge in a glass jar that was lined with metallic foil on the inside and outside of the container.

Voltaic Pile – Alessandro Volta invents the voltaic pile, an early electric battery, which produced a steady electric current. Alessandro Volta had determined that the most effective pair of dissimilar metals to produce electricity was zinc and copper, with cardboard soaked in brine between the pair. Distinctive Collections Spotlights – the voltaic pile

Electrolysis – Sir Humphry Davy began testing the chemical effects of electricity and found out that decomposition occurred when passing electrical current through substances.

Lithium Isolated – William Thomas Brande isolates lithium through the electrolysis of molten lithium oxide, obtaining enough of lithium to describe a shining, white, combustible metal.

Daniell Cell – John F. Daniell developed an improved battery that produced a steadier current than earlier attempts to store electrical energy. The Daniell cell provides a longer and more reliable current than the Voltaic pile. Developments of this cell are used in Telegraphy until the 1950’s. The Daniell cell has an operating voltage of roughly 1.1 volts.

First Rechargeable Battery – Gaston Plant? invents the lead-acid battery. This is the first rechargeable battery, up until now all of the cells have been primary cells.

Mass Produced Dry Cell – National Carbon Company replace the plaster of paris in Carl Gassner’s patented zinc-carbon dry cell with cardboard. This makes an easier to mass produce design.

NiCd – Waldmar Jungnerinvents the nickel-cadmium battery, this uses nickel as the cathode and cadmium as the anode.Waldmar also experiments with replacing cadmium with varying proportions of iron up to 100%, thus inventing the NiFe battery.

Sealed NiCd Cell – Georg Neumann created a process to make nickel-cadmium batteries without the excessive formation of gas, allowing the production of sealed, leak-proof designs.

Lithium Cobalt Oxide – John Goodenough was able to expand upon previous work from M. Stanley Whittingham on battery materials, and found that by using LixCoO2 as a lightweight, high energy density

cathode material, he could double the capacity of lithium-ion batteries.

Lithium Ion Rechargeable Cell – The first ever commercial lithium-ion battery is released by Sony. This cell has a gravimetric density of 80Wh/kg and a volumetric density of 200Wh/litre.

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