**Chemistry Assignment:**

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-19BCE10071

 Nobel Prize in Chemistry winners 2019.

Akira Yoshino

M. Stanley Whittingham

John B. Goodenough

Summary the chemical concepts involved in their discovery.

The Nobel Prize in Chemistry 2019 rewards the development of the lithium-ion battery. This lightweight, rechargeable and powerful battery is now used in everything from mobile phones to laptops and electric vehicles. It can also store significant amounts of energy from solar and wind power, making possible a fossil fuel-free society.

Lithium-ion batteries are used globally to power the portable electronics that we use to communicate, work, study, listen to music and search for knowledge. Lithiumion batteries have also enabled the development of long-range electric cars and the storage of energy from renewable sources, such as solar and wind power.

Development timeline of their research.

Three scientists are to share **the 2019 Nobel Prize** for Physics for **their research** into **the history** of **the** universe and **its** structure, **the** Royal Swedish Academy of Sciences in Stockholm announced on Tuesday. **The 2019** Sveriges Riksbank **Prize** in Economic Sciences in Memory of Alfred **Nobel** will be announced on October 14.

Significance of their discovery.

**They created a rechargeable world.**

The result was a lightweight, hardwearing battery that could be charged hundreds of times before its performance deteriorated. The advantage of lithium-ion batteries is that they are not based upon chemical reactions that break down the electrodes, but upon lithium ions flowing back and forth between the anode and cathode.

The work of this year's Chemistry Nobel laureates led to the development of "a lightweight, hardwearing battery that could be charged hundreds of times before its performance deteriorated."

"The advantage of lithium-ion batteries is that they are not based upon chemical reactions that break down the electrodes, but upon lithium ions flowing back and forth between the anode and cathode," the Nobel Foundation said.

Lithium-ion batteries have revolutionised our lives since they first entered the market in 1991. They have laid the foundation of a wireless, fossil fuel-free society, and are of the greatest benefit to humankind. he work of this year's