



Driving in the Future: How Far Will that Battery Take You?

Guide for Curriculum Unit 19.04.01, published September 2019

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Worldwide demand for energy has surpassed the 17.4 TW threshold predicted in 2015. Our unabated demand for energy has so devastated our planet's natural resources and ecosystems that we are on the brink of the planet's 6th mass extinction event. Increasing global temperatures have catalyzed a complex set of climactic changes that threaten the survival of all life on Earth. Elevated concentrations of greenhouse gas (GHG) emissions are the root cause to this rise in temperature. A large body of scientific evidence supports the conclusion that carbon dioxide produced by the combustion of fossil fuels is the principal cause of global warming.

A change from fossil fuels to green sustainable energy sources is warranted if we wish to halt climate change. Technologies that convert energy from renewable sources (solar, wind, geothermal, and hydro) to electricity are central to this transition. A central component of any sustainable energy policy are the storage devices that will help harness and store electrical energy.

The goal of this two-week unit written for the high school chemistry class is to explore the chemistry of the rechargeable batteries that are part of our lives, and to explore future applications of this technology and the green energy future we so desperately need.

Keywords:

- Climate Change
- Global Warming
- Renewable Energy
- Greenhouse Gases
- Rechargeable Battery
- Fossil Fuels

(Developed for Chemistry, grades 10-11; recommended for Environmental Science, grades 10-11)

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