



[Santa Fe Heritage Park](#) is located at 12100 Mora Dr, Santa Fe Springs, CA 90670. Heritage Park has a Carriage Barn museum that is open Tuesday-Saturday from 12-4pm (note these hours are different from the hours for the park itself).

The [Carriage Barn](#) Museum allows you to explore past inventions that have inspired current technology. In fact, several of these past inventions did not require electricity! However, over time, new inventions have been created as the result of new *scientific findings* (discovery of new information). Those changes have made many of the items we use today to be powered by electric energy.

In the Carriage Barn Museum, you can find a music player, an old fashioned ice box (refrigerator), cash register, and typewriter (among many others). These past inventions have inspired the works of our current day electrical devices.



But what is electricity anyway?



Electricity is a form of energy that results from a buildup of electrons. Electricity is naturally occurring: think of static electricity that might happen when you put on clothes from the dryer or rub a balloon on your hair (picture left). Lightning is also caused by a release of electrostatic charge.

It was not until the 1800's that electricity was used as a form of power for our homes and businesses. Where there is a buildup of electrons in one place, the electrons will begin to move. Harnessing the movement of electrons through a wire (or other conductive material) is what powers our electrical devices such as lights, televisions, computers, and much more. To learn more about electricity watch [Intro To Electricity for Kids](#) (a video) or read [How Does Electricity Work](#) (a Wonderopolis article).

Throughout history the demand for energy has increased due to devices requiring more electricity. The large amount of electrical devices used means that the amount of energy consumption daily has increased. Too much energy at one time results in power outages!

How can we reduce our electric energy consumption?

- use electric efficient appliances & light bulbs
- unplug unnecessary items not in use
 - use cold water for laundry
 - set your thermostat at 78 degrees
 - limit energy use from 4-9pm

Why is reducing electricity consumption important?

The average 60 watt light bulb uses about 1,440 watts (1.44kWh) of energy in 24 hours. Although that may not seem like a lot, if everyone in Whittier were to leave their lightbulbs on when not using them that would be a lot of energy wasted each day.

MAKING CONNECTIONS

Activity #1: As you walk through the Carriage Barn Museum, find items that are the precursor (i.e. a version that came before) to appliances and/or items you have in your home. For example, what could you find in your home that serves a similar purpose to the object pictured to the right?



AT-HOME EXTENSIONS

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| Activity#2: | After having gone to the museum, go around your house and make a list of devices that require electricity to function? |
| Activity#3: | With adult permission, complete online research on 3-5 electronic devices that you use daily. How much electric energy does each item use? For example, did you know that an average 60 inch television will require 250 kilo-watts of energy a year? |

EXTENSION: HOW DO BATTERIES WORK?

A battery has chemical energy stored inside. When a battery is placed into an external circuit (example: a remote, or toy). The stored chemical energy is then converted (changed) to electric energy, which powers our devices. Watch [this short video](#) to learn more.

