**Science 9 - Electrical Principles & Technologies**

Checklist

\_\_\_\_\_ I can identify how devices create and convert energy from one form to another

(mechanical, thermal, chemical and electrical).

\_\_\_\_\_ I can understand how different chemicals make different batteries.

\_\_\_\_\_ I can describe how a generator and a motor work.

\_\_\_\_\_ I can modify the parts of a St. Louis motor and predict the resulting changes.

\_\_\_\_\_ I can assess potential dangers of an electrical device by knowing the difference between amperage and voltage.

\_\_\_\_\_ I can distinguish safe and unsafe activities related to electricity.

\_\_\_\_\_ I can identify the difference between static and current electricity and give examples of both.

\_\_\_\_\_ I can describe the difference in resistance between a conductor and an insulator.

\_\_\_\_\_ I can use switches, resistors and rheostats to control electrical flow.

\_\_\_\_\_ I can describe the relationship between current, resistance and voltage ie as resistance

increases current decreases.

\_\_\_\_\_ I can measure volts and amps in circuits and calculate resistance using ohm’s law.

\_\_\_\_\_ I can create parallel and series circuits.

\_\_\_\_\_ I can draw circuit diagrams and identify electrical symbols.

\_\_\_\_\_ I can identify the similarities and differences between microcircuits and circuits in the

house.

\_\_\_\_\_ I can use the formulas and identify the units of the following equations P=IV and E= Pt.

\_\_\_\_\_ I can describe energy losses in electrical devices.

\_\_\_\_\_ I can calculate efficiency in electrical devices as output/input x100.

\_\_\_\_\_ I can identify techniques for reducing waste of energy in common household devices.

\_\_\_\_\_ I can identify and evaluate sources of renewable and nonrenewable electrical energy.

\_\_\_\_\_ I can describe the environmental impacts of electricity generation.

\_\_\_\_\_ I can evaluate electrical technologies in terms of benefits and impacts.

\_\_\_\_\_ I can describe issues involving conservation of energy and suggest ways to improve the sustainability of energy use.