Generator and Motor Activity

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Unit Overview

Topic: Physical Science

Standards:
Electrons then transfer energy to other objects and transform electrical energy into other forms.

Experiments, investigations and testing must measure and compare voltage and current.

Electricity concepts are dealt with conceptually

Activity Structure

Title: Generator/Motor Activity

Guiding Questions:
What energy sources are used to deliver energy to your community?

How do power plants turn coal into electricity?

What is the difference between a motor and a generator?

What energy transformations take place in your appliances?

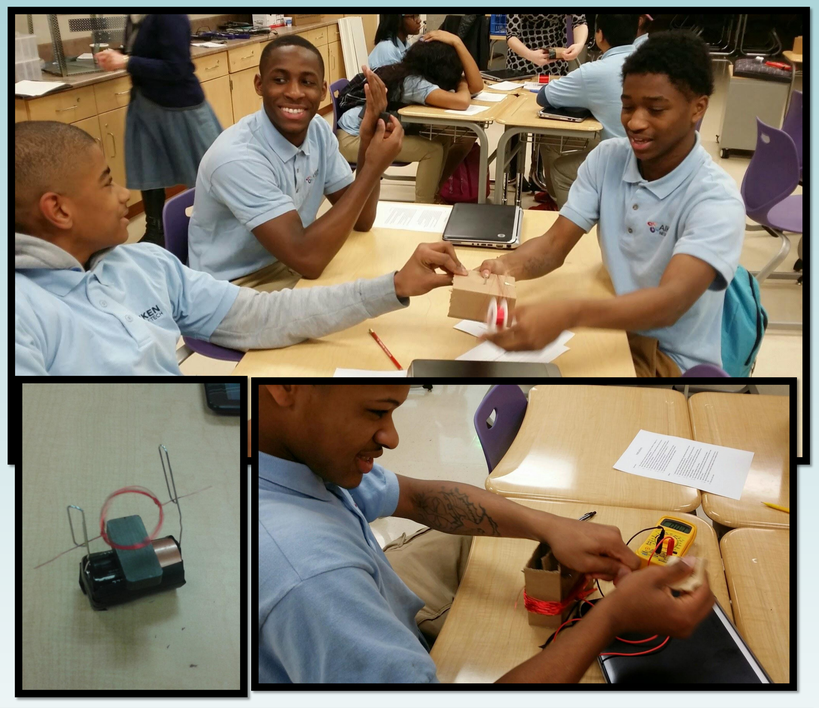
Objectives:
Use a multi-meter to measure voltage and current.

Describe how motor/generator works

Identify energy transformations from the energy source to appliances.

Activity Implementation

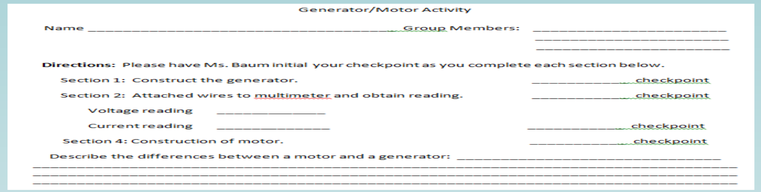
Build a motor and a generator and identify difference between the two, with energy transformations



Student Work

Four question pre and post-assessment

Activity checklist during the assignment.



Generator/Motor Activity

Name _____ Group Members: _____

Directions: Please have Ms. Baum initial your checkpoint as you complete each section below.

Section 1: Construct the generator. _____ checkpoint

Section 2: Attached wires to multimeter and obtain reading. _____ checkpoint

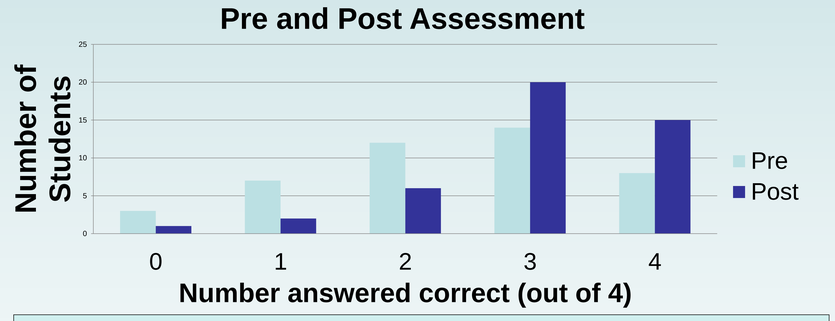
Voltage reading _____

Current reading _____ _____ checkpoint

Section 4: Construction of motor. _____ checkpoint

Describe the differences between a motor and a generator: _____

Assessment Results: Impact on Student Learning



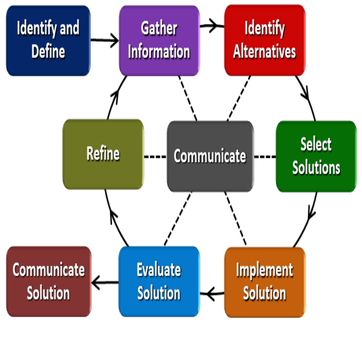
Engineering Design Process

Implement generator/motor construction from directions

Evaluate generator (whether or not construction works)

Refine construction

Communicate with other groups what works



Reflection and Conclusion

Activity planned for one day, took two to complete.

Did not pass out Appliances with Motors worksheet

Some groups struggled with typed directions, would be better to use pictures of each step

Could have built motor, then researched how they worked via internet (backwards learning)