

ELECTRICITY AND MAGNETISM CULMINATING PROJECT

Objective: To develop a way to generate power and electrify a neighborhood of 6 houses.

Performance Objective: To demonstrate an understanding of electricity and magnetism by creating a power source that powers a circuit.

Materials:

I will provide:

- generator made during stations
- wires (with and without clips)
- 6 houses with bulbs
- switches
- motor
- calculator

List here, the materials you will provide:

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Requirements:

1. **GROUP:** Write the procedures and materials list for how to build your power source (either from your own design or from the stations).
2. **GROUP:** Write the procedures and materials list for how to power your neighborhood for your power source to your houses.
3. **GROUP:** Draw out a schematic for your proposed power source and neighborhood with all appropriate calculations and symbols. You must calculate resistance, voltage, amperage, and power output of your entire system. **Your schematic needs to be approved by teacher before you move on to #4.**
4. **GROUP:** Build your proposed power source and neighborhood – TEST IT! Houses need to be lit for 5 minutes without your intervention. **If it doesn't work, go back to the schematic and figure out what you need to fix. Try again!**
5. **INDIVIDUAL:** Answer analysis questions and write a project conclusion.

Jobs:

Planner: This person needs to have the big picture in mind. They need to know where they should start and where they are going. This person should work closely with the presenter. _____

Builder: This person should be good at building things, building circuits or other electrical parts. They should also be good at reading and following directions. _____

Calculator: This person should be good at the math parts of electricity. They will need to work closely with the builder to make sure to get the correct calculations. _____

