STATION 1
VOCABULARY

Make sure you know what each of these words mean. If you know, check the box. If you don't, ask someone in your group and write down the definition

☐ Potential energy:

☐ Kinetic energy:

☐ Law of electric charge:

☐ Source:

☐ Conductor:

☐ Load/Resistor:

☐ Switch:

☐ Current:

☐ Electrical Potential Difference:

☐ Resistance:

☐ Short circuit:

☐ Insulator:

☐ Series Circuit:

☐ Parallel Circuit:

☐ Phantom load:

☐ Generating electrical energy:

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STATION 2

DRAWING CIRCUIT DIAGRAMS

Draw a circuit diagrams for the following circuits. Be sure to identify the direction that current is travelling for each scenario.

1. A circuit with a cell that runs a buzzer.

2. A circuit with a battery where an open switch has turned off two lights placed in parallel to each other.

3. A circuit with a battery, a closed switch, two light bulbs, and a clock all in series with each other.

4. A circuit with an electrochemical cell, a closed master switch, and three light bulbs all in parallel with each other. Each light bulb has its own switch that turns it on and off.

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STATION 3

CALCULATING OHM'S LAW

	Symbol	**Unit**
Current		
Voltage		
Resistance		

1. What is the resistance of a toaster if a current of 12.5 A flows through it when it is connected to 120 V?

2. A light bulb has a resistance of 90 Ω. What current flows through the bulb when it is connected to 120 V?

3. The current through a load in a circuit is 2.5 A. If the voltage is 75 V, what is the resistance of the load?

4. How much electrical potential difference is necessary to generate 9.5 A in a circuit with 2.0 Ω?

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STATION 4

ENERGY SOURCES AND TRANSFORMATIONS

Identify the type of energy associated with each of the following sources:

a. The Sun

b. River flow

c. A battery

d. Uranium

e. Food

	ORIGINAL ENERGY FORM	FINAL ENERGY FORM
Photosynthesis		
Nuclear power plant		
An oven		

List the three key parts of a generator system. Briefly describe their functions

What is the difference between a renewable and non-renewable energy source? Provide at least 2 examples for each.

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