



Charge

STEM Sims

Lesson 2: Building a Charger

Chargers for electronic equipment such as cell phones can cost up to \$500 depending on the type and functions of the device. A number of web sites show how simple chargers can be built using common household devices and for a fraction of that cost. Can you create a charger for your device?

Doing the Science

1. Start the Charge! Simulation by clicking on the “Sim” tab.
2. Click on the “Build Charger” button at the bottom right-hand corner of the screen.
3. Note the various circuit components in the blue boxes at the top of the screen.
4. Read the Background section of the web site for this module if you need more information about the various circuit components.
5. Click and drag circuit components from the boxes to the grid below to build your charger’s electrical circuit. Note that the top icon for each component is for a horizontal connection, while the bottom icon is to place the component in the circuit vertically.
6. When your circuit is correctly connected, the tablet on the right side of the screen will turn on and display a message.
7. Sketch a schematic diagram of the circuit that you created in the space below.

Schematic Diagram

Do You Understand?

1. What was the function of the voltage regulator in the circuit?
2. What was the function of the LED in the circuit? Could the charger have functioned without the LED in the circuit?