



NGSS Standard: 4-PS3-2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents

[Check With the Experts](#) (they will read this AFTER the discussion)

Potential Question: Can you describe what happened to the energy when you completed the circuit?

Competing Ideas: Energy can change from one form to another vs. Energy always stays in the same form.

- ★ Begin the lesson by asking students to review what they did in the investigation.
 - Show the students that when the circuit is not completed the light does not turn on, but when you complete the circuit the light does turn on.
- ★ Pose the question and competing ideas above and have the students physically move next to the other students who support the idea.

Potential Questions to guide the discussion

Begin the discussion by asking students the question: What happened to the energy when you completed the circuit? Did it stay in the same form or did the energy change forms? Explain your evidence.

Let the students discuss their ideas, however, if the conversation starts to slow down you can ask the following questions to keep the discussion going.

- When you connected the circuit you could see the light come out of the bulb. Was there light inside the battery before you connected the wires or was there a different type of energy in the battery.
 - If we cut open the battery would light come out?
- When you eat food what happens to it? How does your body change food energy into energy that you use to do work?
- Have you ever touched a light bulb? What did it feel like? Where did the heat come from?

Student learning Goal by the end of the Argumentation (after Check With the Experts):

We can observe energy when it moves from place to place by sound, light, heat, and electricity. Energy can be converted from one form to another.