



## Intro Activity 1 - How Many Ways to Light a Bulb?

**Task 1a. K-W-H-L Brainstorm.** Time Limit - 3 minutes; Group Size - Whole class

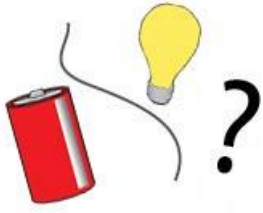
Today's topic is electricity. Brainstorm what you know or think you know about electricity for the KNOW portion of a class K-W-H-L chart on the board, a transparency, or butcher block paper. Ask yourself, "What do I know about lights and electricity?" Volunteer your answers.

### K-W-H-L Chart

What do you <u>K</u> NOW about electricity?	What do you <u>W</u> ANT to know?	<u>H</u> OW will you find out? (What investigations might you try?)	(After activities) What did you <u>L</u> EARN?

**Task 1b. Hands-on. Try to light the bulb with ONLY the supplied materials.**

Time Limit - 20 minutes; Group Size - Work in pairs (3 people in 1 group is OK)

Materials per Student Group: 1 light bulb 1 D cell (you probably call it a battery) 1 12-cm long insulated wire (strip on each end) 2 notebooks (1 per student)  <b>CAUTION!</b> Avoid connecting the wire to both ends of the D cell (the wire will become warm, and the cell will burn out quickly because of this short circuit)!	<b>Activity Materials</b>  
	How many different ways can you connect these materials in order to light the bulb?

1. Try to light the bulb.

2. Sketch as many ways as possible to light the light bulb using nothing but the materials above and your paper and writing tool.

Note - If you think your D cell or bulb is run down or burned out, trade it with another group to see if the students can get it to work before requesting a replacement from the instructor. However, please do not share information with other teams for this activity. It's more fun if everyone discovers how to light the bulb on their own.)

**Task 1c. Discussion.** Time Limit - 5 minutes

After time is called, volunteer to show the class **ONE** way your group positioned your materials to light the bulb. How many ways to light the bulb did your group discover?

**Task 1d. Revisit the K-W-H-L chart.** Time Limit - 5 minutes. Group Size - Whole class.

Now is the perfect time to return to the K-W-H-L chart and ask yourself, "What have I **LEARNED** about electricity?" Volunteer your answers to begin this portion of the chart. The first day's K-W-H-L chart may be short. That's fine. It will get longer as you do more activities.