



BRIGHT LIGHTS

4-H Electrical Science Lesson

BUILD A FLASHLIGHT



Project Skills:

Wiring a simple circuit

Life Skills:

Problem solving

WI Academic Standards:

Science C.4. Science

Inquiry

Time:

30-35 minutes

Supplies:

Each pair of youth needs the following materials:

- Simple Flashlight Worksheet
- 2 pencils
- 1 – 6" x 6" square of aluminum foil
- 1 D-cell battery
- 1 – 1.5 volt light bulb

Getting Ready:

1. Make enough copies of a Simple Flashlight Worksheet.
2. Helpers should try making the flashlight ahead of time, so they know how to help youth do it on their own.

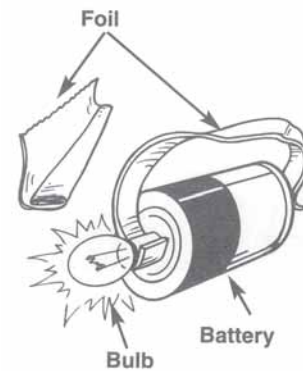
WHAT TO DO

Describe the situation.

1. Have the youth pair up. Give each pair the survival materials listed above.
2. Tell youth to imagine that they are out in the wilderness and it is getting dark. Their task is to use the materials supplied to build a simple flashlight.

Build a simple flashlight.

1. Ask youth to complete the Simple Flashlight Worksheet to get ideas for building a flashlight. Give them several minutes to work on it with their team.
2. Review the worksheet line by line, asking youth for the correct answer to each question.
3. Use the picture to help guide youth teams as they build their own flashlight. Work with any teams that are having difficulties.
4. Ask each pair of youth to draw the flashlight that they made showing the power source, the light source and the path.
5. Then have teams go around and share their flashlight and their drawing.



TALK IT OVER

Try to get each youth to express his or her feelings and experiences.

Reflect:

- What equipment was needed to make your bulb light?
- What did you have to do to make it work?
- How is the flashlight you made different from what you would buy in a store?

Apply:

- What is another time that you experimented to solve a problem?
- Why is it sometimes better to learn something by actually doing it rather than just reading about it in a book?



Simple Flashlight Worksheet

BRIGHT LIGHTS

- A.** A flashlight needs three key items to work.
1. Power supply – What do you have that can provide power?
 2. Light source – What do you have that can provide light?
 3. Path for the electricity (electrons) to follow – What do you have that can connect the power supply to the light source and allow electricity (electrons) to flow through it?
- B.** The path must allow electricity (electrons) to move from the power supply to the light source and then back to the power source. Try different connections until you succeed at making the flashlight work.
- C.** Draw the parts and connections you used to make your flashlight. This is called a circuit.



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