

# Compare Two Types of Light Bulbs

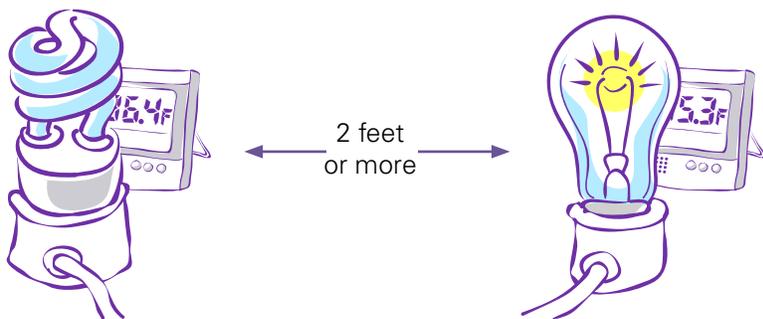
## WHICH TYPE OF LIGHT BULB IS MORE ENERGY EFFICIENT?

A WATT is a measure of energy use. Light bulbs are classified according to how many watts, or how much electricity, they use. An energy-efficient light bulb uses less electricity to produce a

given amount of light. Compare two types of light bulbs to find out which is more efficient.

### TRY THIS

1. Set up each thermometer 4 inches away from the two light bulbs, making sure the light bulbs are at least two feet from each other.
2. Note the temperature reading on each thermometer.
3. Turn on both lights.
4. After 10 minutes, record the temperatures near each light bulb.
5. Subtract the starting temperatures from the final temperatures to get the temperature increase produced by each light bulb.
6. Compare the two. Why are they different?



### THINGS YOU NEED

- Incandescent light bulb
- Compact fluorescent light bulb that produces equivalent light (1)
- Two (2) remote wire thermometers (these thermometers, used for cooking, are more sensitive)
- Ruler
- Notebook to record results



### WHAT DO YOU THINK?

What if your parents will only buy compact fluorescent light bulbs if they save money, and the fluorescent bulbs are more expensive? What other costs and factors should they consider?

Imagine you could get an incandescent and fluorescent bulb that each used the same wattage. Which would generate more light? Why?

Besides switching to fluorescent light bulbs, how else can we save energy on lighting?

### DID YOU KNOW?

Compact fluorescent light bulbs use about 75% less energy and last 10 times longer than standard incandescent bulbs.

Standard incandescent light bulbs waste 90% of their energy producing heat instead of light.

### (1) LIGHT EQUIVALENCY CHART

Standard Incandescent	Compact Fluorescent
150W . . . . .	30W
100W . . . . .	22W
75W . . . . .	20W
60W . . . . .	15W

(2) If you only have one thermometer, just run the experiment twice, making sure the thermometer has a chance to cool to room temperature in between the two trials.