

HOME/SCHOOL CONNECTION

Investigation 1: Energy and Circuits

Lightbulbs are rated by the amount of energy they consume as they work. The unit of electric power is the watt. Just because a lightbulb uses more electric power does not mean it is brighter.

| Incandescent bulbs | Compact fluorescent bulbs | LED lamps |
|--|--|--|
| Energy inefficient | Energy efficient | Very energy efficient |
| Ninety percent of energy consumed is converted into wasted heat. | Initial cost is higher, but long life span saves money; less heat waste. | Price is high. No heat waste. |
| Short-lived and expensive to maintain. | Contains mercury so must be disposed of properly. | Very long service life. No toxic materials. |

With the help of a grown-up, record the watt rating for each bulb you can easily check in your home. You may be surprised by the low wattage of the newer compact fluorescent bulbs (CFLs). Add up the total watts used by the lights you are able to check.

Safety Note: Only check bulbs that are turned off and cold.

| Lightbulb location | Kind of bulb | Watt rating |
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| Total watts | | |