Doing the Job for Less

What makes one light bulb more efficient than another?

[SAFETY NOTE: DO NOT TOUCH BULBS]

1. Use the tools and the bulb packages to investigate how the different bulbs are using energy to do the same job. Use the data sheet to organize your findings.

2. What did you find out? Write your discovery on a strip of paper and post it at this station.

While many scientists contributed to the invention of the light bulb, it is Thomas Edison that is most often credited with perfecting the incandescent light bulb. Undoubtedly, this ingenious device changed the way humans live.

Today incandescent bulbs are slowly being replaced with a new generation of light bulbs developed to use energy more efficiently to emit light. How exactly are these new bulbs more efficient than traditional bulbs? The answer lies in part with the basic idea that newer bulbs such as CFLs (compact florescent) and LEDs (light-emitting diodes) use less energy to do the same job. Said differently, more energy is used to achieve the "desired" effect of emitting light and less is transferred as heat – an "undesired" effect. As energy moves from place to place, it always produces heat, which is often an undesired effect. After all, when we switch on a light switch, are we doing so to warm up?

What other energy-efficient devices use less energy to do the same task? Find out how they've been engineered to minimize or redirect unintended energy effects!

Please turn card back over when finished