

# Energy Efficiency

Name \_\_\_\_\_

Video: [Where Does Electricity Come From?](#)

**Phenomenon:** Many people don't consider how their cell phone gets recharged when plugged into an outlet. Where does that power come from? Will there always be enough power to charge or run our electrical devices? Watch the video linked above. Ask three questions about what you see.

- 1.
- 2.
- 3.

Every month consumers receive a power bill charging them for kilowatts of electricity used. Estimate what the cost of running each device might be.

Item	How much do you think it costs?
iPhone (charging 10 hours)	
1-60 watt Incandescent light bulb (5 hours/day)	
1-CFL light bulb (5 hours/day)	
Refrigerator (24 hours/day)	
Air Conditioner (4 hours/day)	
Washing Machine (1 hour/day)	

Item	How much do you think it costs?
Dryer (1 hour/day)	
Dishwasher (2 hours/day)	
Gaming System (ex. PS4, Xbox) (3 hours/day)	
Desktop computer (8 hours/day)	
Television (4 hours/day)	
1-Ceiling Fan (24 hours/day)	

Use the list below of everyday items that require electricity. Count the number of those devices in your house. Calculate the total costs for electricity use in your home.

Item	Number in the house	Cost per day	Total Cost/Day
Smartphone (charging 10 hours)		\$0.15	
1-60 hour watt Incandescent light bulb (5 hours/day)		\$0.90	
1-CFL light bulb (5 hours/day)		\$0.23	
Refrigerator (24 hours/day)		\$14.46	
Air Conditioner (4 hours/day)		\$50.00	
Washing Machine (1 hour/day)		\$0.92	
Dryer (1 hour/day)		\$10.00	
Dishwasher (2 hours/day)		\$2.38	
Gaming System (ex. PS4, Xbox) (3 hours/day)		\$0.52	
Desktop computer (8 hours/day)		\$3.37	
Television (4 hours/day)		\$2.16	
1-Ceiling Fan (24 hours/day)		\$3.02	
<b>Total cost per day</b>			
<b>Total cost per month</b>			

**Videos:** As you watch the two videos list energy-saving tips.

**Analysis:**

What is one way you could save on energy used in your home lighting? (Reduce energy use without changing your devices)

What is one way you could increase efficiency in your home lighting? (Use less energy with different devices)

**Summary:** Make a **claim** concerning the best way to change energy use in your home. Use the term efficiency or conservation in the claim.

What **evidence** do you have to support your claim?

What **reasoning** did you use?