

Goals: Overall awareness of energy consumption, understand ways to reduce usage, how would changing bulbs reduce consumption: where would they break even?

Learning Statements:

I can analyze my own personal energy consumption

I can compare and contrast energy efficient lighting options

I can create a plan to reduce my own energy consumption and support it with specific evidence

Integrated I Outline

Day	Objective	Classwork	Homework	Resources Needed
1	Assess prior knowledge; Fermi estimate; Introduce energy information and material	<ul style="list-style-type: none"> <li>Assess prior knowledge: Pre-Test</li> <li>Survey: How much energy do you use? Where does it come from? (Fermi)</li> <li>YouTube Videos:</li> <li></li> </ul>	Handout that has real-world based problems	Complex Reading  Homework assignment
2	Investigating light bulb usage (Research Lesson)	Light Metering Activity: Compare voltage, Amps, and Watts <ul style="list-style-type: none"> <li>Incandescent</li> <li>Compact Fluorescents</li> <li>LED</li> <li>Halogen</li> </ul> Complex Reading(s): <ul style="list-style-type: none"> <li>Elements of Energy Efficient Homes</li> <li>Light Bulbs and Energy Usage;</li> </ul>	Handout to explore PG&E online	Light boards  Lab worksheet
3	Compact Fluorescent	<a href="#">CFL Home Audit Worksheet</a>	Handout:	

	Cost – Benefit Analysis	<ul style="list-style-type: none"> <li>• Access to chromebooks may be needed</li> </ul>	<ul style="list-style-type: none"> <li>• Determine the 5 most frequently used light bulbs in your home. (From your Lighting Audit Worksheet)</li> <li>• Calculate the energy savings if the 5 highest use light bulbs were replaced with compact fluorescent light bulbs.</li> <li>• Calculate how many pounds of carbon dioxide and nitrogen dioxide would not be emitted if your 5 highest used light bulbs were replaced with compact fluorescent light bulbs?</li> <li>• Cost –Benefit Analysis: Compare the total price of the purchase and the energy use of your 5 highest used light bulbs.</li> </ul>	Lighting audit worksheet
4	Conclusion	Which bulbs would you change in your house and why? How much energy might you save changing those bulbs in your house? How much money might you save?	Write a formal recommendation to your guardians explaining what you have learned from this module and what changes you recommend to save energy and money. Get guardian signature for extra credit saying they read it.	

