

Name: _____

Date: _____

Period: _____

Energy Audit

A. Appliance	B. Wattage While ON (W)	C. Estimated Hours Used Weekly	D. Watt Hours Per Week <i>Column B × Column C</i>	E. Watt Hours Per Year <i>Column D × 52 weeks per year</i>	F. kW Hours Per Year <i>Column E ÷ 1000</i>	G. CO₂ Emissions Per Year (kg) <i>Column F × 0.58 kg CO₂</i>
Add CO₂ totals in column G to calculate the amount of CO₂ you emit through these activities:						

Results

1. Which animal is the closest to the mass of the carbon dioxide that you emit to the atmosphere using these appliances in one year?
 - a. Medium dog (20 kg)
 - b. Black bear (110 kg)
 - c. Polar bear (270 kg)
 - d. Ayrshire cow (550 kg)

2. Complete the following whole class data table as each student reports their CO₂ emissions. Add the values up to calculate the CO₂ emissions from your class in one year using these appliances.

Class Data					
Student	CO ₂ emitted through these activities (kg of CO ₂ /year)	Student	CO ₂ emitted through these activities (kg of CO ₂ /year)	Student	CO ₂ emitted through these activities (kg of CO ₂ /year)
1		13		25	
2		14		26	
3		15		27	
4		16		28	
5		17		29	
6		18		30	
7		19		31	
8		20		32	
9		21		33	
10		22		34	
11		23		35	
12		24		36	
Total amount of CO₂ emitted by your class					kg of CO ₂ /year

Conclusion

3. Imagine every student in your grade in New Mexico emitted the same amount of CO₂ as you to the atmosphere using these appliances. How much CO₂ total would be released into the atmosphere in one year?

$$\begin{array}{r} \text{Personal Emissions} \\ \text{kg of CO}_2\text{/year} \\ \text{(from page 1)} \end{array} \times 25,000 \text{ students per grade} = \text{kg of CO}_2\text{/year}$$

4. As the number of people on Earth continues to grow toward eight billion, how do you think the atmosphere will be affected? Think about your energy measurements and your knowledge of the human enhanced greenhouse effect to answer this question.

5. This activity shows only a snapshot of the energy that humans use: the personal use of just a few appliances. However, humans use energy in many ways and at much larger scales. What are some other human behaviors that require large amounts of fossil fuels?

6. What are some actions you can take to reduce the amount of CO₂ you emit to the atmosphere?