

Energy Use & Renewable Resources

Name: _____ Date: _____

LEARNING OBJECTIVE

The student will conduct a home energy audit and evaluate the potential impact of renewable energy alternatives.

MATERIALS NEEDED

- paper
- pencil
- calculator
- a flashlight or lamp (for demonstration)
- device with internet access (optional, for wattage lookup)

HANDS-ON ACTIVITY

1. Walk through your home and list at least 10 electrical devices/appliances (lights, TV, fridge, phone charger, etc.) along with their approximate wattage (found on the device label or estimated from a reference list).
2. Estimate how many hours per day each device is typically used, and calculate daily energy use in watt-hours (watts x hours) for each.
3. Add up all devices to estimate your household's total daily energy use, then convert to kilowatt-hours (divide by 1000).
4. Identify the 2 highest energy-use devices and brainstorm one realistic change to reduce their energy use (e.g., LED bulbs, unplugging chargers, shorter usage time).
5. Research one renewable energy source (solar, wind, hydro) and sketch a simple labeled diagram showing how it generates electricity.

QUESTIONS

1. What were your household's two highest energy-use devices, and how did you calculate their daily watt-hours?

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2. What is your household's estimated total daily energy use in kilowatt-hours?
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3. Which renewable energy source did you research, and briefly explain how it generates electricity.

4. What is one realistic change your household could make to reduce energy use, and roughly how much energy would it save?
