

TAKE-HOME ENERGY AUDIT KIT



KEEP - Wisconsin's K-12 Energy Education Program
College of Natural Resources
University of Wisconsin-Stevens Point



WHY DO AN ENERGY AUDIT?

- The Take-Home Energy Audit Kit is **designed for families** to investigate how they use energy in their homes, and learn ways to conserve energy in the future.
- **Save money!** Lowering the amount of energy your family uses results in a lower utility bill.
- **Save resources!** Lowering our energy demand decreases the amount of fuel resources that need to be used at power plants.

WHAT'S INCLUDED IN THIS KIT

- **Watt Meter**
- **Infrared Thermometer**

USING THE WATT METER

- The **watt meter** measures the amount of power or energy consumed by appliances.
- Plug the watt meter into an outlet.
- Plug an appliance into the watt meter.
- Press the “Watt” button.
- Investigate how many watts of power are used when the appliance is **on**, **off**, or used at **variable** settings.
- For appliances that are on for a while (refrigerator, computers, etc), press the KWH button to see how many kilowatt-hours of energy are used over time.



WATT METER - APPLIANCES TO TEST

- Hair dryer, curler, straightener
- Coffee maker
- Lamps with different lightbulbs
- Video game system
- Washing machine: hot vs cold water
- Refrigerator
- Computer
- TVs
- Electric toothbrush
- Phone charger
- Vacuum cleaner
- Toaster
- Microwave
- Space heater
- Mixer
- Smart speaker
- Rechargeable battery pack
- Fan
- Anything you can plug in!

VAMPIRE APPLIANCES



- Did you find an appliance that was using energy when it was “off”?
- You found a **vampire appliance**!
- **Vampire appliances** can be convenient but can also “suck” a lot of energy and cost you money because they **never are really “off”**.
- Vampire appliances often:
 - Use a remote control
 - Have a digital clock
 - Are waiting for you to talk to it
 - Examples: TV, microwave, Alexa
- If you don’t need them, save energy and money by unplugging these vampire appliances!

WATT METER - NOW WHAT?

- You can calculate the amount of energy used and how much the appliances cost by using We Energies' Electric Appliance Calculator.
- Scan the QR code below or go to we-energies.com/savings/electric-calculator to see how much your appliances cost you each year.



- Try the KEEP Home Energy Savings Challenge with your family! Scan the QR code below and print out the record sheet.



WATT METER - ELECTRICITY SAVING IDEAS

- Wash clothes with cold water
- Use fans instead of air conditioning
- Turn off lights when not using them
- Use “air dry” on your dishwasher
- Put on warm clothes in the winter and cool clothes in the summer
- Keep the oven door closed
- Keep the refrigerator door closed
- Turn off electronics when not using them
- When lightbulbs burn out, replace them with LEDs
- Use a toaster oven or microwave instead of the oven or stove
- Wash only full loads of dishes and laundry

USING THE INFRARED (IR) THERMOMETER

- **SAFETY WARNING:** Do not point the thermometer laser at eyes. It can cause permanent eye damage.
- Press the trigger to turn on the IR thermometer.
- Check the temperature setting: if the thermometer is not measuring in °F, press the °C/°F button.
- If you don't see the red laser dot, press the triangle button.
- The IR thermometer is most accurate when it is close to the object being measured. Try to stay within six feet for best results.



IR THERMOMETER: LOCATIONS TO TEST

- Around windows and doors – check for leaking air
- Interior versus exterior walls
- Hot water coming out of the faucet
- Inside refrigerator
- Inside freezer
- Air coming out of the vents
- Next to the thermostat versus far away from it
- Hot water pipes
- Different lightbulbs
- Appliances that are running (gaming systems, computers, etc)
- Oven temperature

ENERGY SAVING TEMPS

Optimal temperatures for saving energy in our homes while maintaining comfort and safety

- Heat during day = 68–70°F
- Heat at night = 58–62°F
- No one at home (winter) = 55°F
- Cool during day = 78°F
- Cool at night = 82°F
- No one at home (summer) = 85°F
- Hot water temp = 120°F
- Vacation mode = 50–70°F
- Refrigerator = 40°F
- Freezer = 0°F

IR THERMOMETER: ENERGY SAVING TIPS

- Keep furniture and other items away from your heating and cooling vents so they can work more efficiently.
- Keep outside doors closed when the heat or air conditioning is on.
- When it is comfortable outside, turn off the heat or air conditioning.
- Replace incandescent or CFL bulbs with LED lightbulbs.
- Keep materials away from vents on appliances like gaming systems so they can cool properly.
- Set water heater to 120°F.

ABOUT KEEP

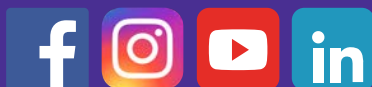
KEEP – Wisconsin’s K-12 Energy Education Program – was created to promote energy education in Wisconsin.

KEEP is the product of an innovative public-private partnership between educators and energy professionals.

KEEP leverages teacher education to improve and increase energy literacy in Wisconsin’s PK-12 schools as a means of contributing to statewide energy savings.

CONNECT WITH US!

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