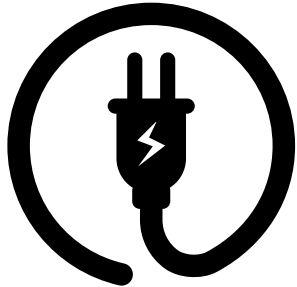


# ENERGY DETECTIVE KIT



EXAMINE HOW MUCH ENERGY IS  
BEING USED AND WHERE IT IS  
BEING WASTED IN YOUR HOME!

## WHAT'S IN THE KIT?!

- 🔍 FLIR thermal camera
- 🔍 Watt meter
- 🔍 Smart plug
- 🔍 Refrigerator thermometer

\*Each library has both an iPhone and Android compatible FLIR thermal camera. Ask the library for the kit that works with your smart device.

## SMART PLUG

BY PLAYING "ENERGY DETECTIVE" WITH OTHER ITEMS IN THIS KIT, YOU HAVE LEARNED WHAT APPLIANCES USE THE MOST ELECTRICITY.

SMART PLUGS ALLOW YOU TO CONTROL YOUR HOUSEHOLD'S ELECTRICAL ITEMS THROUGH YOUR SMART PHONE. BY CONTROLLING THESE ITEMS METICULOUSLY, YOU CAN SAVE MONEY ON YOUR MONTHLY BILLS.

## TRY BEFORE YOU BUY!

### INSTRUCTIONS:

1. ON THE BACK OF THE PLUG LABELED "EMPORIA" THERE WILL BE A QR CODE.
2. DOWNLOAD THE APP TO BEGIN USING THE FEATURES OF YOUR SMART PLUG.
3. FOLLOW INSTRUCTIONS IN THE APP TO USE THE SMART PLUG.
4. FOR MORE INFORMATION AND VIDEOS, VISIT THE EMPORIA WEBSITE.



Consider smart plugs for appliances that don't need to be on all the time. For example, a home entertainment system can have a significant "vampire load" and using energy even when turned off.

## LEARN MORE!



Explore the basics of electricity generation and how it is measured with [Science of Electricity](#) from the U.S. Energy Information Administration



Learn the distinction between power and energy and how each is measured with [Energy and Power Units: The Basics](#) from Greentech Media

\*Are you interested in taking action to save energy based on what you discovered with the Energy Detective Kit? Visit the Summit County Library and check out our [Energy & Water Conservation Kit!](#)

\* For additional information on using the items in the Energy Detective Kit, visit:

**SUMMITCOUNTY.INFO/ENERGYDETECTIVE**

## FLIR THERMAL CAMERA

Use the FLIR thermal camera to make a list of where you need to seal to prevent air leaks!

### INSTRUCTIONS:

1. DOWNLOAD THE FLIR ONE APP TO YOUR SMARTPHONE.
2. MAKE SURE YOUR FLIR ONE CAMERA IS CHARGED.
3. PLUG IN THE CAMERA TO YOUR PHONE.
4. LOOK FOR BLUE AREAS. THAT IS WHERE COOL AIR IS AND MAY INDICATE WHERE HEAT IS ESCAPING.
5. TAKE A PICTURE TO REMIND YOURSELF WHERE YOU NEED TO SEAL UP LEAKS.

### ***DID YOU FIND LEAKS...***

> Around doors or windows that are NOT opened often?

If you don't open them often, such as in wintertime, apply caulking where there are leaks.

> Around doors or windows that ARE opened often?

Brrr! Weatherstrips will help seal up those leaks and keep you cozy.

> Around your light switches or outlets?

Add a foam insert to prevent cold air from getting in.



You can find more instructions for using the FLIR thermal camera by visiting the Teledyne FLIR website.

## WATT METER

Use the watt meter to discover how much power is drawn from your appliances. Often called "plug load," everything plugged in draws power when it's being used, and sometimes even when it is not! This is called "vampire load". These energy loads can add up—sucking dollars from your wallet.

### INSTRUCTIONS:

1. MAKE A LIST OF YOUR APPLIANCES THAT ARE ALWAYS PLUGGED IN
2. GO THROUGH EACH APPLIANCE ONE AT A TIME. PLUG THE APPLIANCE INTO THE WATT METER, THEN PLUG THE WATT METER INTO THE WALL OUTLET
3. USE THE APPLIANCE AS YOU NORMALLY WOULD FOR A FULL DAY TO GET AN ACCURATE READING.

Are you surprised by how much energy is being used when your appliances are in use, and even when they are plugged in but not on?



- Consider tools like power strips and smart plugs to cut the "vampire load".
- When it's time to replace an appliance, look for products with the ENERGY STAR label.

## REFRIGERATOR THERMOMETER



SOME REFRIGERATORS ARE TOO WARM.



SOME ARE TOO COLD.

MAKE SURE YOUR REFRIGERATOR IS SET TO BE JUST RIGHT!

### INSTRUCTIONS:

1. PUT THE THERMOMETER IN THE CENTER OF THE REFRIGERATOR BEFORE YOU GO TO BED.
  2. CHECK THE TEMPERATURE OF THE REFRIGERATOR WHEN YOU WAKE UP.
  3. IS THE REFRIGERATOR TEMPERATURE ABOVE 40° F? IF YES, TURN THE TEMP DOWN FOR FOOD SAFETY.
- > IS THE REFRIGERATOR TEMPERATURE LESS THAN 35° F? IF YES, TURN THE TEMP UP TO SAVE ENERGY.



Keep food safe while saving energy! The ideal temperature for a refrigerator is between 35° F – 38° F?