

# EDUCATION

## *Planting Seeds for Sustainable Living*

While congregations can work towards minimizing the environmental impact of their facilities, there is an even greater potential to benefit the earth by educating congregation members on sustainable living in their daily lives. Many environmental issues have intergenerational dimensions. It is important for people of all ages to learn how to take care of God's Creation now and in the future.

This chapter provides 9 lessons written by Holmberg and Mabry, which can be adapted for various ages and ministry contexts.

This chapter also suggests other curriculums that are available for free download or purchase.



# Finding your Footprint

## Ecological Footprint Activity

Matthew 6:19-21

“Do not store up for yourselves treasures on earth, where moths and vermin destroy, and where thieves break in and steal. But store up for yourselves treasures in heaven, where moths and vermin do not destroy, and where thieves do not break in and steal. For where your treasure is, there your heart will be also.

**Introduction:** It is important for children to understand that God created only one earth for everyone to live on! If some people are using excess resources it means that there are not enough resources for other people around the globe. When people are separated from the places where their consumer goods are produced and their waste is disposed, they tend to forget about the people who are affected by these processes and therefore our consumption and disposal also becomes an issue of social justice.

An ecological footprint is a calculation of how much land and resources it takes to support a person’s food, water and resource consumption, and dispose of his/her waste. Ecological footprint calculators often illustrate how many earths it would take to support the entire human population if everyone on earth consumed the same amount of resources and had the same lifestyle as the person calculating their footprint. Ecological footprint calculators for adults often ask complex questions about utility bills, house square footage and transportation; however, the following list of links offer simplified footprint calculators for children.

**Learning Outcomes:**

- Students will learn about the social justice dimension of daily lifestyles
- Students will recognize that God created only one earth and all of the people, plants and animals have to share it
- Students will think of steps they can take to reduce their ecological footprint



## **Activity and Discussion (optional craft)**

### **Ecological Footprint Calculation**

Grades 1-5, 6-12

Sunday School or After School Program

Themes: Social Justice, Resource Use

#### **Scripture:**

-Matthew 6:19-21

-Proverbs 29:7

#### **Materials:**

-computers and internet access or worksheets

-pencils or pens

-small cut-outs of planet earth, coloring utensils, bulletin board and stapler or chalkboard and magnets (optional)

If your church has a few computers in the office, see if you can have access to those for this lesson. The footprint calculations are fairly short and several students could share a computer. Another option would be to print worksheets for students to fill out (try to use recycled paper or print on the back of scrap paper!) Please see the take home lesson to facilitate the discussion at home!

#### **Grades 1-5**

<http://calc.zerofootprint.net/youth/>

This website has kid friendly design, asks comprehensive questions about transportation, food, home, school and water use. It offers suggestions for what kids and parents can do to reduce their carbon footprint.

<http://www.powerhousemuseum.com/online/bigfoot/>

This website has the most fun design to ask questions about food, transportation, home type and resource use.

<http://www.islandwood.org/kids/impact/footprint.php>

This website has fewer questions but is simple and easy to use for younger kids.

<http://recyclesaskatchewan.ca/for-sk-schools/our-ecological-footprints.html>

This website offers a variety printable worksheets that students can fill out and discuss with their class. You can look in-depth at one topic (e.g. water). Be sure to look at self-evaluation and discussion handouts as well.

#### **Grades 6-12**

<http://www.footprintnetwork.org/en/index.php/GFN/page/calculators/>

This website offers a comprehensive, interactive, easy-to-use online calculator for older youth and adults.

[http://www.deq.state.ok.us/mainlinks/uls/](http://www.deq.state.ok.us/mainlinks/uls/PersonalEcoFootprintCalculatoradult.pdf)

[PersonalEcoFootprintCalculatoradult.pdf](http://www.deq.state.ok.us/mainlinks/uls/PersonalEcoFootprintCalculatoradult.pdf)

This website offers a printable calculator for adults to take home.

**Opening Prayer:** *Dear God, thank you for this time together. Teach us how to be better stewards of your earth. In Jesus' name, Amen.*

#### **Procedure:**

1. Open in prayer
2. Take students to the office to use computers to calculate their ecological footprint, or hand out worksheets for students to fill out. Remind students that they are to follow the golden rule by being respectful of church property
3. Reconvene in the Sunday School room and read the scripture.
4. Ask students the discussion questions
5. (Optional craft): Have students cut out and color the number of earths it would take to support the world's population if everyone lived like them. Write students names on the bulletin board/chalkboard and have them line up the number of earths from their carbon footprint.

#### **Discussion Questions:**

1. What surprised you most about this activity? Were you expecting the number of earths to support your lifestyle to be higher or lower?
2. What should we do if we do not have enough earths to sustain our lifestyles?
3. How do you think your footprint compares to children in other countries?
4. How do you think we should share the planet with other people?
5. How do you think our use of "stuff" affects other people, especially around the world?
6. Why do you think God created one earth?
7. What does it mean to store up treasures on earth? What does it mean to store up treasures in heaven?
8. What can each of us do to reduce our ecological footprint?

**Closing Prayer:** *Dear God, thank you for this time today and showing us how to be have a lighter impact on the earth. Show us how to live more sustainably and care for others around the beautiful earth you have created. In Jesus' name, Amen.*

## **Take Home Lesson: Ecological Footprint Activity**

### **Introduction to Parents:**

It is important for children to understand that God created only one earth for everyone to live on! If some people are using excess resources it means that there are not enough resources for other people around the globe. When people are separated from the places where their consumer goods are produced and their waste is disposed, they tend to forget about the people who are affected by these processes and therefore our consumption and disposal also becomes an issue of social justice.

An ecological footprint is a calculation of how much land and resources it takes to support a person's food, water and resource consumption, and dispose of his/her waste. Ecological footprint calculators often illustrate how many earths it would take to support the entire human population if everyone on earth consumed the same amount of resources and had the same lifestyle as the person calculating their footprint. Ecological footprint calculators for adults often ask complex questions about utility bills, house square footage and transportation; however, the following list of links offer simplified footprint calculators for children:

<http://calc.zerofootprint.net/youth/>

<http://www.powerhousemuseum.com/online/bigfoot/>

<http://www.islandwood.org/kids/impact/footprint.php>

### **Scripture:**

-Proverbs 29:7

-Matthew 6:19-21

**Opening Prayer:** *Dear God, thank you for this time together. Teach us how to be better stewards of your earth. In Jesus' name, Amen.*

### **Activity:**

1. Gather the family around the computer and go to one of the websites listed above

2. Ask your children how many earths they think it would take to support the entire population of the world if everyone lived like your family
3. Answer the questions on the ecological footprint calculator
4. Along the way, ask your children "Why do you think questions about (cars, school lunch, etc.) are a part of this calculation? What resources do we use to do these things?"
5. After answering the questions, discuss the results and make a plan to take steps to reduce your family's carbon footprint.

### **Activity Discussion Questions:**

1. What surprised you most about this activity? Were you expecting the number of earths to support your lifestyle to be higher or lower?
2. What should we do if we do not have enough earths to sustain our lifestyles?
3. How do you think your footprint compares to children in other countries?
4. How do you think we should share the planet with other people?
5. How do you think our use of "stuff" affects other people, especially around the world?
6. Why do you think God created one earth?
7. What does it mean to store up treasures on earth? What does it mean to store up treasures in heaven?
8. What can each of us do to reduce our ecological footprint?
9. Why is the type of food we eat an important factor in the amount of earths it takes support our family?
10. Why does the way we get to school and work matter?
11. How does the way we throw away trash and recycle affect how many earths it takes to support our family?
12. What can our family do to reduce our carbon footprint? How can we change our food, transportation, electricity, waste, and water usage?
13. What can our family change about the amount of "stuff" we purchase?

**Closing Prayer:** *Dear God, thank you for this time today and showing us how to be have a lighter impact on the earth. Show us how to live more sustainably and care for others around the beautiful earth you have created. In Jesus' name, Amen.*

• Lesson 2 •

# Fighting the Phantom

## Energy Stewardship Activity

“Though we only make up 5 percent of the world's population, Americans consume 26 percent of the world's energy.”

“Nationally, phantom loads make about 6% of our energy.”<sup>7</sup>

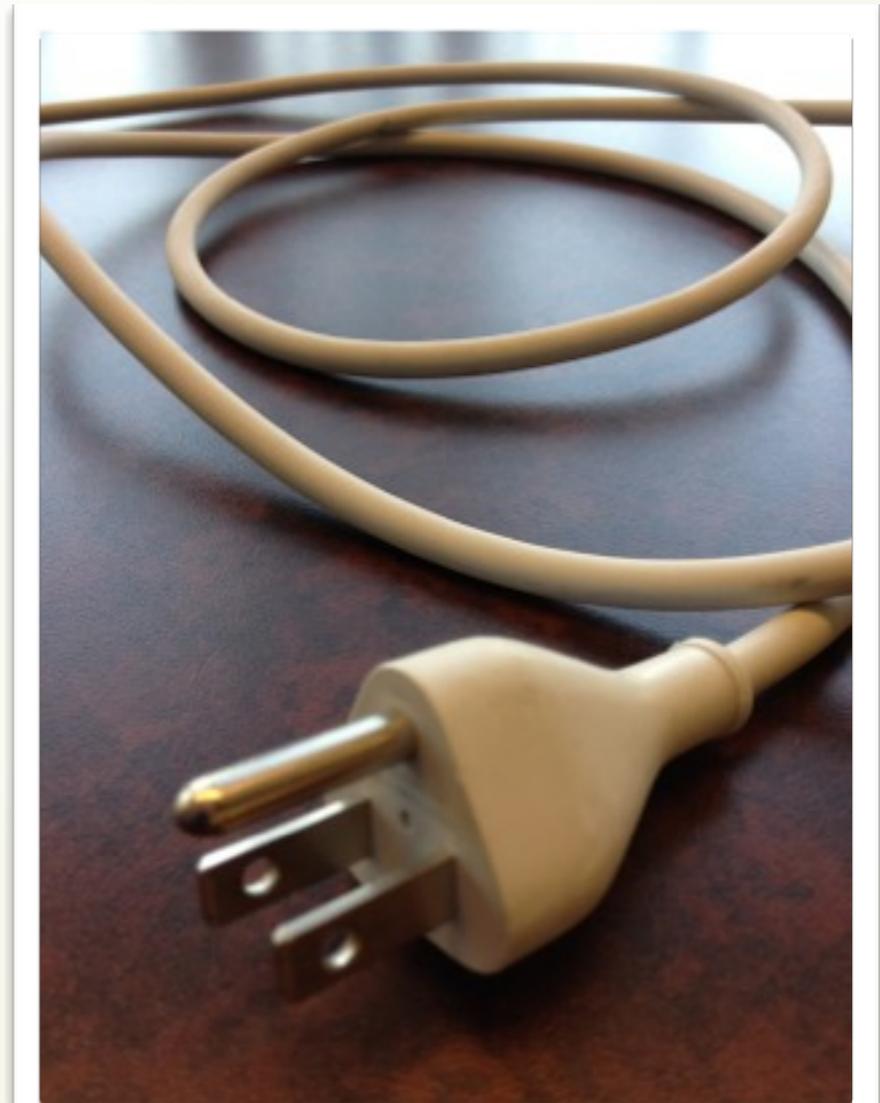
View more facts on a downloadable resource here:

<http://www.ocf.berkeley.edu/~recycle/ssec/download/Phantom%20Load.pdf>

**Introduction:** A phantom load is the amount of energy that an electrical appliance still consumes when it is technically off or on standby. This can lead to significant amounts of electricity being wasted. In this activity, students will measure the phantom load consumption of commonly used household appliances. Americans consume a staggering amount of energy even though we make up only a small portion of the world's population. This activity will get students thinking about small actions they can take to reduce their energy consumption out of solidarity with the poor. They will also be thinking about what it means to be a good steward of the blessings God has given them.

**Learning Outcomes:**

- Students will learn about a phantom load
- Students will learn about their personal energy consumption
- Students will learn how many people in other parts of the world do not have access to electricity and will engage questions of privilege
- Students will understand what it means to be a steward of God-given resources



## **Activity/Discussion**

### **Fighting the Phantom: Energy Stewardship Activity**

Grades 4-6

Sunday School, After School or Youth Group

Themes: Energy Usage, Phantom Loads, Justice

### **Scripture (Optional):**

Luke 16:1-15

Ezekiah 34:2-7, 18-19

### **Materials:**

-Watt Meters (available for check out from the Decorah Public Library and Luther College Preus Library)

-Energy ranking list and chart hand outs

-Pencils or pens

-Appliances: Options include:

#### *Bathroom*

- Hair dryer-(both high and low settings)
- Flat-iron
- Curling iron
- Tooth brush charger
- Electric Razor Charger

#### *Living Room*

- Stereo/iHome
- Gaming systems
- TV
- DVD Player

#### *Bedroom*

- Laptop computer
- Desk lamp
- Phone charger
- Fan

#### *Kitchen*

- Toaster
- Coffee pot
- Coffee grinder
- Blender
- Hot pot

### **Procedure:**

1. **Set-up:** Set up household appliances in classroom, test watt meters so you know what data to expect, edit and print handouts

### **2. Prayer and Introduction:**

2. *God, thank you for this time. We pray that you would show us how to be good stewards of energy today. In Jesus' name, Amen.*

3. *Today, we are going to talk about environmental stewardship and energy usage. In order to be good stewards of the environment, we need to be aware of how much energy we are using.*

### **3. Activity:**

a. Hand out chart and ask students to guess the following questions. Instruct them to rank the appliances accordingly.

- What appliances use the most energy? The least?
- Organize the students into four groups. Tell them to share and compare their guesses.
- Designate each group to rotate from 4 stations: kitchen, bathroom, bedroom, and living room.
- Show them how to use the watt meters and tell them record the wattage on the chart. (Tip: Print the guess and data charts double-sided on half sheets to save paper.)
- Rotate stations so all groups can record wattage of each appliance. Tell them to record wattage for when the item is on as well as when it is off (just plugged in). Allow approximately 2-3 minutes for each station. (Time saver: If there is not time to rotate to each station, designate each group to one "room" and report back to the whole group).

### **4. Report finding and discuss as a group. You may want to rank results on the board.**

- What was the highest energy user?
  - What was the lowest?
  - How accurate were your guesses? What surprised you?
  - Why does our energy usage matter?
- \* "Though we only make up 5 percent of the world's population, Americans consume 26 percent of the world's energy."<sup>8</sup>
  - \* The bad news is we are responsible for high energy consumption, when other people around the world do not even use electricity. The good news is that reducing our usage can actually make a difference.
    - Did you notice a difference between an item's energy usage when it was on and off (but still plugged in)? Why do you think this is?
    - Has anyone ever heard of the phrase "phantom load"?
  - A "phantom load" refers to the energy used when an appliance is "off" but still plugged in.
    - \* "Nationally, phantom loads make about 6% of our energy."<sup>9</sup>
    - \* 6 % may not seem like a whole lot. But let's remember, Americans consume 26 percent of the world's energy. We may still need to use appliances but we certainly do not need to waste energy when we are not using them. Stewardship means being aware of where our electricity is coming from rather than taking it for granted, and being mindful and responsible with how much we are using in order to care for God's creation.

h. Which items do you use the most on a daily basis?  
i. What can we do to reduce our energy use? (Allow students to brainstorm ideas before offering the following):

- \* Unplug appliances when they are not in use.
- \* Put computers on sleep mode and shut them down at night.
- \* Encourage your parents to purchase EnergyStar appliances (dishwashers, oven, washing machines) when buying new appliances.
- \* Use a power strip. Plug in all appliances in one strip and turn them off with one slip of the switch. (Be sure to do this for AC adapters which are typically energy inefficient).
- \* Identify the vampires in your home! Anything with a clock that stays on for 25/7 (iHome, etc.) or things with remote controls (TV's) are likely to be "vampire" devices and suck energy even when they are "off".
- \* Lead by example. Tell others about phantom loads and how to reduce energy usage. 10

(These tips are adapted from the Berkley's "Phantom Load" handout and can be found at <http://www.ocf.berkeley.edu/~recycle/ssec/download/Phantom%20Load.pdf>.)

**Closing Prayer:**

*Dear God, Thank you for being with us during this activity today. Please help us to be responsible users of our electronics so that we do not waste the blessings you have given us. Please help us to remember the poor in our prayers and actions. Amen.*



# Handout-Example

Edit to fit appliances available

## Guess

Rank these items based off of their amount of energy usage:  
(1=highest # of watts...12=lowest # of watts)

- \_\_\_\_\_ Curling Iron
- \_\_\_\_\_ Xbox gaming system
- \_\_\_\_\_ Hair dryer-high setting
- \_\_\_\_\_ Hair dryer-low setting
- \_\_\_\_\_ Hot pot
- \_\_\_\_\_ Stereo/iHome
- \_\_\_\_\_ Laptop computer
- \_\_\_\_\_ Desk lamp
- \_\_\_\_\_ Phone charger
- \_\_\_\_\_ Vacuum
- \_\_\_\_\_ Hair: Flat-iron
- \_\_\_\_\_ Hair: Curling iron

## Report findings

### Bedroom

| Item               | # of Watts (On) | # of Watts (Off but plugged in) | Final Ranking |
|--------------------|-----------------|---------------------------------|---------------|
| Cell phone charger |                 |                                 |               |
| Fan                |                 |                                 |               |
| Desk lamp          |                 |                                 |               |

### Bathroom

| Item                    | # of Watts | # of Watts (Off but plugged in) | Final Ranking |
|-------------------------|------------|---------------------------------|---------------|
| Hair dryer-high setting |            |                                 |               |
| Hair dryer-low setting  |            |                                 |               |
| Curling iron            |            |                                 |               |
| Flat iron               |            |                                 |               |

### Entertainment

| Item               | # of Watts | # of Watts (Off but plugged in) | Final Ranking |
|--------------------|------------|---------------------------------|---------------|
| Xbox gaming system |            |                                 |               |
| Stereo boom-box    |            |                                 |               |
| Laptop computer    |            |                                 |               |

### Kitchen Appliances

| Item    | # of Watts | # of Watts (Off but plugged in) | Final Ranking |
|---------|------------|---------------------------------|---------------|
| Hot pot |            |                                 |               |
| Vacuum  |            |                                 |               |

# Let There Be Light

## Energy Audit Scavenger Hunt

Genesis 1:1-5

In the beginning God created the heavens and the earth. Now the earth was formless and empty, darkness was over the surface of the deep, and the Spirit of God was hovering over the waters. And God said, "Let there be light," and there was light. God saw that the light was good, and he separated the light from the darkness. God called the light "day," and the darkness he called "night." And there was evening, and there was morning—the first day.

**Introduction:** It is important for the church to wisely use electricity to be good stewards of the resources God has provided and out of solidarity for our brothers and sisters in Christ around the world who live in poverty or are negatively affected by energy extraction. An energy audit is a method of assessing the amount of energy a building uses and what measures can be taken to reduce energy usage. This activity involves students examining church energy usage, and will assess other ways that the church can be more environmentally friendly. Thus, it requires that certain rooms be unlocked and open to the students. Be sure to check with the custodian and possibly the property trustees beforehand. Make sure that students do not interrupt other church functions, and that they are well supervised as they explore the church's electricity consumption (for this reason this might be best used as a youth group or after school activity).

This activity can be extended into a two-session or two-week activity by having the students write to the property committee to tell them their findings and make recommendations. Students could also put together a bulletin board about what the church could do to be better environmental stewards. Students could help make signs by recycling bins, lights, and water faucets to remind people to be good stewards. We have also provided a take-home lesson for families to do at home.



**Learning Objectives:**

- Students will how to access their energy use
- Students will learn about the connections between recycling, saving water and electricity and environmental stewardship
- Students will learn what steps the church can take to be better stewards of Creation
- Students will work on cooperation and group work as they complete the scavenger hunt
- Students will learn about things they can do in their own homes to be better stewards of God's creation

## **Activity/Game**

### **Let There Be Light: Scavenger Hunt**

Grades 3-5

Youth Group or After School

Approximate Time: 1 hour

Themes: Energy, Problem-solving, Stewardship, Creation

#### **Scripture:**

-Genesis 1:1-5

-Matthew 5:17

#### **Materials:**

-copies of the scavenger hunt (see attached page—feel free to add to the list)

-writing utensils

#### **Opening Prayer:**

*Dear Heavenly Father, Thank you for bringing us together today in community to learn about what we can do to take good care of the gifts and blessings you have given us. Please forgive us for not being good stewards of the resources you have given us. Help us to remember our brothers and sister around the world who have very little and are negatively affected by energy extraction. In Jesus' name we pray, Amen.*

#### **Procedure:**

1. Open in prayer. Tell the students: *Today we are going to do a scavenger hunt around the church! We are going to learn about how the church uses resources like energy and water. We are also going to think about ways we can use less energy and water.*
2. Ask the students:
  - a. Where do resources like water and electricity come from?
  - b. How does our church use energy and water?
  - c. What are some of the problems with the ways we get energy?
  - d. Why is it bad to waste energy and water?
3. Read Genesis 1:1-5 and Matthew 5:17
4. Ask the students:
  - a. What does it mean to “let our light shine before others?”
  - b. How can we “let our light shine before others” to be good examples of taking care of the earth?

5. Distribute the scavenger hunt lists
6. Depending on the size of the group and the adult supervision available, you may want to divide the students up into small groups of three to four people. For younger grades, it is advisable to do this activity with the teacher present.
7. Make sure that students understand the things they are looking for on the scavenger hunt sheet.
8. Ensure that students understand that they are to be respectful of church property and follow the golden rule about interacting with other people using the church building
9. Set a time limit for the scavenger hunt (leave 15-20 minutes at the end for discussion)
10. Regroup for discussion. **Questions are included in the facilitator copy.**
11. Go through the checklist with explanations and discussion questions

#### **Optional/Modifications:**

1. Extend this activity into a two-session or two-week activity by having the students write to the property committee to tell them their findings and make recommendations
2. Students could also put together a bulletin board about what the church could do to be better environmental stewards
3. Students could make signs by recycling bins, lights, and water faucets to remind people to be good stewards
4. Students may also do a take-home lesson with their families (See handout)

**Closing Prayer:** *Dear God, thank you for showing us how to be better stewards of your Creation and the resources we use. As we go from this place, remind us to let our lights shine to others as we model good stewardship. In Jesus' name, Amen.*

## **Activity/Game**

### **Let There Be Light: Scavenger Hunt**

Middle School/High School

Youth Group or After School Program

Approximate Time: 1 hour

Themes: Energy, Problem-solving, Stewardship, Creation

#### **Scripture:**

-Genesis 1:1-5

-Matthew 5:17

#### **Materials:**

-copies of the scavenger hunt (see attached page—feel free to add to the list)

-writing utensils

**Opening Prayer:** *Dear Heavenly Father, Thank you for gathering this community together today. Help us to learn how we can be better stewards of your creation within this church building and in our own homes.*

#### **Procedure:**

1. Open in Prayer.
2. Tell the students: *Today we are going to do a scavenger hunt around the church! We are going to learn about how the church uses resources like energy and water. We are also going to think about ways we can use less energy and water.*
3. Ask the students:
  - a. What are some of the environmental problems with the ways we get energy?
  - b. What are some of the social justice problems with the ways we get energy?
  - c. Why is water an important, life-sustaining resource?
  - d. What are some of the social justice problems with water?
  - e. What should the role of Christians be in using energy and water?
    - a. How does our church use energy and water?
4. Read Genesis 1:1-5 and Matthew 5:17
5. Ask the students:

- a. What does the creation account in Genesis tell you about light and darkness?
  - b. How does the Genesis passage about light and darkness relate to energy usage?
  - c. What does it mean to “let our light shine before others?”
  - d. How can we “let our light shine before others” to be good examples of taking care of the earth?
6. Distribute the scavenger hunt lists
7. Depending on the size of the group and the adult supervision available, you may want to divide the students up into small groups of three to four people.
8. Make sure that students understand the things they are looking for on the scavenger hunt sheet
9. Ensure that youth understand that they are to be respectful of church property and follow the golden rule about interacting with other people using the church building
10. Set a time limit for the scavenger hunt (leave 15-20 minutes at the end for discussion)
11. Regroup for discussion, **Questions are included in the facilitator copy.**

#### **Optional/Modifications:**

1. Extend this activity into a two-session or two-week activity by having the students write to the property committee to tell them their findings and make recommendations
2. Youth could also put together a bulletin board about what the church could do to be better environmental stewards
3. Youth could make signs by recycling bins, lights, and water faucets to remind people to be good stewards
4. Youth could do a take home lesson with their families at home (See handout)

**Closing Prayer:** *Dear God, thank you for showing us how to be better stewards of your Creation and the resources we use. As we go from this place, remind us to let our lights shine to others as we model good stewardship. In Jesus’ name, Amen.*

**Energy Audit Scavenger Hunt: (Student Handout)**

Find a room in the church where the lights are on but nobody is using the room. Which room(s) was it?

\_\_\_\_\_ Turn off the lights to save electricity!

Can you find a recycling bin somewhere in the church? Name two things that are in it:

1. \_\_\_\_\_
2. \_\_\_\_\_

Can you find three different Compact Fluorescent Light bulbs in three different rooms? List the rooms:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Go into the gender appropriate bathroom. Are all of the water faucets turned off? If not, turn them off. Which bathroom had faucets still on?

\_\_\_\_\_

Find a refrigerator somewhere in the church that is less than half full with food. Where is it located? \_\_\_\_\_

Find a thermostat somewhere in the church. What temperature is it set at? \_\_\_\_\_ degrees

Can you find a ceiling fan in our church? Where is it located?

\_\_\_\_\_

Find a door that leads to the outside of the church building that is allowing air to escape from the inside of the church. Go outside and feel along the cracks of the door to see if air is leaking. Where is the door(s) located?

\_\_\_\_\_

Can you locate a sign that encourages people to recycle? Where is it?

\_\_\_\_\_

Does our church have floor mats for people to wipe their feet on by the doors? If so, which entrances? \_\_\_\_\_

In the kitchen, what kinds of plates, cups, mugs and silverware did you find? What were they made out of? (paper, Styrofoam, plastic, ceramic, etc.)

\_\_\_\_\_ Which kinds does our congregation normally use on Sundays? \_\_\_\_\_

Does our church have a place for collecting food scraps to be composted? Do we have a compost pile? If so, where are these things?

\_\_\_\_\_

Can you find a sign that encourages people to turn off the lights when they are not being used? Which room(s) is it in?

\_\_\_\_\_

Are all of the electronics (televisions, projectors, speakers, etc.) around the church turned off when not being used? In which room(s) were electronics left on? \_\_\_\_\_

Can you find a window somewhere in the church that has two layers of glass, one on the inside and one the outside? Where is this window?

\_\_\_\_\_

How many appliances in the kitchen have the Energy Star logo on them?

\_\_\_\_\_

Can you find a bike rack outside of our church? Where is it?

\_\_\_\_\_

How many electronics in the office have the Energy Star logo on them?

\_\_\_\_\_

Are all of the computers in the office turned off? If not, which computer was left on? \_\_\_\_\_

Are there any rooms in our church that have automatic light sensors that turn on when someone enters the room, and turn off when someone leaves? If so, where are they? \_\_\_\_\_

Can you find a small kitchen appliance (coffee pot, toaster, coffee grinder, etc.) that has been unplugged? What appliance was it?

\_\_\_\_\_

Does our church have a community garden? If so, what does it grow?

\_\_\_\_\_

## **Energy Audit Follow-up Discussion: (For Facilitator's Use)**

Find a room in the church where the lights are on but nobody is using the room. Which room(s) was it? \_\_\_\_\_

\_\_\_\_\_ Turn off the lights to save electricity!

***Turning off lights helps save electricity when we are not using the room. Why do you suppose people leave the lights on? What can we do to change that behavior?***

Can you find a recycling bin somewhere in the church? Name two things that are in it:

1. \_\_\_\_\_
2. \_\_\_\_\_

***Recycling gives "new life" to objects that are discarded by making them into new materials. What does this remind you of? This is a great metaphor for the "new life" that Christians have through Christ's death and resurrection! What kinds of things are recyclable? Does our church recycle enough? What can we do to get people to recycle more?***

Can you find three different Compact Fluorescent Light bulbs in three different rooms? List the rooms:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

***Compact Fluorescent Light bulbs use about 75% less energy and last much longer than incandescent bulbs.***

Go into the gender appropriate bathroom. Are all of the water faucets turned off? If not, turn them off. Which bathroom had faucets still on? \_\_\_\_\_

***Turning off water helps conserve this important, life-giving resource. What can we do to remind people to not waste water? What other things can we do to conserve water? Were there any leaky toilets or sinks you noticed?***

Find a refrigerator somewhere in the church that is less than half full with food. Where is it located? \_\_\_\_\_

***A refrigerator that is half full or more is more efficient to cool than an empty refrigerator. The food in a refrigerator holds the cold temperature; whereas an empty fridge has to constantly use energy to cool the air. Plus, a refrigerator that is nearly empty***

***wastes electricity if no one uses it. What can our church do to more effectively use the space in our refrigerators?***

Find a thermostat somewhere in the church. What temperature is it set at? \_\_\_\_\_ degrees

***In the winter, the thermostat should be set at 68 degrees or lower. In the summer, it should be set to 78 degrees or higher.***

Can you find a ceiling fan in our church? Where is it located? \_\_\_\_\_

***Ceiling fans help air circulate better and decrease the need for heating and air conditioning. They can even be used in the wintertime to push warm air down from the ceiling.***

Find a door that leads to the outside of the church building that is allowing air to escape from the inside of the church. Go outside and feel along the cracks of the door to see if air is leaking. Where is the door(s) located? \_\_\_\_\_

***Air that escapes through doors leaks out air that we spent money and energy to heat or cool. Who in our church could we tell about this problem? What do you think they could do to help?***

Can you locate a sign that encourages people to recycle? Where is it? \_\_\_\_\_

***If there isn't a sign, could we make some as a group?***

Does our church have floor mats for people to wipe their feet on by the doors? If so, which entrances? \_\_\_\_\_

***Floor mats at entrances help prevent the carpets and floors from getting messy so that the church doesn't have to use as many cleaning products.***

In the kitchen, what kinds of plates, cups, mugs and silverware did you find? What were they made out of? (paper, Styrofoam, plastic, ceramic, etc.) \_\_\_\_\_

Which kinds does our congregation normally use on Sundays? \_\_\_\_\_

***Ceramic dishes that can be used are generally better than throwing dishes away every week, especially if your church has an efficient dishwasher. Using Styrofoam is not environmentally friendly because the material does not break down for a very long time.***

Does our church have a place for collecting food scraps to be composted? Do we have a compost pile? If so, where are these things?

**Compost piles allow food scraps to decompose back into soil that can be used again for growing food.**

Can you find a sign that encourages people to turn off the lights when they are not being used? Which room(s) is it in?

**If there is not a sign, can we make one as a group?**

Are all of the electronics (televisions, projectors, speakers, etc.) around the church turned off when not being used? In which room(s) were electronics left on? \_\_\_\_\_

**Turning off electronics prevents electricity from being used when we are not there. What can we do to remind people to turn off the electronics?**

Can you find a window somewhere in the church that has two layers of glass, one on the inside and one the outside? Where is this window?

**Windows that have two panes of glass are more efficient at keeping the temperature inside the room constant.**

How many appliances in the kitchen have the Energy Star logo on them?

**The Energy Star logo means that the appliance is energy efficient and helps save electricity. What else can we do to use these appliances efficiently? (Run the dishwasher when full, keep refrigerator coils clean, set refrigerator to proper temperature, etc.)**

Can you find a bike rack outside of our church? Where is it?

**A bike rack on church property encourages people to use alternative methods of transportation to church. Why is it better when people don't drive their cars to church? What can we do to encourage more people to bike, carpool or walk to church?**

How many electronics in the office have the Energy Star logo on them?

**The Energy Star logo means that the electronics are energy efficient. What else can we do to make the office electronics efficient? (Dim the screens, power save mode, etc.)**

Are all of the computers in the office turned off? If not, which computer was left on? \_\_\_\_\_

**What can we do to help people remember to turn off their computers?**

Are there any rooms in our church that have automatic light sensors that turn on when someone enters the room, and turn off when someone leaves? If so, where are they?

**Automatic light sensors help address the problem of people forgetting to turn off the lights when they leave the room.**

Can you find a small kitchen appliance (coffee pot, toaster, coffee grinder, etc.) that has been unplugged? What appliance was it?

**Even when appliances are turned off, they can sometimes still use quite a bit of energy to power a light, clock or start up mechanism. Unplugging them prevents them from sucking energy.**

Does our church have a community garden? If so, what does it grow?

**The farther food has to travel to our plates, the more fossil fuels are used to transport it, which leads to air pollution and climate change. Church gardens are a great way to raise food for the community without having to use as much fossil fuels.**

**Are there any other things you noticed while auditing the church that could be changed to help our congregation be better stewards of God's creation? (Examples might include suggestions for environmentally friendly cleaning products, using recycled copy paper for bulletins, having a recycling bin next to the sanctuary for bulletins, using recycled fiber paper towels and toilet paper, using rags to clean, insulating rooms of the church that students found to be drafty, etc.)**

These tips were adapted from the ELCA Mission Investment Fund "Energy and Earthcare Checklist": See the link for more information: 11 [Caring for Creation-Mission Investment Fund Green Resources](#)

## **Let There Be Light: Take Home Lesson**

All Families with Parent Supervision

Approximate Time: 1 hour

Themes: Energy, Problem-solving, Stewardship, Creation

**Introduction to Parents:** An energy audit is a method of assessing the amount of energy a building uses and what measures can be taken to reduce energy usage. This activity will not only assess your home's energy usage but also other ways that you can be more environmentally friendly in your home. For a more thorough energy audit, consider contacting the Winneshiek Energy District at [energydistrict.org](http://energydistrict.org) or 563-382-4207. They can help your family make home improvements that will result in significant savings on your energy bill and help your family be better stewards of God's gift of energy.

**Opening Prayer:** *Dear Heavenly Father, Thank you for bringing our family together to learn about what we can do to take good care of the gifts and blessings you have given us. Please forgive us for not being good stewards of the resources you have given us. Help us to remember our brothers and sister around the world who have very little and are negatively affected by energy extraction. In Jesus' name we pray, Amen.*

### **Scripture Readings:**

-Genesis 1:1-5: In the beginning God created the heavens and the earth. Now the earth was formless and empty, darkness was over the surface of the deep, and the Spirit of God was hovering over the waters. And God said, "Let there be light," and there was light. God saw that the light was good, and he separated the light from the darkness. God called the light "day," and the darkness he called "night." And there was evening, and there was morning —the first day.

-Matthew 5:17: "You are the light of the world. A town built on a hill cannot be hidden. Neither do people light a lamp and put it under a bowl. Instead they put it on its stand, and it gives light to everyone in the house. In the same way, let your light shine before others, that they may see your good deeds and glorify your Father in heaven.

### **Scripture Discussion Questions:**

1. What does the creation account in Genesis tell you about light and darkness?
2. How does the Genesis passage about light and darkness relate to energy usage?
3. What does it mean to "let our light shine before others?"
4. How can we "let our light shine before others" to be good examples of taking care of the earth?

### **Activity:**

Here is a scavenger hunt list for your family. Below each item is an explanation and discussion questions for your family to talk about together, either while you are in the process of going through your home or afterward.

Find a room in your house where the lights are on but nobody is using the room. Which room(s) was it? \_\_\_\_\_

Turn off the lights to save electricity!

**Turning off lights helps save electricity when we are not using the room. Why do you suppose people in your family leave the lights on? What can we do to change that behavior?**

Can you find a recycling bin somewhere in your house? If so, name two things that are in it:

1. \_\_\_\_\_
2. \_\_\_\_\_

**Recycling gives "new life" to objects that are discarded by making them into new materials. What does this remind you of? This is a great metaphor for the "new life" that Christians have through Christ's death and resurrection! What kinds of things are recyclable? Does our family recycle enough? What can we do to recycle more?**

Can you find three different Compact Fluorescent Light bulbs? List their locations:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**Compact Fluorescent Light bulbs use about 75% less energy and last much longer than incandescent bulbs.**

Go into the bathroom. Are all of the water faucets turned off? If not, turn them off. Which bathroom had faucets still on? \_\_\_\_\_

**Turning off water helps conserve this important, life-giving resource. What can we do to not waste water? What other things can we do to conserve water? Were there any leaky toilets or sinks you noticed?**

Find your home thermostat. What temperature is it set at? \_\_\_\_\_ degrees  
**In the winter, the thermostat should be set at 68 degrees or lower and in the summer it should be set to 78 degrees or higher for the best efficiency.**

Can you find a ceiling fan in our home? Where is it located?

**Ceiling fans help air circulate better and decrease the need for heating and air conditioning. They can even be used in the wintertime to push warm air down from the ceiling.**

Find a door that goes outside. Is it allowing air to escape from the inside of your home? Go outside and feel along the cracks of the door to see if air is leaking. Where is the door(s) located? \_\_\_\_\_

***Air that escapes through doors leaks out air that we spent money and energy to heat or cool. What can our family do to fix this?***

Do we have floor mats to wipe our feet on by the doors? If so, by which entrances? \_\_\_\_\_

***Floor mats at entrances help prevent the carpets and floors from getting messy so that our family doesn't have to use as many cleaning products.***

Do we have a compost pile? If so, where is it? \_\_\_\_\_

***Compost piles allow food scraps to decompose back into soil that can be used again for growing food.***

Are all of the electronics (televisions, ipods, radios, etc.) around the house turned off when not being used? In which room(s) were electronics left on? \_\_\_\_\_

***Turning off electronics prevents electricity from being used when we are not there. What can we do to remember to turn off our electronics?***

Can you find a window somewhere in our home that has two layers of glass, one on the inside and one the outside? Where is this window? \_\_\_\_\_

***Windows that have two panes of glass are more efficient at keeping the temperature inside the room constant.***

Can you find any environmentally friendly cleaning products in our home? If so, where are they and what do they clean? \_\_\_\_\_

***Environmentally friendly cleaning products contain fewer chemicals than regular cleaning products which can emit toxic fumes or be harmful to the watershed. Many cleaning products are easy to make in your own home with simple ingredients such as vinegar, baking soda, lemon and cornstarch.***

Does our home have a low flow shower head in any of the bathrooms? (Look at the gallons per minute rate on the shower head). If so, which bathrooms? \_\_\_\_\_

***Low flow shower heads help reduce our use of God's gift of water to us. Plus, they help reduce the energy that goes into heating the water for showers and can help the family save money.***

How many appliances in the kitchen have the Energy Star logo on them? \_\_\_\_\_

***The Energy Star logo means that the appliance is energy efficient and helps save electricity. What else can we do to use these appliances efficiently? (Run the dishwasher when full, keep refrigerator coils clean, set refrigerator to proper temperature, etc.)***

How many electronics in our home have the Energy Star logo on them? \_\_\_\_\_

***The Energy Star logo means that the electronics are energy efficient. What else can we do to use our electronics efficiently? (Dim the screens, power save mode, etc.)***

Are all of the computers in our home turned off when not in use? If not, which computer was left on? \_\_\_\_\_

***How can we remind ourselves to turn off the computers?***

Can you find a small kitchen appliance (coffee pot, toaster, coffee grinder, etc.) that has been unplugged? What appliance was it? \_\_\_\_\_

***Even when appliances are turned off, they can sometimes still use quite a bit of energy to power a light, clock or start up mechanism. Unplugging them prevents them from sucking energy.***

Does our family have a vegetable garden or a fruit tree? If so, what does it grow? \_\_\_\_\_

***The farther food has to travel to our plates, the more fossil fuels are used to transport it, which leads to air pollution and climate change. Home gardens are a great way to cultivate food for without having to use as much fossil fuels. Plus, it's a fun way for the family to get exercise and learn about where your food comes from!***

\*These tips were adapted from the ELCA Mission Investment Fund "Energy and Earthcare Checklist." 11

See the link for more information:

[Caring for Creation-Mission Investment Fund Green Resources](#)