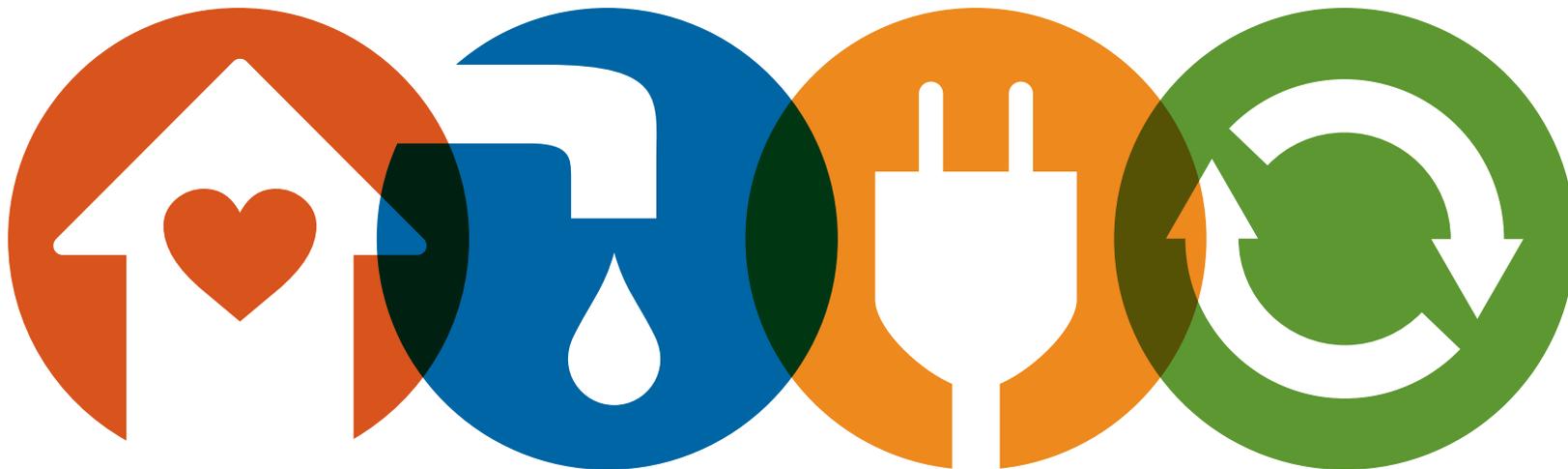


GREEN & HEALTHY LIVING:

Resident Engagement Training in a Box



**EASY IMPROVEMENTS FOR YOUR HOME WORKSHOP
TRAINER NOTES**

Prepared by Tohn Environmental Strategies & ZeroEnergy Design
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OVERVIEW

The Enterprise Green and Healthy Living “Training In A Box” (TIAB) is a set of tools designed for use by a property owner, resident service staff member or property manager who seek to work with residents to increase their knowledge about and practice of green and healthy living.

The TIAB contains presentations and engaging activities to aid you in leading easily executed mini-workshops that are largely ready to go “out of the box”.

Enterprise would like to thank the following organizations for assistance in providing information, content and review for these training resources: The National Center for Healthy Housing, Southface and Mercy Housing.

GETTING STARTED

The TIAB contains four workshops on “Easy Improvements for your Home” that can each be completed in 30 minutes. The workshops can be delivered separately or back-to-back and cover four areas: Energy Conservation, Water Conservation, Healthy Living and Waste & Recycling.

The Enterprise Green & Healthy Living training documents consist of the following:

Trainer’s Notes (this document)

The Trainer’s Notes provides the information you will need to prepare and teach the course materials. It includes instructions for leading each workshop’s content, student exercises and related video content. It also includes sample answers for all worksheet-based exercises.

Workshop Folders (available on the Enterprise Green Communities website)

Each workshop consists of the following:

- Presentation (MS PowerPoint) – These presentations serve as the bulk of content to be used in discussions and can also be printed and used as handouts.
- Student Exercises (Acrobat PDF, MS Excel) – The exercises provide an engaging approach to reinforce course learning. Some exercises are worksheets to be completed by students, while others are hands-on, interactive activities.
- Videos – Some exercises or demonstrations are best conveyed with an example. As such, several sample demonstrations are included as videos. Videos may be used to help prepare you or as part of the workshop.
- Preparing to lead a session is not intended to be a time consuming or difficult process. Prior to leading a session for the first time, you can expect to spend approximately 1 to 1.5 hours per workshop to prepare for the training (preparation time is much less after each presentation). Assuming that the workshops are to be presented individually, it is best to review the Presentation, Exercises and video relevant to the specific workshop (Energy Conservation, for example) before you work with the residents. You are also encouraged to complete the exercises before leading training. This preparation will help you see how the exercises relate to the presentation and vice versa. In some cases we have provided sample exercise sheets already filled out for you to refer to.

WHAT YOU, AS THE TRAINER, SHOULD PROVIDE

You will need to provide a number of items for each workshop. (A more-detailed and exhaustive list is included in the each workshop's section of the Trainer Notes.)

Items with an asterisk (*) are useful materials to have on hand for demonstration, to pass around, and as giveaways. These products can be purchased as a package directly from EFI (www.EFI.org or 800-379-4121) for \$60 including the Kill-a-Watt meter or \$40 without the Kill-a-Watt meter. These supplies are also available through HD Supply, Home Depot and other hardware stores.



ENERGY CONSERVATION

- Compact Fluorescent Lightbulb*
- Smart Surge Protector*
- Kill-a-Watt meter*
- Calculator
- Chalkboard, dry erase board, or easel paper for illustrations and notes visible to a class audience



WATER CONSERVATION

- WaterSense Showerhead*
- Faucet Aerator*
- Toilet Flapper*



HEALTHY LIVING

- Coffee straws (available at most office supply stores)
- Scissors
- Supplies to Assemble Green Cleaning Formula (see module for detailed list)
- Chalkboard, dry erase board or easel paper for illustrations and notes visible to a class audience



WASTE & RECYCLING

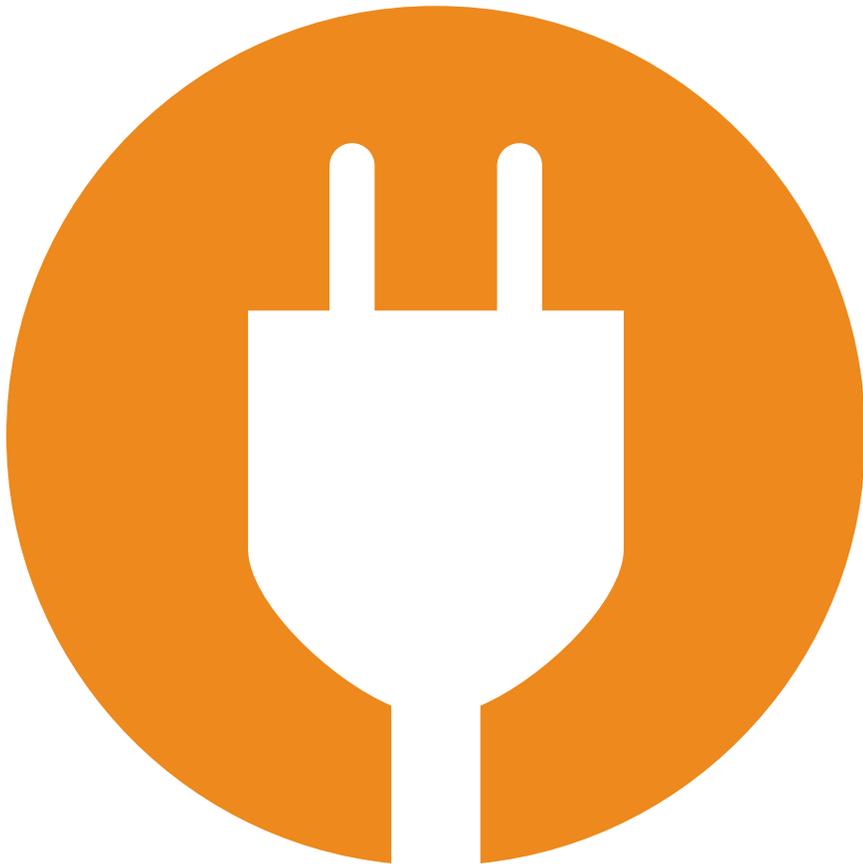
- Recyclable Items (see module for detailed list)

TRAINING SUMMARY AGENDA

The below agenda identifies the core elements of each workshop. A more detailed description of the workshop training tools is provided before for each section.

WORKSHOP	CONTENT	DURATION
 ENERGY CONSERVATION	<ul style="list-style-type: none"> • Overview Slides • Exercise 1: Reading a Utility Bill • Discussion: How to Reduce Energy • Exercise 2: WATT do they take? • Video: How To Read An Utility Bill (Trainer resource and/or in class use) 	30 minutes
 WATER CONSERVATION	<ul style="list-style-type: none"> • Overview Slides • Exercise 1: Discover Your Water Habits • Exercise 2: How Much Water Can I Save? • Discussion: Water Saving Actions (Tenant & Property Owner) • Video: Test for Toilet Leaks (Trainer resource and/or in class use) 	30 minutes
 HEALTHY LIVING	<ul style="list-style-type: none"> • Overview Slides • Exercise 1: Reading Home Product Labels • Exercise 2: Make Your Own Green Cleaner • Exercise 3: Asthma Breathing Through Straw • Exercise 4: Pest True or False • Video: Breathing with Asthma Demonstration (Trainer resource) 	30 minutes
 WASTE & RECYCLING	<ul style="list-style-type: none"> • Overview Slides • Exercise 1: Discover What You Can Recycle • Discussion: Recycling Action Plan • Video: What Can Be Recycled (Trainer resource and/or in class use) 	30 minutes

Energy Conservation





ENERGY CONSERVATION WORKSHOP SUMMARY

This workshop introduces residents to energy conservation strategies they can use in their homes.

PowerPoint slides present an overview of energy use and conservation strategies for the home. Two exercises are provided:

Exercise 1: How Much Electricity Do I Use?

This exercise teaches residents how to read their utility bill. A video (called “How To Read An Electricity Bill”) is provided as a resource for you to explain how to read such a bill. It may also be used in class, at your discretion. As part of the exercise, residents plot their energy use on a chart and see how energy use varies from household to household and is influenced by number of people in each household. The exercise also prompts residents to explore and discuss how they might reduce their energy use.

Exercise 2: WATT Do They Take?

This exercise guides residents through a discussion of the energy use of various household appliances. You are encouraged to begin with the slides and then use both exercises to spur discussion. You, as the Trainer, are encouraged to practice the exercises using the sample utility bills provided or to obtain local bills.

The PowerPoint calls out where each exercise should be conducted during the session.

ITEMS NEEDED

Included with TIAB:

- Energy Conservation PowerPoint Slides
- Energy Conservation Exercises 1 & 2
- Video (How To Read An Electricity Bill)
- Utility Bills - Trainers should encourage residents to bring their own bills for the bill reading exercise

Trainer to provide:

- Utility Bills - Trainers should provide one to use or use the sample bill provided (in the Energy Conservation Workshop Folder) ¹
- Energy conserving equipment (CFL Bulbs, Smart Surge Protectors, Kill-a-Watt meters) for residents to see/touch/feel during training ²
- White board or flip chart available to record resident responses during the exercises

¹ A sample bill is included in the Workshop Folder for Trainers who are unable to obtain a locally-relevant sample bill.

² These materials, along with some items required for the Water Conservation workshop, can be purchased as a package directly from EFI (www.EFI.org or 800-379-4121) for \$60 including the Kill-a-Watt meter or \$40 without the Kill-a-Watt meter.



ENERGY CONSERVATION WORKSHOP AGENDA

30 minutes

TOPIC	DURATION	TEACHING METHOD	IN YOUR "BOX"	PREPARATION
Overview	10 minutes	<ul style="list-style-type: none">• PowerPoint Slides	<ul style="list-style-type: none">• Energy Conservation PowerPoint	<ul style="list-style-type: none">• Review slides• Procure energy conserving equipment to pass around
Reading Electricity Bills	5 minutes	<ul style="list-style-type: none">• Discussion (or use Video): How To Read An Electric Bill	<ul style="list-style-type: none">• Utility Bill Video• Sample Electric Bills	<ul style="list-style-type: none">• Review video and exercise, consider using local bills
Electricity Bills – What Do Residents Use	10 minutes	<ul style="list-style-type: none">• Energy Conservation Exercise 1: How Much Electricity Do I Use?• Discussion: Tenants share their electric usage and compare against peers	<ul style="list-style-type: none">• Energy Conservation Exercise 1 PDF	<ul style="list-style-type: none">• Review exercise• Request tenants bring electricity bills• Provide calculators, chalkboard or large paper to record informations
How to Reduce Energy Use	5 minutes	<ul style="list-style-type: none">• Energy Conservation Exercise 2: WATT Do They Take?• End session with an example of a resident that implemented numerous saving measures (included in PowerPoint)	<ul style="list-style-type: none">• Energy Conservation Exercise 2 Excel file	<ul style="list-style-type: none">• Trainer should be familiar with data in the Exercise to lead discussion• Also, Trainer should customize Exercise 2 with local electricity cost



EXERCISE 1: HOW MUCH ELECTRICITY DO I USE?

GOAL

In this activity,
Residents will:

1. Learn how to read an utility bill
2. Calculate their total household electricity use and electricity use per person
3. Discuss strategies and behaviors for reducing energy use

PREPARATION

Trainer:

- You will want to have access to a white/chalkboard or a large piece of paper that can be posted in front of the group.
- Writing implements (chalk, dry-erase, or magic markers)
- You should be familiar with understanding an electricity bill. If not, watch the included Utility Bill video.
- Electricity Bill samples (for residents who don't have theirs). The file for the electricity bill sample can be found in the same folder as the student exercises. Alternatively you can provide your own sample bill that is more representative of your resident.

Participating Residents should bring:

- An Electricity bill (or, if unavailable, use the provided Electricity bill sample)
- Calculator

Note: Sample answers are shown in the "EnergyConservation_Exercise1.pdf" document.

**ENERGY CONSERVATION
EXERCISE 1:
HOW MUCH ELECTRICITY
DO I USE?
SAMPLE ANSWERS**

GOAL
In this activity, you will:
1. Learn how to read their utility bill
2. Calculate your total household electricity use and electricity use per person
3. Discuss strategies and behaviors for reducing energy use

DIRECTIONS
Step 1: Evaluate your utility bill
1. Look at your utility bill and locate the kWh used each month and the total cost of the bill.

MONTH	kWh	COST
January	210	\$42
February	180	\$36
March	240	\$48
April	300	\$60
May	240	\$48
June	300	\$60
July	210	\$42
August	450	\$90
September	180	\$36
October	270	\$54
November	180	\$36
December	240	\$48
A. TOTAL	3630	\$726
B. NUMBER OF PEOPLE IN HOUSEHOLD	2	
C. ENERGY USE PER PERSON (LINE A ÷ B)	1815/person	



EXERCISE 1: HOW MUCH ELECTRICITY DO I USE?

ACTIVITY

To orient residents to their bills, you should either show the electricity bill video tutorial or demonstrate its contents to residents.

Step 1

Residents are to fill out the table on their worksheets, eventually arriving at:

- Line A: Total electricity use for the household (in kWh)
- Line B: Residents should enter the number of people in their household
- Line C: Residents should divide Line A by Line B to calculate their electricity use per person

Step 2

You should sketch out 2 charts on the board or paper at the front of the group.

- Chart 1: Total Energy Use per Household (Annual)
- Chart 2: Total Energy Use Per Person (Annual)
- Residents should plot their figures from Line A into Chart 1 and Line B into Chart 2
- Note in the example to the below that Household “A” has the highest total use but lowest per person use

Chart 1 Total Energy Use per Household (Annual)

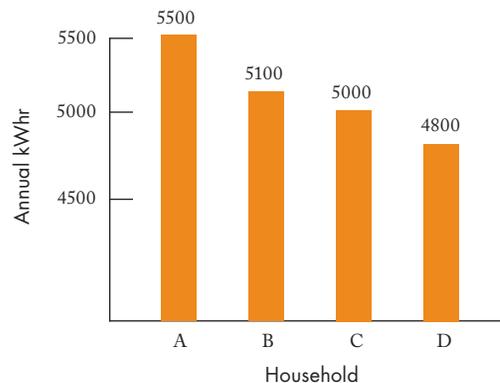
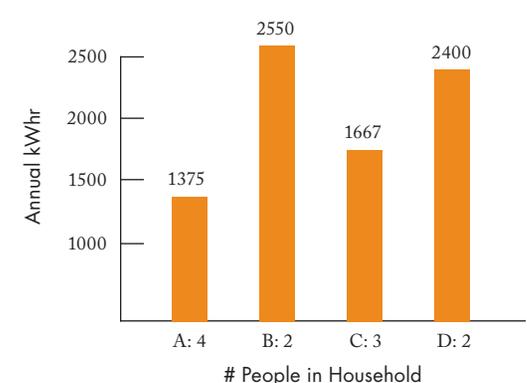
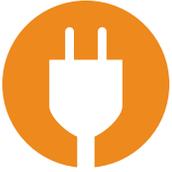


Chart 2 Total Energy Use per Person (Annual)





EXERCISE 1: HOW MUCH ELECTRICITY DO I USE?

ACTIVITY

Step 3

You should call attention to the low and high users and discuss in a positive manner what behaviors may contribute to the high and low electricity use.

Common behaviors that may lead to higher energy use:

- Leaving lights on during the day when rooms are unoccupied
- Conventional light bulbs vs. compact fluorescent lightbulbs (CFL)
- Leaving TVs, home entertainment systems on
- Opening windows while air conditioning
- Phantom electricity uses: idle printers, home entertainment systems (powering clock displays, lights, etc.).
Note: most people have phantom loads.

.....

You should show power strip products, or images from the following page, to discuss how to combat phantom loads.

.....

Ask Residents which months have the highest electricity consumption:

- Summer months tend to be the highest due to A/C use
- Cold winter months may be higher if the resident uses a space heater
- If none of the above conditions cannot explain a peak, ask the resident to think about what devices are plugged in

Step 4

Residents should write down three things that they will do to reduce their electricity use.



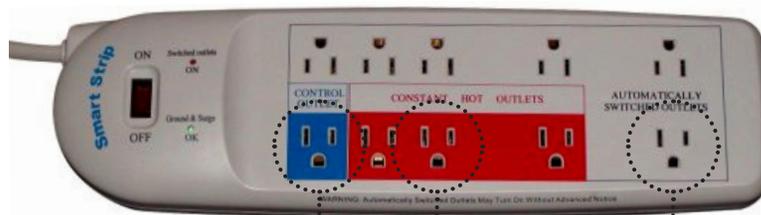
EXERCISE 1: HOW MUCH ELECTRICITY DO I USE?

HOW TO COMBAT PHANTOM LOADS

Smart Strip

The TIAB Product Package includes a smart power strip, which has three types of sockets.

For example, if the TV is plugged into the blue control outlet, when you turn the TV off, speakers and a DVD player plugged into the other (not red) outlets switch off as well.



BLUE Control outlet:
Devices plugged into the control outlet determine whether the dependent outlets receive power.

RED Constant outlets:
"hot" socket (always on) excluding any devices plugged into the constant hot socket.

Dependent outlets:
Turned off when the device plugged into control outlet is switched off.

Timer Strip

A timer strip includes a timer that will switch outlets on and off according to time of day. This is good for switching appliances, like a TV, off while residents sleep or to turn lamps off automatically during the day.



Timer will switch outlets on and off according to time of day



EXERCISE 2: WATT DO THEY TAKE?

GOAL

Residents will learn how different home electronics and appliances use energy.

Residents also will learn how they can change behaviors and purchasing habits to reduce electricity usage.

PREPARATION

- Review the “EnergyConservation_Exercise2” handout (an Excel file). The handout is a table of different home electronics. The table includes data for each appliance’s minimum and maximum (Min/Max) wattage, the number of hours per day the appliance is “On” (an assumption) and the resulting cost per year according to the Min/Max wattage and hours “On.”

Energy Conservation Exercise 2: WATT Do They Take?

Goal: Residents will learn how different home electronics and appliances use energy. Residents will also learn how they can change behaviors and purchasing habits to reduce electricity use.

	Electric Used	# Hours	\$ Cost per Year	Max
	Min	per Day		Cost
Under 100 Watts				
Computer monitor asleep	30	20	\$ 1.2	\$ 1.8
Computer monitor awake	30	20	\$ 1.2	\$ 1.8
LED light bulb	10	20	\$ 0.5	\$ 0.7
TV (small)	40	20	\$ 1.6	\$ 2.4
TV (medium)	50	20	\$ 2.0	\$ 3.0
TV (large)	60	20	\$ 2.4	\$ 3.6
Television, LCD panel, 32 inch	60	20	\$ 2.4	\$ 3.6
Television, LCD panel, 42 inch	80	20	\$ 3.2	\$ 4.8
Television, LCD panel, 50 inch	100	20	\$ 4.0	\$ 6.0
Television, LCD panel, 60 inch	120	20	\$ 4.8	\$ 7.2
Television, LCD panel, 70 inch	140	20	\$ 5.6	\$ 8.4
Television, LCD panel, 80 inch	160	20	\$ 6.4	\$ 9.6
Television, LCD panel, 90 inch	180	20	\$ 7.2	\$ 10.8
Television, LCD panel, 100 inch	200	20	\$ 8.0	\$ 12.0
Television, LCD panel, 110 inch	220	20	\$ 8.8	\$ 13.2
Television, LCD panel, 120 inch	240	20	\$ 9.6	\$ 14.4
Television, LCD panel, 130 inch	260	20	\$ 10.4	\$ 15.6
Television, LCD panel, 140 inch	280	20	\$ 11.2	\$ 16.8
Television, LCD panel, 150 inch	300	20	\$ 12.0	\$ 18.0
Television, LCD panel, 160 inch	320	20	\$ 12.8	\$ 19.2
Television, LCD panel, 170 inch	340	20	\$ 13.6	\$ 20.4
Television, LCD panel, 180 inch	360	20	\$ 14.4	\$ 21.6
Television, LCD panel, 190 inch	380	20	\$ 15.2	\$ 22.8
Television, LCD panel, 200 inch	400	20	\$ 16.0	\$ 24.0
Television, LCD panel, 210 inch	420	20	\$ 16.8	\$ 25.2
Television, LCD panel, 220 inch	440	20	\$ 17.6	\$ 26.4
Television, LCD panel, 230 inch	460	20	\$ 18.4	\$ 27.6
Television, LCD panel, 240 inch	480	20	\$ 19.2	\$ 28.8
Television, LCD panel, 250 inch	500	20	\$ 20.0	\$ 30.0
Television, LCD panel, 260 inch	520	20	\$ 20.8	\$ 31.2
Television, LCD panel, 270 inch	540	20	\$ 21.6	\$ 32.4
Television, LCD panel, 280 inch	560	20	\$ 22.4	\$ 33.6
Television, LCD panel, 290 inch	580	20	\$ 23.2	\$ 34.8
Television, LCD panel, 300 inch	600	20	\$ 24.0	\$ 36.0
Television, LCD panel, 310 inch	620	20	\$ 24.8	\$ 37.2
Television, LCD panel, 320 inch	640	20	\$ 25.6	\$ 38.4
Television, LCD panel, 330 inch	660	20	\$ 26.4	\$ 39.6
Television, LCD panel, 340 inch	680	20	\$ 27.2	\$ 40.8
Television, LCD panel, 350 inch	700	20	\$ 28.0	\$ 42.0
Television, LCD panel, 360 inch	720	20	\$ 28.8	\$ 43.2
Television, LCD panel, 370 inch	740	20	\$ 29.6	\$ 44.4
Television, LCD panel, 380 inch	760	20	\$ 30.4	\$ 45.6
Television, LCD panel, 390 inch	780	20	\$ 31.2	\$ 46.8
Television, LCD panel, 400 inch	800	20	\$ 32.0	\$ 48.0
Television, LCD panel, 410 inch	820	20	\$ 32.8	\$ 49.2
Television, LCD panel, 420 inch	840	20	\$ 33.6	\$ 50.4
Television, LCD panel, 430 inch	860	20	\$ 34.4	\$ 51.6
Television, LCD panel, 440 inch	880	20	\$ 35.2	\$ 52.8
Television, LCD panel, 450 inch	900	20	\$ 36.0	\$ 54.0
Television, LCD panel, 460 inch	920	20	\$ 36.8	\$ 55.2
Television, LCD panel, 470 inch	940	20	\$ 37.6	\$ 56.4
Television, LCD panel, 480 inch	960	20	\$ 38.4	\$ 57.6
Television, LCD panel, 490 inch	980	20	\$ 39.2	\$ 58.8
Television, LCD panel, 500 inch	1000	20	\$ 40.0	\$ 60.0
Television, LCD panel, 510 inch	1020	20	\$ 40.8	\$ 61.2
Television, LCD panel, 520 inch	1040	20	\$ 41.6	\$ 62.4
Television, LCD panel, 530 inch	1060	20	\$ 42.4	\$ 63.6
Television, LCD panel, 540 inch	1080	20	\$ 43.2	\$ 64.8
Television, LCD panel, 550 inch	1100	20	\$ 44.0	\$ 66.0
Television, LCD panel, 560 inch	1120	20	\$ 44.8	\$ 67.2
Television, LCD panel, 570 inch	1140	20	\$ 45.6	\$ 68.4
Television, LCD panel, 580 inch	1160	20	\$ 46.4	\$ 69.6
Television, LCD panel, 590 inch	1180	20	\$ 47.2	\$ 70.8
Television, LCD panel, 600 inch	1200	20	\$ 48.0	\$ 72.0
Television, LCD panel, 610 inch	1220	20	\$ 48.8	\$ 73.2
Television, LCD panel, 620 inch	1240	20	\$ 49.6	\$ 74.4
Television, LCD panel, 630 inch	1260	20	\$ 50.4	\$ 75.6
Television, LCD panel, 640 inch	1280	20	\$ 51.2	\$ 76.8
Television, LCD panel, 650 inch	1300	20	\$ 52.0	\$ 78.0
Television, LCD panel, 660 inch	1320	20	\$ 52.8	\$ 79.2
Television, LCD panel, 670 inch	1340	20	\$ 53.6	\$ 80.4
Television, LCD panel, 680 inch	1360	20	\$ 54.4	\$ 81.6
Television, LCD panel, 690 inch	1380	20	\$ 55.2	\$ 82.8
Television, LCD panel, 700 inch	1400	20	\$ 56.0	\$ 84.0
Television, LCD panel, 710 inch	1420	20	\$ 56.8	\$ 85.2
Television, LCD panel, 720 inch	1440	20	\$ 57.6	\$ 86.4
Television, LCD panel, 730 inch	1460	20	\$ 58.4	\$ 87.6
Television, LCD panel, 740 inch	1480	20	\$ 59.2	\$ 88.8
Television, LCD panel, 750 inch	1500	20	\$ 60.0	\$ 90.0
Television, LCD panel, 760 inch	1520	20	\$ 60.8	\$ 91.2
Television, LCD panel, 770 inch	1540	20	\$ 61.6	\$ 92.4
Television, LCD panel, 780 inch	1560	20	\$ 62.4	\$ 93.6
Television, LCD panel, 790 inch	1580	20	\$ 63.2	\$ 94.8
Television, LCD panel, 800 inch	1600	20	\$ 64.0	\$ 96.0
Television, LCD panel, 810 inch	1620	20	\$ 64.8	\$ 97.2
Television, LCD panel, 820 inch	1640	20	\$ 65.6	\$ 98.4
Television, LCD panel, 830 inch	1660	20	\$ 66.4	\$ 99.6
Television, LCD panel, 840 inch	1680	20	\$ 67.2	\$ 100.8
Television, LCD panel, 850 inch	1700	20	\$ 68.0	\$ 102.0
Television, LCD panel, 860 inch	1720	20	\$ 68.8	\$ 103.2
Television, LCD panel, 870 inch	1740	20	\$ 69.6	\$ 104.4
Television, LCD panel, 880 inch	1760	20	\$ 70.4	\$ 105.6
Television, LCD panel, 890 inch	1780	20	\$ 71.2	\$ 106.8
Television, LCD panel, 900 inch	1800	20	\$ 72.0	\$ 108.0
Television, LCD panel, 910 inch	1820	20	\$ 72.8	\$ 109.2
Television, LCD panel, 920 inch	1840	20	\$ 73.6	\$ 110.4
Television, LCD panel, 930 inch	1860	20	\$ 74.4	\$ 111.6
Television, LCD panel, 940 inch	1880	20	\$ 75.2	\$ 112.8
Television, LCD panel, 950 inch	1900	20	\$ 76.0	\$ 114.0
Television, LCD panel, 960 inch	1920	20	\$ 76.8	\$ 115.2
Television, LCD panel, 970 inch	1940	20	\$ 77.6	\$ 116.4
Television, LCD panel, 980 inch	1960	20	\$ 78.4	\$ 117.6
Television, LCD panel, 990 inch	1980	20	\$ 79.2	\$ 118.8
Television, LCD panel, 1000 inch	2000	20	\$ 80.0	\$ 120.0

How is operational cost impacted by:

- Settings (computer monitor awake vs. asleep)
- Wattage (100 vs. 1000)
- Usage (Hours per day)
- Appliance Size (large vs. small)

Note: The student handout “EnergyConservation_Exercise2.xls” for this exercise is intended to serve as a data reference to hold a discussion about different ways a household can save energy. The handout does not have any questions to be completed; similarly, there is no answer key for this exercise.



EXERCISE 2: WATT DO THEY TAKE?

ACTIVITY

Step 1

Explain the Electricity Used Min/Max columns.

The watts used represents the electricity needed to run the appliance. The minimum and maximum provides a range of use for the appliance type, which depends on the individual device (for example, an EnergyStar rated appliance might operate near the Minimum of the range while a conventional type may operate near the Maximum).

Step 2

Explain the “# Hours per day On” and the “\$ Cost Per Year” columns.

For your reference, Min/Max Cost per year =

$$(\text{Min/Max Wattage}) \times (\# \text{ Hours ON per day}) \times (365 \text{ days per year}) \times \frac{\text{Price per kilowatt per hour}}{1000 \text{ watts}} \text{Em}$$

This worksheet uses \$0.20/kWh as the price for electricity, however, the price per kWh can be easily changed in the Excel file to reflect local electricity prices.

Step 3

Ask students to identify differences in how appliance settings, wattage, usage and size impact its operational cost:

Appliance settings/wattage examples:

- Window Fan – can use between 55 and 250 watts and cost between \$32 and \$146/year
- Computer monitor awake vs. asleep – uses 30 and 120 watts and cost between \$18 and \$175/year

Appliance size examples:

- Small TV vs. Large TV – uses 113 and 170 watts and costs between \$49 vs. \$74/year

Appliance Usage examples:

- Dehumidifier – 2 hours per day vs. 12 hours per day costs \$115 vs. \$688/year

Water Conservation





WATER CONSERVATION WORKSHOP SUMMARY

This workshop helps residents understand how much water they use and highlights opportunities to save water in their homes.

You are encouraged to begin with the overview slides and then use the two exercises:

Exercise 1: Discover Your Habits

This exercise is a questionnaire to determine residents' relative water use.

Exercise 2: How Much Water Can I Save By Changing My Habits?

This exercise asks residents to guess the quantity of water that can be saved by following various measures. The correct answers are provided at the end so that residents can see how close their perceptions are to reality.

The PowerPoint calls out where each exercise should be conducted during the session.

You are also encouraged to procure water-conserving devices such as low flow showerheads and faucet aerators to show residents during class. Having a tangible object to refer to will make it easy for you to explain and the residents to understand. After completing the exercises, you are ready to lead a discussion of water saving strategies that the residents and the property owner can undertake. A video (called "Test for Toilet Leaks") demonstrating an easy toilet flapper leak test is provided as a trainer resource and may also be used in the workshop to show residents how to do this testing.

ITEMS NEEDED

Included with TIAB:

- Water Conservation PowerPoint Slides
- Water Conservation Exercises 1 & 2
- Video (Test for Toilet Leaks)

Trainer to provide:

- Water conserving equipment (WaterSense aerators, replacement toilet flappers, low-flow showerhead) for residents to see/touch/feel during training³

³ These materials, along with some items suggested for the Energy Conservation workshop, can be purchased as a package directly from EFI (www.EFI.org or 800-379-4121) for \$60 including the Kill-a-Watt meter or \$40 without the Kill-a-Watt meter.



WATER CONSERVATION WORKSHOP AGENDA

30 minutes

TOPIC	DURATION	TEACHING METHOD	IN YOUR "BOX"	PREPARATION
Overview	3 minutes	<ul style="list-style-type: none"> • PowerPoint Slides 	<ul style="list-style-type: none"> • Water Conservation PowerPoint 	<ul style="list-style-type: none"> • Review slides
Individual water use	5 minutes	<ul style="list-style-type: none"> • Water Conservation Exercise 1: Discover Your Habits 	<ul style="list-style-type: none"> • Water Conservation Exercise 1 PDF 	<ul style="list-style-type: none"> • Review exercise
What actions help save the most water	5 minutes	<ul style="list-style-type: none"> • Water Conservation Exercise 2: How Much Water Can I Save By Changing My Habits? 	<ul style="list-style-type: none"> • Water Conservation Exercise 2 PDF 	<ul style="list-style-type: none"> • Review exercise
Management action	10 minutes	<ul style="list-style-type: none"> • PowerPoint Slides 	<ul style="list-style-type: none"> • Water Conservation PowerPoint 	<ul style="list-style-type: none"> • Review slides
Water saving equipment	5 minutes	<ul style="list-style-type: none"> • Demonstration: Show aerators, low-flow showerhead and toilet flapper • Video: Test for Toilet Leaks • PowerPoint Slides 	<ul style="list-style-type: none"> • Video: Flapper Movie 	<ul style="list-style-type: none"> • Review video • Review slides • Provide water conserving demo equipment
Tenant Management Partnership call to action	2 minutes	<ul style="list-style-type: none"> • Discussion: Tenants commit to one change for a month. Owner to document and share water savings. 		



EXERCISE 1: DISCOVER YOUR WATER HABITS

GOAL

Residents identify water-wasting habits that they could change.

PREPARATION

- Handout out exercise sheets.
- Ask the residents to work in pairs or small groups.
- Review the scoring system, demonstrate scores for one or two items.

ACTIVITY

- Ask each resident, working in pairs or in a group, to complete the form for themselves and then share results with their partner or group.
- Ask each group or pair to note their scores. What was the high score in the class? What did they do well? What are the most common water conserving habits? What are the least common?

WATER CONSERVATION EXERCISE 1: DISCOVER YOUR WATER HABITS SAMPLE ANSWERS

GOAL: Identify water-wasting habits that you could change.

DIRECTIONS: Indicate your water using habits below.

PERSONAL HABITS	OFTEN	SOMETIMES	NEVER	
Keep shower to 5 minutes or less	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
Turn water off when brushing teeth	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Fill buckets only to wash your face	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
You take time to shower	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
When washing dishes, fill basin with soapy water	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	
Plug bath and/or sink to catch and reuse water	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
Report leaking toilets, pipes, showers	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	
TOTAL	20	10	0	30

SCORING: Give yourself 30 points for every time you answered either, 10 points for every time you answered sometimes, and 0 points for every time you answered never.

30 POINTS OR MORE: WOW! You are a water saver!

25 POINTS OR MORE: Keep up the good work!

20 POINTS OR MORE: You can do better.

15 POINTS OR LESS: You are spending too much water and money—fixes the leaks!

Note: Sample score is shown in the “WaterConservation_Exercise1.pdf” document.



EXERCISE 2: HOW MUCH WATER CAN I SAVE BY CHANGING MY HABITS?

GOAL

Have residents understand the water saving potentials of changes in habits.

Have each resident commit to at least two changes in habits.

PREPARATION

- Distribute exercise sheets.
- Review the scoring system.
- Explain that you will provide them the correct answers so that they can fill in the “Correct Answer” column.
- Ask the residents to work in pairs or groups to share their initial results.

WATER CONSERVATION EXERCISE 2: HOW MUCH WATER CAN I SAVE BY CHANGING MY HABITS? SAMPLE ANSWERS

GOAL: Understand the water saving potential of changes in habits.

DIRECTIONS: Step 1: Provide your best guess of how many gallons of water you might save. Circle the number of gallons you think would be saved each day with each practice. The trainer will help you fill in the “Correct Answer” column at the end of the exercise.

WATER SAVING ACTION	WATER SAVING PER DAY (gallons)	CORRECT ANSWER
Shower less than 5 minutes	1 4 8 12 16 20	20
Turn off water when brushing teeth	1 4 8 12 16 20	6
Use less hot water	1 4 8 12 16 20	16
Take cool or cold showers when showering	1 4 8 12 16 20	4
Fill bathtubs only to waist level	1 4 8 12 16 20	1
Take 40° water when washing dishes	1 4 8 12 16 20	15
Take 40° water when washing clothes	1 4 8 12 16 20	10

Step 2: My Action steps
I will commit to at least two changes in water usage habits:

1. Take shorter showers
2. Turn off water when showering

Note: Sample answers and an answer key are shown in the “WaterConservation_Exercise2.pdf” document as well as a table with water usage assumptions.

ACTIVITY

- Ask residents to take their best guess in selecting the water savings for each habit.
- Give the groups 5 minutes to complete the task and discuss it. Allow for some exchange.
- Ask residents: “What do you think is the biggest water using activity? Why?”
- Provide the correct answers and allow residents to fill these in the “Correct Answer” column.
- Ask each group or pair to talk again to identify 2 changes in habits for each person.
- Ask each group to add up the total savings they can expect per day and per month.

Healthy Living





HEALTHY LIVING WORKSHOP SUMMARY

This workshop provides an overview of opportunities to create a healthy home. It focuses on healthier cleaning and household products, reducing asthma triggers and allergens and safely controlling pests.

You can begin with the overview slides and then use the four exercises provided:

Exercise 1: Reading the Labels

This exercise has residents sort household cleaning products by toxicity to introduce the importance of reading the labels and selecting the lowest toxicity product that will do the job.

Exercise 2: Make Your Own Green Cleaner

This exercise gives residents the opportunity to make their own green cleaner. You can then move back to the slides to introduce issues related to home-based asthma triggers.

Exercise 3: Asthma Breathing Through a Straw

This exercise provides an opportunity for residents to experience what it feels like to breathe with asthma. Trainers are encouraged to review the video (called “Breathing with Asthma”) to prepare to lead this exercise.

Exercise 4: Pests True or False

This exercise asks residents to confirm or deny common pest myths.

The PowerPoint slides indicate when each exercise should be conducted during the presentation.

ITEMS NEEDED

Included with TIAB:

- Healthy Living PowerPoint Slides
- Healthy Living Exercises 1, 2, 3 & 4
- Video (Breathing with Asthma)

Trainer to provide:

Materials for:

- Exercise 2: Green Cleaner (1 quart spray bottles – 1 per resident – , baking soda or borax, white vinegar, dish soap, measuring spoons and cups)
- Exercise 2: Soiling agents (ketchup, mustard, cocoa, pencil)
- Exercise 3: Coffee Straws for Asthma Exercise
- Demonstration cockroach baits, monitoring traps, gels

Preparation for Healthy Living Exercise 1:

- Print and cut out picture cards

Preparation for Healthy Living Exercise 2:

- Print and cut up recipe cards



HEALTHY LIVING WORKSHOP AGENDA

30 minutes

TOPIC	DURATION	TEACHING METHOD	IN YOUR "BOX"	PREPARATION
Products in Your Home	10 minutes	<ul style="list-style-type: none">• PowerPoint Slides• Healthy Living Exercise 1: Reading The Labels	<ul style="list-style-type: none">• Healthy Living PowerPoint• Healthy Living Exercise 1 PDF	<ul style="list-style-type: none">• Review slides• Cut up Healthy Living Exercise 1 sheets beforehand
Healthier Products	15 minutes	<ul style="list-style-type: none">• PowerPoint Slides• Healthy Living Exercise 2: Making Green Cleaner• Healthier products cost comparison	<ul style="list-style-type: none">• Healthy Living PowerPoint• Healthy Living Exercise 2 PDF	<ul style="list-style-type: none">• Review exercise• Assemble ingredients (see recipe in Healthy Living Exercise 2)
Asthma & Allergy Triggers	8 minutes	<ul style="list-style-type: none">• PowerPoint Slides• Healthy Living Exercise 3: Asthma Breathing Through a Straw	<ul style="list-style-type: none">• Healthy Living PowerPoint	<ul style="list-style-type: none">• Review video: Breathing with Asthma• Provide straws for exercise
Controlling Pests	7 minutes	<ul style="list-style-type: none">• PowerPoint Slides• Healthy Living Exercise 4: Pests True or False	<ul style="list-style-type: none">• Healthy Living PowerPoint• Healthy Living Exercise 4 PDF	<ul style="list-style-type: none">• Review slides & exercise• Provide cockroach baits, monitoring traps, gels



EXERCISE 1: READING THE LABELS

GOAL

Residents understand that product labels provide information on the risks for using the products and that they can make choices to use products with fewer potential health risks.

PREPARATION

- Separate residents into small groups of 3-5 people.
- Print out and cut up one set of picture cards and one sorting sheet per group. Each group will have pictures of products and a sheet that allows them to sort the products into 3 categories: Caution, Warning or Danger.
- You can also provide sample products instead of, or in conjunction with, the pictures. Providing sample products gives residents a chance to read the labels for a product and makes the exercise more tangible.



Note: The sorting sheet and picture cards are provided in the "HealthyLiving_Exercise1.pdf" document.



EXERCISE 1: READING THE LABELS

ACTIVITY

Ask each group to sort the products into 3 categories: Caution, Warning or Danger.

Review the results from the groups and provide the answers.

Discuss

- Which of these products do you use?
- Which labels surprised you the most? Which were more dangerous than you thought they would be?
- Which might you substitute?

Windex has a label of “warning,” ask residents if anyone knows of a less toxic way to clean windows? The answer is – water and vinegar.

- How often do cleaning products result in poisoning cases?

In 2008, over 200,000 Americans called their poison control center with a problem related to cleaning products, about 9% of all the calls received. (Source: American Association of Poison Control Centers)

- What type of exposures or harm could come from using some of these cleaning products?

Toilet bowl cleaner (“Danger” label) contains ingredients that if swallowed could cause significant harm including breathing problems, throat soreness, vomiting and stomach pains. Bleach can be quite harmful if it is swallowed or comes into contact with your eyes. By far the most significant risk associated with bleach comes from mixing bleach with ammonia, which can produce a toxic gas that can cause choking and serious breathing problems. A study of women who do home cleaning found that they had increased exposure to bleach and increased risks of asthma. (Source: Occup Environ Med 2005;62:598-606)



EXERCISE 1: READING THE LABELS

ACTIVITY

Product Categories

Caution:

- Air Freshener
 - Ammonia
 - Ant & Roach spray
 - Carpet Cleaner spray/pump
 - Aerosol disinfectant (flammable)
 - General Cleaner
-

Warning:

- Bleach
 - Glass Cleaner
 - Bathroom Cleaner
-

Danger:

- Drain Cleaner
- Aerosol Air Freshener
- Toilet Bowl Cleaner

Specific Products

Caution:

- Febreze
 - Ammonia
 - Raid Ant & Roach spray
 - Resolve
 - Lysol aerosol disinfectant
 - Mr. Clean Antibacterial
 - Lysol 4 in 1
-

Warning:

- Chlorox Cleanup with Bleach
 - Windex
 - Tilex Mold & Mildew
-

Danger:

- Drano Max Gel
- Liquid Plummer
- Airwick Spray
- The Works



EXERCISE 2: MAKE YOUR OWN GREEN CLEANER

GOAL	PREPARATION	ACTIVITY
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Teach residents to make green cleaners using ingredients commonly found at home and test their effectiveness.



Step 1

Assemble ingredients – white vinegar, liquid dish soap, baking soda, water.

Step 2

Assemble cleaning product dispensers – ideally small spray bottles (often found at local hardware stores).

Step 3

Gather items to test stains – food stains such as ketchup, mustard, etc.

Step 4

Print and cut out recipe cards to distribute for residents to take home.

Note: Recipe cards are provided in the “HealthyLiving_Exercise2.pdf” document.

Step 1

Have residents follow the All Purpose Green Cleaner recipe and make their own cleaning product. A recipe for a Green Window Cleaner is also provided.

Step 2

Test cleaning product on dirty table, counter or floor.

Step 3

Allow residents to take cleaning product and recipe cards home.



EXERCISE 3: ASTHMA BREATHING THROUGH A STRAW

GOAL

Have residents experience what it can feel like to have an asthma attack or breathing problem.

PREPARATION

- Handout small straws.
- Review the video (Breathing with Asthma) demonstrating this exercise.

Note: There is no student handout for this exercise.

ACTIVITY

Step 1

Ask each resident to breathe through the straw for about 30 seconds. Be sure to let residents know that if they have breathing issues or feel faint at any time they should stop using the straw.

Step 2

Debrief and ask them how it felt? Typical responses are “I had trouble getting enough air in,” “hard,” “like an elephant was sitting on my chest,” “hard to get enough air out,” etc.

Step 3

Explain that when we breathe normally it is like breathing through a paper towel holder. When we are having an asthma attack due to an allergic reaction, we get swelling in the airway – our paper towel holder become a small straw – and the muscles around our airway may spasm or tighten further reducing the size of the airway. All of this is what makes it feel so bad.



EXERCISE 4: PESTS TRUE OR FALSE

GOAL

Dispel myths about pests and describe most effective pest control strategies for cockroaches, mice and bed bugs.

PREPARATION

- Review introductory slides.



ACTIVITY

- Play true/false game with residents.
- Divide them into 2 teams if appropriate.

Waste & Recycling





WASTE & RECYCLING WORKSHOP SUMMARY

This workshop introduces residents to the opportunities to reduce waste and recycle household items.

Because recycling requirements and resources vary significantly at the local level, trainers need to modify the PowerPoint Slides and exercises to reflect local conditions. Specifically, within the Waste & Recycling PowerPoint, you need to:

1. Assess which recycling topical slides should be removed (i.e. remove glass slide if local programs do not accept glass)
2. Adapt the Plastic slide by moving the plastic ID numbers into the appropriate box (either “Recyclable in our area” or “NOT recyclable in our area”)
3. Adapt the home recycling slide according to the local recycling rules
4. For multi-family properties, insert a diagram or photo of the appropriate place to deposit recyclables on the property

The workshop begins with an ice breaker activity:

Exercise 1: Discover What You Can Recycle

This exercise asks residents to identify items that can be recycled. Two versions of the activity are supplied to accommodate varying space and resource constraints.

You then should use the slides (making local modifications on the PowerPoint documents) to explain the benefits of recycling, locally recyclable materials and strategies to make it easier. A video (called “What Can Be Recycled”) is provided as a trainer resource or for use in class to show items that are commonly recyclable. Discussion is encouraged to engage residents in creating an action plan and to identify challenges to discuss with the property owner/manager.

ITEMS NEEDED

Included with TIAB:

- Waste & Recycling PowerPoint Slides
- Waste & Recycling Exercises 1
- Video (What Can Be Recycled)

Trainer to provide:

Common household waste items for
Exercise 1: Discover What Can You Recycle

Recyclables:

(see list in exercise for a more-exhaustive list)

- Plastic bottles (all plastic ID #s)
- Aluminum cans
- Metal cans
- Different types of paper (magazines, office, junk mail, etc)

Non-Recyclables:

(examples)

- Soiled Pizza box
- Batteries
- Chip bags



WASTE & RECYCLING WORKSHOP AGENDA

30 minutes

TOPIC	DURATION	TEACHING METHOD	IN YOUR "BOX"	PREPARATION
Why Recycle?	15 minutes	<ul style="list-style-type: none"> Waste & Recycling Exercise 1: Discover What You Can Recycle (Residents to complete Step 1 of worksheet prior to PowerPoint presentation) PowerPoint Slides 	<ul style="list-style-type: none"> Waste & Recycling PowerPoint Waste & Recycling Exercise 1 PDF 	<ul style="list-style-type: none"> Review exercise Review and customize PowerPoint slides for local conditions
What Can You Recycle?	10 minutes	<ul style="list-style-type: none"> Waste & Recycling Exercise 1: Discover What You Can Recycle (Residents complete Step 2) Demonstration: Show items that are recyclable 	<ul style="list-style-type: none"> Waste & Recycling Exercise 1 PDF Video (optional) 	<ul style="list-style-type: none"> Bring recyclable items to show during training Review video
Set Up A Home Recycle Center and Deposit Recyclables	5 minutes	<ul style="list-style-type: none"> Discussion: Setting up recycling area in the home Waste & Recycling Exercise 1: Discover What You Can Recycle (Residents complete Step 3) Discussion: Any barriers that residents encounter? 	<ul style="list-style-type: none"> Waste & Recycling PowerPoint Waste & Recycling Exercise 1 PDF 	Edit PowerPoint file to: <ul style="list-style-type: none"> Identify sorting rules required by building, waste hauler or town Show recycling room/drop off area



EXERCISE 1: DISCOVER WHAT YOU CAN RECYCLE

GOAL

Residents identify which household waste materials can be recycled rather than thrown in the trash.

There are two approaches to this exercise, depending on the availability of space or materials.

PREPARATION APPROACH 1

- Prior to the session, identify which materials can be recycled locally and where in the building recyclable materials should be deposited.
- In the session, hand out exercise sheets which asks residents to work in pairs or small groups.

	Step 1: Mark what you currently recycle	Step 2: Mark what you can/will recycle that you didn't before
PAPER		
• Office paper	●	●
• Book and magazine	●	●
• Newspaper	●	●
• Colored newsprint	○	●
• Cardboard boxes	○	●
• Mailbox inserts	○	●
METALS		
• Aluminum foil (flat)	○	●
• Aluminum cans	●	●
• Steel food cans	○	●
GLASS		
• Bottles	●	●
• Jars	○	●
PLASTICS		
• #1 PETE (see notes below)	●	●
• #2 HDPE (see notes below)	○	○
• #3 PVC (see notes below)	○	○
• #4 LDPE (see notes below)	○	○
• #5 PP (see notes below)	○	○
• #6 PS (see notes below)	○	○
• #7 Other	○	○

Note: Sample answers are shown in the "Waste&Recycling_Exercise1.pdf" document

ACTIVITY APPROACH 1

Step 1

Have participants mark which materials they currently recycle in the Step 1 column. Continue with the PowerPoint until it prompts you to move to Step 2 of the exercise.

Step 2

Have participants mark down which items were "new" to them – that they didn't know they could recycle.



EXERCISE 1: DISCOVER WHAT YOU CAN RECYCLE

PREPARATION APPROACH 2

- Prior to the session, review which materials can be recycled locally and where in the building recyclable materials should be deposited.
- In this version of the exercise, groups of 3 or 4 are presented with a pile of recyclable and non-recyclable items. They must sort through the pile and divide the items into recyclable and non-recyclable piles.
- With this in mind, you should collect enough sample recyclable and non-recyclable items for each group. Each group should have representative items from the worksheet as well as non-recyclable trash items (for example: batteries, chip bags, juice boxes, dirty pizza boxes).
- Review video (“What Can Be Recycled”) for a reference in how a group would sort through common household waste.

ACTIVITY APPROACH 2

Step 1

Have participants break into groups of 3 or 4. You should present the pile of common household waste to each group and have them divide the pile into recyclable and non-recyclable sort through which materials they currently recycle in the Step 1 column.

Step 2

You should go through the Waste & Recycling presentation to review which items are locally recyclable. Then, participants should mark down which items were “new” to them – those that they didn’t know they could recycle.

WASTE & RECYCLING EXERCISE 1: DISCOVER WHAT YOU CAN RECYCLE
SAMPLE ANSWERS

GOAL: Learn to identify which household waste materials can be recycled rather than thrown in the trash.

DIRECTIONS: Step 1: Mark what you currently recycle. Step 2: Mark what you can/will recycle that you don't know.

Category	Item	Step 1 (Currently Recycle)	Step 2 (Can/Will Recycle)
PAPER	Office paper	●	●
	Index card	●	●
	Magazine	●	●
	Newspaper	●	●
	Cardboard boxes	○	●
	Waste paper	○	●
METALS	Aluminum foil/napkin	○	○
	Aluminum cans	●	●
	Crushed tin cans	○	●
GLASS	Bottles	●	●
	Jars	○	●
PLASTICS	#1 PETE (in milk/juice bottles)	●	●
	#2 HDPE (in laundry detergent, milk jug)	○	●
	#3 PVC (in pipe, shower curtain)	○	○
	#4 LDPE (in plastic bags)	○	○
	#5 PP (in milk/juice paper containers)	○	○
	#6 PS (in packing peanuts, foam cups)	●	Not recyclable here
#7 Other	○	○	

Note: Sample answers are shown in the “Waste&Recycling_Exercise1.pdf” document