ENERGY CORPS Learning Module
Topic: Recycling

Introduction to Use of Energy Corps Learning Modules and Knowledge Based Questions

Welcome to the Recycling unit! The following pages will provide you with a guide for educating a variety of age groups on the subject of recycling. The following pages will outline the most important concepts to cover in any presentation related to a specific topic. It will also supply you with a set of questions appropriate for each age group that you must ask as part of any presentation/workshop/other questionnaire you conduct related to recycling. In addition to providing you with a starting point for your presentation, these questions provide change-in-knowledge data that fulfills your performance-measurement requirements. Finally, you will find some tips on how to work with different age groups. These are, however, just a starting point. Including this information into your presentation should be considered a minimum requirement. There are sources included to help you find images and other material for your presentation. We hope this teaching module will help you give effective presentations throughout your term of service. This is a work in progress and your feedback will help us improve our efforts to deliver information and to evaluate the effectiveness of that delivery.

By the end of your presentation, you should have touched on each of the concepts listed below. Student knowledge of each concept will be tested by the questions found in this unit. Each age bracket will contain at least one question relating to each concept. Feel free to go beyond what is listed here and explore concepts in greater depth or detail. These questions and concepts are deliberately broad to allow you to tailor your presentation to a specific audience, region or topic. Be creative! Contact your site supervisor or state coordinator with any questions.

Learning Objective

This module provides basic information on common elements of recycling programs: what recycling is; why it is important; how common systems work; and commonly recycled materials and products.

Core Concepts

The following are the core concepts that any presentation on recycling should include.

1. **A note on reducing and reusing**
2. **What is recycling and why do it?**
    a. **How recycling conserves resources and reduces pollution, waste, and greenhouse gases**
    b. **Examples of energy savings**
    c. **How savings on tipping fees plus commodity sales can help cities make money on recycling**
    d. **How a Pay-as-You-Throw system can save cities (and residents) money**
3. **How recycling works: Urban**

    a. **Methods of collection**
        i. **The difference between *dual-stream-curb-sort* and *single-stream-materials recovery- facility-sort* and the pros and cons of each**
    b. **Processing**
        i. **Private processors**
        ii. **Municipal/public processors**
4. **How recycling works: Rural**
    a. **Methods of collection**
        i. **Community bins**
    b. **Processing**
        i. **Private processors**
        ii. **Public processors**
5. **What can be recycled?**
    a. **Hazardous materials: paints, solvents, motor oil, batteries (lead acid and dry)**
        i. **HazMat drives**
    b. **Glass**
    c. **Paper**
    d. **Cardboard**
    e. **Plastics**
        i. **What do those little numbers mean?**
    f. **Electronics**
        i. **Third World disposal issues**
    g. **Metal**

Explanation of Concepts

A Note on Reducing and Reusing

While this learning module teaches the basics of recycling, it is not always the case that recycling is the best way to be more sustainable. We at NCAT believe that the *best* way is simply to use less of a given item, and/or reuse that item. Recycling still requires an energy input, so finding another use for an item saves energy. Whether glass jars or automobiles, EC members should recommend that people reduce and reuse before they recycle.

What is Recycling and Why Should You Recycle?

Saving Virgin Resources and Energy: According to Richard Gertman of Cascadia Consulting Group, "recyclables are resources, not diverted wastes." Recyclables include many materials we use on a day-to-day basis, including paper, plastic, and various metals. These materials are reprocessed into consumer goods, thereby reducing the amount of resources drawn from the planet. It is critical that students understand that recyclable goods represent an under-utilized reserve of resources, one that can be used to make more of the goods consumers demand. You can use the examples and questions throughout this unit to explore this concept. Here are some examples of materials that are made using recycled materials: aluminum cans, carpeting, cereal boxes, egg cartons, glass bottles and jars, laundry

detergent bottles, newspaper, nails, paper for notebooks and printers, steel products, even motor oil. The list goes on and on. These products are all available to consumers and are just as good as those made from newly processed raw materials. Glass is a good example: according to the State of Maine's recycling website, "All types of used glass containers can be reused indefinitely to make new glass products." Furthermore, it states that it is easier to make new glass goods from Recycled glass than it is to make them from scratch. (See "What Your Recyclables Become" (2006) www.maine.gov) Makers of glass bottles that use recycled glass, also known as cullet, can run their furnaces at lower temperatures, thus saving even more energy and reducing costs, which can in turn reduce the price consumers pay for the bottles. Even in more complicated goods, such as motor oil, products made at least in part from recycled materials are just as good products with no recycled content. Motor oil is also a good example of resource conservation: according to the EPA, "One gallon of used motor oil provides the same 2.5 quarts of lubricating oil as 42 gallons of crude oil."

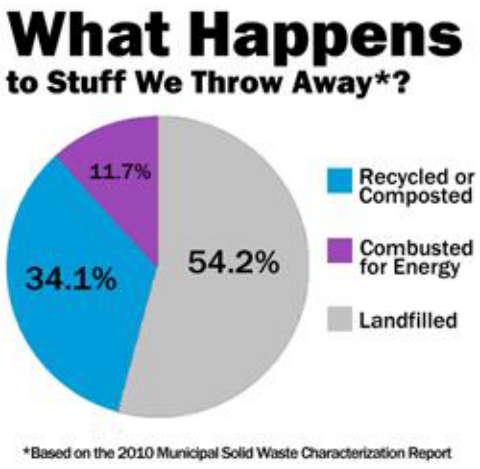

Figure 1

(Courtesy, EPA, http://www2.epa.gov/recycle/recycling-basics)

Besides conserving resources and providing more raw materials, recycling also reduces pollution, landfill use, and greenhouse gas emissions. For example, recycling five aluminum cans saves enough energy to power a single 60Watt CFL light bulb for nearly 99.8 hours. Twelve plastic bottles save enough energy to power a laptop for 30 hours. The EPA's iwarm tool can be used to verify these and other energy savings calculations. (http://www.epa.gov/epawaste/conserve/tools/iwarm/index.htm)

Saving Money for Everyone: In addition to saving resources and energy, recycling has economic benefits as well. It costs money for cities, towns, or counties to operate facilities for processing recyclables. To recoup these costs, communities turn to tipping fees. Many communities also make money on the sale of the valuable commodities that their residents recycle, such as aluminum and steel.

There are also benefits to individuals: cities, towns, and counties that have recycling programs and operate processing facilities provide jobs as collectors and facility workers. Some areas will also have pay-as-you-throw programs that allow all households to save money by charging them based on the amount of Municipal Solid Waste (MSW - see "Key Definitions") they produce. This allows people to save money by producing less trash.

Recycling programs vary from one location to another. It would be wise for Energy Corps members to determine whether the community they are working in has pay-as-you-throw programs, tipping fees, or other special programs that allow residents to save money. Some examples of authorities to contact include (but are not limited to) recycling managers, volunteer recycling committees, public works departments of city/county government, and landfill/transfer station managers. You can also find places

that recycle (these might be major businesses or living complexes) and ask who picks up the recycled materials. By learning the details, you can be a more effective presenter.

How Recycling Works: Urban/High Population Density

This learning module differentiates between recycling in urban/high population density areas and rural/low population density areas. There are certain characteristics that set them apart. For example, while there is evidence that rural/small communities produce less solid waste per-capita (http://www.epa.gov/osw/conserve/downloads/recy-com/chap02.pdf), a rural area offers many more opportunities for illegal dumping than does a major urban center or suburban development.

Methods of Collection: A hallmark of recycling in urban/high density areas is a wide range of recycling options, many of which require little of the resident beyond paying a fee and filling the curbside bin. For curbside service, there are two main methods of collection employed by most communities: dual-stream-curb-sorted and single-stream - MRF - sorted. (MRF stands for Material Recover Facility - see "Key Definitions" section.) Single stream refers to a system where all paper, cardboard, metal, plastic and other recyclables are collected in the same bins and go to the processing facility together. The co-mingled recyclables are then separated at the MRF. A dual-stream curb sort system requires that mixed paper go into one bin and aluminum, plastic, and glass containers go into another. While both of these are easier than having all elements sorted separately, single-stream systems allow for greater collection efficiency and largely eliminate the burden on residents to sort their recyclables — all they need to know is what is, or is not, recyclable. This greater flexibility and efficiency brings with it substantial benefits, including reduced greenhouse gases due to less time on the road for trucks. While the cost increases for the equipment, collection process, and in particular the sorting process, a single-stream system often yields greater amounts of recyclables collected. Other collection methods found in urban areas include collection centers operated by local governments, non-profits, and for-profit companies. Collection centers often accept a wide range of materials, including hazardous waste often referred to as HW (see Key Definitions). As always, investigate the systems in the community(s) you work in to give the most effective presentation.

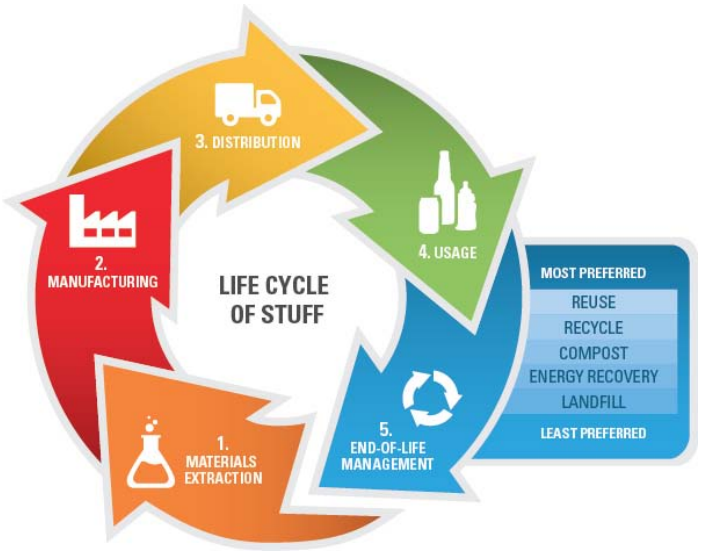

Figure 2

(courtesy, EPA www.epa.gov)

Who Collects Recyclables: Many, if not most, major cities and other densely populated areas have municipal recycling programs. These are operated and funded by local government, typically as an extension of their existing municipal waste-management agency or division. For example, the City of San Antonio Solid Waste Department operates a curbside recycling program for city residents. They also operate drop-off centers across the city. (https://www.sanantonio.gov/swmd/Recycling.aspx) Both non-

profit and for-profit recycling companies can also be found in cities. They may operate curbside pickup and/or collection centers. Some businesses may recycle as a component of a larger business model: auto parts stores and scrap yards are good examples. Lastly, colleges and universities may operate their own program. This wide range of options means that people living in these population centers can recycle most materials most of the time. However, it also means the MSW stream is very large, and achieving a high percentage of recycling across the MSW stream is difficult to achieve given the diversity of the waste stream and its sources (single family homes, apartment complexes, major businesses).

Processing: Processing for major municipal programs occurs at the Materials Recovery Facility where, whether dual stream or single stream, different recyclables are sorted and cleaned. The processing takes longer and is more expensive in a single-stream system. After separation, recycled goods are processed into materials for use by manufacturers of products that have recycled content. This is a stage where the city can make money by selling the recycled materials to manufacturers of recycled goods. Private (5% according to some sources) recycling companies or non-profits may operate their own facility for processing or may contract with a third party.

How Recycling Works: Rural/Low Population Density Recycling

Methods of Collection: Some small towns or rural/partially rural counties may have curbside pickup. This could be single-stream or dual-stream, the main characteristics of which would be the same as those in urban areas. Differences could be pickup frequency or cost. In place of curbside service, rural areas or small communities frequently feature centrally located collection centers for residents to bring their recyclables to. This requires more input by the resident: they may need to presort their materials, and they may need to drive some distance to get there. The collection facility may take a different selection of materials than an urban collection facility, making some items difficult to properly recycle.

Who Collects Recyclables: Some county governments operate waste management programs that are similar to those found in urban areas. Private groups may also operate curbside pickup programs. Many small communities will feature collection centers at their local dump or transfer station. Here is an example of a collection center in a small Massachusetts town: http://town.buckland.ma.us/departments/highway-refuse-department.html. Private groups may operate local or regional collection centers, and private, local, county, or even state-sponsored Recycling drives may be held periodically.

Processing: There are a variety of processing options for rural communities. The state or county government may operate regional facilities. The community or a collection of communities could contract with a private group. Any private group that organizes collection facilities or collection drives may send the materials to a headquarters or other processing facility. Here is an example of an MRF that is owned by the State of Massachusetts, operated by Waste Management Inc. and serves a large number of small towns and rural communities: http://springfieldmrf.org/site/?page_id=30.

Concluding Notes on Urban Vs. Rural: Having established that there are both differences and similarities between recycling in urban and rural areas, the best advice is to research what is locally

available and try to give as comprehensive a presentation as possible. See "Resources" section for further information.

What Can Be Recycled

Corrugated Cardboard and Paperboard: Often differentiated from paper, cardboard and paperboard are one of the most frequently recycled materials (77% according to EPA) in the US. There are two broad categories of cardboard. Corrugated cardboard is found in packing boxes and can be identified by the wavy middle layer(s). Paperboard is the thinner, single layer material used to make cereal boxes. When recycling cardboard, there are a few things to keep in mind. First, tape and labels can be left on and will be removed during processing. Second, some cardboard cannot be recycled. This includes pizza boxes or other greasy cardboard, waxy or resin-coated cardboard (milk containers) and cardboard that is wet. Recyclers frequently request that boxes be flattened www.earth911.com. can be used to check on local sources. Cardboard is also easily reused: boxes can be used for dry storage or for starting heating fires. Cardboard is also biodegradable and can be used to line garden beds under a layer of mulch. (Remove tape and labels and avoid waxy/coated cardboard.)

Electronics: Electronics such as cell phones, TVs, and computers contain a wide range of materials, including plastics, glass, and both rare and common metals. Recycling is possible; "For every million cell phones we recycle, 35 thousand pounds of copper, 772 pounds of silver, 75 pounds of gold, and 33 pounds of palladium can be recovered." (see "Electronics Donating and Recycling" (2012) www.epa.gov) A Warning: Electronic waste (e-waste) frequently finds its way to the shores of poorer countries such as China or various African nations, where the items are disassembled with few, if any, worker and environmental safety measures. We at NCAT want to avoid in any way supporting this terrible practice. As an Energy Corps member you should advocate first for reuse of the item (for example, upgrade a computer's operating system rather than buy a new machine) or donation. Cell phone donations are common nation-wide. If you are going to advise students on local recycling options for discarding any of these electronics, the importance of verifying good practices on the part of the recycling facility cannot be overstated. Be cautious about endorsing any particular operation. It would behoove an Energy Corps member to verify groups accepting e-waste (Radio Shack, Best Buy, Staples, etc.) and inquire about their practices.

Glass: The EPA says it best: "Glass, especially glass food and beverage containers, can be recycled over and over again. Americans generated 11.5 million tons of glass in 2010, about 27 percent of which was recovered for recycling. Making new glass from recycled glass is typically cheaper than using raw materials. Most curbside community recycling programs accept different glass colors and types mixed together, and then glass is sorted at the recovery facility. Check with your local program to determine whether participants are required to separate their glass or whether it can be mixed together." (http://www.epa.gov/wastes/conserve/materials/glass.htm) (http://www.mnn.com/food/beverages/sponsorvideo/rocky-mountain-bottle-company-leading-the-way-for-glass-recycling)

Hazardous Waste (Paints, Solvents, Motor Oil, Acids, Batteries): According to the EPA, "Batteries contain heavy metals such as mercury, lead, cadmium, and nickel, which can contaminate the

environment when batteries are improperly disposed of. When incinerated, certain metals might be released into the air or can concentrate in the ash produced by the combustion process." Batteries should be recycled. For car batteries, most auto parts stores and service centers will take used batteries for recycling. Dry-Cell batteries (9-volt, AA, AAA, and coin/watch batteries) are recycled at a variety of stores and at community events. Motor oil and some other automotive fluids (but not always all!) are also recyclable at auto parts stores or local hazardous waste (abbreviated HW, see Key Definitions) facilities. Paints, solvents, and acids are also recycled through local HW facilities. To determine specific items recyclable in your area check out Earth911.com and/or verify with local officials. If there are HW items that are not regularly recyclable, then it is likely that some local organization or group holds regular/semi-regular collection events.

Metals (Aluminum, Steel, Iron, Etc.) - Most metals can be recycled, and metals, particularly aluminum, are among the most common recyclables accepted by programs across the country. Recycled aluminum is processed back into cans and other containers. According to the EPA, "In 2010, 50 percent of aluminum beer and soft drink containers generated were recycled (about 0.7 million tons)." Steel and its alloys can be recycled similarly, with steel cans being the most likely source that average consumers will encounter. As with aluminum, steel cans are a commonly accepted recyclable nationwide, but you should still verify with local programs. Steel and other ferrous (iron-containing) metals can be recycled to make new products for just a fraction of the energy cost (5% according to some sources) compared to mining new ore. For this reason, it is in the interest of both producers and consumers to recycle. The same is true for aluminum.

(http://www.epa.gov/osw/conserve/materials/steel.htm)
http://www.epa.gov/osw/conserve/materials/alum.htm)

Figure 4 (left)

Universal symbol for recyclable steel

(http://en.wikipedia.org/wiki/Ferrous_metal_recycling)

Figure 3 (right)

Universal symbol for recyclable aluminum

http://en.wikipedia.org/wiki/Aluminium_recycling

Paper: Paper has the dubious honor of making up the largest percentage of our waste. (Thirty percent, according to EPA.) Paper is also one of the most commonly recycled products —most recycling programs will take paper in one way or another. According to the EPA and TAPPI, there are "over 5,000" products that can be made from recycled paper. Unlike glass, paper cannot be recycled indefinitely, and according to TAPPI, paper fibers can go through the recycling process five times before they become too short to bond together. Keep in mind that some programs require paper be separated and some take mixed paper. Check with programs at all levels (state, county, local, private) in your area to have the most up-to-date information for your students. (http://www.epa.gov/osw/conserve/materials/paper/faqs.htm) For information on the paper recycling process, visit the Technical Association of the Pulp and Paper Industry (TAPPI) at www.tappi.org and search for "Earth Answers."

Plastics: "Thirty-one million tons of plastic waste were generated in 2010, representing 12.4 percent of total MSW….Only 8 percent of the total plastic waste generated in 2010 was recovered for recycling." (See "Plastics" (2012) www.epa.gov). Plastics, while they do not hold as large a share of the MSW stream as paper, are still of critical importance as a recyclable. Unfortunately, they are also one of the most complicated items to recycle outside of the hazardous waste category. This is due to those little numbers inside of the recycling symbol. The numbers identify the type of plastic, specifically the resin used to make the plastic, which in turn determines how it can be recycled. The resins are not all alike and cannot be mixed together. The numbers are meant to prevent cross-contamination during processing, in which recycled plastic is ground into small pellets before being sent to manufacturers. See the chart below for more information.

Type of Plastic	Examples of What is Acceptable for Recycling	It Gets Made Into...
1 **PET** **polyethylene terephalate** *It's tough and shatterproof.*	Peanut butter jars. Narrow-neck containers, such as for detergents, mouth wash, salad dressing, vitamins, soda and water bottles.	Bottles, carpeting, tennis balls, insulation for jackets, t-shirts, paint brushes.
2 **HDPE** **high density polyethylene** *It's flexible and often translucent.*	Milk and water jugs, juice bottles, dairy tubs such as whipped topping or sour cream, liquid detergent bottles, medicine bottles, kitty litter jugs, plastic grocery bags.	Plastic lumber, detergent and bleach bottles, trash cans, buckets, toys, traffic barriers, fly swatters.
3 **PVC** **polyvinyl chloride** *It's tough and chemical resistant.*	Bottles for shampoo, cooking oil, salad dressing.	Floor mats, mud flaps, pipes, hoses, computer and electric cord wraps.
4 **LDPE** **low density polyethylene** *It's flexible and tough.*	Food storage containers, dairy container lids, bags newspapers are delivered in, dry cleaning bags.	Garbage can liners, frisbees, plastic lumber, lawn furniture, toys.
5 **PP** **polypropylene** *It's chemical and heat resistant.*	Medicine bottles, deli containers, yogurt containers, rigid/reuseable plastic cups, nursery plant packs and pots.	Brooms, lawn mower wheels, ice scrapers, paint buckets, toothbrushes. Spun fiber fabrics and filling for coats, sleeping bags and blankets.
6 **PS** **polystyrene** *It's brittle and see-through OR soft opaque foam.*	Dairy containers, medicine and vitamin bottles, flower pots.	Building insulation, flower pots, CD cases and sleeves, rulers, trash cans, food service trays.
7 ***OTHER*** **other plastics**	Bottles such as for ketchup, syrup, window cleaner, 5-gallon water coolers.	Street signs, pens, concrete supports, ice scrapers.

Important Note*:* "Contrary to common belief, just because a plastic product has the resin number in a triangle, which looks very similar to the recycling symbol, it does not mean it is collected for recycling."

(http://www.epa.gov/wastes/conserve/materials/plastics.htm) The most commonly collected plastics are #1 and #2. Many programs will *only accept #1 and #2,* while some others take #1 - #7. Which plastics local recyclers accept is a critical piece of information to verify and share with your audience.

Key Definitions

Municipal Solid Waste (MSW): "Commonly known as trash or garbage—consists of everyday items we use and then throw away, such as product packaging, grass clippings, furniture, clothing, bottles, food scraps, newspapers, appliances, paint, and batteries. This comes from our homes, schools, hospitals, and businesses." (http://www.epa.gov/epawaste/nonhaz/municipal/index.htm)

Tipping Fee: A fee that is charged by some MSW programs in order to dispose of trash or recyclable materials. Tipping fees serve as a way for communities to recoup the costs of running recycling and waste disposal programs.

Pay-as-You-Throw: A pricing model for disposing of municipal solid waste that charges the user based on the quantity (weight) of waste that is collected from each program participant.

(http://en.wikipedia.org/wiki/Pay_as_you_throw)
(http://www.epa.gov/osw/conserve/tools/payt/pdf/tlkpt.pdf)

Materials Recovery Facility (MRF): An MRF is a facility where recycled materials (such as glass or paper) are sorted and processed into raw materials that can be used by producers of commodities that contain recycled content. Work done at MRFS frequently involves sorting, washing, processing (shredding, crushing, etc.) and packaging. They are both a significant cost and a source of income for cities, towns, and counties that operate them.

Hazardous Waste: "Hazardous waste is waste that is dangerous or potentially harmful to our health or the environment. Hazardous wastes can be liquids, solids, gases, or sludges."
(http://www.epa.gov/osw/hazard/)

Some Pointers on Different Age Groups

Part of your job as an Energy Corps member is to be able to work with a variety of age groups. To that end, this unit provides you with questions deemed by NCAT to be appropriate for a given age group. Here are a few things to keep in mind.

- Recycling is something that every age group covered by this module can impact themselves (this makes it fairly unique amongst the Energy Corps Learning Modules). **Use demonstration pieces** (plastic bottles with the numbers highlighted, glass jars of various colors, both kinds of cardboard, etc.) to give students hands-on experience and show them *exactly* how to recycle.
- No matter what age, try to assess the educational level of your audience and don't assume they know what you know.
- If you can coordinate with a teacher in advance of a classroom visit, do so. Also investigate school recycling programs to learn what the students may already know.

- Have fun and be creative, especially with younger groups. They don't have long attention spans, but they will get excited if something is fun and different.
- You may find younger students to be very curious about where things come from and the processes of recycling. You can use this to your advantage.

The Questions

We have provided you with the following questions, approximately six for each of three age groups. They can be found in the following pages. **For questions involving recyclable materials, bring demonstration pieces**

Grades 3 – 5

1. Which of these is a benefit of Recycling? (Circle all that apply.)
    a. **Recycling reduces pollution**
    b. **Recycling conserves natural resources**
    c. **Recycling saves your family money**
    d. **Recycling creates jobs**

2. Which of these is a product that can be made up partly or wholly of recycled materials? (Circle all that apply.)
    a. **Plastic bottles**
    b. **Newspaper**
    c. Ceramic mugs
    d. **Soda cans**

3. In 2010, what percentage of plastic used in the United States was recycled?
    a. **8%**
    b. 16%
    c. 24%
    d. 32%

4. The following symbol is found on many plastic bottles: 

What does it tell you? (Circle all that apply.)
    a. **The type of plastic that makes up the bottle**
    b. **Whether or not the bottle can be recycled in your community**
    c. How long the bottle will take to decompose
    d. How many times the bottle can be reused

5. Which of these can be recycled? (Circle all that apply.)
    a. **Plastic bottles**
    b. **AA batteries**
    c. **Soda cans**
    d. Scotch tape

Grades 7 - 9

1. Which of these is a benefit of recycling? (Circle all that apply.)
    a. **Recycling reduces pollution**
    b. **Recycling conserves natural resources**
    c. **Recycling saves your family money**
    d. **Recycling creates jobs**

2. In 2010, What percentage of plastic used in the United States was recycled?
    a. **8%**
    b. 16%
    c. 24%
    d. 32%

3. Paper makes up what percentage of Municipal Solid Waste (our trash)
    a. 5%
    b. 15%
    c. **30%**
    d. 45%

4. How many times can glass be recycled and made into new glass?
    a. 1 time
    b. 5 times
    c. 10 times
    d. **Indefinitely**

5. The following symbol is found on many plastic bottles: 

What does it tell you? (Circle all that apply)
    a. **The type of plastic that makes up the bottle**
    b. **Whether or not the bottle can be recycled in your community**
    c. How long the bottle will take to decompose
    d. How many times the bottle can be reused

High School – College/Adult

1. Recycling five aluminum cans saves enough energy to power a 60 Watt CFL light bulb for approximately __ hours?
    a. 25
    b. 50
    c. 75
    d. 100

2. Which of the following are advantages of pay-as-you throw (PAYT)systems of waste disposal? (Circle all that apply.)
    a. Residents can save money
    b. Communities can reduce the costs of solid waste disposal
    c. Everyone pays the same amount regardless of much waste they produce
    d. PAYT systems discourage recycling

3. Which of these is a characteristic of *all* Single-Stream recycling programs? (Circle all that apply.)
    a. **Fewer curbside bins/ housing unit**
    b. Paper and plastic must be separated
    c. Paper and plastic go together
    d. More frequent pickups

4. In 2010, what percentage of plastic used in the United States was recycled?
    e. **8%**
    f. 16%
    g. 24%
    h. 32%

5. Match the following SPI plastic resin/number to the types of recyclable plastic items below:

(Circle all that apply.)

a. Milk jugs

b. Plastic grocery bags

c. **Liquid detergent bottles**

d. Soft drink/water bottles

That ends the questions part of this unit. We encourage you add your own questions to these.

Sources to Get You Started. Except where noted, all questions were developed from information from these sources.

EPA – http://www2.epa.gov/recycle
The EPA maintains an excellent website on recycling. Most of the information in this learning module came from there.

National Center for Appropriate Technology – www.ncat.org
Your own organization! NCAT and Energy Corps have a wealth of resources available, including the experiences of staff and past Energy Corps members.

National Energy Education Development Project – www.need.org
This organization has a massive set of teaching manuals and "infobooks" covering all age groups.

State Resources (all states with Energy Corps members)
Arkansas: http://www.adeq.state.ar.us/

Texas: http://www.tceq.state.tx.us/

Iowa: http://www.iowadnr.gov/Environment.aspx

Pennsylvania: http://www.depweb.state.pa.us/portal/server.pt/community/dep_home/5968

Montana: http://www.deq.mt.gov/default.mcpx

Also see city and/or county resources.

Feel free to find your own sources to supplement these! Have fun and good luck!