Teach English, Teach About the Environment

A Resource for Teachers of Adult English for Speakers of Other Languages (ESOL)

For your convenience, this document is printed with a three-hole punch design so that you may insert it into a loose-leaf binder.

This page provides a cut-out "spine" for your binder. Tabs for each section are also included.

Lesson Plans

Beginning Level

Intermediate Level

Advanced Level

Appendices

Appendix 1
Training ESOL Teachers

Appendix 2
Using This Resource

Appendix 3
Flash Facts

Appendix 4
Picture Files

Table of Contents

Introduction i

Note to Instructors ii

Lesson Plans 1

Beginning Level 3

Intermediate Level 14

Advanced Level 25

Appendices 35

Appendix 1: Training ESOL Teachers 37

Preparing for Training 38

Conducting the Training Session 38

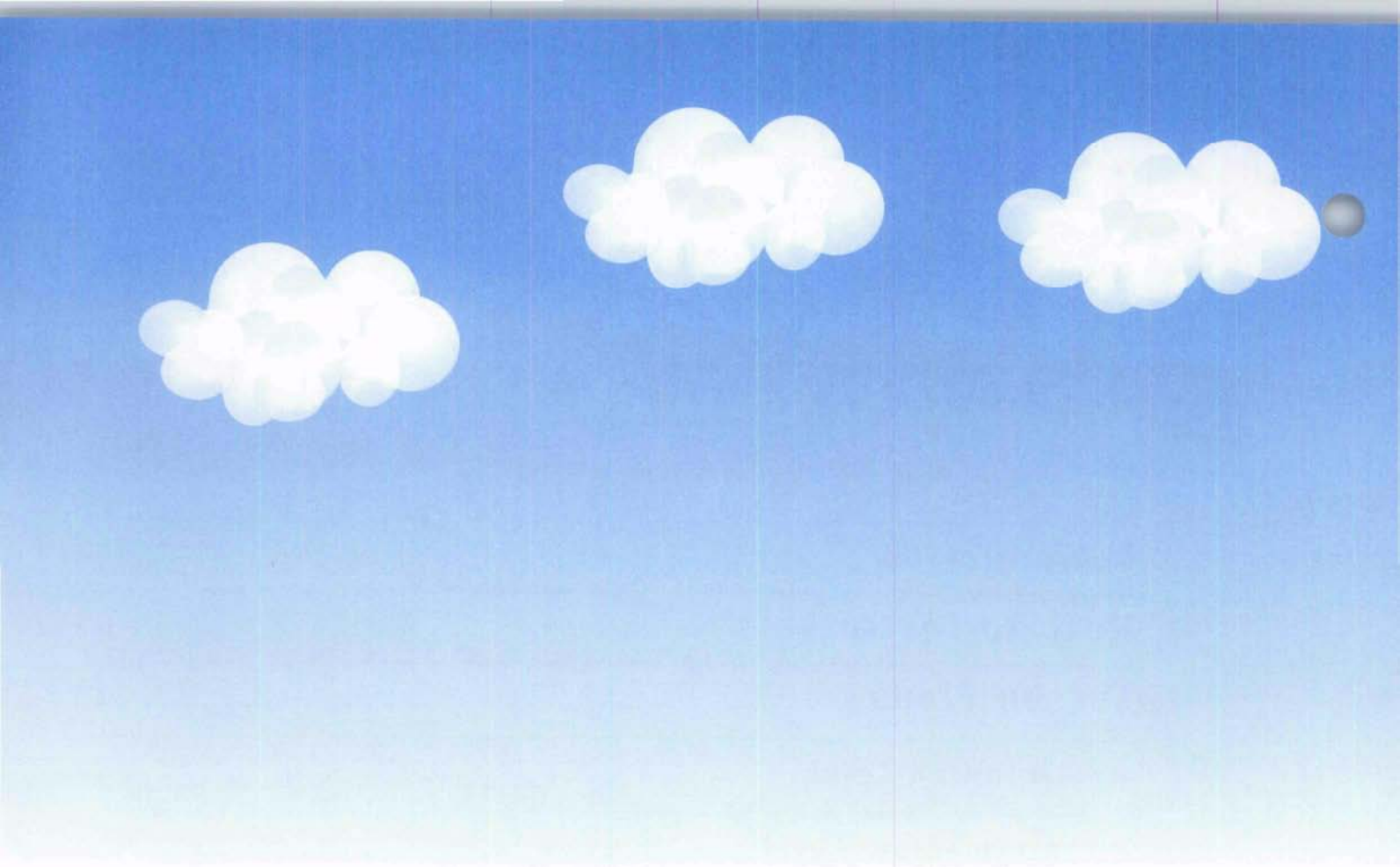
Appendix 2: Using this Resource 39

Accessing United States Environmental Protection Agency Resources 39

Background Information 40

Appendix 3: Flash Facts 43

Appendix 4: Picture Files 101



Introduction

As a teacher of English for Speakers of Other Languages (ESOL), you know that your classes are extremely popular with immigrants and long-term visitors to the United States. These classes provide not only the opportunity to learn English but can serve as a portal through which many newcomers pass as a first step in integrating themselves into their new communities and American society.

The Environmental Protection Agency (EPA) has developed the *Teach English, Teach about the Environment* curriculum to help you teach English to adult students while introducing basic concepts about the environment and individual environmental responsibility. These concepts can help the newly-arrived be part of cleaner and healthier communities by understanding and practicing the "3Rs" of solid waste management – reduce, reuse, recycle. "Background Information – The 3Rs of Solid Waste Management" on page 40 should be read before using this curriculum.

The curriculum uses a hands-on, multi-sensory, multi-media approach to show how personal behavior can improve the overall environmental well-being of the family, home, and community. Lesson plans are provided for the beginner, intermediate and advanced student. Each lesson plan has a language as well as an environmental objective. It also provides background on the environmental objective, a list of materials needed, a glossary of terms used in that lesson and a worksheet. Lessons should be introduced when the adult learner is already familiar with the grammatical construction emphasized in the materials. Flash cards and picture files are also included.

We hope that you find *Teach English, Teach about the Environment* a useful and interesting resource for your students.

Note to Instructors

The *Teach English, Teach About the Environment* curriculum is a series of lessons related to reducing, reusing and recycling waste. The lesson plans in the curriculum should be introduced after the adult learner is already familiar with the grammatical constructions emphasized in the materials. The curriculum should be used as a supplement to your traditional teaching materials.

You should introduce and teach the vocabulary, as most students would probably be unfamiliar with environmentally-related words.

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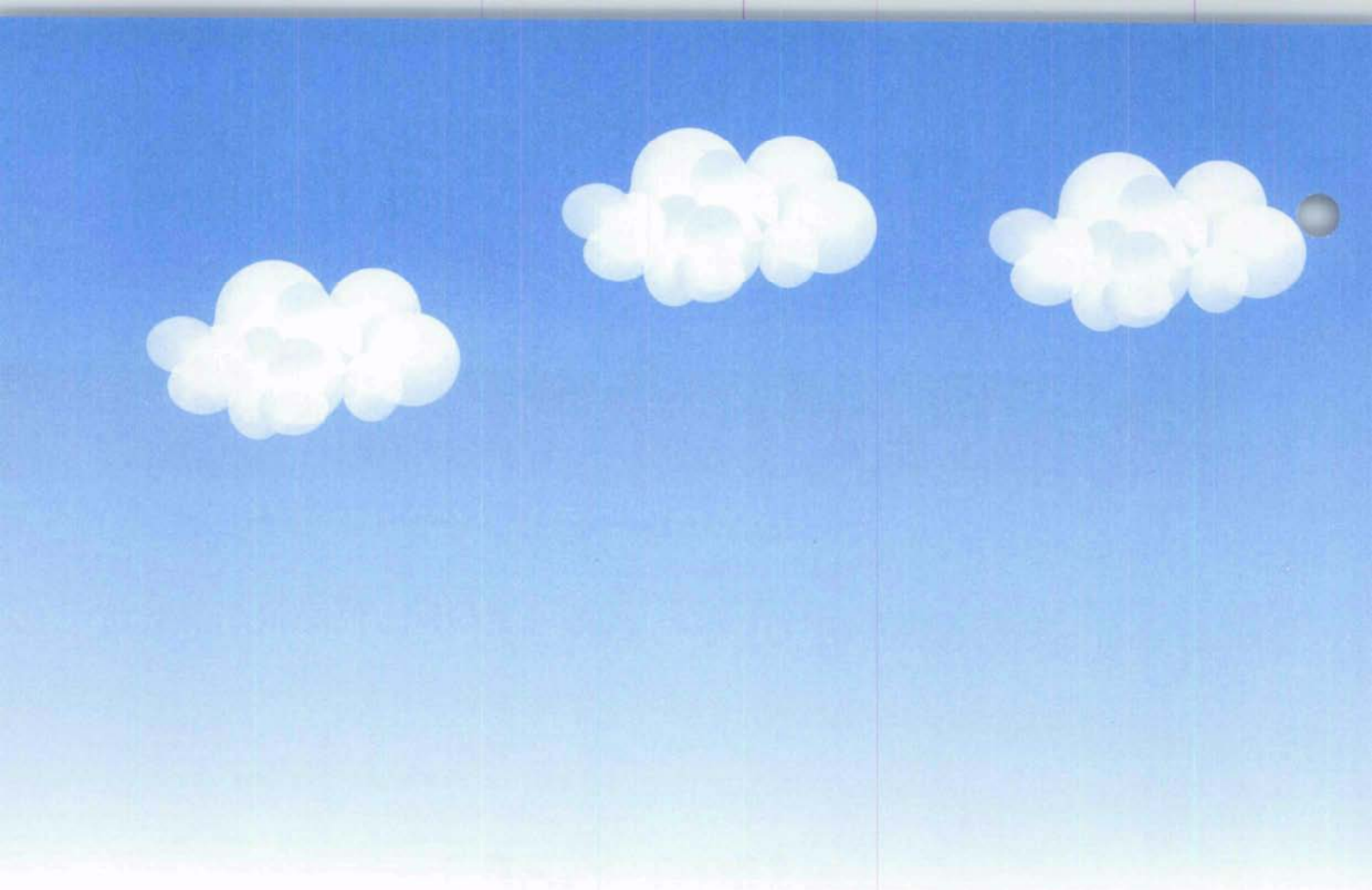
Lesson Plans

Beginning Level

Intermediate Level

Advanced Level



Solid Waste Focus: Recycle

Environmental Objective

Identify common environmental values held in the United States related to recycling, reusing and reducing the waste stream.

Materials Needed

Pictures a, b, c, d and e

Flash Facts 1, 2, 3 and 7

Newspapers, aluminum cans, glass bottles, plastic containers, boxes color-coded to match marked (glass, paper, plastic) receptacles for recycling.

Background for the Teacher

Recycling is an important way we can save energy and conserve natural resources. Many communities require residents to recycle and provide special color-coded receptacles for sorting and collecting the items to be recycled. Become familiar with your community's procedures for recycling. Determine if there are any penalties for failing to recycle.

Language Objectives

1. Simple present tense first person singular and plural
   Examples: "I recycle glass." "We recycle newspaper."
2. Adjective-noun order
   Examples: glass bottle, aluminum can

Vocabulary

aluminum	newspaper (s)	glass
plastic can (s)	recycle	bottle (s)

Procedures

1. Post Flash Facts and pictures before class arrives. Arrange recyclable items on a table.
2. Review related Flash Facts. Emphasize how recycling helps to conserve natural resources.
3. Examples: "I recycle newspaper." "I recycle glass." "I recycle plastic." Place the items being recycled in the appropriate container. Use related picture files as your model.
4. Take items out and have students say the same phrases as a group.
5. Have groups of students say "I recycle _____" depending on what type of item the teacher holds up.

6. Ask pairs of students to volunteer to say the correct phrase depending on what item is being held up.
7. See if individuals are willing to try the activity alone. Do not force them to talk if they do not want to.
8. Repeat 2, 3, 4 and 5 using "we" instead of "I".
9. Provide students with Worksheet #1. Show one answer on the board.
10. Assign Civic Integration Activity and Home Support Activity.
11. Have students report back what they observed. Emphasize how the words they've learned relate to values in the United States.

Civic Integration Activity

1. Ask students to observe whether their neighbors recycle their waste.
2. Ask students to observe whether the school or their workplace recycles waste material.
3. Ask at the following class what they observed.

Home Support Activity

1. Have students identify what items they could have recycled over a week's time. List items. Discuss which natural resources would be conserved if the items were recycled. Relate to Worksheet #2
2. Have students weigh themselves on their bathroom scale at home. Then have them weigh themselves with the bag of household garbage thrown out each day. Multiply the weight difference by seven days, 30 days, and 365 days to get a sense of the amount of garbage generated by each student. Chart on board. Compare to Flash Fact #1.

Name: _____ Date: _____

Fill in the missing letters.

1. I _ _ _ _ _ _ _ _ newspaper.
2. I recycle aluminum _ _ _ _ .
3. I recycle _ _ _ _ _ _ _ _ .
4. I _ _ _ _ _ _ _ _ g _ _ _ _ .
5. _ r _ _ _ _ _ _ newspaper.
6. W _ _ _ _ _ _ _ _ _ aluminum _ _ _ _ .
7. _ r _ _ y _ _ _ n _ _ _ _ _ _ _ _ _ _ .
8. We _ _ _ _ _ _ _ c _ _ _ .
9. We _ _ _ _ _ _ _ _ _ _ _ s s .
10. _ e _ _ _ _ _ _ _ p _ _ _ _ _ _ .

Solid Waste Focus: Recycle

Environmental Objective

Identify common ways to recycle in our daily lives.

Materials Needed

Pictures a, b, c, d, e, f

Flash Facts 1, 3, 5 ,6, 7

Additional Materials - Newspapers, aluminum cans, glass bottles, plastic containers, boxes color-coded to match community receptacles for recycling.

Background for the Teacher

Recycling includes collecting, sorting and processing certain solid waste into raw materials for re-manufacture into new items. Look for a "c" on the bottom of plastic containers. It means the container can be recycled. Many recyclable plastics can also be identified by the letters HDPE (milk jugs) and PET (soda bottles).When consumers purchase products manufactured from recycled material they close the recycling loop.

Language Objectives

1. Review simple present tense first person singular and plural
2. Introduce second person.

   Example: "You recycle newspaper."
3. Introduce third person singular.

   Examples: "He recycles _____."

   "She recycles _____."
4. Introduce plural forms with "s".

   Example: "She recycles _____".

Vocabulary

aluminum	newspaper (s)	natural resources
plastic	recycle	can (s)
glass	conserve	bottle(s)

Procedures

1. Arrange recyclables and receptacle boxes on the table. Have several examples of each recyclable on the table.
2. Review with class: "I recycle _____." "We recycle _____."
3. Have class provide choral response.
4. Repeat with "He recycles _____." She recycles _____."
5. Reinforce plural "s" forms: "I recycle glass bottles." "We recycle glass bottles." Hold up examples as the class repeats the activity. Repeat for all items.
6. Form small circles of 6 to 10 students and model.
7. "I recycle newspaper." "You recycle newspaper." Point to a person and accentuate "you". Continue around the circle, passing the items as they speak.
8. Change the items until every group has used newspaper, can(s), glass, and plastic.
9. Discuss other ways to recycle in our daily lives.
10. Identify the natural resources. Ask how recycling helps to conserve natural resources.
11. Have students complete Worksheet #2.

Civic Integration Activity

1. Have students recycle items used or consumed during breaks. Example: cans, bottles, plastic or newspaper.
2. Have them deposit recyclables in the containers as they come in from break.

Home Support Activity

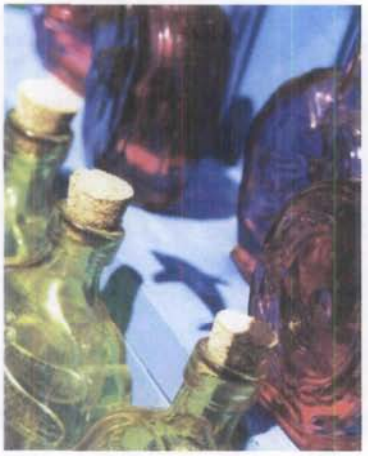
Have students create a recycling-related picture with a younger family member or friend. See "How My Family Recycles" at www.epa.gov/osw/kids/pdfs/jellyjar.pdf. Select a picture to color. Discuss the page selected.

Name: _____ Date: _____

I, You, and We

A. Complete

p _ _ _ _ _ _ _



g _ _ _ _ _

b _ _ _ _ _ _ _

n _ _ _ _ _ _ _ _ _

B. Complete

1. I recycle newspapers.

   W _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ bottles.

   Y _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ bottles.

2. I recycle glass.

   W _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ .

   Y _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ .

Solid Waste Focus: Reuse

Environmental Objective

Identify reuse of common items normally thrown away.

Materials Needed

Pictures a, b, c, d, g, h
Flash Facts 1, 3, 5, 6, and 7
Additional Materials - Plastic jug, aluminum can, glass bottle

Background for the Teacher

There are many creative ways to reuse items which might normally find their way into the waste stream: old shoe boxes can be used for storage, plastic containers for planters, etc. Students can also donate or give away items rather than throwing these items into the waste stream. For a large number of unwanted items, students can hold a garage sale. They can also be encouraged to shop at garage sales before buying new!

Language Objectives

1. Interrogatives with "How"
2. Responses with "Can" for possibility

Vocabulary

aluminum can (s)	plastic	reuse
container (s)	produce	source reduction
garbage	product (s)	waste
natural resources	recyclable	

Procedures

1. Explain to the class that reuse of an item is a way to save our natural resources.
2. Pair students or create small groups of three to discuss how to reuse each of the items in the picture from the Picture Files. Allow students three to five minutes per item to brainstorm.
3. Have students report to class by pairs or groups. Ask: "How can you reuse a glass bottle?", "How can you use a plastic container?"
   a. I can reuse a glass bottle to/for _____.
   b. I/we can reuse plastic containers for/to _____.
   c. I/we can reuse plastic containers for/to _____.

4. List responses on board. Review how reuse of items reduces the waste stream, contributes to source reduction, and conserves resources.
5. Have students complete Worksheet #3.
6. Assign Civic Integration and Home Support Activities.
7. Have students report back what they observed. Have students display their creative reuse of items.

Civic Integration Activity

Ask students to observe ways local businesses or their neighbors may have reused items to decorate or for practical purposes; for example, turning used tires into planters.

Home Support Activity

Ask students to reuse an item in a creative way. Have them bring the item(s) to class for display. Vote on the most creative, prettiest, etc. Give prizes or paper ribbons.

Answer each question.

1. How can you reuse the bottle?

I can reuse it for a _____.

2. How can we reuse the plastic jug?

We can_____ it for _____.

3. How can they reuse the egg carton?

They can reuse the_____ for _____.

4. How can we reuse the grocery bags?

We can reuse them for _____.

5. How can we reuse the boxes?

_____ for _____.

Solid Waste Focus: Reduce

Environmental Objective

Identify easy ways to reduce the waste stream.

Materials Needed

Pictures a, b, c, d, g, h, and i

Flash Facts 1, 5, 6, 8, 9

Background for the teacher

There are many other ways in which we can avoid adding to the waste stream. Some manufacturers package their products with oversized polystyrene foam. Students should be made aware of excessive packaging and how to minimize it, if possible. One way to minimize packaging is to buy in bulk. Other ways to reduce waste include donating unwanted items to charities, holding a class swap meet to exchange unwanted items, and buying at garage sales.

Language Objectives

1. Interrogative words: How, Which
3. Plural forms

Vocabulary

charity (ies)	swap meet (s)	donate
church (es)	unwanted	packaging
exchange	waste stream	garage sale (s)

Procedures

1. Review how reducing waste helps to reduce the waste stream. Have the students repeat, "We buy in bulk." "We donate old clothes." "We swap items we don't need for items we do need."
2. Have the students to pair off and allow them to speak in their native language. Assign students to think of other ways to reduce the waste stream. Ask "How can we reduce the waste stream?"
3. Bring the class back together and have the pairs report their ideas.
4. List their ideas on the board.
5. Emphasize the value of donating unwanted items to churches or charities. Ask students which local churches or charities might welcome donations.

6. Ask students if anyone ever gave a friend or family member something they no longer used. Share the idea of a swap meet where students bring in items they no longer want, and, in turn, swap or give the item to fellow classmates. Emphasize how the leftover items could be donated to a church or charity.
7. Using the students display the items collected and conduct an in-class swap meet. Donate any leftover items.
8. Summarize ways to reduce the waste stream. Emphasize how reducing the waste stream conserves natural resources.

Civic Integration Activity

Using the churches or charities identified in Procedure 5, have the students collect items for them. Donate the items.

Home Support Activity

Assign students to collect unwanted but usable items to either swap in class or to donate to a specified church or charity.

Solid Waste Focus:
Recycling, Reusing, Reducing

Environmental Objective
Compare and contrast environmental values held in the United States related to recycling, reusing, and reducing to those held in countries represented by students in the adult ESOL class.

Materials Needed
Pictures k, a, b, c, d, e, f, i

Flash Facts 6, 10, 11, 12, 15, 16, 17

Photos of trees, recycling receptacles, excessive packaging, glass, cans, etc.

Background for the Teacher
Recycling saves natural resources. It also saves energy and reduces human impacts on the climate. Paper and aluminum are recycled with great success. Successful recycling, reducing and reusing means less depletion of dwindling natural resources. International values related to recycling, reusing and reducing may vary. Compare and contrast your students' values related to recycling, reusing, and reducing.

Language Objectives
1. Questions with auxiliary verb "Did"
2. Interrogative words "What," "Why," "How"
3. Simple past tense responses

Vocabulary
container (s)
excessive
packaging
reusable
shopping bag (s)
paper mill (s)
forest (s)
waste stream
item (s)

Procedures

1. Post pictures and flash facts before class arrives.
2. Discuss the beauty of the natural environment reflected in the picture of the trees. Ask if forests exist in their countries. "Did you have forests in your country?" Chart responses by country.
   a. Did you recycle paper in your country?
   b. Did you recycle other products?
3. Ask: Did you reuse items in your homeland?

   Have students pair off and discuss how they reused items in their homelands. Give them five minutes to discuss, and then share responses. Chart answers by country, listing what items were reused and how they were reused.
4. Discuss pictures showing excessive packaging. Was so much packaging really needed?

   Why do manufacturers like excessive packaging? Have students compare and contrast ways they could reduce excessive use of packaging. Examples might include selecting products with less packaging, using reusable shopping bags, and writing the manufacturers.
5. Wrap up by reviewing the class chart. Emphasize the importance of conserving natural resources by reducing, reusing and recycling waste.

Civic Integration Activity

Have students hold an in-class "unwanted items" meet to exchange or sell items they do not need or use. Explain how exchanging is a form of recycling.

Home Support Activity

1. Have students interview families about solid waste disposal in their homelands. Use attached interview sheet.
2. Have students collect and bring in examples of the ways they reuse items they might have ordinarily discarded. Display reused items. Select the most creative, most original, and most unusual and give prizes for each.

Name: _____ Date: _____

1. How was solid waste handled in your homeland? Was it collected, and taken to a landfill? Burned? Who took care of these activities?

2. What were people's attitudes toward waste?

3. Were people concerned about conserving natural resources?

4. Other comments.

Solid Waste Focus: Recycle

Environmental Objective

Compare and contrast ways people recycle in each of the students' countries to recycling in the United States.

Materials Needed

Pictures (a) through (f)

Flash Facts 1, 2, 3, 10, 12, 13, 14, 15, 16, 17 and 18

Background for the Teacher

Many communities conduct curbside recycling. After the recyclables are collected, they are transported to a collection center where they are sorted and sent to facilities that can process them into new materials or products. Buying recycled closes the recycling loop.

Language Objectives

1. Simple past tense with an emphasis on pronunciation of the final syllable
2. Interrogative words: What, How, Why, Which
3. Plural with "s" with an emphasis on pronunciation of plural sounds

Vocabulary

aluminum	paper	newspaper(s)
penalty (ies)	container (s)	plastic (s)
jar (s)	glass	magazines (s)
collection	fine (s)	

Procedures

1. Post Pictures and Flash Facts before class arrives.
2. Using the Picture Files, discuss recycling in the United States. Refer to the symbol for recycling on containers and the types of items which are recycled. Review the benefits of recycling by referring to the Flash Facts which have been posted. Elicit additional examples of recycling from the students' experiences in the community. Stress the importance of purchasing items made from recycled material.
3. Pair or group students by home countries. Allow them five to seven minutes to discuss recycling as practiced in their home countries and have them list examples. Have pairs/groups share recycling practices from their home countries and chart on the board. Have pairs respond to "What did you recycle and why?" Be sure they pronounce any plural sounds used.

4. When all groups/pairs have reported, ask which items they recycle in the United States.
5. Compare and contrast recycling practices.
6. Assign Civic Integration and Home Support activities.

Civic Integration Activity

Have students determine whether their communities require residents to recycle. Access the community website on the Internet or call City Hall. Ask local businesses (photocopy center, service station, etc.) if they recycle.

Home Support Activity

Have students create a poster with their families describing why they should recycle. Display posters. Have students describe their posters. If students wish to be more creative, they can create a collage from recyclables.

Solid Waste Focus: Reuse

Environmental Objective

Compare and contrast ways people reuse items both in the United States and in the students' native countries.

Materials Needed

Pictures a, b, c, d, g, and h
Flash Facts 2, 5, 9, 14, 17, 18

Background for the Teacher

Throughout the world, people have been very resourceful in reusing items. Your students may contribute very creative and clever ways containers are recycled for other uses, including children's games, planters, etc. Reusing items helps save energy and conserves natural resources.

Language Objectives

1. Interrogative words with simple past tense

   Examples: "How did?" "Why did?" "What did?"

2. Simple past responses

   Examples: "I reused." "We reused."

3. Plural with "s" with an emphasis on pronunciation of plural sounds

Vocabulary

charity (ies)	reusable	garage sale (s)
donate	recycled content	product (s)

Procedures

1. Post Pictures and Flash Facts before class arrives.
2. Remind students how recycling and reusing items made of glass, aluminum or plastic helps to conserve our natural resources. Use Pictures Files a, b, c, and d to illustrate your point. Incorporate the Flash Facts into your discussion of reducing the waste stream. Relate these facts to conserving resources.
3. Pair/group students to discuss ways people reused glass, aluminum or plastic items in their native lands. Allow them to share for five to seven minutes. Elicit responses to

   "My neighbor reused _____."

4. Bring the group back together and share ways containers and items were reused. Elicit responses to "We reused _____ for _____."
5. Using Picture Files or real objects prompt the students to answer the following questions. Make sure they correctly pronounce the --ed endings of the verb in their responses.
   a. What did we recycle?

      We recycled _____.
   b. What did they sort?

      They sorted _____.
   c. What did you rinse?

      I rinsed _____.
   d. What did I reuse?

      You reused _____.
   e. What did we collect?

      We collected _____.
   f. What did you reduce?

      I reduced _____.
6. Ask if people held garage sales in their homelands. Ask how these helped to conserve resources.
7. Assign Worksheet # 1.
8. Assign Civic Integration and Home Support Activities.

Civic Integration Activity

1. Have students observe ways people in their neighborhoods or communities have reused items. Ask them to share what they observed.
2. Have students stop at a garage sale and report what was being sold.

Home Support Activity

1. Have students use common containers (empty jelly jars) and create new uses for them. Have them bring the items in for a class display.
2. Ask them to demonstrate children's games played with reused containers or items.
3. Download "Follow That Trail" from EPA's web site. Read and discuss page 5 with the youngsters in their families.

Name: _____ Date: _____

Complete the sentences

1. What did you reuse?
   I reused _____.

2. What did you collect?
   I collected _____.

3. What did they collect?
   They collected _____ _____.

4. What did you rinse?
   I rinsed _____.

5. What did they sort?
   They sorted _____.

6. Summarize ways we can reuse items. Have class contribute to the summary.

Solid Waste Focus: Reduce

Environmental Objective

Compare and contrast ways to reduce the solid waste stream in our daily lives.

Materials Needed

Pictures g, h, i
Flash Facts 1, 8, 9, 14, 18, 19

Background for the Teacher

Reducing the waste stream can begin with reducing excessive packaging, donating items, or selling items at a garage sale. Reducing the waste stream also occurs when we substitute cloth items for paper towels, napkins, bags, and disposable diapers. Reducing the waste stream by changing throw-away habits helps conserve our natural resources.

Language Objectives

1. Practice perfect tense verbs in the interrogative as well as responses
2. Paragraph development

Vocabulary

bulk
disposable
manufacturer
reusable containers
excessive packaging
throw-away habits
garage sale (s)
waste stream

Procedures

1. Review with class ways we can reuse and recycle items.
2. Challenge pairs or small groups of students to think of additional ways we can contribute to reducing the waste stream. Let groups brainstorm for seven to ten minutes.
3. Bring group back together and discuss their ideas for reducing waste. Chart responses.
4. Be sure the class considers other options. "Have you ever donated items to a charity?" "Have you ever held or shopped at a garage sale?"
5. Ask students if they noticed examples of excessive packaging in the products they buy. "Why have the manufacturers tried to enhance their products with excessive packaging?"
6. Emphasize the positive effects of buying in bulk to minimize packaging and therefore reduce waste. Ask why people do not buy in bulk?
7. Summarize the ways the class has determined we can reduce the waste stream. Have students contribute to the summary.

Civic Integration Activity

1. Coordinate a class garage sale either at school or at someone's home.

   Donate any funds and unsold items to a local charity.

   Emphasize how reducing the waste stream helps conserve natural resources.

2. Explore on the Internet ways to reduce the waste stream.

   Visit www.epa.gov/ows/. Use local libraries to access the Internet, if students do not have a computer at home.

Home Support Activity

1. Have students collect items to contribute to a class garage/tag sale. Explain that unsold items will be donated. Explain how reuse of an item reduces the waste stream; invite friends and family to participate.

Holding a Tag Sale/ Garage Sale

Checklist

- ❑ Chose a location: school, community center, church yard. Make sure it's accessible by public transportation and/or has parking.
- ❑ Determine date and time for garage sale. Make sure the day and time don't conflict with other planned events.
- ❑ Make signs announcing the sale and post them around the school, community center or neighborhood. You might also want to advertise in the local newspaper.
- ❑ Ask students to collect items they no longer need or use. Make sure the items are clean and in working condition.
- ❑ Set up collection boxes for the items.
- ❑ Price the items reasonably. Be willing to negotiate the day of the sale.
- ❑ Have students gather and bring in extra grocery and shopping bags to use at the event.
- ❑ Assign at least two people to be in charge of the money.
- ❑ Have at least $20 in change.
- ❑ After the sale, donate unsold items to a local charity chosen by the class.
- ❑ Donate sale funds to the charity or use the money for class activities.

Solid Waste Focus:
Reduce, Reuse, Recycle

Environmental Objective

Identify and analyze the reasons for the values held in the United States related to the 3Rs of solid waste management: reduce, reuse, recycle.

Materials Needed

Pictures a, b, c, d, e, f, k

Flash Facts 1, 6, 7, 10, 11, 12, 14, 16, 17, 20, 21, 23

Background for the Teacher

The United States' economy has an enormous need for raw materials to supply its manufacturing sector. Use of these raw materials can tap domestic natural resources to the point of depletion. Natural resources cannot be replaced quickly. Practicing the 3Rs also helps the U.S. conserve energy and reduces the impacts on climate change. In this lesson, students will analyze and discuss the impact of an industrial/manufacturing economy on a country's natural resources.

Language Objectives

1. Oral presentations on reducing, reusing, and recycling
2. Short oral or written description of reducing, reusing, and recycling practices in the students' homelands

Vocabulary

conservation	resource (s)	disposal
waste minimization	environmentally preferable product (s)	waste stream

Procedures

1. Post Pictures and Flash Facts before class arrives.
2. Welcome class and pose the question "How do we know the United States has a prosperous economy?" Follow up with "What contributes to a prosperous economy?"
3. List on the board the indicators of United States prosperity. List the contributing factors to a prosperous economy.
4. Ask which products of prosperity tap natural resources. Determine which natural resources are tapped. Example: "Luxury cars use steel. Steel is made from iron."
5. Pair or group students to discuss why a consumer society such as the United States must conserve resources. Allow eight to ten minutes for discussion.

6. Call group back together and list the reasons given by each pair or group for conserving resources.
7. Relate to the class reasons for the environmental movement's focus on recycling, reusing and reducing solid waste.
8. Ask for definitions of reducing, reusing and recycling.
9. Ask students why people in the United States share these values.
10. Compare and contrast the values held in the United States with those held in the students' respective countries.
11. Summarize by stressing how reducing, reusing and recycling conserve natural resources.
12. Assign a short report on reducing, reusing and recycling in their homelands.

Civic Integration Activity

Have students work in pairs or groups to analyze the recycling, reducing and reusing habits they observe being practiced at a local business. Assign this assignment over a weekend. Have students report back.

Home Support Activity

Have students discuss with friends or family members resource recovery and how waste is managed in their home countries. Ask students to report back what was learned from their families and friends.

Solid Waste Focus: Recycling

Environmental Objective

Identify the solid waste that can be recycled in our daily lives.

Materials Needed

Pictures a, b, c, d, g, h

Flash Facts 6, 10, 13, 14, 15, 16, 17, 18, 20, 22, 23, 25, 27

Background for the Teacher

Much of the solid waste generated in our daily lives is not reused or recycled. Students should be challenged to think of creative ways to reuse or recycle the waste generated. Explore how businesses recycle. Challenge pairs or small groups of students to generate alternate ways to recycle or reuse. Encourage the use of the Internet to research topics.

Language Objective

Write an informational paragraph or short essay reporting what has been learned related to recycling practiced by local businesses.

Vocabulary

closing the loop	recycling loop	hierarchy
recycled content products	source reduction waste	

Procedures

1. Post the Flash Facts and Pictures before the class arrives so students read and observe them before class begins.
2. Ask the class to recall the reusing and recycling habits they observed in their communities.
3. Have students form pairs or small groups to discuss other items which can be recycled. Consider auto tires, computer waste, etc.
4. Ask how these items could be recycled.
5. Bring groups back together to discuss what additional items could be recycled and list these items on the board.
6. Ask how items might be recycled.
7. Consider why some items are not recycled. Could costs be a factor?
8. How does purchasing items made from recycled material close the loop in terms of the recycling loop?

9. Explore commercial recycling practices after students have been assigned the civic integration activity. Discuss what students learn.
10. Have students write a short paragraph describing what they learned about how businesses recycle either in the United States or in their homelands.

Civic Integration Activity

Have students ask local businesses (tire store, print shop) whether they recycle any of their solid waste. Have students report back what they learn. Have them also find out whether their communities penalize or fine businesses for not recycling.

Home Support Activity

1. Have students ask family and friends to describe any recycling activities practiced by manufacturers or small businesses in their native lands. Where there any penalties or fines for not recycling? Have students report back to class.
2. Have students create an "art" collage or montage from recyclable waste. Display "art" and reward creativity.
3. Have students visit the Office of Solid Waste Website (www.epa.gov/osw) and look up "e -cycling." Have them report back what "e- cycling" means.

Solid Waste Focus: Reuse

Environmental Objective

Recommend and discuss options for the reuse of items found in the solid waste stream in the community.

Materials Needed

Pictures a, b, c, d, g, j

Flash Facts 21, 22, 23, 24, 25

Background for the Teacher

Given that many students come from countries where reuse of items is common, students may enjoy contributing ideas from their respective homelands. Discussions and details may contribute to developing descriptive paragraphs or short descriptive essays complete with illustrations that can be posted on a hall bulletin board or in the classroom. Reuse of items contributes to source reduction and conservation of resources. Consumers close the loop when they purchase products made from recycled material.

Language Objectives

1. Students will make a brief oral presentation (3-5 minutes) on how an item was reused in their homeland.
2. Students will write a short descriptive essay on how products were reused in their homelands.

Vocabulary

closing the loop
"from scratch"
waste minimization
waste stream
source reduction
resource recovery
waste hierarchy

Procedures

1. Post Pictures and Flash Facts before the class arrives.
2. Discuss any Flash Facts students find particularly interesting. Allow between three to five minutes of discussion.
3. Compare and contrast reuse of items by asking the class to identify items that were reused in their respective native lands. List on the board. How is reuse related to resource recovery and source reduction?
4. Ask whether items reused in their native countries are reused here. Give examples.

5. Discuss examples of items which are thrown away by Americans, but would not be thrown away in the students' respective homelands.
6. Relate reuse of items as a way to reduce the waste stream, conserve resources and contribute to waste minimization.
7. Use the Pictures or real objects to ask the following questions:
   a. Why should we recycle glass?
   b. Why would you recycle aluminum cans?
   c. Why should they recycle newspapers?
   d. How would you reuse plastic containers?
   e. How would you reuse egg cartons?
8. Assign Civic Integration Activity and Home Support Activity.
9. Assign students to write a short description of how items were reused in their homelands.
10. Ask students to read their descriptions in front of the class.
11. Create a class book of ideas to reuse items.
12. Assign Advanced Level Worksheet 1.

Civic Integration Activity

Have students describe or bring in items they found thrown away by Americans in the community which would not be thrown away in their native countries. Discuss why these items would not be thrown away in their homelands.

Home Support Activity

Ask students to bring to class items from their countries which are reused. Create a display of what students bring in. Have each student explain his/her item. Give prizes for the most creative reuse of an item.

Solid Waste Focus: Reduce

Environmental Objective

Recommend/discuss ways to reduce the solid waste stream in your community.

Materials Needed

Pictures e, f, g, h, i, j

Flash Facts 20, 21, 22, 24, 25, 26, 27, 28

Background for the Teacher

Each community represents unique challenges for reducing the waste stream. Source reduction is waste prevention. Encourage students to identify waste management in their community. Explore the internet including the websites for the Environmental Protection Agency (www.epa.gov/osw) as well as their community's web site. Look at both business and home owner practices for waste disposal. Exploration of this topic will encourage students to think critically and to use the language related to critical thinking. Americans value being charitable. How does donating unwanted items contribute to reducing the waste stream? Reducing the waste stream by changing throw-away habits helps save energy and conserve our natural resources.

Language Objective

Develop a written narrative description of the class's efforts to donate to a local charity.

Vocabulary

charity	unwanted items	donate
collect	source reduction	waste management
manufacturer (s)	Environmental Protection Agency	worthy
resource recovery		

Procedures

1. Post Pictures and Flash Facts before class arrives.
2. Allow students time to read and discuss the information.
3. Emphasize the information on Flash Facts 24, 26 and 28 in the discussion.
4. Ask students to pair off or form small groups to discuss additional ways members of the community could reduce the waste stream. Allow ten to twelve minutes of group discussion. Bring class together and share ideas. List ideas on the board.
5. Revisit Flash Fact #24. Discuss how donating and even having a garage sale are means of reducing the waste stream and conserving natural resources.

6. Prepare students to participate in the Civic Integration Activity by identifying worthy local charities.
7. Assign both the Civic Integration Activity and Home Support Activity.
8. Have students develop a written narrative describing the class's efforts to collect donations for a local charity.
9. Have students share their narratives by allowing classmates of their choice to read their narratives.
10. Summarize ways to reduce the solid waste stream.

Civic Integration Activity

Identify a worthy community charity. Ask the charity what types of items they accept. Organize a drive to collect items which can be donated to the charity. Have volunteers help deliver the collected items. Take pictures for discussion. Write short essays about the activity. Students may also wish to hold a garage sale.

Home Support Activity

Have family help locate at home or among neighbors, items which can be donated to charity or used for yard sales.

Name: _____ Date: _____

Directions:

Answer the following with full sentences.
Use Flash Facts or readings for your answers.

1. Why should you recycle aluminum cans?

   I _____

   _____.

2. Why would you recycle glass bottles?

   I _____

   _____.

3. Why should we recycle newspapers?

   We _____

   _____.

4. How would you reuse plastic containers?

   I _____

   _____.

5. How would you reduce the waste stream in your personal life?

   I _____

   _____.

Teach English, Teach About the Environment

A Resource for Teachers of Adult English for Speakers of Other Languages (ESOL)

Appendices

Appendix 1 *Training ESOL Teachers*

Appendix 2 *Using This Resource*

Appendix 3 *Flash Facts*

Appendix 4 *Picture Files*

Preparing for Training

- ❑ Before conducting the teacher training, you should familiarize yourself with the components and lessons in the *Teach English, Teach About the Environment* curriculum.
- ❑ Determine where the training will take place. Ideally, the training environment should have a blackboard and a place to post pictures.
- ❑ Arrive early in order to post the Flash Facts to be used that day as well as any Picture File pictures. Set out the sign-in sheets as well as any materials that need to be distributed. Include evaluation forms for the training in order to get feedback on the day's activities. Remind participants to sign in as they arrive.

Conducting the Training Session

1. Welcome the participants. Explain to them that, by using these materials, they will not only be teaching English, but concepts about the environment as well.
2. Ask the participants if they know why the government is interested in reducing the solid waste stream. After eliciting responses, emphasize how reducing the solid waste stream can help conserve natural resources. Refer to Flash Fact #1.
3. Divide the participants into groups of three. Have Group One read "Reduce" on page ___, Group Two read "Reuse" on page ___ and Group Three read "Recycle" on page _____.

   After they have finished reading, bring the groups together and discuss the concepts and if/how they practice the 3Rs.
4. Walk the participants through a lesson plan, explaining the use of each component.

   Introduce the Picture Files and encourage the participants to collect and add to them.

   Share the Flash Facts, noting that they are written for the Beginning, Intermediate and Advanced levels. The backs of the Flash Facts are blank. Teachers may use this area to translate the facts into the native language(s) of the student(s) or for additional related facts they may wish to include.
5. Review the vocabulary. Students should be encouraged to bring their personal, bilingual dictionaries to look up words when necessary.

6. Demonstrate a lesson. Remember that the grammar is used for review, not for new instruction. Explain that the purpose of the Civic Integration Activity is to encourage the student to get out in the community either to observe or interact. It is consistent with the literature on civic engagement. Note that the Home Support Activity extends learning to the family.

7. Solicit feedback (5-7 minutes). How will the trainees customize the lesson for their students? What community resources which might be available to help them present the curriculum more effectively?

8. Distribute and then collect the evaluations.

Accessing United States Environmental Protection Agency Resources

Trainers or teachers interested in using these materials should begin their preparation by visiting the United States Environmental Protection Agency Office of Solid Waste website at www.epa.gov/osw/.

For general background on solid waste management, visit the portions of the Office of Solid Waste (OSW) section on reducing, reusing and recycling. Sections such as "Basic Information" and "What You Can Do" could be helpful. Print selections from "Publications/en Español" which are age-appropriate and suited for the ethnic background of your students.

For additional background, click on "Reduce, Reuse and Recycle," which gives more information on the 3Rs. Under "Basic Facts," you will find interesting data related to waste generation before recycling.

For more detailed municipal solid waste (MSW) information, go to MSW State Data at www.epa.gov/msw/states.htm and click on your state. There you will find state-specific discussions on solid waste management.

These state-specific solid waste management discussions will help you prepare your lessons and focus classroom activities and assignments. For example, by asking "What is your state's waste tire disposal program?", you will encourage advanced students to visit the website and report back the information either in an oral or written report.

For information on environmental education resources, go to www.epa.gov/education/

Background Information

The 3Rs of Solid Waste Management

Reduce

Solid waste reduction is critical. Americans generate an average of 4.5 pounds of waste per person each day! Source reduction or waste prevention helps to conserve resources, reduce greenhouse gas emissions, conserve energy and reduce the costs related to waste handling and disposal. Source reduction/waste prevention is a priority for the U.S. Environmental Protection Agency (EPA).

Ways to practice waste prevention include reusing, donating, buying in bulk, reducing packaging and redesigning products. Good source reduction practices include, donating items, buying in bulk, borrowing or renting infrequently used items, reusing containers and repairing/maintaining durable items.

Over the past twenty-five years, a 17 gram reduction in the weight of each two-liter plastic bottle has resulted in a 250 million pound reduction of plastic per year in the solid waste stream. When a fast-food restaurant reduced its napkin size by an inch, the solid waste stream was reduced by 12 million pounds of paper! A switch to lighter- weight containers in 1999 conserved of 3,200 tons of cardboard.

For more information, go to http://www.epa.gov/msw/reduce.htm

Reuse

When we reuse an item which would have normally found its way into the solid waste stream, we save energy and save natural resources. For example, we can use containers that once held food for other storage, planters and crafts. Reusing, however, can also mean giving away items to friends or neighbors who can use the items. Donating to churches and other community charities are additional ways to reuse items rather than throwing them away and adding them to the waste stream.

Buying and selling items through yard sales also helps to reduce the waste stream and save energy. Sharing yard equipment and tools with neighbors is also a way to reduce.

Teachers can reuse items to create classroom crafts, collages, montages and posters. Having an art show to display student creativity sparks viewer imagination for reusing items.

Reusing items is a valuable way to reduce the solid waste stream.

For more information, go to www.epa.gov/msw/reduce.htm

Recycle

Recycling includes collecting, sorting and processing certain solid waste into raw materials for remanufacture into new items. When consumers purchase products manufactured from recycled material, they close the recycling loop.

Glass, aluminum, plastic, newspaper and cardboard, are among the most commonly recycled items. Recycled glass can be used over and over. It has been used for road filler and roadway asphalt. Aluminum beverage containers can be recycled into new cans within 90 days. Our entire commercial air fleet could be rebuilt from the aluminum cans Americans throw away every three months. By recycling aluminum cans, we can save 95% of the energy needed to make a new aluminum can from scratch.

Recycling, including composting, diverted 79 million tons of material away from disposal in 2005, up 15 million tons in 1980, when the recycle rate was just 10% and 90% of MSW was being combusted with energy recovery or disposed of by landfilling.

Batteries are recycled at a rate of 99%; paper and paperboard at 50%, and yard trimmings at 62%.

Businesses, governments and community members recycle. When participating in a recycling program, it is important to observe your community's recycling procedures. For example, you may need to sort your items and place them in specially-marked containers or bins. Encourage neighbors, friends and classmates to recycle.

Remember that buying products made from recycled materials saves energy, conserves resources and encourages manufacturers to use recycled material. Products made from recycled content perform just as well as those manufactured from non-recycled raw materials. Every day, more new products are being manufactured from recycled materials.

Americans produce about 4.5 pounds of garbage per person, per day!

Recycling works when we buy recycled-content products.

Recycled glass can be used again and again.

Recycle containers at your school.

Use recyclable products.

Recycling 1 ton of paper saves 17 mature trees.

Using less saves natural resources.

Look for products that use less packaging. This reduces waste.

Bring a reusable bag when shopping.

Use reusable containers.

Recycled materials are used to make new products.

Recycling reduces the use of virgin materials and reduces greenhouse gases.

Recycling one aluminum beverage can save enough energy to run a 100 watt light bulb for 20 hours, a computer for 3 hours or a TV for 2 hours.

Avoid contaminating recycling containers with waste.

Buying recycled products saves energy, conserves natural resources and reduces waste.

45 percent of all aluminum cans are recycled.

Recycling one ton of paper saves 17 trees, 7,000 gallons of water, and 380 gallons of oil.

Source reduction includes copying and printing double-sided.

Donate old clothes and old items to charities. This contributes to source reduction.

Americans recycled 42 million tons of paper in 2005.

Recycling aluminum cans saves 95 percent of the energy required to make aluminum cans from scratch.

Americans recycled 21.6 percent of all glass jars and bottles in 2005.

Recycling glass uses 30 percent less energy.

Source reduction (waste prevention) includes reusing and donating items, buying in bulk and reducing packaging.

Americans average 4.5 pounds of waste a day. This equals 235 million tons a year.

The Environmental Protection Agency (EPA) advocates a waste hierarchy involving source reduction, reuse, recycling, combustion and land filling.

Using recycled steel to make new steel saves energy.

EPA has set a national recycling goal of 35 percent by 2008.

Today's recycled-content products perform just as well as non-recycled counterparts.

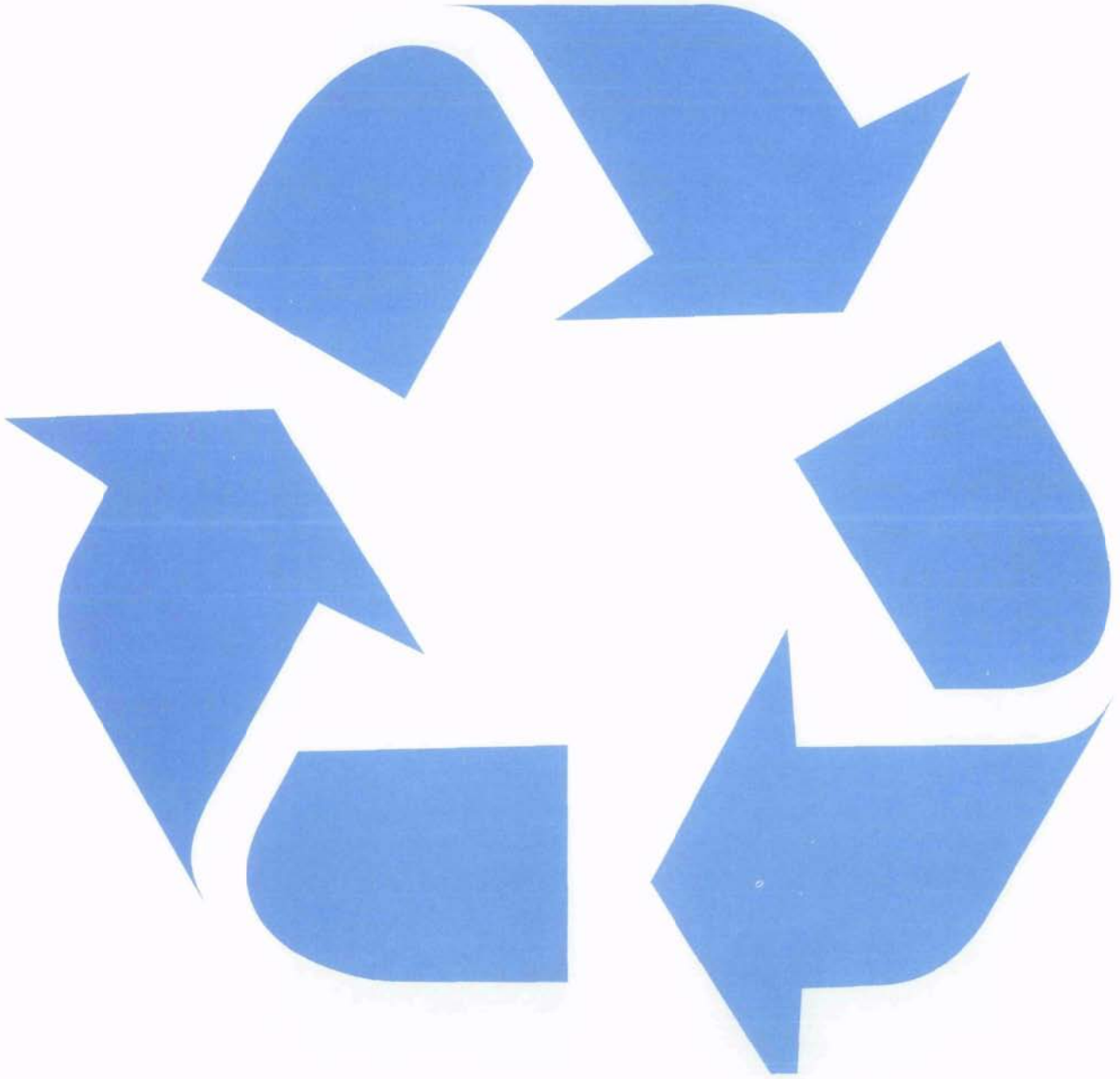
a — Glass Containers and Bottles

b — Aluminum Cans

c — Plastic Containers

d — Newspapers

e — Recycling receptacles labeled and color-coded



f — Symbol for recycled item

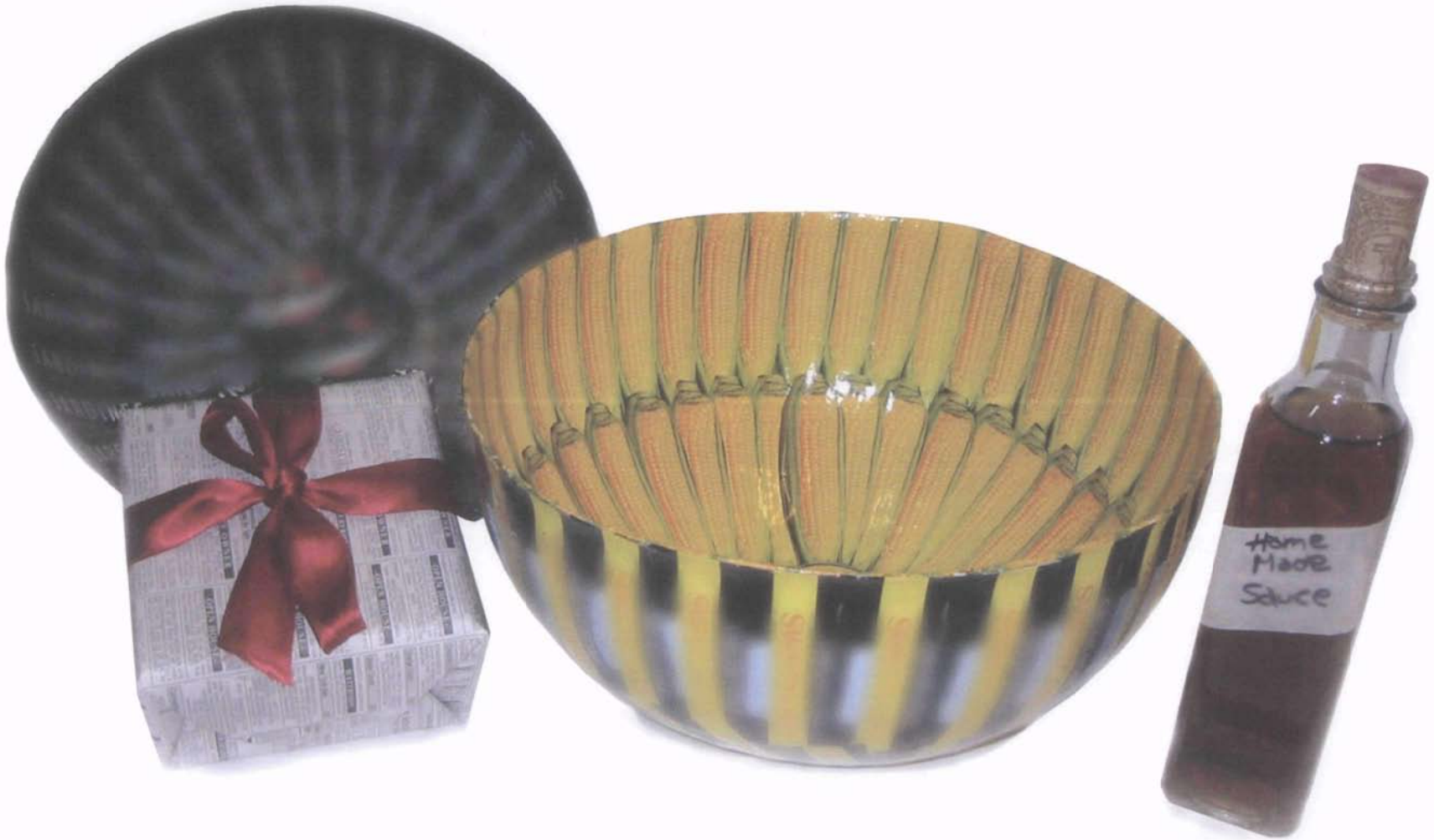
g — People sorting

h — Garage Sale

i — Excessive packaging

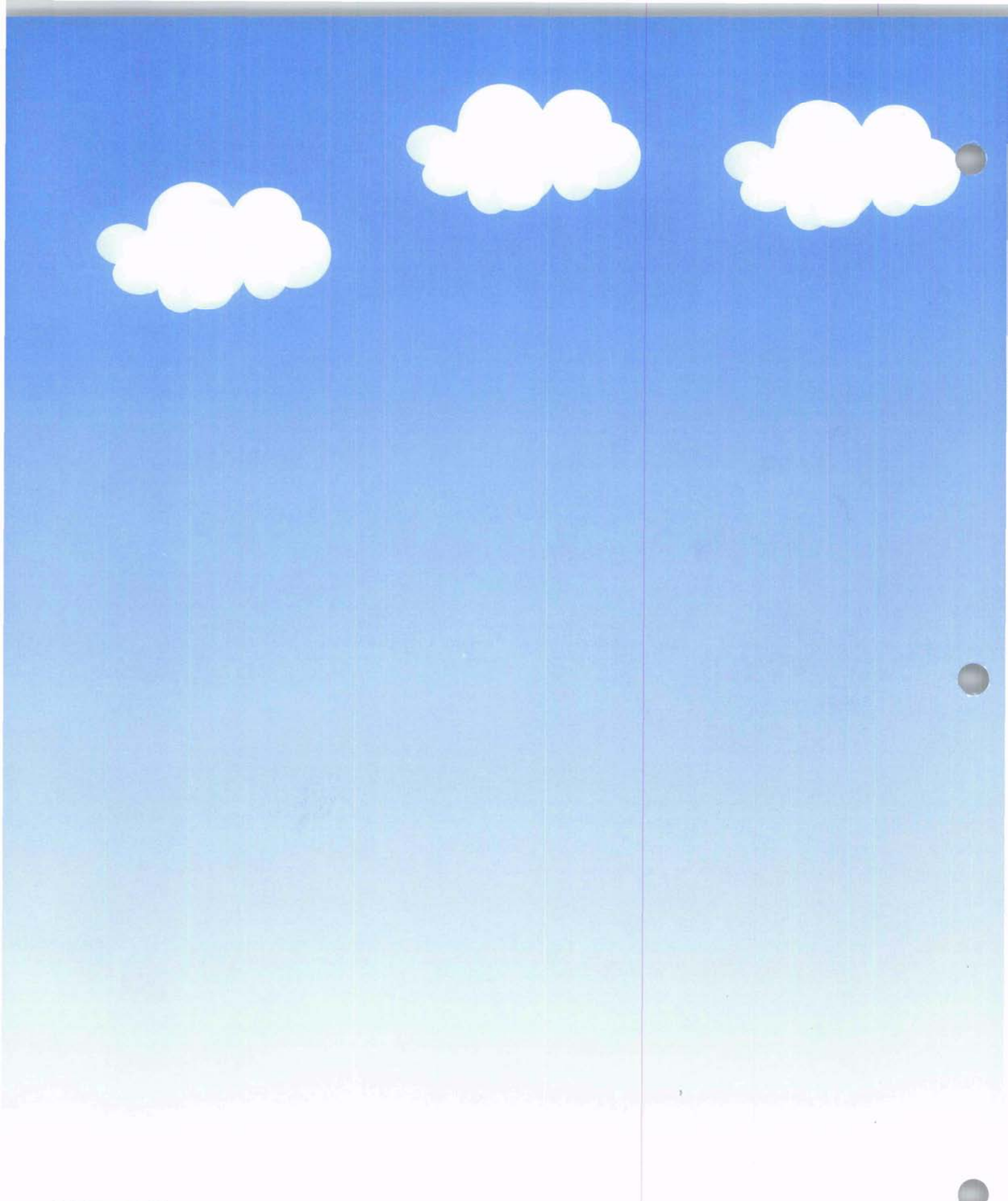
j — Cloth bag for shopping, reusable food containers

k — Trees / Forest Scenery



l — Items which have been reused for another purpose

m — EPA website



EPA

United States Environmental Protection Agency

Solid Waste and Emergency Response (5305P)

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