

# Trash and the Environment

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**AIMS Multimedia**



1-800-FOR-AIMS

1-800-367-2467

## *Congratulations!*

You have chosen a learning program that will actively motivate your students AND provide you with easily accessible and easily manageable instructional guidelines designed to make your teaching role efficient and rewarding.

The AIMS Teaching Module provides you with a video program keyed to your classroom curriculum, instructions and guidelines for use, plus a comprehensive teaching program containing a wide range of activities and ideas for interaction between all content areas. Our authors, educators, and consultants have written and reviewed the AIMS Teaching Modules to align with the Educate America Act: Goals 2000.

This ATM, with its clear definition of manageability, both in the classroom and beyond, allows you to tailor specific activities to meet all of your classroom needs.

## **RATIONALE**

In today's classrooms, educational pedagogy is often founded on Benjamin S. Bloom's "Six Levels of Cognitive Complexity." The practical application of Bloom's Taxonomy is to evaluate students' thinking skills on these levels, from the simple to the complex: Knowledge (rote memory skills), Comprehension (the ability to relate or retell), Application (the ability to apply knowledge outside its origin), Analysis (relating and differentiating parts of a whole), Synthesis (relating parts to a whole), and Evaluation (making a judgment or formulating an opinion).

The AIMS Teaching Module is designed to facilitate these intellectual capabilities, AND to integrate classroom experiences and assimilation of learning with the students' life experiences, realities, and expectations. AIMS' learner verification studies prove that our AIMS Teaching Modules help students to absorb, retain, and to demonstrate ability to use new knowledge in their world. Our educational materials are written and designed for today's classroom, which incorporates a wide range of intellectual, cultural, physical, and emotional diversities.

## **ORGANIZATION AND MANAGEMENT**

To facilitate ease in classroom manageability, the AIMS Teaching Module is organized in four sections. You are reading Section 1, Introduction to the Aims Teaching Module (ATM).

### ***SECTION 2,***

#### **INTRODUCING THIS ATM**

will give you the specific information you need to integrate the program into your classroom curriculum.

### ***SECTION 3,***

#### **PREPARATION FOR VIEWING**

provides suggestions and strategies for motivation, language preparedness, readiness, and focus prior to viewing the program with your students.

### ***SECTION 4,***

#### **AFTER VIEWING THE PROGRAM**

provides suggestions for additional activities plus an assortment of consumable assessment and extended activities, designed to broaden comprehension of the topic and to make connections to other curriculum content areas.

# FEATURES

## INTRODUCING EACH ATM

### *SECTION 2*

Your AIMS Teaching Module is designed to accompany a video program written and produced by some of the world's most credible and creative writers and producers of educational programming. To facilitate diversity and flexibility in your classroom, your AIMS Teaching Module features these components:

#### **Themes**

The Major Theme tells how this AIMS Teaching Module is keyed into the curriculum. Related Themes offer suggestions for interaction with other curriculum content areas, enabling teachers to use the teaching module to incorporate the topic into a variety of learning areas.

#### **Overview**

The Overview provides a synopsis of content covered in the video program. Its purpose is to give you a summary of the subject matter and to enhance your introductory preparation.

#### **Objectives**

The ATM learning objectives provide guidelines for teachers to assess what learners can be expected to gain from each program. After completion of the AIMS Teaching Module, your students will be able to demonstrate dynamic and applied comprehension of the topic.

## **PREPARATION FOR VIEWING**

### **SECTION 3**

In preparation for viewing the video program, the AIMS Teaching Module offers activity and/or discussion ideas that you may use in any order or combination.

#### **Introduction To The Program**

Introduction to the Program is designed to enable students to recall or relate prior knowledge about the topic and to prepare them for what they are about to learn.

#### **Introduction To Vocabulary**

Introduction to Vocabulary is a review of language used in the program: words, phrases, usage. This vocabulary introduction is designed to ensure that all learners, including limited English proficiency learners, will have full understanding of the language usage in the content of the program.

## **Discussion Ideas**

Discussion Ideas are designed to help you assess students' prior knowledge about the topic and to give students a preview of what they will learn. Active discussion stimulates interest in a subject and can motivate even the most reluctant learner. Listening, as well as speaking, is active participation. Encourage your students to participate at the rate they feel comfortable. Model sharing personal experiences when applicable, and model listening to students' ideas and opinions.

#### **Focus**

Help learners set a purpose for watching the program with Focus, designed to give students a focal point for comprehension continuity.

#### **Jump Right In**

Jump Right In provides abbreviated instructions for quick management of the program.

## **AFTER VIEWING THE PROGRAM**

### **SECTION 4**

After your students have viewed the program, you may introduce any or all of these activities to interact with other curriculum content areas, provide reinforcement, assess comprehension skills, or provide hands-on and in-depth extended study of the topic.

## SUGGESTED ACTIVITIES

The Suggested Activities offer ideas for activities you can direct in the classroom or have your students complete independently, in pairs, or in small work groups after they have viewed the program. To accommodate your range of classroom needs, the activities are organized into skills categories. Their labels will tell you how to identify each activity and help you correlate it into your classroom curriculum. To help you schedule your classroom lesson time, the AIMS hourglass gives you an estimate of the time each activity should require. Some of the activities fall into these categories:



### Meeting Individual Needs

These activities are designed to aid in classroom continuity. Reluctant learners and learners acquiring English will benefit from these activities geared to enhance comprehension of language in order to fully grasp content meaning.



### Curriculum Connections

Many of the suggested activities are intended to integrate the content of the ATM program into other content areas of the classroom curriculum. These cross-connections turn the classroom teaching experience into a whole learning experience.



### Critical Thinking

Critical Thinking activities are designed to stimulate learners' own opinions and ideas. These activities require students to use the thinking process to discern fact from opinion, consider their own problems and formulate possible solutions, draw conclusions, discuss cause and effect, or combine what they already know with what they have learned to make inferences.



### Cultural Diversity

Each AIMS Teaching Module has an activity called Cultural Awareness, Cultural Diversity, or Cultural Exchange that encourages students to share their backgrounds, cultures, heritage, or knowledge of other countries, customs, and language.



### Hands On

These are experimental or tactile activities that relate directly to the material taught in the program. Your students will have opportunities to make discoveries and formulate ideas on their own, based on what they learn in this unit.



### Writing

Every AIMS Teaching Module will contain an activity designed for students to use the writing process to express their ideas about what they have learned. The writing activity may also help them to make the connection between what they are learning in this unit and how it applies to other content areas.



### In The Newsroom

Each AIMS Teaching Module contains a newsroom activity designed to help students make the relationship between what they learn in the classroom and how it applies in their world. The purpose of In The Newsroom is to actively involve each class member in a whole learning experience. Each student will have an opportunity to perform all of the tasks involved in production: writing, researching, producing, directing, and interviewing as they create their own classroom news program.



### Extended Activities

These activities provide opportunities for students to work separately or together to conduct further research, explore answers to their own questions, or apply what they have learned to other media or content areas.



### Link to the World

These activities offer ideas for connecting learners' classroom activities to their community and the rest of the world.



### Culminating Activity

To wrap up the unit, AIMS Teaching Modules offer suggestions for ways to reinforce what students have learned and how they can use their new knowledge to enhance their world view.



## **VOCABULARY**

Every ATM contains an activity that reinforces the meaning and usage of the vocabulary words introduced in the program content. Students will either read or find the definition of each vocabulary word, then use the word in a written sentence.

## **CHECKING COMPREHENSION**

Checking Comprehension is designed to help you evaluate how well your students understand, retain, and recall the information presented in the AIMS Teaching Module. Depending on your students' needs, you may direct this activity to the whole group yourself, or you may want to have students work on the activity page independently, in pairs, or in small groups. Students can verify their written answers through discussion or by viewing the video a second time. If you choose, you can reproduce the answers from your Answer Key or write the answer choices in a Word Bank for students to use. Students can use this completed activity as a study guide to prepare for the test.

## **CONSUMABLE ACTIVITIES**

The AIMS Teaching Module provides a selection of consumable activities, designed to specifically reinforce the content of this learning unit. Whenever applicable, they are arranged in order from low to high difficulty level, to allow a seamless facilitation of the learning process. You may choose to have students take these activities home or to work on them in the classroom independently, in pairs or in small groups.

## **CHECKING VOCABULARY**

The Checking Vocabulary activity provides the opportunity for students to assess their knowledge of new vocabulary with this word game or puzzle. The format of this vocabulary activity allows students to use the related words and phrases in a different context.

## **TEST**

The AIMS Teaching Module Test permits you to assess students' understanding of what they have learned. The test is formatted in one of several standard test formats to give your students a range of experiences in test-taking techniques. Be sure to read, or remind students to read, the directions carefully and to read each answer choice before making a selection. Use the Answer Key to check their answers.

## **ADDITIONAL AIMS MULTIMEDIA PROGRAMS**

After you have completed this AIMS Teaching Module you may be interested in more of the programs that AIMS offers. This list includes several related AIMS programs.

## **ADDITIONAL READING SUGGESTIONS**

AIMS offers a carefully researched list of other resources that you and your students may find rewarding.

## **ANSWER KEY**

Reproduces tests and work pages with answers marked.

# Trash and the Environment

## THEMES

The themes of cause and effect are presented by example of the choices each person makes and the problems of waste disposal that result. The theme of the interaction of humankind and the environment is also shown as viewers see images of how solid waste disposal affects the environment.

## OVERVIEW

Each one of us can play an important role in the future of our natural resources and the environment. A variety of eye-opening facts are presented in this video on the amount of waste generated in the United States on a daily and yearly basis. This program also offers some simple and realistic choices one can make to help limit the amount of solid waste and pollution that is created by each of us every day.

Viewers are also shown the steps in solid waste collection, processing, and disposal. These scenes help to make real the issues that individuals and communities face as a result of the volume of waste that must be disposed of. Examples of products that can be created from recycled materials are also presented.

Viewers are encouraged to consider their waste disposal habits and to reduce, reuse and recycle products that they use every day. It is only by becoming more aware and active that we will be able to improve the quality of life for ourselves and future generations.

## OBJECTIVES

- ▶ To identify sources of waste created by the average consumer
- ▶ To identify uses for recycled products
- ▶ To describe the effects of waste on the environment
- ▶ To identify the benefits of recycling
- ▶ To show and explain the steps in trash collection and processing

Use this page for your individual notes about planning and/or effective ways to manage this  
AIMS Teaching Module in your classroom.

Our AIMS Multimedia Educational Department welcomes your observations and comments.  
Please feel free to address your correspondence to:

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Editorial Department  
9710 DeSoto Avenue  
Chatsworth, California 91311-4409

## INTRODUCTION TO THE PROGRAM

Ask students to think about the different kinds of products and materials that they use and dispose of every day. Ask for examples and write them on the chalkboard. Encourage students to identify items on the list that could be reduced or recycled, and whether any student recycles or tries to reduce the use items on the list. Explain that the program will show what happens to our waste products and what each of us can do to reduce the amount of trash that we generate.

## INTRODUCTION TO VOCABULARY

Write the following words on the chalkboard and pronounce each word aloud:

**compost**  
**decompose**  
**incinerators**  
**landfill**  
**nutrients**  
**raw material**  
**recycle**  
**reduce**  
**sanitation**  
**transfer station**

Explain that these words will be used in the program and in several follow up activities. Encourage students to note each word and its definition as it is presented.

## FOCUS

As they view the program *Trash and the Environment*, ask students to think about additional questions on the topic of solid waste disposal that they would like to explore further and write them down. Explain that you will ask students to share their questions with the class and that they might be used for further research and discussion.

## DISCUSSION IDEAS

Ask students any or all of the following questions to prompt a discussion on trash and trash disposal. How much trash and waste do you think is generated in the United States each day? Where is the trash taken once it is removed from your home or neighborhood? What are some things that you can do to reduce the amount of trash you generate each day?

# JUMP RIGHT IN

## HOW TO USE THE *TRASH AND THE ENVIRONMENT* AIMS TEACHING MODULE

### Preparation

- ▶ Read *Trash and the Environment Themes, Overview, and Objectives* to become familiar with program content and expectations.
- ▶ Use **Preparation for Viewing** suggestions to introduce the topic to students.

### Viewing *TRASH AND THE ENVIRONMENT*

- ▶ Set up viewing monitor so that all students have a clear view.
- ▶ Depending on your classroom size and learning range, you may choose to have students view *Trash and the Environment* together or in small groups.
- ▶ Some students may benefit from viewing the video more than one time.

### After Viewing *TRASH AND THE ENVIRONMENT*

- ▶ Select **Suggested Activities** that integrate into your classroom curriculum. If applicable, gather materials or resources.
- ▶ Choose the best way for students to work on each activity. Some activities work best for the whole group. Other activities are designed for students to work independently, in pairs, or in small groups. Whenever possible, encourage students to share their work with the rest of the group.
- ▶ Duplicate the appropriate number of **Vocabulary, Checking Comprehension**, and consumable activity pages for your students.
- ▶ You may choose to have students take consumable activities home, or complete them in the classroom, independently, or in groups.
- ▶ Administer the Test to assess students' comprehension of what they have learned, and to provide them with practice in test-taking procedures.
- ▶ Use the **Culminating Activity** as a forum for students to display, summarize, extend, or share what they have learned with each other, the rest of the school, or a local community organization.

## SUGGESTED ACTIVITIES

### Critical Thinking

Remind students of the example in the video of the over packaged box of chocolates. Encourage students to think of the materials and products that they buy and use, and how they are packaged. List several examples on the chalkboard. Ask students to identify reasons why they think products are packaged in such a way. You may wish to extend the discussion and ask students what they can do to reduce this portion of the trash dilemma.



15 Minutes

### Critical Thinking

Recycling is a key to efforts in managing the trash crisis. Have students identify and explain three reasons in a brief paragraph, why it is important to recycle.



30 Minutes

### Meeting Individual Needs

As students view the video, have them note any questions about concepts or vocabulary that they may have. Working in pairs or in small groups, have students review their questions at the end of the class discussion.



15 Minutes

### Link to the World

You may wish to invite someone from the public works or sanitation department from your community to visit the classroom and talk about local recycling efforts. or how solid waste is handled in your town. Assign students the responsibility to call or write this person, greet the guest, develop questions, and write a follow-up thank you letter.



30 Minutes

### Cultural Awareness

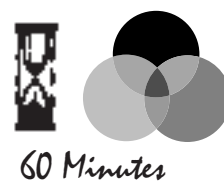
The United States is not alone in its efforts to reduce the amount of solid waste it generates and increase its number of recycled products and materials. Some European and Asian countries have developed their own programs and technology. Have students identify an industrialized country and using library or on-line resources, and research the country's efforts on these issues. You may wish to have students share their reports with the class.



60 Minutes

## Cultural Awareness

In the past and to a lesser extent today, Third World and underdeveloped countries have received the waste products of some of the more industrialized nations. Using library or on-line resources, have students research examples of such exporting policies to a country in Africa, South or Central America or Asia and what is being done today. You may wish to have students share their reports with the class. Encourage students to think about why waste products might be sent to these poorer countries.



## In the Newsroom

Assign students into small groups whose role is that of the role of a public relations or spokesperson for the sanitation department in your community. Have them develop a plan to convince either a local television station or newspaper to do a feature story on the issue of waste disposal and recycling. Encourage students to think about why this issue is important to the community and what citizens need to know about this issue, and how this program could be made interesting to the average viewer or reader.



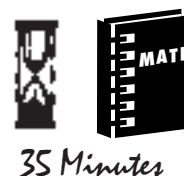
## Hands On

Several suggestions were made in the video on how to recycle or reuse commonly used materials and products. As a class, develop a list of items from the home or classroom that could be reused. Brainstorm ideas for different products or functions that could be created from these items. Allow students to select an item to recycle and create their own product. You may wish to allow time for students to share their recycled or reused products with the class, and perhaps make a class display of them.



## Connection to Mathematics

The average person generates approximately 3.5 pounds (1.58 kg) of trash per day. Using this data, have students calculate how many pounds of trash his or her family creates in one day, week, and month and in one year. You may wish to then have students calculate how many pounds of each of the following categories his or her family generates. (Percentages are taken from those presented in the video) Paper: 35.6%, garden: 20.1%, textile: 9%, food: 8.9%, metal: 8.9%, glass: 8.4%, plastic: 7.3, and miscellaneous: 1.8%.

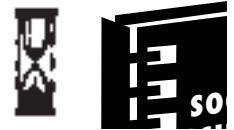




## Connection to Social Studies

Controlling garbage and hazardous waste requires international cooperation.

In 1992, a United Nations Conference on Environment and Development (UNCED), the "Earth Summit" was held in Rio de Janeiro, Brazil on the twentieth anniversary of the first U.N. conference on the environment. World leaders and experts discussed issues such as global warming, and solid and hazardous waste disposal. Have students further research the topics, treaties and action taken by this conference and write a brief report on it. Encourage students to also include any progress that has been taken as a result of this international event.



45 Minutes

## Writing

Near the end of the story, *The Lorax* by Dr. Suess, he writes, "Unless someone likes you, cares a whole awful lot, nothing is going to get better. It's not."

Have students write a short essay on how this message applies to waste disposal and recycling.



30 Minutes

## Extended Activity

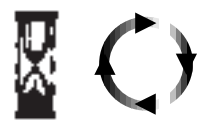
Today only about 13% of our wastes are being recycled. This will not be enough to solve our waste disposal problems. However, new processes and technologies are being developed in the United States and elsewhere. Working in small groups, have students identify a product or material that can be recycled such as tires, incinerator ash, paper, plastics and so on, and research what if any new technologies and programs have been developed to recycle it. You may wish to have students share their results with the class.



60 Minutes

## Culminating Activity

Assign students into small groups and have them plan and create a campaign for your school to either begin, or support an ongoing paper recycling program. Encourage students to think about several different ways in which to promote and support this program. For example, meeting with the principal and or custodial staff, planning a display for the school lobby, PA announcements, posters, slogans and so on. Have each group present their plan to the rest of class. Determine which plan or ideas from among all the presentations that could realistically be implemented.



40 Minutes

**CHECKING VOCABULARY**

Read the sentences below. Use the vocabulary words to choose the best word or phrase to complete each sentence. Write the correct word in the space provided. You may use a dictionary to help you.

**compost**  
**incinerator**  
**nutrient**  
**recycle**  
**sanitation**

**decompose**  
**landfill**  
**raw material**  
**reduce**  
**transfer station**

1. Something that nourishes or feeds another living thing is called a \_\_\_\_\_ .
2. An area that is used as a dumping place for solid wastes and that is lined with heavy plastic or clay is called a \_\_\_\_\_ .
3. A \_\_\_\_\_ is a natural substance grown or taken from the ground.
4. Decayed materials such as leaves, grass, and some food waste that is used as a conditioner and fertilizer for soil is called \_\_\_\_\_ .
5. A place where trash is sorted for recycling or disposal is called a \_\_\_\_\_ .
6. A special furnace that is used for burning trash and rubbish is an \_\_\_\_\_ .
7. To \_\_\_\_\_ is to use materials from garbage or waste and use it again in its original or a changed form.
8. To change, to break down, rot or decay is another way of saying to \_\_\_\_\_ .
9. To get rid of wastes effectively and safely is called \_\_\_\_\_ .
10. To \_\_\_\_\_ means to make less in amount.

### CHECKING COMPREHENSION

Read the following questions. Write the correct answer in the space provided

1. Explain why "Waste to Energy Facility Plants" are an environmentally sound way to dispose of trash.
2. Explain what happens to trash in a landfill.
3. Explain "Nature's Recycling System."
4. Explain what happens when trash is taken from your home and goes to a transfer station.
5. What three things can you do to reduce the amount of trash that you throw away?

**CHECKING UP**

Use a chart similar to the one below to monitor the materials and products that you either throw away or recycle in one day. Discuss your results with members of the class.

Item	Thrown Away	Could Be Recycled	Recycled
Paper			
Plastic			
Fiber			
Glass			
Metal			
Food Waste			
Other			
Hazardous Waste			

## THE SHIP OF WASTES

Read the passage below about the difficulties in disposing of waste that might be dangerous.

In 1986, the city of Philadelphia, Pennsylvania, hired a company to get rid of the ash from their incinerator plant. Some of this ash contained hazardous chemicals. 13,000 tons (11,700 metric tons) of ash were loaded on a ship named the *Khian Sea*. It spent twenty-seven months at sea stopping in Panama, Haiti, Honduras, Bermuda, Africa and the Bahamas trying to unload its cargo that was labeled as fertilizer ash.

The ship eventually returned to Philadelphia where it was turned away. With the ship showing signs of rusting, it left Philadelphia with a new name, the *Felicia*. It sailed to the Philippines where it was again turned away.

After another name change, this time to *Pelicano*, the ship docked at Singapore. The cargo of hazardous waste had disappeared. No one would say what had happened to it.

In the space below, write a paragraph about what you think should have been done with the waste.

### CHASING ARROWS

Below is an example of the recycling symbol that you often see on plastic and paper products. Find out what the arrows in this symbol mean. A second symbol that may be less understood is also shown. Find out what it means and write an explanation next to the symbol.



### **MORE TRASH, MORE WORDS TO KNOW**

Below are a few more vocabulary words that are related to trash and the environment. Find the definitions of these words in the dictionary. Think about how they are related to what you learned in the video, *Trash and the Environment* and write a sentence using each word.

1. **biodegradable:**

2. **cullet:**

3. **leachate:**

4. **solid waste:**

5. **EPA ( Environmental Protection Agency):**

**WORD SEARCH**

The following words can be found in the maze below. The letters may be arranged horizontally, vertically, diagonally or backward.

**compost**  
**trash**  
**incinerator**  
**nutrient**  
**recycle**  
**landfill**  
**leachate**  
**reduce**  
**EPA**  
**cullet**

C	X	D	T	R	A	S	H	B	D	G	W
P	O	I	H	C	L	C	B	P	I	L	R
C	L	M	R	D	N	U	P	N	L	A	E
I	E	A	P	H	E	L	E	U	S	K	C
L	H	N	J	O	Q	L	D	T	D	B	Y
A	O	E	R	C	S	E	S	R	I	G	C
N	C	R	E	M	P	T	J	I	T	D	L
D	A	J	R	E	D	U	C	E	N	B	E
F	O	H	C	A	L	H	E	N	A	G	F
I	N	C	I	N	E	R	A	T	O	R	V
L	F	B	M	G	P	C	L	B	I	B	A
L	E	A	C	H	A	T	E	H	M	O	N



**TEST**

Circle the phrase which best answers each question.

1. Which product will take the longest to decompose?
  - a. an aluminum can
  - b. a banana peel
  - c. a wool sock
  - d. Styrofoam cup
  - e. they each will take about the same amount of time
  
2. After a landfill can no longer receive trash, it can become a
  - a. farm
  - b. forest
  - c. park
  - d. all of the above
  - e. none of the above
  
3. What has to happen to glass before it can be recycled?
  - a. it has to be broken into pieces
  - b. it has to be sorted
  - c. it has to be washed
  - d. it has to be weighed
  - e. none of the above
  
4. Decompose means to
  - a. break down, rot
  - b. reuse
  - c. turn into compost
  - d. all of the above
  - e. none of the above
  
5. Which of the following materials creates the greatest percent of waste?
  - a. glass
  - b. metal
  - c. paper
  - d. plastic
  - e. none of the above

**TEST (CONTINUED)**

6. One problem with recycling plastic is that
  - a. it is very light
  - b. not all types can be recycled
  - c. it is very expensive to do so
  - d. there are few products that can be made from it
  - e. all of the above
  
7. Recycled paper is often made into
  - a. building materials
  - b. newsprint
  - c. cardboard
  - d. all of the above
  - e. none of the above
  
8. Trash can be
  - a. burned and used to make electricity
  - b. used to develop land for new buildings
  - c. fill in empty areas
  - d. all of the above
  - e. none of the above
  
9. Which of the following is generally NOT sorted at a transfer station?
  - a. glass
  - b. plastic
  - c. metal
  - d. hazardous waste
  - e. none of the above
  
10. How much waste does the average American create in one day?
  - a. 10 pounds (4.5 kg)
  - b. 3.5 pounds (1.58 kg)
  - c. 5 pounds (2.25 kg)
  - d. 1.5 pounds (.68 kg)
  - e. none of the above

## **ADDITIONAL AIMS MULTIMEDIA PROGRAMS**

You and your students might also enjoy these other AIMS Multimedia programs:

## ANSWER KEY for page 18

### CHECKING VOCABULARY

Read the sentences below. Use the vocabulary words to choose the best word or phrase to complete each sentence. Write the correct word in the space provided. You may use a dictionary to help you.

**compost**  
**incinerator**  
**nutrient**  
**recycle**  
**sanitation**

**decompose**  
**landfill**  
**raw material**  
**reduce**  
**transfer station**

1. Something that nourishes or feeds another living thing is called a nutrient .
2. An area that is used as a dumping place for solid wastes and that is lined with heavy plastic or clay is called a landfill .
3. A raw material is a natural substance grown or taken from the ground.
4. Decayed materials such as leaves, grass, and some food waste that is used as a conditioner and fertilizer for soil is called compost .
5. A place where trash is sorted for recycling or disposal is called a transfer station .
6. A special furnace that is used for burning trash and rubbish is an incinerator .
7. To recycle is to use materials from garbage or waste and use it again in its original or a changed form.
8. To change, to break down, rot or decay is another way of saying to decompose .
9. To get rid of wastes effectively and safely is called sanitation .
10. To reduce means to make less in amount.

## ANSWER KEY for page 19

### CHECKING COMPREHENSION

Read the following questions. Write the correct answer in the space provided

1. Explain why "Waste to Energy Facility Plants" are an environmentally sound way to dispose of trash.

**The trash is burned in special incinerators that create a small amount of ash that can be used in road construction. The heat generated from burning trash is changed into energy to make electricity for home and businesses.**

2. Explain what happens to trash in a landfill.

**A deep hole is dug and lined with heavy plastic to prevent leakage of waste into the ground water. The trash is deposited and covered with dirt. When it is filled or becomes too high, the area can be turned into a parking lot, an athletic field or a park.**

3. Explain "Nature's Recycling System."

**All living things create waste that decomposes. These decomposed materials turn into raw materials that help to grow new living things.**

4. Explain what happens when trash is taken from your home and goes to a transfer station.

**Either a private or municipal operator collects the trash. It then is taken by truck to a transfer station where it is sorted by hand and machine. Items that can be recycled such as aluminum, glass, and some plastics are separated and removed. The remaining waste is taken to either a landfill or to a "Waste to Energy Facility."**

5. What three things can you do to reduce the amount of trash that you throw away?

**Recycle as many products as possible. Reuse as many products as possible. Reduce the number of products that you use and throw away.**

## ANSWER KEY for page 20

### CHECKING UP

Use a chart similar to the one below to monitor the materials and products that you either throw away or recycle in one day. Discuss your results with members of the class.

Item	Thrown Away	Could Be Recycled	Recycled
Paper			
Plastic			
Fiber			
Glass			
Metal			
Food Waste			
Other			
Hazardous Waste			

Responses will vary. Note that students have made an effort to realistically complete the chart.

Have students share their findings. Lead a discussion and point out to students the effects of their behavior on the environment.

## ANSWER KEY for page 21

### THE SHIP OF WASTES

Read the passage below about the difficulties in disposing of waste that might be dangerous.

In 1986, the city of Philadelphia, Pennsylvania, hired a company to get rid of the ash from their incinerator plant. Some of this ash contained hazardous chemicals. 13,000 tons (11,700 metric tons) of ash were loaded on a ship named the *Khian Sea*. It spent twenty-seven months at sea stopping in Panama, Haiti, Honduras, Bermuda, Africa and the Bahamas trying to unload its cargo that was labeled as fertilizer ash.

The ship eventually returned to Philadelphia where it was turned away. With the ship showing signs of rusting, it left Philadelphia with a new name, the *Felicia*. It sailed to the Philippines where it was again turned away.

After another name change, this time to *Pelicano*, the ship docked at Singapore. The cargo of hazardous waste had disappeared. No one would say what had happened to it.

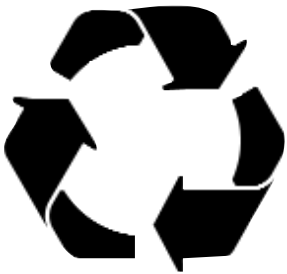
In the space below, write a paragraph about what you think should have been done with the waste.

**Responses will vary but should reflect an understanding of the issues identified in the story ó the problems involved in legitimate and environmentally sound ways of disposing of waste, especially hazardous waste; the aversion communities have to receiving such waste; the processes by which this waste is created.**

## ANSWER KEY for page 22

### CHASING ARROWS

Below is an example of the recycling symbol that you often see on plastic and paper products. Find out what the arrows in this symbol mean. A second symbol that may be less understood is also shown. Find out what it means and write an explanation next to the symbol.



The top arrow stands for saving—the consumer sending the used packaging or products to the recycling plant. The second arrow stands for the recycler giving the material to the manufacturer who will make it into a new product. The third arrow shows the manufacturer giving the new product to the consumer.



This symbol is used on things that are made from recycled materials.



## ANSWER KEY for page 23

### MORE TRASH, MORE WORDS TO KNOW

Below are a few more vocabulary words that are related to trash and the environment. Find the definitions of these words in the dictionary. Think about how they are related to what you learned in the video, *Trash and the Environment* and write a sentence using each word.

1. **biodegradable:** capable of being broken down by the action of decay bacteria
2. **cullet:** scrap glass, usually broken up into small, uniform pieces
3. **leachate:** water contaminated by contact with hazardous materials which escape from a landfill into the ground water
4. **solid waste:** the unwanted solid material produced by homes, businesses, government, industry and agriculture
5. **EPA ( Environmental Protection Agency):** a government agency established in 1970 to review, approve and monitor programs and projects related to the environment

**Sentences will vary but should reflect an understanding of connection to videotext.**

# ANSWER KEY for page 24

## WORD SEARCH

The following words can be found in the maze below. The letters may be arranged horizontally, vertically, diagonally or backward.

- compost**
- trash**
- incinerator**
- nutrient**
- recycle**
- landfill**
- leachate**
- reduce**
- EPA**
- cullet**

C	X	D	T	R	A	S	H	B	D	G	W
P	O	I	H	C	L	C	B	P	I	L	R
C	L	M	R	D	N	U	P	N	L	A	E
I	E	A	P	H	E	L	E	U	S	K	C
L	H	N	J	O	Q	L	D	T	D	B	Y
A	O	E	R	C	S	E	S	R	I	G	C
N	C	R	E	M	P	T	J	I	T	D	L
D	A	J	R	E	D	U	C	E	N	B	E
F	O	H	C	A	L	H	E	N	A	G	F
I	N	C	I	N	E	R	A	T	O	R	V
L	F	B	M	G	P	C	L	B	I	B	A
L	E	A	C	H	A	T	E	H	M	O	N

## ANSWER KEY for page 25

### TEST

Circle the phrase which best answers each question.

1. Which product will take the longest to decompose?  
 a. an aluminum can  
 b. a banana peel  
 c. a wool sock  
 d. Styrofoam cup  
 e. they each will take about the same amount of time
2. After a landfill can no longer receive trash, it can become a  
 a. farm  
 b. forest  
 c. park  
 d. all of the above  
 e. none of the above
3. What has to happen to glass before it can be recycled?  
 a. it has to be broken into pieces  
 b. it has to be sorted  
 c. it has to be washed  
 d. it has to be weighed  
 e. none of the above
4. Decompose means to  
 a. break down, rot  
 b. reuse  
 c. turn into compost  
 d. all of the above  
 e. none of the above
5. Which of the following materials creates the greatest percent of waste?  
 a. glass  
 b. metal  
 c. paper  
 d. plastic  
 e. none of the above

## ANSWER KEY for page 26

### TEST (CONTINUED)

6. One problem with recycling plastic is that
- a. it is very light
  - b. not all types can be recycled
  - c. it is very expensive to do so
  - d. there are few products that can be made from it
  - e. all of the above
7. Recycled paper is often made into
- a. building materials
  - b. newsprint
  - c. cardboard
  - d. all of the above
  - e. none of the above
8. Trash can be
- a. burned and used to make electricity
  - b. used to develop land for new buildings
  - c. fill in empty areas
  - d. all of the above
  - e. none of the above
9. Which of the following is generally NOT sorted at a transfer station?
- a. glass
  - b. plastic
  - c. metal
  - d. hazardous waste
  - e. none of the above
10. How much waste does the average American create in one day?
- a. 10 pounds (4.5 kg)
  - b. 3.5 pounds (1.58 kg)
  - c. 5 pounds (2.25 kg)
  - d. 1.5 pounds (.68 kg)
  - e. none of the above