Saving the Environment
Government Regulations
Conserving Natural Resources
Copyright © Texas Education Agency, 2014. These Materials are copyrighted © and trademarked ™ as the property of the Texas Education Agency (TEA) and may not be reproduced without the express written permission of TEA, except under the following conditions:

1) Texas public school districts, charter schools, and Education Service Centers may reproduce and use copies of the Materials and Related Materials for the districts’ and schools’ educational use without obtaining permission from TEA.

2) Residents of the state of Texas may reproduce and use copies of the Materials and Related Materials for individual personal use only, without obtaining written permission of TEA.

3) Any portion reproduced must be reproduced in its entirety and remain unedited, unaltered and unchanged in any way.

4) No monetary charge can be made for the reproduced materials or any document containing them; however, a reasonable charge to cover only the cost of reproduction and distribution may be charged.

Private entities or persons located in Texas that are not Texas public school districts, Texas Education Service Centers, or Texas charter schools or any entity, whether public or private, educational or non-educational, located outside the state of Texas MUST obtain written approval from TEA and will be required to enter into a license agreement that may involve the payment of a licensing fee or a royalty.

For information contact: Office of Copyrights, Trademarks, License Agreements, and Royalties, Texas Education Agency, 1701 N. Congress Ave., Austin, TX 78701-1494; phone 512-463-7004; email: copyrights@tea.state.tx.us.
Objectives

• Understand how the Environmental Protection Agency writes regulations to implement environmental laws written by congress
• Learn what you can do as a consumer to implement behaviors that protect our environment
• Understand the function and purpose of some of the common EPA agencies
• Understand how these regulations affect you as a consumer
Environmental Protection Agency (EPA)

• Congress has written many laws that are regulated by EPA. We are going to focus on a few of these laws.
  – Clean Air Act
  – Clean Water Act
  – Chemical Safety
  – Federal Food, Drug and Cosmetic Act
  – Occupational Safety and Health Act
What is EPA?

• EPA is a regulatory agency Congress authorizes to write regulations that explain the critical details necessary to implement environmental laws. There are many laws written to protect human health and environment.
Clean Air Act

• The Clean Air Act (CAA) is the comprehensive federal law that regulates hazardous air pollution.

• One of the goals is to control emissions produced by automobiles.
Clean Water Act

- The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into surface waters.
- It ensures that our drinking water is safe.
Chemical Safety

- The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) limits pesticide distribution, sale and use to those that "will not generally cause adverse effects on the environment."
Food, Drug and Cosmetic Act

- Sets limits for pesticide residues in food.
- Residues above safe limits are removed from the market.
- Safe is defined as “no harm” resulting from exposure.
The Occupational and Safety Health Act (OSHA)

Ensures workplace safety

Examples of unsafe conditions might include:

• exposure to toxic chemicals
• excessive noise levels
• mechanical dangers
• heat or cold stress
• unsanitary conditions
What You Can Do to Promote Health Safety

• Make sure lids on chemicals such as paints are closed tight to prevent evaporation.
• If you live in older home, check for high levels of lead in paint.
• Check the air index levels for pollutions and avoid strenuous outdoor activities during times when the levels are high. (visit www.airnow.gov)

On next slide you will see how levels are divided and how you can protect your health.
<table>
<thead>
<tr>
<th>Air Quality</th>
<th>Protect your health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good (0-50)</td>
<td>No health impacts are expected when air quality is in this range</td>
</tr>
<tr>
<td>Moderate (51-100)</td>
<td>Unusually sensitive people should consider limiting prolonged outdoor exertion</td>
</tr>
<tr>
<td></td>
<td>Unhealthy for sensitive groups (101-150)</td>
</tr>
<tr>
<td>Unhealthy for sensitive groups</td>
<td>The following groups should limit prolonged outdoor exertion:</td>
</tr>
<tr>
<td>(101-150)</td>
<td>People with lung disease, such as asthma</td>
</tr>
<tr>
<td></td>
<td>Children and older adults</td>
</tr>
<tr>
<td></td>
<td>People who are active outdoors</td>
</tr>
<tr>
<td></td>
<td>Unhealthy</td>
</tr>
<tr>
<td>Unhealthy (151-200)</td>
<td>The following groups should avoid prolonged outdoor exertion:</td>
</tr>
<tr>
<td></td>
<td>People with lung disease, such as asthma</td>
</tr>
<tr>
<td></td>
<td>Children and older adults</td>
</tr>
<tr>
<td></td>
<td>People who are active outdoors</td>
</tr>
<tr>
<td></td>
<td>Everyone else should limit prolonged outdoor exertion</td>
</tr>
<tr>
<td></td>
<td>Very unhealthy</td>
</tr>
<tr>
<td>Very Unhealthy (200 +)</td>
<td>People with lung disease, such as asthma</td>
</tr>
<tr>
<td></td>
<td>Children and older adults</td>
</tr>
<tr>
<td></td>
<td>People who are active outdoors</td>
</tr>
<tr>
<td></td>
<td>Everyone else should limit outdoor exertion</td>
</tr>
</tbody>
</table>
Modern-Day Climate Change

Climate Change Basics
(click on link)
The Benefits of Reducing Waste, Reusing Items and Recycling Materials

- Less energy is used by recycling, compared to creating items from raw materials.
- Fewer natural resources are used when material is recycled.
- When an object is recycled, it does not become litter.
- When an object is recycled, it does not take up space in a landfill.
- For many materials, it costs less to recycle than to create from raw materials.
What Can You Do?

• Use less energy
  – Turn off lights
  – Use STAR (energy-efficient) appliances
  – Limit your use of automobiles (walk if your destination is close)
  – Make sure your car is well-tuned and running well
Four Ways to Conserve Natural Resources

- Waste reduction
- Reusing
- Recycling
- Composting
Waste Reduction

It is not making waste to begin with.
Reusing

It is using the same object over and over again.
Recycling
Is taking material and turning it into something new.
Facts About Recycling

Paper: If all morning newspapers in the United States were recycled for one day, ________ trees would be saved, and six million tons of waste would never end up in landfills.
   a. 51,000
   b. 41,000
   c. 81,000

Plastic: _______ soft drink or salad dressing containers could be recycled into carpeting for an average sized living room.
   a. 2,000
   b. 900
   c. 1,200

Glass: Recycling one glass bottle saves enough electricity to light a 100-watt bulb for ________ hours.
   a. twelve
   b. three
   c. four
Facts About Recycling

Aluminum: In _____ months, Americans throw away enough aluminum to rebuild every airplane in the commercial air fleet.
   a. six
   b. three
   c. two

Steel: Americans throw away more steel and iron every year than domestic automakers use in the same time.
   a. True
   b. False
Recycle

• Many articles of clothing are made from recycled materials
  – Fleece products made from plastic bottles
  – Shoe manufacturers use cotton scraps and rubber tires in their products

• Shop thrift stores
  – Many thrift stores help people in need or provide jobs for the disabled. By shopping a thrift store, you aren’t only recycling, you are also providing a service to the community.
Composting

It is defined as turning plant and food waste into soil.
What Can Be Recycled?
<table>
<thead>
<tr>
<th>What It Comes From</th>
<th>Types of Paper Recycled</th>
<th>What It Can Be Recycled Into</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trees</td>
<td>Newspaper</td>
<td>Toilet paper</td>
</tr>
<tr>
<td>Recycled paper</td>
<td>Magazines and phone books</td>
<td>Paper towels</td>
</tr>
<tr>
<td></td>
<td>Office and writing paper</td>
<td>Office paper</td>
</tr>
<tr>
<td></td>
<td>Corrugated cardboard</td>
<td>Insulation</td>
</tr>
<tr>
<td></td>
<td>Paper cardboard dairy and juice cartons</td>
<td>Cereal boxes</td>
</tr>
<tr>
<td></td>
<td>Unsolicited direct mail</td>
<td></td>
</tr>
<tr>
<td>What It Comes From</td>
<td>Types of Plastic Recycled</td>
<td>What It Can Be Recycled Into</td>
</tr>
<tr>
<td>-------------------------</td>
<td>---------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Oil</td>
<td>Numbers 1-7</td>
<td>Lumber</td>
</tr>
<tr>
<td>Recycled plastic</td>
<td></td>
<td>Clothing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Office supplies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Toys</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Milk crates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Carpeting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bottles and jars</td>
</tr>
</tbody>
</table>
# Metals

<table>
<thead>
<tr>
<th>What It Comes From</th>
<th>Types of Metals Recycled</th>
<th>What It Can Be Recycled Into</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mineral ores</td>
<td>Aluminum</td>
<td>Cans</td>
</tr>
<tr>
<td>Recycled metal</td>
<td>Steel</td>
<td>Cars</td>
</tr>
<tr>
<td>Nickel and cadmium (batteries)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum foil and bakeware</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Glass

<table>
<thead>
<tr>
<th>What It Comes From</th>
<th>Types of Glass Recycled</th>
<th>What It Can Be Recycled Into</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sand</td>
<td>Clear, brown, blue and green</td>
<td>Bottles and jars</td>
</tr>
<tr>
<td>Soda ash</td>
<td></td>
<td>Aggregate (road surfaces)</td>
</tr>
<tr>
<td>Limestone</td>
<td></td>
<td>Insulation (fiberglass)</td>
</tr>
</tbody>
</table>
The following items should not be placed into your recycling bin:
• Any glass contaminated with stones, dirt and food waste
• Ceramics, such as dishware, ovenware and decorative items
• Heat-resistant glass, such as Pyrex
• Mixed colors of broken glass
• Mirror or window glass
• Metal or plastic caps and lids
• Crystal
• Light bulbs
• Cathode-ray tubes (CRTs) found in some televisions and computer monitors
# Batteries/Bulbs

<table>
<thead>
<tr>
<th>What It Comes From</th>
<th>Types of Batteries/Bulbs Recycled</th>
<th>What It Can Be Recycled Into</th>
</tr>
</thead>
<tbody>
<tr>
<td>Batteries/Bulbs</td>
<td>Car batteries</td>
<td>Fertilizer and dyes</td>
</tr>
<tr>
<td></td>
<td>Household and button batteries</td>
<td>All should be recycled to reclaim valuable compounds</td>
</tr>
<tr>
<td></td>
<td>Rechargeable batteries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Incandescent and LED Bulbs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compact fluorescent bulbs</td>
<td></td>
</tr>
</tbody>
</table>
## Electronics

<table>
<thead>
<tr>
<th>What It Comes From</th>
<th>Types of Electronics Recycled</th>
<th>What It Can Be Recycled Into</th>
</tr>
</thead>
<tbody>
<tr>
<td>Various electronics</td>
<td>Computers (CPUS, monitors, peripherals and keyboards)</td>
<td>A valuable source of secondary raw materials such as gold, silver, platinum and palladium</td>
</tr>
<tr>
<td></td>
<td>Office equipment</td>
<td>Base metals</td>
</tr>
<tr>
<td></td>
<td>Televisions</td>
<td>Metal or plastic</td>
</tr>
<tr>
<td></td>
<td>Consumer electronics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cell phones</td>
<td></td>
</tr>
</tbody>
</table>
Electronics – What Not to Recycle

The following items should not be placed into your recycling bin:

• Microwaves
• Smoke alarms/detectors
• Fire alarms/detectors
• Thermometers
• Large appliances (such as refrigerators)
• Non-decontaminated medical equipment
• Any unit with sludge or liquids
From Trash to Fuel

Fuel from Garbage Made Easy and Successful
(click on link)
Questions?
Images:
- Microsoft Clip Art: Used with permission from Microsoft.

Websites:
- Acid Rain
  Student’s Site – What is Acid Rain?
  [http://www.epa.gov/acidrain/education/site_students/](http://www.epa.gov/acidrain/education/site_students/)
- AirNow
  Particle Pollution and your Health.
- AirNow
  Smog: Who Does it Hurt?
- Energy Teachers
  The network for educators interested in energy resources and uses.
- Environmental Protection Agency
  Laws and Regulations.
  [http://www2.epa.gov/laws-regulations](http://www2.epa.gov/laws-regulations)
References and Resources

- Environmental Protection Agency
  What are Six Common Pollutants?
  [http://www.epa.gov/airquality/urbanair/](http://www.epa.gov/airquality/urbanair/)

- Ozone and Your Health
  Air Quality Index and Protecting Your Health.

- State Energy Conservation Office (SECO)
  SECO partners with Texas consumers, businesses, educators and local governments to reduce energy costs and maximize efficiency.
  [http://www.seco.cpa.state.tx.us/](http://www.seco.cpa.state.tx.us/)

- State of Texas Alliance for Recycling
  Recycling information, news and events.

- Texas Commission on Environmental Quality
  This state agency strives to protect our state’s human and natural resources. Their goal is clean air, clean water, and the safe management of waste.
  [http://www.tceq.state.tx.us/](http://www.tceq.state.tx.us/)

  Provides students, teachers, school administrators, local recycling coordinators and community activists with the tools that have been developed by their peers to achieve zero waste in their K-12 school systems.
  [http://www.kidscycle.org/overview.php](http://www.kidscycle.org/overview.php)

- Waste Management
  Waste Management, Inc. is North America’s leading provider of integrated environmental solutions.
  [https://www.wm.com/residential/waste-and-recycling-services.jsp](https://www.wm.com/residential/waste-and-recycling-services.jsp)

YouTube™:

- Fuel from Garbage Made Easy and Successful
  What happens when your trash is collected?
  [http://youtu.be/-W05rKOOG9EM](http://youtu.be/-W05rKOOG9EM)