MODULE 3

THIS IS MY LIFE

OBJECTIVES

- Students examine how natural resources, ecosystems and typical everyday items are interconnected.
- Students compare and contrast renewable and nonrenewable resources.
- Students communicate and critique a product's life cycle.
- Students compare and contrast consumer products and the packaging; evaluating the use of natural resources and amount of waste generated.

SBI ALIGNMENT

Science S1, B1, Grades 3-4 Indicators 2
S5, B2, Grades 3-4 Indicators 3
S6, B2, Grades 3-4 Indicators 1, 2, 3
S5, B2, Grade 5 Indicators 2
S6, B2, Grade 5 Indicators 1
S7, B1, Grade 5 Indicators 1

Writing S1, B1, Grades 3-5 Indicators 2, 10
S1, B2, Grades 3-5 Indicators 3, 4, 14

Reading S1, B4, Grade 3 Indicators 3, 4, 5, 6, 9
S1, B4, Grade 4 Indicators 3, 4, 5, 8
S2, B1, Grade 4 Indicators 1, 2
S1, B4, Grade 5 Indicators 3, 4, 5, 8
S2, B1, Grade 5 Indicators 1, 2, 3

OVERVIEW

When it comes to the environment, it is important for students to be **introspective** and to **connect the dots** concerning their attitudes and actions, and the responsible use of natural resources. *The Lorax* is a classic story which helps students make connections in a safe and relatable way. Comparing the way nature handles the cycle of life to the way our current product life cycle works allows students to contemplate different ways we use and conserve our natural resources and how to protect them.

LESSONS

1. ***The Lorax*** (60 min)
2. **Running Out of Resources** (30 min)
3. **Nature vs. Now** (20 min)
4. **Comic or Comic Strip Creation** (2 hrs)
5. **Trashology Labwork: Comparison Shopping**

Try This! Packed Lunch with Reusable Items (15 min)

1. *The Lorax*

Materials & Preparation

- ❒ *The Lorax*; one copy of the Dr. Suess book/movie
- ❒ I Speak for the Trees (provided at the end of the module, page 3.9); one copy for each student

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1 Read and/or watch *The Lorax* by Dr. Seuss. The video is 25 minutes long. *The Lorax* is the classic tale of the greedy factory producing Once-ler and how he ruins the environment by depleting natural resources, polluting the environment, and causing all animals to abandon their homes.

2 Discuss the story as a class. Below are possible discussion questions/conversation starters:

- What motivated the Once-ler?
  A: Greed, money, and success.
- What was the environment like when the Once-ler arrived? Describe the ecosystem and the balance between the plants and animals.
  A: Pristine and in-balance. The truffula trees, ponds and air were clean. The animals lived in harmony with their surroundings.
- Outline the series of events that occurred which led to the destruction of the ecosystem.
  A: Once-ler began cutting down the Truffula Trees → he built a factory → started cutting more Truffula Trees which resulted in not enough food for the animals → the factory grew → the animals started to leave → the factory created pollution → more habitat was lost → animals were forced to leave → all Truffula Trees were cut down.
- What natural resources were used to create the thneed? What were the consequences of producing thneeds?
  A: Truffula Trees. Over-use and eventual elimination of natural resources, pollution and ruining of ecosystems.
- Why was the Lorax upset about the production of the thneed?
  A: The misuse of the ecosystem and exploitation of the natural resources for the production of unnecessary material possessions.
- Who was the Lorax and why do you think he said, “I speak for the trees!”
  A: A concerned citizen, Mother Nature, Earth, a person’s conscious.
- Explain the consequences of the thneed factory growing and producing more thneeds.
  A: Exploitation of natural resources, pollution and contamination of an ecosystem, harming plants and animals and devastation to the environment.
- Why did the Once-ler finally leave?
  A: He left because there were no more Truffula Trees to use for the manufacture of the thneeds.
- Explain the meaning behind the small pile of rocks with the word “UNLESS” on it.
  A: They represent the need for people to take responsibility for their actions and to change their attitudes and behaviors to make the world a better place.
- What will it take to bring the ecosystem back to its original condition?
  A: Gradually over time the pollution will subside and the natural plants and animals may reappear. Also, the little boy has to plant and care for the Truffula seeds/trees in order to bring them back. People have to take care of and nurture the natural environment.
- Explain why it is important to conserve our natural resources.
  A: Earth is our only home. There is a finite amount of resources on Earth, even though we can grow more plants, there is an ever increasing impact on the Earth, often at the expense of the other living species we share the planet. Once fossil fuels are gone, they are gone.

Even renewable resources take many years to replenish. Many of the resources we use are part of the habitat of other living creatures and are necessary for their survival.

- Do you think the Lorax will ever come back? Why or why not?
  A: Responses will vary.

3 After students have discussed *The Lorax,* hand out the I Speak for the Trees sheet. Explain to students they need to complete the sheet by writing 2-3 paragraphs explaining how and why they "speak for the trees" and what they pledge to do to keep the environment a safe and healthy place for all living creatures.

4 Once they have completed the assignment, have each student read their writing piece to the class. Post the sheets on a bulletin board in a prominent hall in the school to inspire and motivate others.

2. Running Out of Resources

Materials & Preparation

- ❒ Natural Resources: Renewable or Not? Student Sheet (provided at the end of the module, page 3.10); one per student
- ❒ Natural Resources: Renewable or Not? (provided at the end of the module, page 3.11); one copy with each rectangle cut out
- ❒ Natural Resources: Renewable or Not? Answer Key (provided at the end of the module, page 3.12); one copy
- ❒ Small basket or box to hold the cut-out pieces of paper

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1 Ask students to name a variety of natural resources. Ask them the difference between renewable and nonrenewable resources.

2 Explain how renewable resources fall into two categories. 1) Living resources (plants and animals) that can grow more of themselves, and 2) resources which essentially never run out which includes wind, sun and falling water. Another name for resources which essentially never run out is "perpetual" resources. Humans have little impact on perpetual resources. We do have a big impact on renewable resources. For example, if a tree is cut down to make paper, lumber or cardboard, another tree should be planted to replace it. Or, we can overharvest fish out of lake so there are no more. There are many examples of humans directly causing the extinction of plants and animals.

3 Explain how other resources are not renewable. These are called nonrenewable resources. If we use all of the oil, copper, or other precious metals, we cannot grow or make more. Metals can and should be recycled. And, once oil is burned, there is nothing to recycle.

4 Group students into teams of 3-4. Using the small cut-out pieces of paper from Natural Resources: Renewable of Not? sheet, have each student pick a piece of paper out of a basket/box which has a product or item printed on it.

5 Hand out the Natural Resources: Renewable or Not? Student Sheet to each student. Have the teams write the names of all item/products on the cut-out pieces of paper in the left hand column of the sheet. Student should work together to complete the rest of the sheet. Use the Natural Resources: Renewable or Not? Answer Key to aid and assist any student questions.

6 When all student teams are finished, have each team share their conclusions with the class. Discuss each item in the table.

7 Discuss what happens when nonrenewable resources (raw materials) are depleted and what can be done to conserve both renewable and nonrenewable natural resources.

Try This!

Get students thinking about alternative ways to pack a lunch/purchase a lunch. Share a reusable lunch sack/box and/or examples of lunch from the cafeteria. Fill the sack with a reusable drink receptacle and reusable plastic containers. Discuss how the items can be reused multiple times. Explain how the use of these items reduce the use of natural resources and eventually lower the cost of purchasing disposable items—saving money and lessening items headed to the landfill.

3. Nature vs. Now

Materials & Preparation

- ❒ Different household items (plastic pouch drink, paper envelope of powdered drink mix, laundry detergent in plastic container, etc.)

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1. Ask students what happens to the product/resource they picked when its life cycle is over. Discuss.
2. Remind students of the Earth's natural life cycle and how our ecosystem deals with the creation of new resources and with waste. Compare that to how typical natural resources are used, products are made, and disposed of today.
3. Briefly describe each of the household items that will be examined by the students.
4. Discuss ways to lessen the use of raw materials in the production and packaging of products. For example, manufactures now use less packaging material for many products such as thinner aluminum beverage cans, concentrated laundry detergent so fewer bottles made and thin plastic water bottles.

4. Comic or Comic Strip Creation

Materials & Preparation

- ❒ Examples of comic strips and comic books
- ❒ Comic Blank Templates (provided at the end of the module); quantity to be determined
- ❒ Comic Creation Student Scoring Guide (provided at the end of the module, page 3.18); half-sheet per student
- ❒ Comic Creation Teacher Scoring Guide (provided at the end of the module, page 3.19); half-sheet per student

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1 Ask students to share names of comics they have read or know about. In the United States, superheroes have dominated the comic book market. However, the comic book has been used to tell other stories and have characters besides superheroes. In Japan, comics are called *manga* (pronounced mahn-gah) and people of all ages read them.

   One of the largest conventions in the world is Comic-Con and is held in San Diego, CA every year. The convention showcases comic books and science fiction/fantasy books, TV shows, movies, animation, toys, video games, and webcomics. The convention is the largest in the Americas and draws over 130,000 people. Many Comic-Con attendees come to the conference dressed up as their favorite comic book characters. Sounds like fun!

2 Share with students comic books and/or comic strips. Discuss the different format and styles.

3 Tell students they will be creating comic strips or comic books. Explain to students that their comic books should tell the story of a product/item and all the raw materials/natural resources it took for that product to be produced, packaged and sold (suggest items from their lunch if students have a difficult time identifying a product). In addition, the comic needs to communicate what happens to the product at the end of its life cycle.

4 Have students use the Comic Blank Template and/or the Comic Illustrated Template to create their comics. Students can mix and match blank and illustrated templates for their comic book.

5 Distribute and review the Comic Creation Student Scoring Guide with the students. Clearly establish expectations concerning the comic from the beginning.

6 Students can create comic books individually or in groups.

7 Have students share their comics with other students one-on-one, by rotating through each student.

8 Use the Comic Creation Teacher Scoring Guide to assess each student's comic book.

5. Trashology Labwork: Comparison Shopping

Materials & Preparation

❒ Comparison Shopping Guide (provided at the end of the module, page 3.17); one for each student

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1 Using the Comparison Shopping Guide, have students go shopping with their parents to explore different products and determine the raw materials/natural resources that were used to make the products, where they were made and the amount and type of packaging used. In addition, they find alternative products that have less waste and/or use less raw materials.

EXTENSION ACTIVITIES

Corporate Case Studies—Examine local and national corporations that are focusing on green initiatives and reducing their impact on the environment. (i.e., Hallmark Cards, Boulevard Brewing Company, Nike).

Green Construction—Explore green architecture and use of reclaimed materials. Have a green architectural firm come in and speak with students.

Historic Waste—Research and create a time line of how the type of waste and the amount of waste has changed over human history.

LITERATURE TIE-INS

Barraclough, Sue. *Earth's Resources (Investigate)*

Bauman, Amy. *Earth's Natural Resources (Plant Earth)*

Cohn, Jessica. *What is Scarcity of Resources (Economics in Action)*

Franco, Betsy. *Pond Circle*

Leedy, Loreen. *The Shocking Truth About Energy*

Peterson, Cris. *Seed, Soil, Sun: Earth's Recipe for Food*

RESOURCES

PBS Loop Scoops: Orange Juice (http://bit.ly/htivg3)

PBS Loop Scoop: Electronic Game Device (http://bit.ly/aCqnA4)

PBS Loop Scoop: Happiness Store (http://bit.ly/gAXmMf)

The Story of Stuff (http://bit.ly/t43eK)

Affluenza (www.pbs.org/kcts/affluenza)

United States Green Build Council (www.usgbckansascity.org)

BNIM Architects (www.bnim.com)

Planet Reuse (www.planetreuse.com)

Habitat ReStore (www.habitat.org/restores)

Cradle-to-Cradle by William McDonough & Michael Braungart (www.mcdonough.com/cradle_to_cradle.htm)

Habitat ReStore (www.habitat.org/restores)

THIS IS MY LIFE

VOCABULARY

Advertising—A form of communication used to persuade an audience (viewers, readers or listeners) to purchase or take some action upon products, ideas or services. It includes the name of the product or service and also describes how the product/service benefits the consumer to persuade people to purchase or to consume that particular brand.

Comparison Shopping—The process of gathering information and comparing and contrasting two or more products/services to find the quality or service the consumer is seeking at the preferred price.

Energy—It is what makes matter work; whether it's heating water to a boil or hitting a baseball and sending it far away. The types of energy include, light, heat, electricity, movement, radiation and sound. Energy can neither be created nor destroyed but can be converted from one form of energy to another. For example, the energy in sunlight is converted into chemical energy (sugar) during photosynthesis. During this process, much of the energy escapes as heat. Energy flows through ecosystems and ultimately is released as heat energy which is trapped by the atmosphere's greenhouse gases and keeps the Earth a suitable temperature for life as we know it. The energy of sunlight, wave action, and wind are referred to a renewable energy, as they will not run out. Perpetual energy is another way to refer to these resources.

Fossil fuels, such as coal, crude oil and natural gas are nonrenewable resources as they are no longer being made by the Earth's geological processes. Coal came from plants that lived in swamps on Earth more than 200 million years ago which died and were buried under sediment in ancient seas. Over time, heat and pressure turned the material into coal. Crude oil and natural gas also came mostly from microscopic plants and animals that also died hundreds of millions of years ago. The energy contained in fossil fuels originated from sunlight and synthesized into sugar through photosynthesis. Electricity can be generated by burning fossil fuels and releasing energy to boil water. The steam from the boiling is compressed and sent over turbines which spin and generate electrical energy.

Solar Energy ► Chemical Energy ► Heat Energy ► Energy of Movement ► Electrical Energy

Energy Flow—The flow of energy from the Sun through an ecosystem according to the laws of thermodynamics. The Earth needs a continuous supply of Energy and for most life, the source is the Sun. Energy cannot be created or destroyed. The form changes as it goes from light energy to chemical energy in the form of sugar through photosynthesis, ultimately the energy that was captured through photosynthesis returns to the atmosphere as heat energy.

THIS IS MY LIFE | Vocabulary (continued)

Material Possessions—Property or belongings that are tangible (have physical properties).

Natural Resources—Those raw materials supplied by the Earth and its processes. Natural resources include nutrients, water, coal, natural gas, oil, trees, minerals, rocks, soil, air, plants and animals.

Nonrenewable Resources—Substances such as petroleum oil, coal, natural gas and metals such as copper, aluminum and gold. Once oil or coal is burned for fuel, it is gone as fuel. The elements making it up are released as gases such as carbon dioxide into the atmosphere. No more oil or coal is being made on Earth. Metals are mined from the Earth and there is a finite amount. As with all matter, recycling is the natural way of maintaining the resources on Earth in balance between the physical world and the biological world. Dumping nonrenewable resources in a landfill is a non-sustainable way of managing our resources.

Raw Materials—Natural resources that are either used in combination with other resources to make something or must be extracted to be useable. For example, the "raw" materials to make a soft drink would be carbon dioxide, sugar, water, phosphoric acid and other ingredients. The raw material to make aluminum goods comes from an extracted ore called bauxite. Petroleum oil is the raw material for making plastics.

Reclaimed Materials—Building materials that have been previously used in a building or project, which are then re-used in another project. The materials might be altered, re-sized, refinished, or adapted, but they are not reprocessed in any way, and remain in their original form. Materials that have been reprocessed such as grinding or chipping wood to make particle board in the building industry are referred to as recycled materials.

Renewable Resources—These resources fall into two categories. 1) Living resources (i.e., plants and animals) that can grow more of themselves and 2) resources which essentially never run out which includes wind, sun and falling water. Another name for resources which essentially never run out is "perpetual" resources. Humans have little impact on perpetual resources. We do have a significant impact on renewable resources. For example, we can overharvest fish out of lake so there are no more. There are many examples of where humans have directly caused the extinction of plants and animals.

Name _____

I SPEAK FOR THE TREES

At the bottom of the page, draw several Truffala trees from *The Lorax* in a variety of colors. These represent the thousands of trees that were needlessly cut down by the Once-ler. However, you have the opportunity to speak for the trees all over the world and protect them by being responsible and doing your part in ensuring a healthy environment. Finish the following statement:

Hear my voice. I speak for the trees and I pledge to…

NATURAL RESOURCES: RENEWABLE OR NOT?

Cut out the following rectangles and have students pick one (or more).

Bicycle tire	**Mirror**
Book	**Paper plate**
Cereal box	**Pencil**
Copper penny	**Pickle jar**
Corn on the cob	**Pine cones**
Cotton shirt	**Plastic milk jug**
Crayons	**Polyester shirt**
Denim jeans	**Re-sealable plastic bag**
Drinking glass	**Silk scarf**
Grass clippings	**Soda can**
Greeting card	**Tomato**
Leather jacket	**Trumpet**
Luncheon meat	**Wooden desk**
Magazine	**Wool sweater**

NATURAL RESOURCES: Renewable or Not?

Name _____

Product or Item	What is the primary material(s)?	What is the natural resource(s)?	How is more of this resource(s) made or collected?	Is the resource(s) renewable or nonrenewable? How do we ensure we don't run out of the resource(s)?	What can you do with the product/item once you no longer want it?

NATURAL RESOURCES: Renewable or Not? Answer Key

Product or Item	What is the primary material(s)?	What is the natural resource(s)?	How is more of this resource(s) made or collected?	Is the resource(s) renewable or nonrenewable? How do we ensure we don't run out of the resource(s)?	What can you do with the product/item once you no longer want it?
Bicycle tire	1. Natural rubber or 2. Synthetic rubber	1. Rubber trees or 2. Petroleum oil	1. Grow trees or 2. Pump more oil from the earth	1. Renewable. Plant new trees and harvest trees responsibly to maintain sustainable practices. 2. Nonrenewable. Eventually the earth will run out of oil. No more new oil is being made by geological processes. We can extend the availability through energy conservation, which also dramatically reduces air pollution. Once oil is burned, it is gone.	Reuse; donate or trash
Book	Paper	Trees	Grow trees	Renewable. Plant new trees and harvest trees responsibly to maintain sustainable practices.	Donate to charity; Johnson County Library book sales; school book fairs; book drives
Cereal box	Paper	Trees	Grow trees	Renewable. Plant new trees and harvest trees responsibly to maintain sustainable practices.	Recycle
Copper penny	Copper and Zinc	Metal ore - from the earth	Mine copper and zinc ores	Nonrenewable. There is a finite amount of minerals in the earth and more are not being made. Their use must be conserved and recycled so they can be used over and over again.	Spend it or put it in the bank
Corn on the cob	Corn	Corn plant	Grow more corn	Renewable. Crop land must be cared for to prevent erosion and to ensure nutrients are in soil for the cultivation of the crop.	Compost or food for livestock
Cotton shirt	Cotton	Cotton seed head	Grow more cotton	Renewable. Crop land must be cared for to prevent erosion and to ensure nutrients are in soil for the cultivation of the crop.	Donate to charity; braid them to create dog toys; donate to Planet Aid for fiber recycling; use for a household rag

NATURAL RESOURCES: Renewable or Not? Answer Key (continued)

Product or Item	What is the primary material(s)?	What is the natural resource(s)?	How is more of this resource(s) made or collected?	Is the resource(s) renewable or nonrenewable? How do we ensure we don't run out of the resource(s)?	What can you do with the product/item once you no longer want it?
Crayons	Paraffin wax	Petroleum oil	Pump more oil from the earth	Nonrenewable. Eventually the earth will run out of oil. No more new oil is being made by geological processes. We can extend the availability through energy conservation, which also dramatically reduces air pollution. Once oil is burned, it is gone.	Recycle through school recycling program; reuse to make candle; donate to charity
Denim jeans	Cotton	Cotton plant seed head	Grow more cotton	Renewable. Crop land must be cared for to prevent erosion and to ensure nutrients are in soil for the cultivation of the crop.	Donate to charity; braid them to create dog toys; donate to Planet Aid for fiber recycling; use for a household rag
Drinking glass	Glass	Quartz sand	Collect sand	Nonrenewable. Sand is made over time by grinding of waterways over rocks.	Trash
Grass clippings	Grass	Grass	Grow more grass	Renewable. If cared for properly and planted in the correct conditions.	Compost or mulch mow
Greeting card	Paper	Trees	Grow more trees	Renewable. Plant new trees and harvest trees responsibly to maintain sustainable practices.	Curbside recycling; use for craft projects
Leather Jacket	Leather	Cattle skin	Raise more cattle	Renewable. Utilize other natural resources to properly care for animals and ensure their proper health, nutrition and reproduction needs.	Give to charity; if in bad shape, drop off in Planet Aid container for fiber recycling
Luncheon meat	Animal meat	Animals	Raise more animals	Renewable. Utilize other natural resources to properly care for animals and ensure their proper health, nutrition and reproduction needs.	Commercial compost or trash

NATURAL RESOURCES: Renewable or Not? Answer Key (continued)

Product or Item	What is the primary material(s)?	What is the natural resource(s)?	How is more of this resource(s) made or collected?	Is the resource(s) renewable or nonrenewable? How do we ensure we don't run out of the resource(s)?	What can you do with the product/item once you no longer want it?
Magazine	Paper	Trees	Grow more trees	Renewable. Plant new trees and harvest trees responsibly to maintain sustainable practices.	Curbside recycling
Mirror	1. Glass and 2. Aluminum	1. Sand and 2. Aluminum	1. Collect sand and 2. Mine aluminum ore (bauxite)	1. Nonrenewable. Sand is made over time by grinding of waterways over rocks. 2. Nonrenewable. There is a finite amount of minerals in the earth and more are not being made. Their use must be conserved and recycled so they can be used over and over again.	If not broken, take to Habitat ReStore or donate to a charity; if broken, trash for now
Paper plate	Paper	Trees	Grow trees	Renewable. Plant new trees and harvest trees responsibly to maintain sustainable practices.	Compost pile or trash for now
Pencil	1. Wood and 2. Graphite	1. Tree and 2. Mineral	1. Grow trees and 2. Mine graphite	1. Renewable. Plant new trees and harvest trees responsibly to maintain sustainable practices. 2. Nonrenewable. There is a finite amount of minerals in the earth and more are not being made. Their use must be conserved and recycled so they can be used over and over again.	Use until it is too short to use, then throw in trash
Pickle jar	Glass	1. Sand or 2. Quartz	1. Collect sand or 2. Mine quartz	1. Nonrenewable. Sand is made over time by grinding of waterways over rocks but must be managed sustainably. 2. Nonrenewable. High quality sand is made from grinding mined quartz.	Recycle through Ripple Glass drop-off location

NATURAL RESOURCES: Renewable or Not? Answer Key (continued)

Product or Item	What is the primary material(s)?	What is the natural resource(s)?	How is more of this resource(s) made or collected?	Is the resource(s) renewable or nonrenewable? How do we ensure we don't run out of the resource(s)?	What can you do with the product/item once you no longer want it?
Pine cones	Pine Cones	Pine trees	Grow more trees	Renewable. Plant new trees and harvest trees responsibly to maintain sustainable practices.	Compost
Plastic milk jug	Plastic	Petroleum oil	Pump more oil from the earth	Nonrenewable. Eventually the earth will run out of oil. No more new oil is being made by geological processes. We can extend the availability through energy conservation, which also dramatically reduces air pollution. Once oil is burned, it is gone.	Curbside recycling
Polyester shirt	Polyester/ synthetic fabric	Petroleum oil	Pump more oil from the earth	Nonrenewable. Eventually the earth will run out of oil. No more new oil is being made by geological processes. We can extend the availability through energy conservation, which also dramatically reduces air pollution. Once oil is burned, it is gone.	Give to charity; if in bad shape, drop off in Planet Aid container; use as rags
Re-sealable plastic bag	Plastic	Petroleum oil	Pump more oil from the earth	Nonrenewable. Eventually the earth will run out of oil. No more new oil is being made by geological processes. We can extend the availability through energy conservation, which also dramatically reduces air pollution. Once oil is burned, it is gone.	Re-use
Silk scarf	Silk	Silk moth cocoon	Cultivate more caterpillars	Renewable. Utilize other natural resources to properly care for silkworm caterpillars and ensure their proper health, nutrition and reproduction needs.	Give to charity; if in bad shape, drop off in Planet Aid container for fiber recycling

NATURAL RESOURCES: Renewable or Not? Answer Key (continued)

Product or Item	What is the primary material(s)?	What is the natural resource(s)?	How is more of this resource(s) made or collected?	Is the resource(s) renewable or nonrenewable? How do we ensure we don't run out of the resource(s)?	What can you do with the product/item once you no longer want it?
Soda can	Aluminum	Metal ore - bauxite	Mine bauxite ore	Nonrenewable. There is a finite amount of minerals in the earth and more are not being made. Their use must be conserved and recycled so they can be used over and over again.	Curbside recycling
Tomato	Tomato	Tomato plant	Grow more tomatoes	Renewable. Crop land must be cared for to prevent erosion and to ensure nutrients are in soil for the cultivation of the crop.	Compost
Trumpet	Brass (Copper and Zinc)	Metal ore	Mine zinc and copper ore	Nonrenewable. There is a finite amount of minerals in the earth and more are not being made. Their use must be conserved and recycled so they can be used over and over again.	Sell or give to charity
Wooden desk	Wood	Trees	Grow more trees	Renewable. Plant new trees and harvest trees responsibly to maintain sustainable practices.	Sell or give to charity
Wool sweater	Wool	Sheep	Raise more sheep	Renewable. Utilize other natural resources to properly care for animals and ensure their proper health, nutrition and reproduction needs.	Give to charity; if in bad shape, drop off in Planet Aid container for fiber recycling

COMPARISON SHOPPING GUIDE

Name _____

Use this guide to help you compare products in the marketplace. Go shopping with your family to a store of your choosing (grocery store, department store, electronics store, sporting goods store) and select two products to compare. Take notes in the space provided below and discuss your observations with your family.

▶ PRODUCT EXAMPLE *Latest music CD of my favorite rock band*

PACKAGING *plastic jewel case, paper liner notes, shrink wrap*

Raw materials/natural resources used for <u>product</u>	Raw materials/natural resources used for <u>packaging</u>
oil, aluminum	*oil for the plastic, trees for paper*

Is there an alternative product/purchase that generates less waste? (Yes)/No What and why?

By purchasing the digital downloads (mp3) of the music, you can eliminate the physical product and the packaging altogether.

▶ PRODUCT 1

PACKAGING

Raw materials/natural resources used for <u>product</u>	Raw materials/natural resources used for <u>packaging</u>

Is there an alternative product/purchase that generates less waste? Yes/No What and why?

▶ PRODUCT 2

PACKAGING

Raw materials/natural resources used for <u>product</u>	Raw materials/natural resources used for <u>packaging</u>

Is there an alternative product/purchase that generates less waste? Yes/No What and why?

COMIC CREATION STUDENT SCORING GUIDE

Use this scoring guide to create and evaluate your comic.

Name _____

	3	2	1	0
Information	Accurate and robust information concerning raw materials and resources	Adequate information concerning raw materials and resources	Little accurate information concerning raw materials and/or natural resources	No information concerning natural resources and raw materials
Storyline	Well-developed, engaging and thought-provoking story	Entertaining storyline	Adequate storyline	Underdeveloped storyline
Character Development	Well-developed characters with personality & clear roles	Interesting characters with clear roles	Characters are identified	Little character development exists
Message	Well-developed and clear message	Clear message	Message exists but unclear	No message exists
Design	Attractive design with great attention to detail	Good design with attention to detail	Adequate design	More attention to design is needed

Total Score _____

COMIC CREATION STUDENT SCORING GUIDE

Use this scoring guide to create and evaluate your comic.

Name _____

	3	2	1	0
Information	Accurate and robust information concerning raw materials and resources	Adequate information concerning raw materials and resources	Little accurate information concerning raw materials and/or natural resources	No information concerning natural resources and raw materials
Storyline	Well-developed, engaging and thought-provoking story	Entertaining storyline	Adequate storyline	Underdeveloped storyline
Character Development	Well-developed characters with personality & clear roles	Interesting characters with clear roles	Characters are identified	Little character development exists
Message	Well-developed and clear message	Clear message	Message exists but unclear	No message exists
Design	Attractive design with great attention to detail	Good design with attention to detail	Adequate design	More attention to design is needed

Total Score _____

COMIC CREATION TEACHER SCORING GUIDE

Name _____

	❸	❷	❶	❼
Information	Accurate and robust information concerning raw materials and resources	Adequate information concerning raw materials and resources	Little accurate information concerning raw materials and/or natural resources	No information concerning natural resources and raw materials
Storyline	Well-developed, engaging and thought-provoking story	Entertaining storyline	Adequate storyline	Underdeveloped storyline
Character Development	Well-developed characters with personality & clear roles	Interesting characters with clear roles	Characters are identified	Little character development exists
Message	Well-developed and clear message	Clear message	Message exists but unclear	No message exists
Design	Attractive design with great attention to detail	Good design with attention to detail	Adequate design	More attention to design is needed

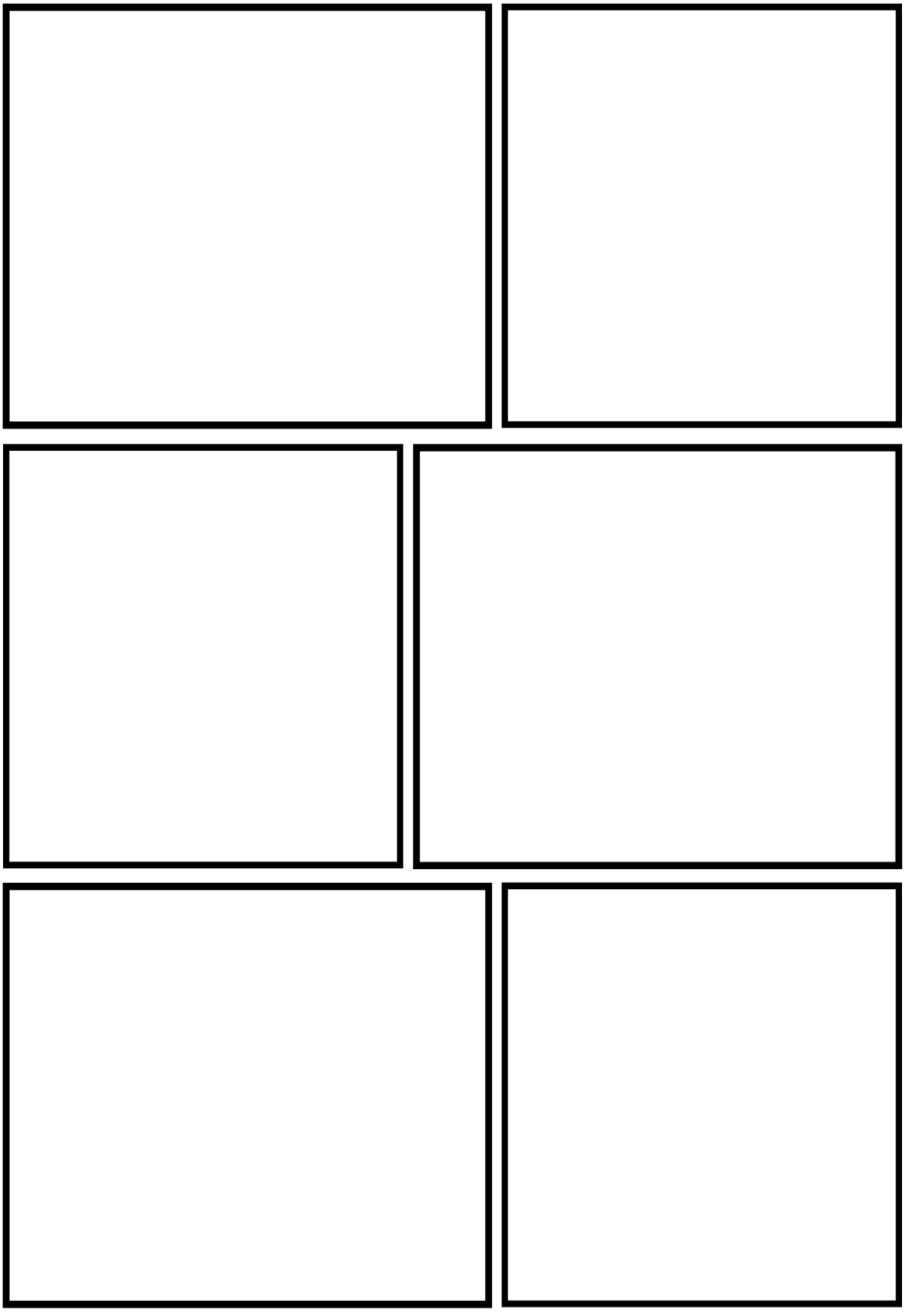
Total Score _____

COMIC CREATION TEACHER SCORING GUIDE

Name _____

	❸	❷	❶	❼
Information	Accurate and robust information concerning raw materials and resources	Adequate information concerning raw materials and resources	Little accurate information concerning raw materials and/or natural resources	No information concerning natural resources and raw materials
Storyline	Well-developed, engaging and thought-provoking story	Entertaining storyline	Adequate storyline	Underdeveloped storyline
Character Development	Well-developed characters with personality & clear roles	Interesting characters with clear roles	Characters are identified	Little character development exists
Message	Well-developed and clear message	Clear message	Message exists but unclear	No message exists
Design	Attractive design with great attention to detail	Good design with attention to detail	Adequate design	More attention to design is needed

Total Score _____



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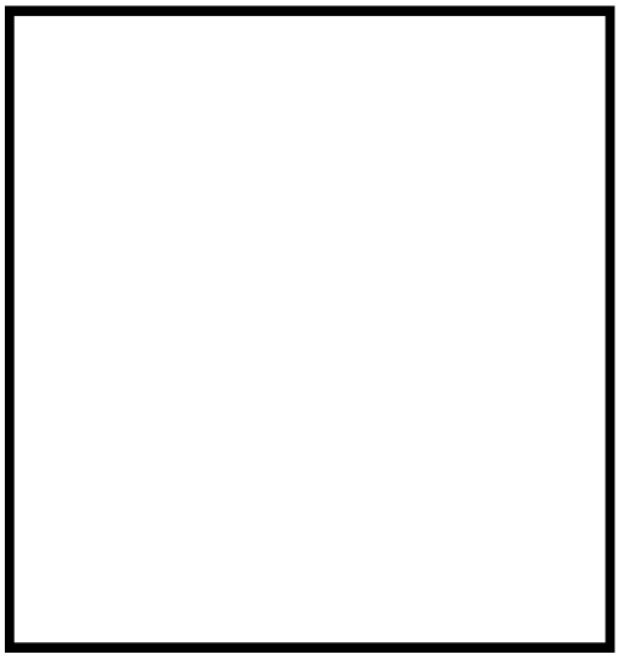

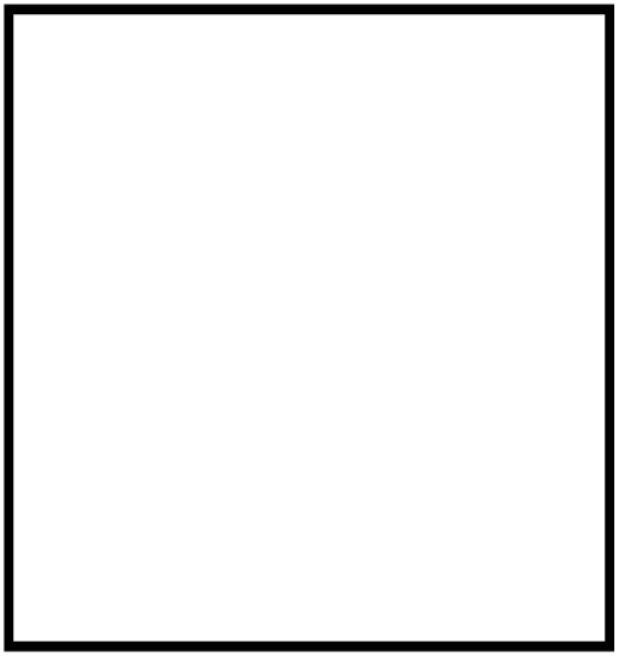

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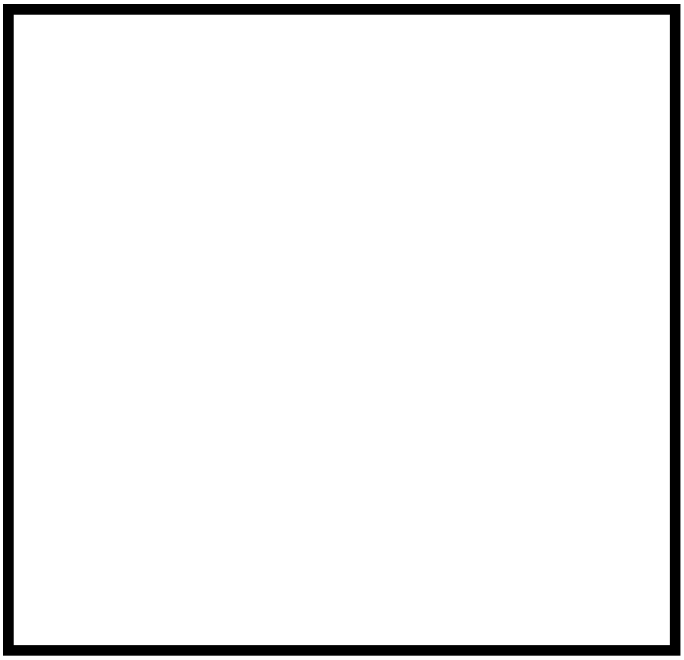
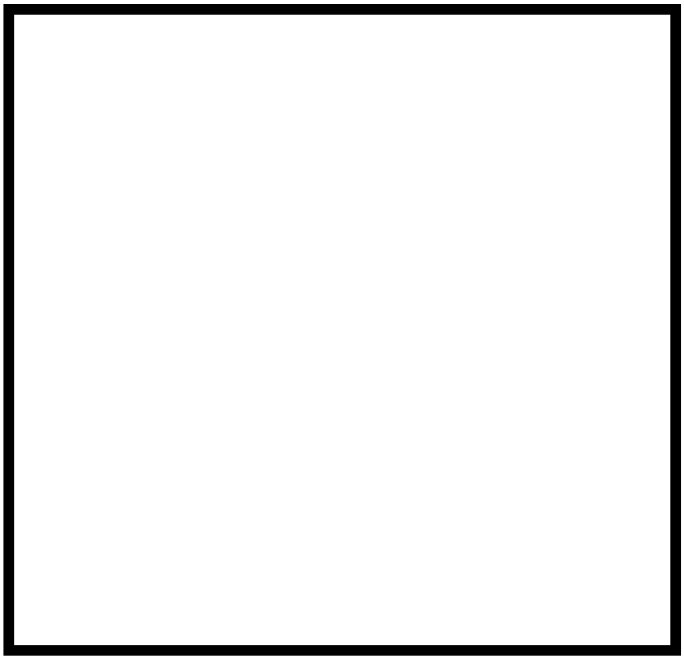
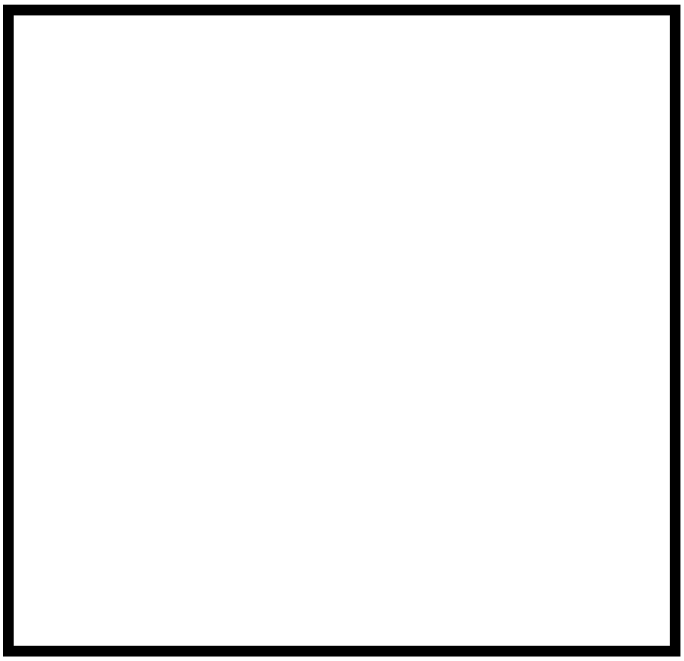
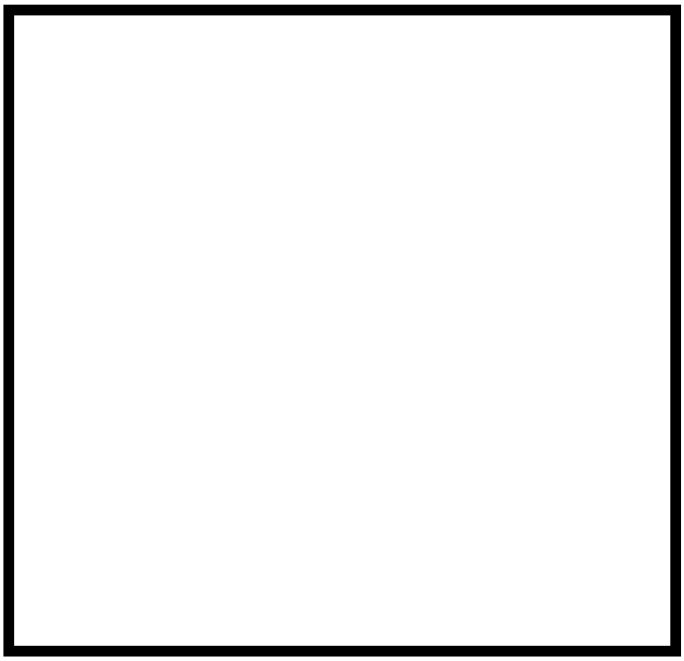
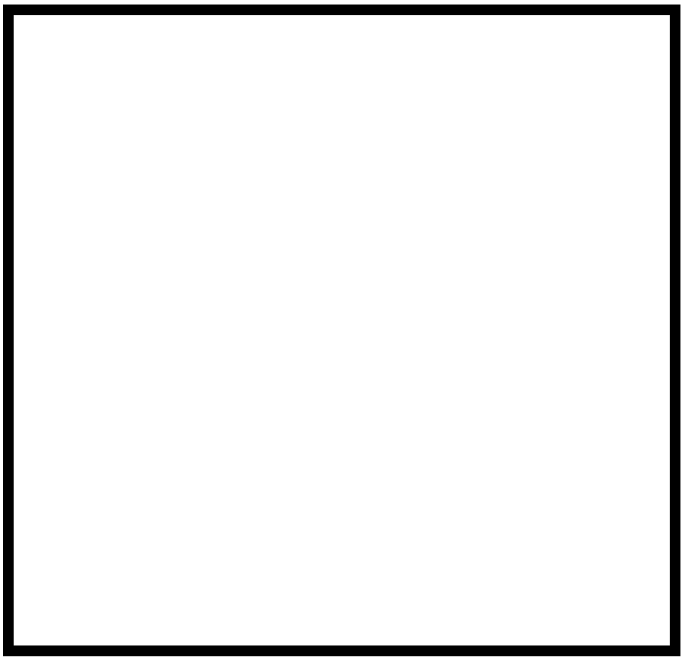
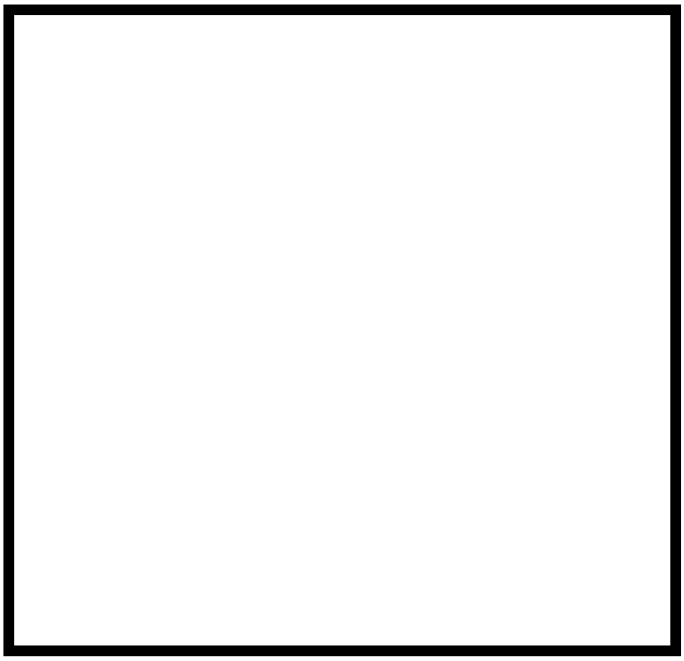

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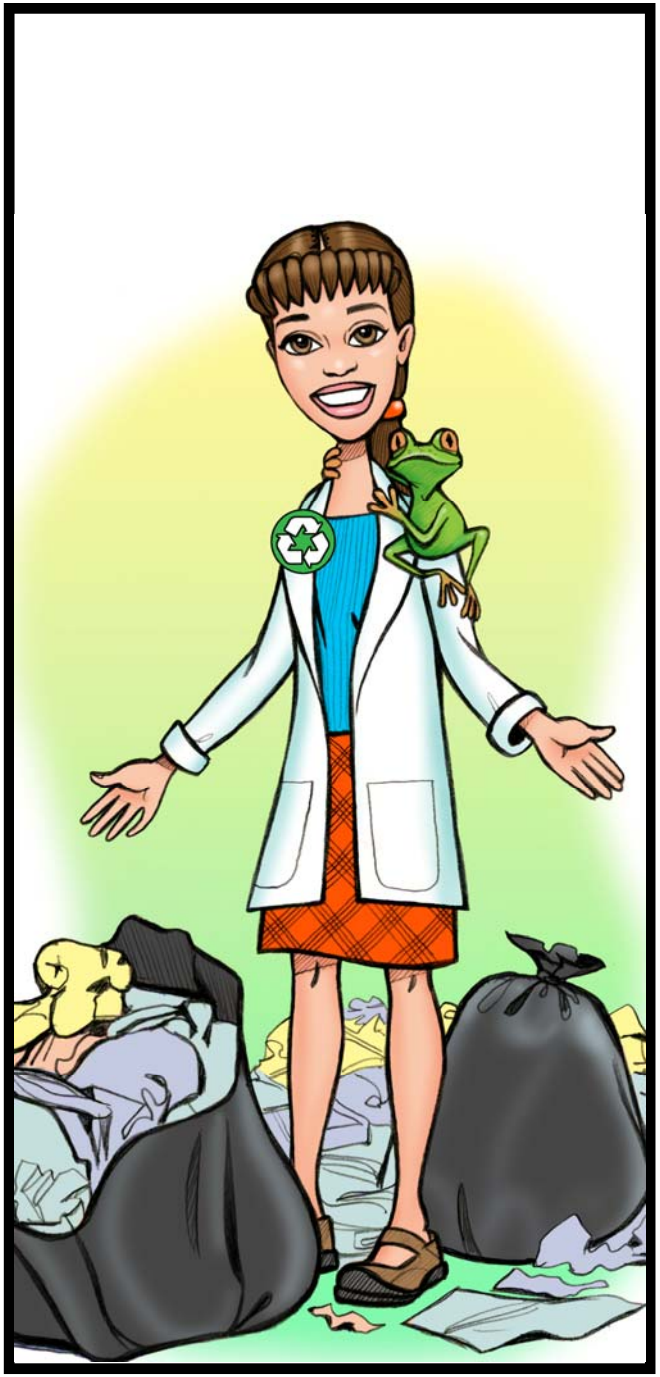

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