

# Recycling Facts, Games and Crafts



*A fun-filled booklet about recycling, chock-full of information, games and crafts!*

Recycle Rex, the Department of Conservation's spokesdinosaur, is excited to bring you this very "recy-cool" guide of recycling facts, games and crafts.

If we all pitch in to recycle, reduce, reuse and close the loop, we will save the earth's natural resources and lots of energy! This guide shows you many fun and simple ways that you can do your part.



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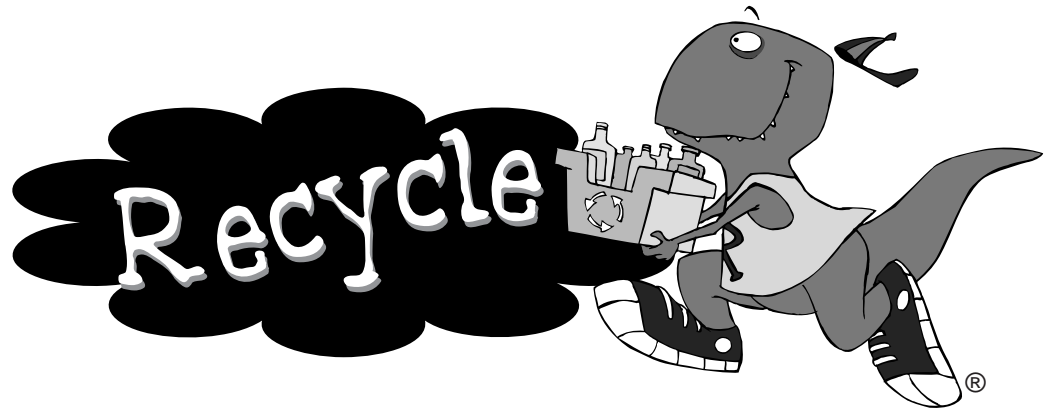
Produced by  
**The Department of Conservation**  
*Division of Recycling*

1-800-RECYCLE  
[www.conservation.ca.gov](http://www.conservation.ca.gov)



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Printed on recycled paper!



***Recycle means taking something old and turning it into something new!***

You can recycle your beverage containers at many places such as recycling centers, places with recycling bins, at your curbside and sometimes even at school!

To find out where your nearest recycling center is call **1-800-RECYCLE**, or visit our web site at **www.conservation.ca.gov**.

### ***Get others to recycle***

- It is important that we ALL recycle in order to save the Earth's natural resources.
- You can help by telling others to recycle. This includes your family, friends and teachers.



### ***Start — or participate in — a recycling program***

You can hold a fundraiser; start a recycling program in your school or neighborhood; organize or volunteer at a recycling day at a beach or park; take a field trip to learn more about recycling; or teach others about recycling.

Call **1-800-RECYCLE** to receive a brochure on “How to Start a Beverage Container Recycling Program at School”.

You can also contact your local government to encourage placement of recycle bins in city/county parks and recreational areas.

# Why Recycle?

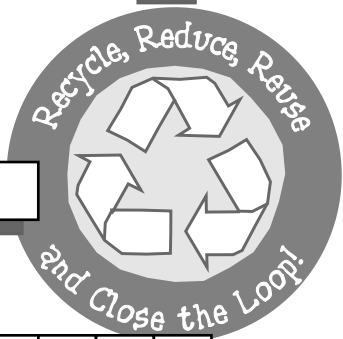
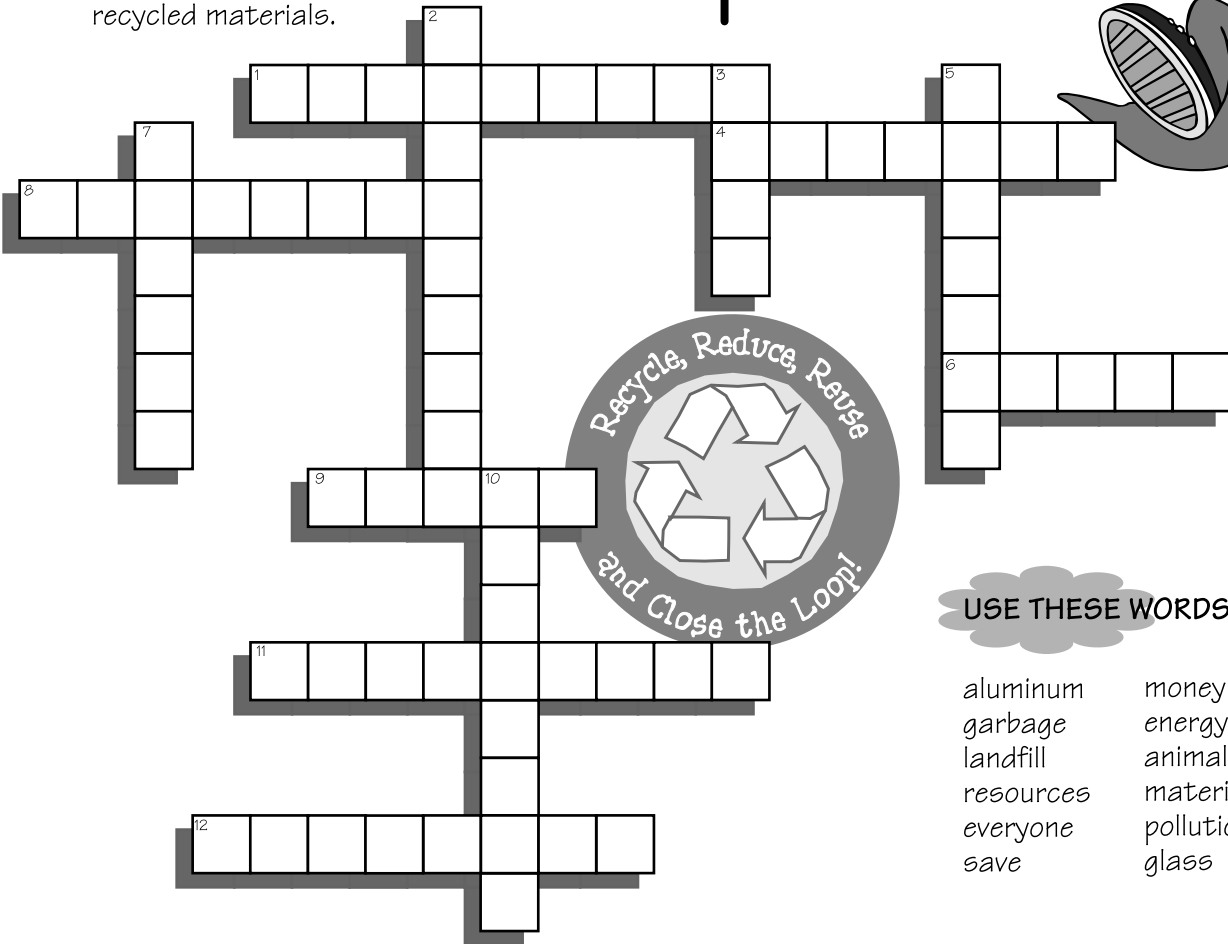
Recycling helps us preserve our environment and keeps garbage out of our landfills. There are also a lot of other reasons to recycle. Complete the crossword to find out why we should recycle.

## ACROSS

1. Recycling saves natural \_\_\_\_\_.
4. Recycling, instead of littering, protects \_\_\_\_\_.
6. \_\_\_\_\_ never wears out, it can be recycled forever.
8. Recycling helps keep fewer materials from going to the \_\_\_\_\_. Many are already full which means we need to find new places to put garbage.
9. You can earn \_\_\_\_\_ by turning in your beverage containers at the recycling center.
11. Recycling lets us reuse \_\_\_\_\_ instead of having to get more from the Earth all over again.
12. It takes 20 times more energy to make an \_\_\_\_\_ can from new materials than from recycled materials.

## DOWN

2. Recycling creates less \_\_\_\_\_ in the air.
3. If we create less garbage, our communities can \_\_\_\_\_ landfill space.
5. Taking things that would be \_\_\_\_\_ and reusing them is a great way to help save the Earth.
7. It takes less \_\_\_\_\_ to make a new product from recycled materials than it does from raw materials.
10. \_\_\_\_\_ must recycle in order to make the world a better place.



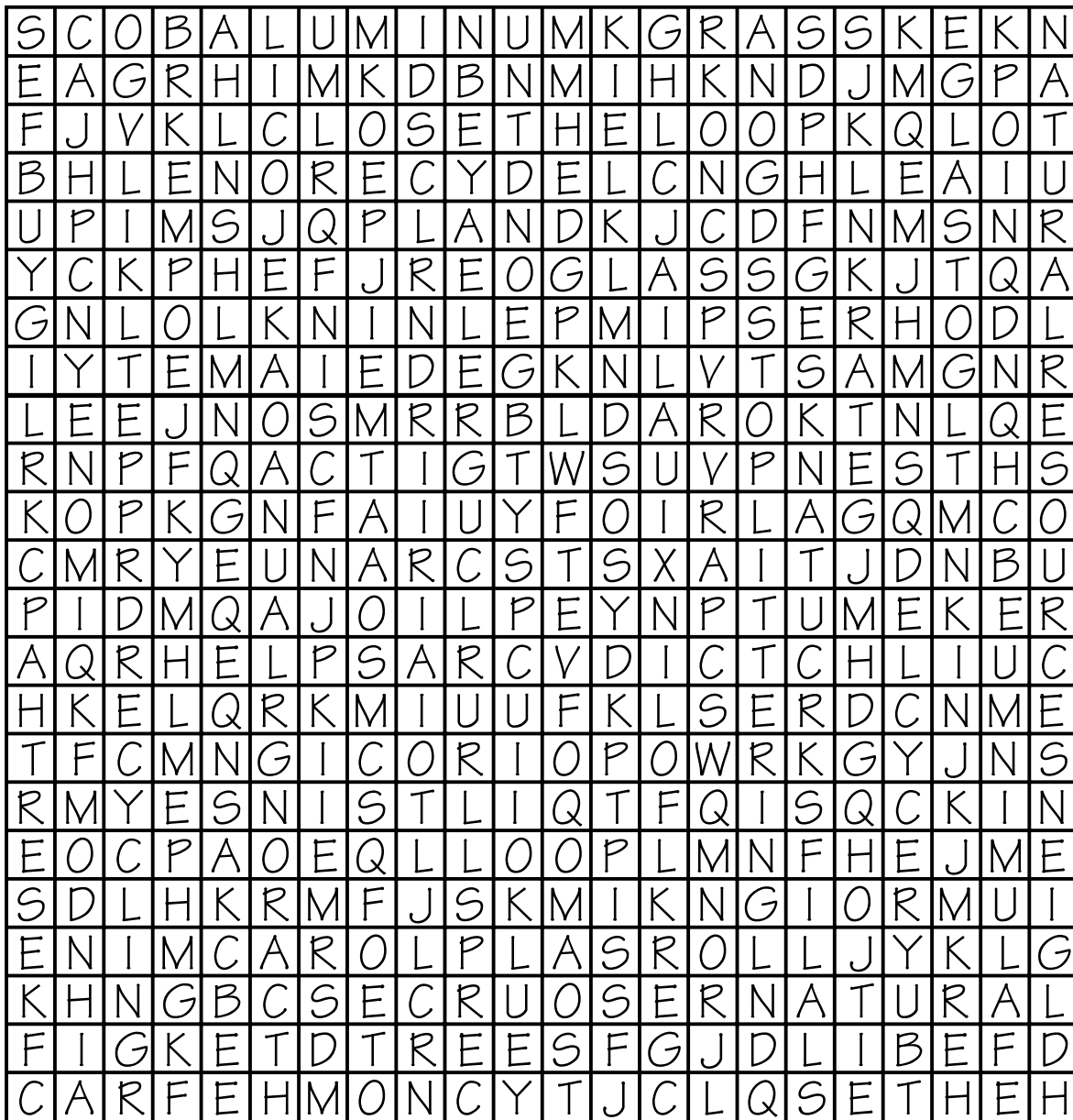
## USE THESE WORDS

- |           |           |
|-----------|-----------|
| aluminum  | money     |
| garbage   | energy    |
| landfill  | animals   |
| resources | materials |
| everyone  | pollution |
| save      | glass     |



# Recycle Word Search

What words pop into your mind when you think about recycling? Well, some of those words are hidden in the word search game below. Look for the words listed beneath the game below. The words are hidden up, down, backward, forward and diagonally. Circle the words you find.



Helena Jones-Canada

1. Animals
2. Stop littering
3. Recycling
4. Saves energy
5. Natural resources
6. Trees
7. Oil
8. Plastic
9. Glass
10. Aluminum
11. Clean air
12. Money
13. Landfill
14. Close the loop
15. Buy recycled



# REDUCE

**Reduce** means finding ways to decrease, or lessen, the amount of garbage we throw away.

Reducing the amount of garbage you throw away is important because we are running out of landfill\* space to put our garbage!

## You Can Reduce Trash By...



Buying items that use **LITTLE** or **NO** packaging. This reduces the amount of material used to make packaging, and cuts down the amount of trash we produce. Keep in mind though, most packaging made of paper or cardboard is recyclable.



Buying items in **BULK** (large amount) will also reduce trash.

**\*LANDFILLS**, or garbage dumps, are huge holes in the ground where garbage is buried.



# Ways You Can Reduce

- Use a reusable lunch box or bag instead of a paper bag to carry your lunch. You won't have to throw away a paper bag every day.
- When you make a purchase, don't take a bag unless you need one. (Be sure you get the receipt!)
- Rent items you use infrequently, rather than purchase them.
- Wrap your gifts in a cloth bag so it can be used over again. (Wrapping paper won't end up in our landfills!)
- Use cloth napkins instead of paper napkins.
- Use a sponge or cloth rag instead of paper towels.
- Always look for items with little or no packaging.
- Use reusable plastic containers for food instead of plastic bags.
- Use rechargeable batteries instead of disposable ones.
- Go to the library to read your favorite magazine, book or newspaper rather than purchase them.
- Use plates, cups and utensils you can wash instead of paper plates, cups and plastic utensils that you throw away.
- Purchase items in concentrate (such as juice and detergent) when possible.
- Choose products in recyclable or refillable containers.
- Avoid buying food items in single serve packaging.



# REUSE

*Reuse* means finding ways to use things over and over again instead of throwing them away.

By reusing, we are saving our precious landfill space and, equally important, we are saving natural resources and materials it would take to make a new product.

## Here are some examples of reusing:



Refill your plastic drink containers with water or another favorite beverage.



Use both sides of your paper before recycling it.



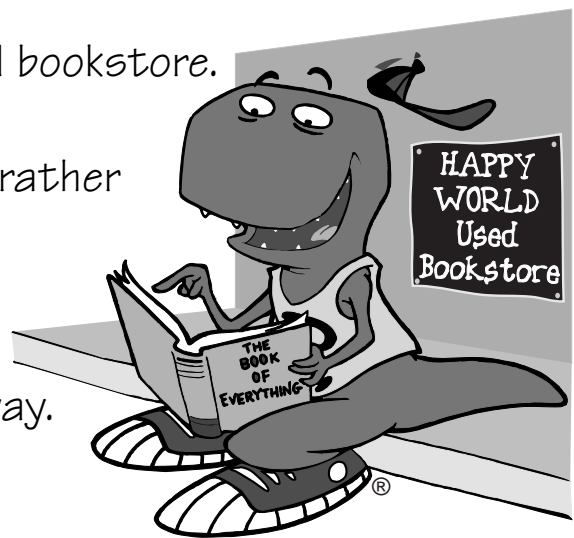
Purchase a book from a used bookstore.



Have a broken item repaired rather than purchasing a new item.



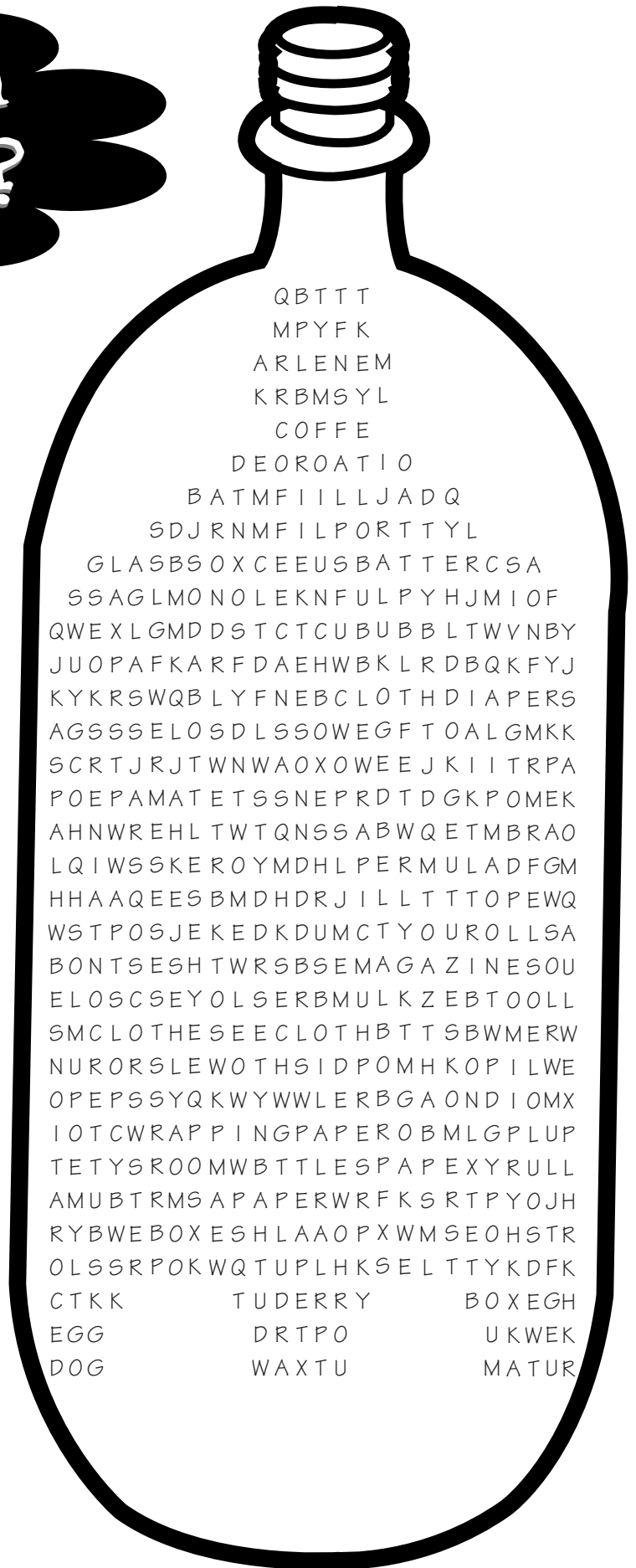
Sell or donate things instead of throwing them away.



# What Can You Reuse?

Can you believe that some people think the only thing you can reuse is your toothbrush? We know better, don't we? All the items listed here are examples of things we use everyday that we can reuse over and over and over and over and over (well, you get the idea). See how many of the items you can find in the word search below. Circle each word you find!

- Boxes
- Bubble Wrap
- Butter Containers
- Cloth Diapers
- Clothes
- Coffee Cans
- Decorations
- Dish Towels
- Foil
- Glass Jars
- Lunch Boxes
- Magazines
- Ribbon
- Paper
- Shoes
- Soda Bottles
- Wrapping Paper



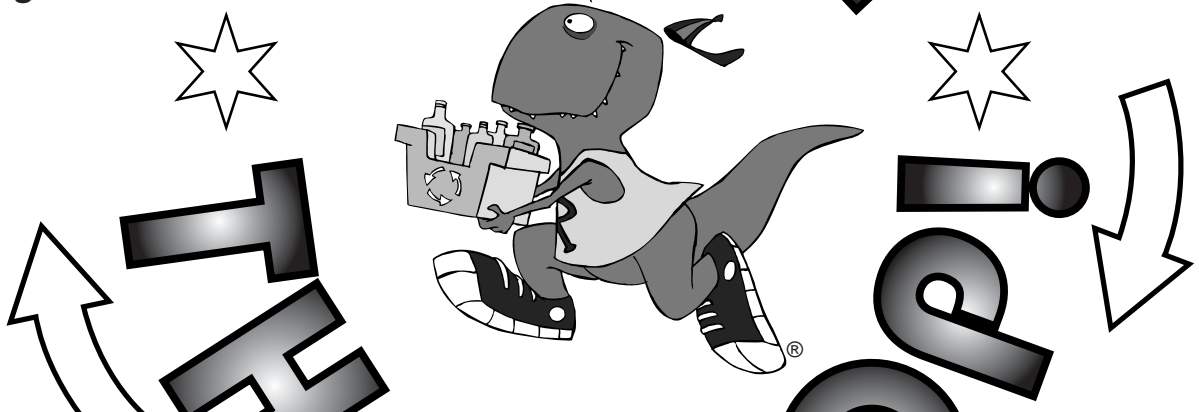
# Close the Loop:

*Buy products made from recycled material.*

Taking your beverage containers to a recycling center is just the beginning of the recycling process. Those materials won't really be recycled until companies use them again to make new things and people buy them. When you buy products made from recycled materials, you are **CLOSING THE LOOP**. Here's how it works:

**4** People buy the new products... use them and recycle them- and the whole loop starts again!

**1** You bring your plastic, glass and aluminum beverage containers to a recycling center.



**3** Factories use them to make new products.

**2** The containers are sold to factories.

# Close the loop, buy Recycled

All of these can be made from recycled materials.

- |               |                     |
|---------------|---------------------|
| <i>carpet</i> | <i>picnic table</i> |
| <i>bag</i>    | <i>floor mat</i>    |
| <i>tile</i>   | <i>book</i>         |
| <i>shoes</i>  | <i>park bench</i>   |
| <i>toys</i>   | <i>clothing</i>     |
| <i>pencil</i> | <i>envelope</i>     |
| <i>box</i>    | <i>paper towels</i> |
| <i>ruler</i>  | <i>binder</i>       |

How many can you find hidden below?

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



# Aluminum

**Aluminum** is made from a natural resource called **Bauxite Ore**. Making products from recycled aluminum saves energy and Bauxite Ore.

There is no limit to the number of times aluminum can be melted down and reused... that means aluminum can be recycled and reused over and over again!



It takes 80 - 100 years for an aluminum can to decompose (break down and disappear) in our landfills and dumps.



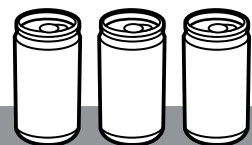
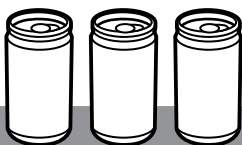
Aluminum cans can be recycled into: soda cans, pie plates, thumbtacks, license plates, aluminum foil, and many other items.



Recycling one aluminum can saves enough electricity to operate a TV for up to 3 hours.

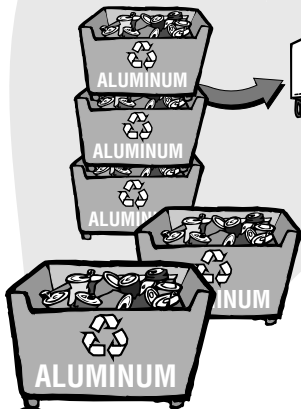


In the year 2000, Californians recycled 13,500 aluminum beverage containers every minute.



# How Aluminum is Recycled

**2** The aluminum cans are transported to a processing facility where they use a big magnet to remove other types of metal cans while they go down the conveyor belt.



**3** The aluminum is washed, shredded and turned into aluminum chips.

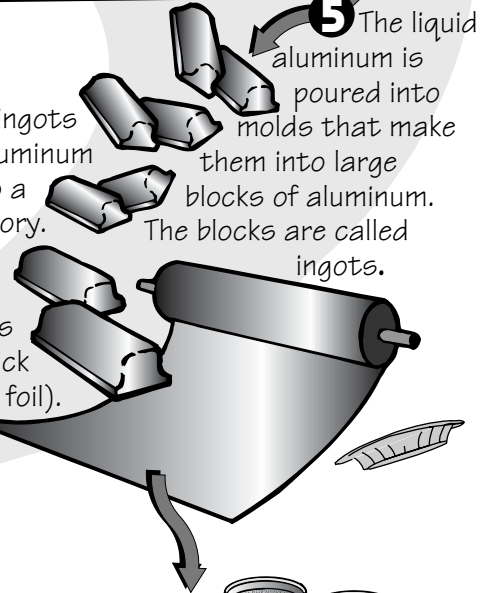


**4** The aluminum chips are melted in a large furnace.

**1** You can take your aluminum cans to a recycling center or leave them in recycling bins at your curb (if you have curbside service).

**5** The liquid aluminum is poured into molds that make them into large blocks of aluminum. The blocks are called ingots.

**6** The ingots of aluminum are taken to a can-making factory. There, the aluminum ingots are melted into rolls of flat sheets of aluminum (similar to thick aluminum foil).



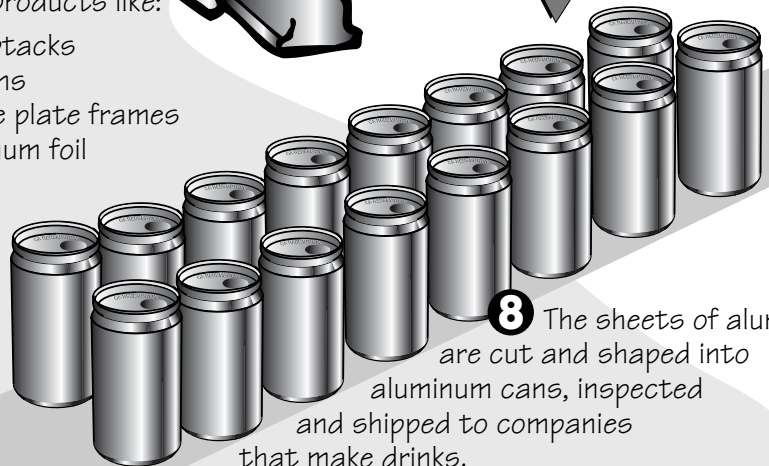
**7** Ingots are also sold to manufacturers of aluminum products. These manufacturers melt the ingots down for molding into new products like:

- thumbtacks
- pie pans
- license plate frames
- aluminum foil



*The aluminum beverage can returns to the grocer's shelf as a new, filled can in as little as 90 days after being recycled.*

**8** The sheets of aluminum are cut and shaped into aluminum cans, inspected and shipped to companies that make drinks.



# Pencil Holder



## **Materials You Will Need:**

- An empty aluminum can or glass jar
- Can opener
- Yarn
- Glue that dries clear
- Scissors
- Decorations (such as sequins, pebbles, beads, dried flowers, leaves, shells, pasta, buttons,)

## **Instructions:**

- Have an adult cut off the top of your aluminum can using the can opener. If you are using a glass jar, rinse and dry your jar.
- Turn your container upside-down.
- Begin at the bottom of the container and glue the yarn around the container. Keep the yarn tight and close together so the can or jar does not show through. Continue to glue the yarn around the container until it is fully covered.
- Glue your decorations on your pencil holder once the glue is dry.

## **Optional:**

To preserve your pencil holder, brush a coat of clear acrylic finish all over your pencil holder.

# Glass

**Glass** is made of soda ash, limestone and lots of sand. The mixture is put into a very hot furnace and when it melts, it turns into glass. Heating the furnace takes a lot of energy!

Glass can be recycled and used over and over again! This saves energy and natural resources! Recycled glass melts at a lower temperature than new materials, so it takes less energy to heat the furnace. In fact, most bottles and jars are made from recycled glass.



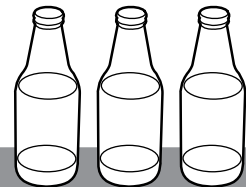
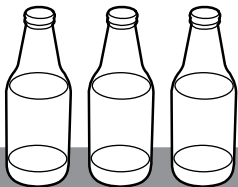
Glass takes over 1,000,000 (one million) years to decompose (breakdown and disappear) in our landfills or dumps.



Glass can be recycled into jars, bottles, jewelry, dishes, drinking glasses, coffee mugs and many other items!



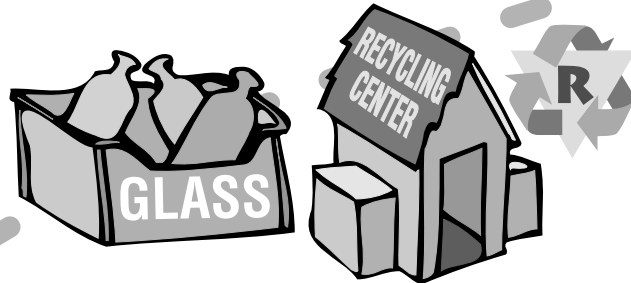
Reuse your glass containers as a vase, pencil holder, or a container to hold a collection of things like buttons! When you're done reusing your glass container, recycle it!



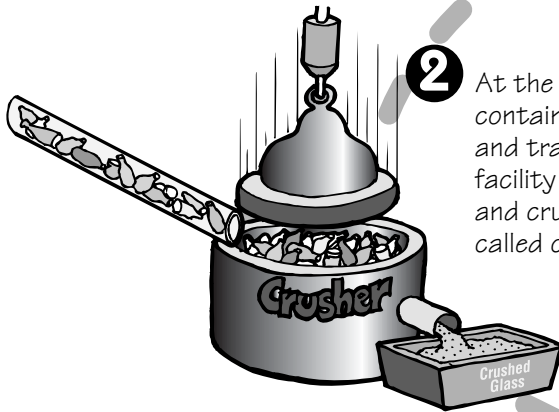


# Glass Recycling Process

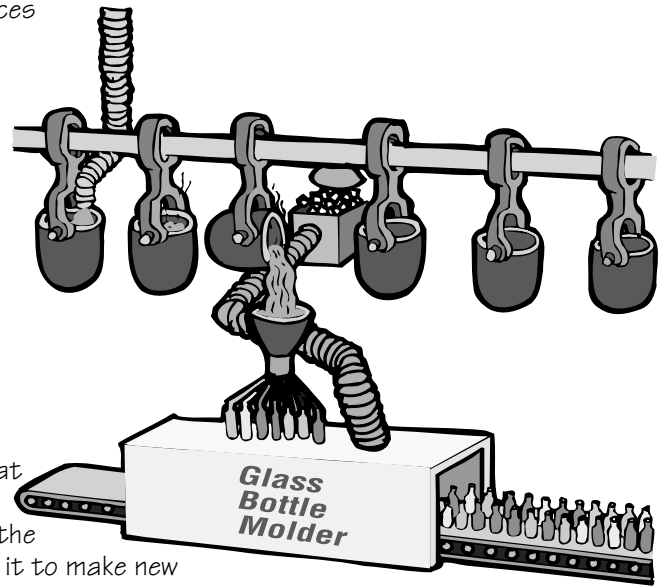
Have you ever thought about what happens to the glass bottles that you place into your curbside recycle bin or take to the recycling center to be recycled? Recycled glass can be used to make marbles, jars, bottles, plates, bowls, tile and more! This is how:



**1** The glass bottles collected from your curbside bins are taken to the recycling center.



**2** At the recycling center, the glass containers are sorted by color and transported to a processing facility where they are cleaned and crushed into tiny pieces called cullet.



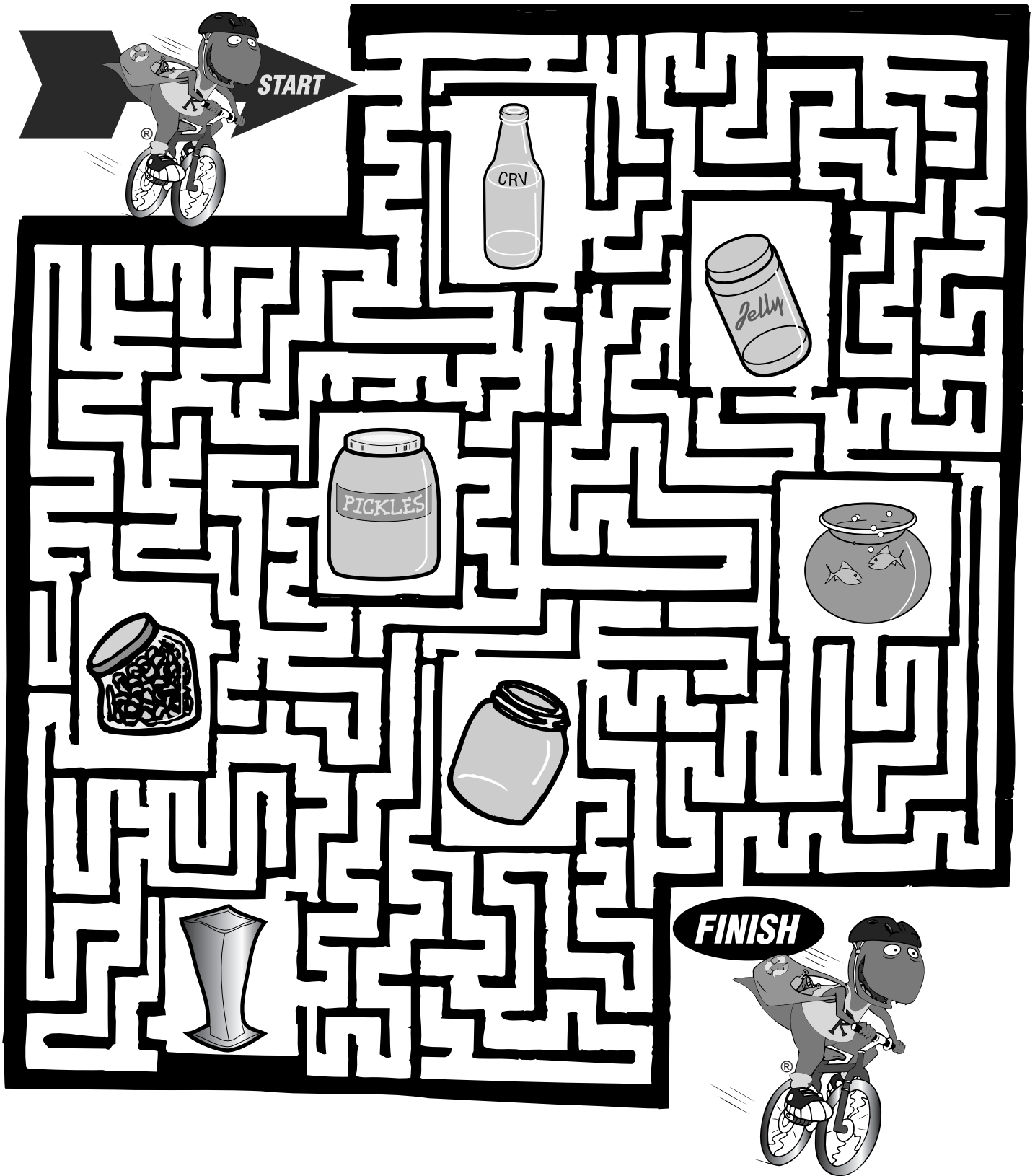
**3** Companies that make glass products buy the cullet and use it to make new products.

**4** This cycle repeats itself again when we buy the new products, such as glass bottles, and recycle them.



# Glass Maze

Find your way through the maze and collect the glass containers. These items are all made from recycled glass. Which one of these items can you take to the recycling center and redeem for money? What other ways can you reuse your glass containers?



# Flower Vase

## Items needed:

- an empty bottle or jar (rinsed and dried)
- scissors
- tissue paper in different colors
- liquid starch
- a container to hold the starch (like an old margarine tub)
- a paintbrush or old toothbrush


## Directions:

- 1) Pour the starch into a container.
- 2) Cut or tear tissue paper into small pieces.
- 3) Place a piece of the tissue you cut or tore on the glass bottle and brush liquid starch over it. Do this until the bottle is completely covered. Overlapping will create a nice effect.
- 4) Let the bottle dry.  
Use the bottles and jars you decorated as vases, pencil holders, organizers for your desk, candy holders or containers to put your small collectibles in.

**OPTION:** You can use small pictures cut from old magazines instead of the tissue paper.

# Plastic

Recycled soda and water bottles are made from PET plastic. PET is short for Polyethylene Terephthalate (*pol-y-'Eth-yl-lene ter-'Eph-tha-late*).

You can identify PET Plastic containers by looking for this symbol  on the bottom of the bottle.

PETE



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It can take up to 700 years for plastic to decompose (break down and disappear) in our landfills or dumps.



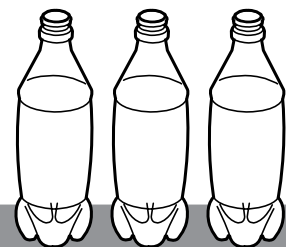
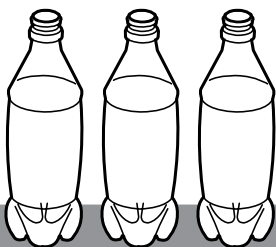
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PET plastic can be recycled into; clothing, fiberfill for sleeping bags, stuffed animals, toys, rulers, and more!



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Plastic bottles can be recycled and reused. Reuse your plastic bottles by filling them with water or juice and placing them in the freezer. Put one in your lunch box and it will double as an ice pack. At lunchtime, you'll have an ice-cold beverage! When you're done reusing your plastic bottle, recycle it!



# What happens to Recycled Plastic?

1

Plastic containers are brought to the recycling center where they are sorted by type and sometimes color. They are crushed together and formed into a huge cube or bale.



2

The bales of plastic are shipped to a plastics processing plant.



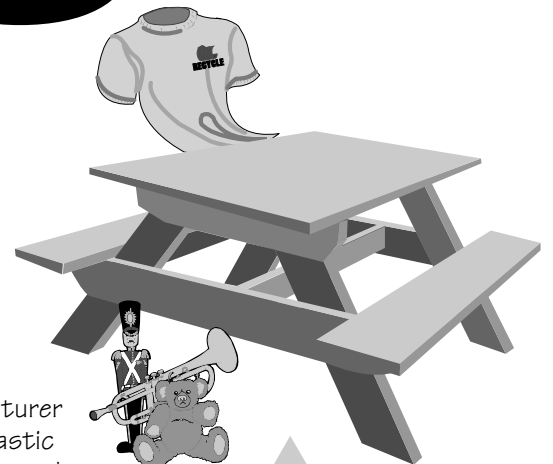
3

The plastic is broken apart and shredded into flakes or pellets and then cleaned.

5

The manufacturer melts the plastic flakes or pellets down for molding into new products like:

- fiberfill for sleeping bags
- plastic lumber
- containers for non-food products
- toys
- compost bins
- rulers
- T-shirts



4

The flakes or pellets are shipped to manufacturers of plastic goods.



# RecyCool Bubble Blower

## Bubble Solution

### Items Needed

- 1 cup liquid dish soap
- 1/4 cup Karo syrup
- 1 1/2 cups water
- Large bowl (for mixing solution)
- Container (large enough to dip cut end of your bottle in)

### Instructions

- 1) In a large bowl, mix together liquid dish soap, Karo syrup and water. Allow the solution to sit in an open container for at least a day before using. (The longer the solution sits, the better the bubbles.)
- 2) Pour the solution into a container large enough so that you can dip the cut end of your bottle.
- 3) Dip the cut end of the bubble blower into the solution. Place the small end up to your mouth and blow your bubbles.

**\*NOTE:** Your bubble blower can be used as a bubble wand - just dip in solution and wave the bubble blower through the air!

### Items Needed

- 1 small plastic soda bottle (20 ounce) - empty and washed  
For larger bubbles you could use a 2-liter plastic soda bottle
- Scissors
- Masking tape

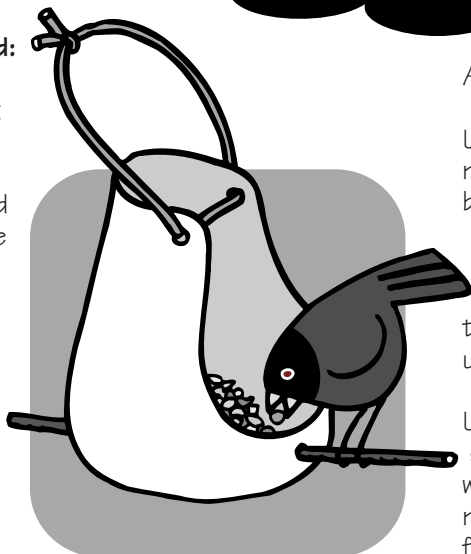
### Instructions

- 1) Wrap a piece of masking tape around the bottle, about four inches from the top.
- 2) Ask an adult to help you cut along the bottom edge of the masking tape. Recycle the bottom of the bottle and discard the bottle cap.
- 3) Remove the masking tape from the bottle. You are now ready to make your bubble solution.

# Bird Feeder

### Materials You Will Need:

- One gallon plastic milk jug or a two-liter soda bottle
- A 12-inch piece of used wire, string, fishing line or an old shoelace
- A stick or dowel, 12-inches long
- Permanent ink pens or stickers
- One nail
- Scissors



### Instructions:

Ask an adult to help you with the scissors and nail.

Using the scissors, cut one side and the top off of your milk jug or soda bottle. Leave at least 1 1/2 inches on the bottom.

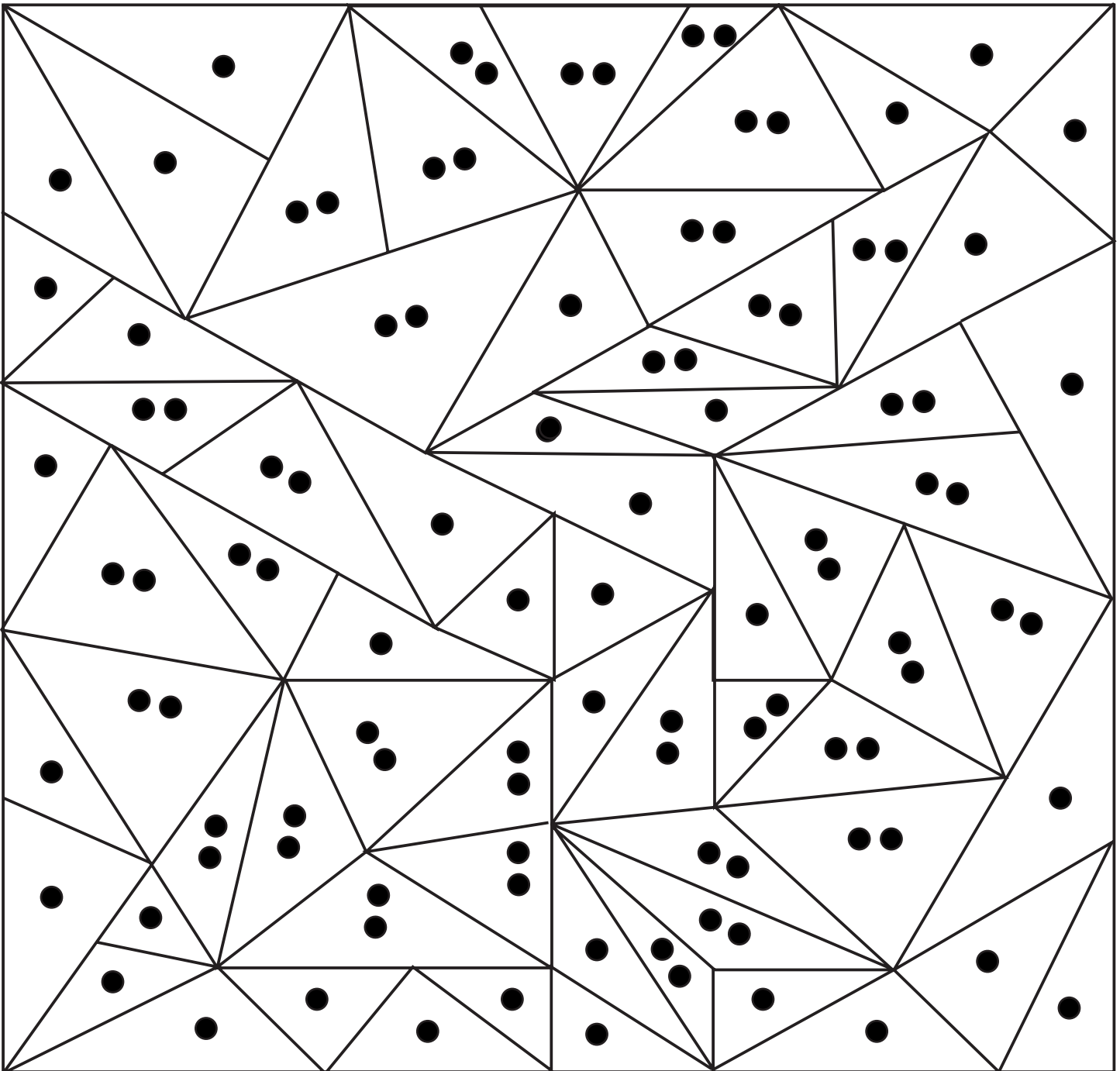
Ask an adult to help you poke a hole in the front and back of the feeder using the nail. Push the stick or dowel through the holes so it pokes out both ends. The stick is used as the bird perch.

Using the nail, poke two holes at the top of your milk jug or soda bottle from one side to the other. Insert your used wire, string, fishing line or shoelace and tie it together to make the hanger. Put birdseed into the bottom of your bird feeder and hang it from a tree or on your patio.



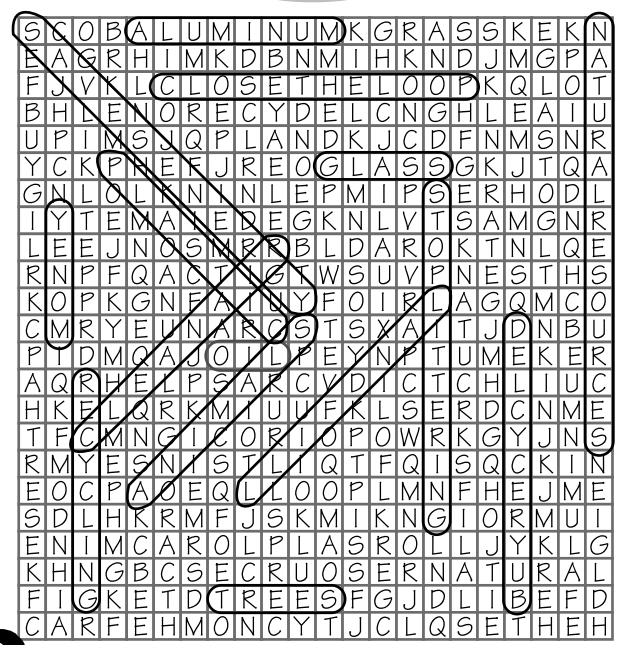
# Recycle Rex's Favorite Hidden Symbol

Color the areas and find the hidden symbol. Color areas with one dot yellow. Color areas with two dots blue. Do you know what this symbol means?

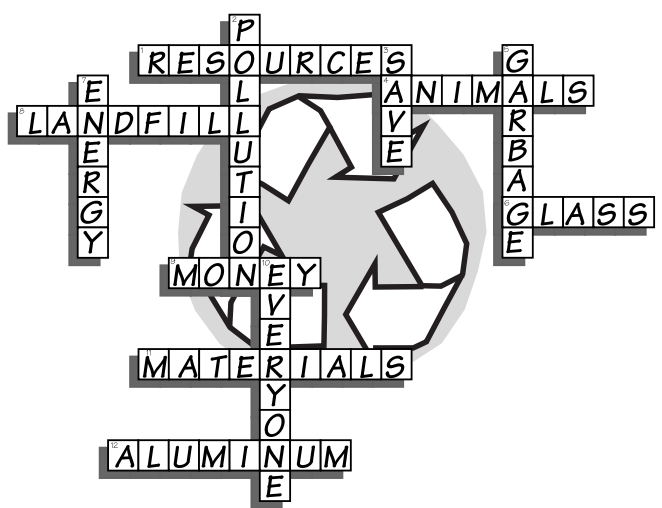


# Answer Keys to Puzzles and Games

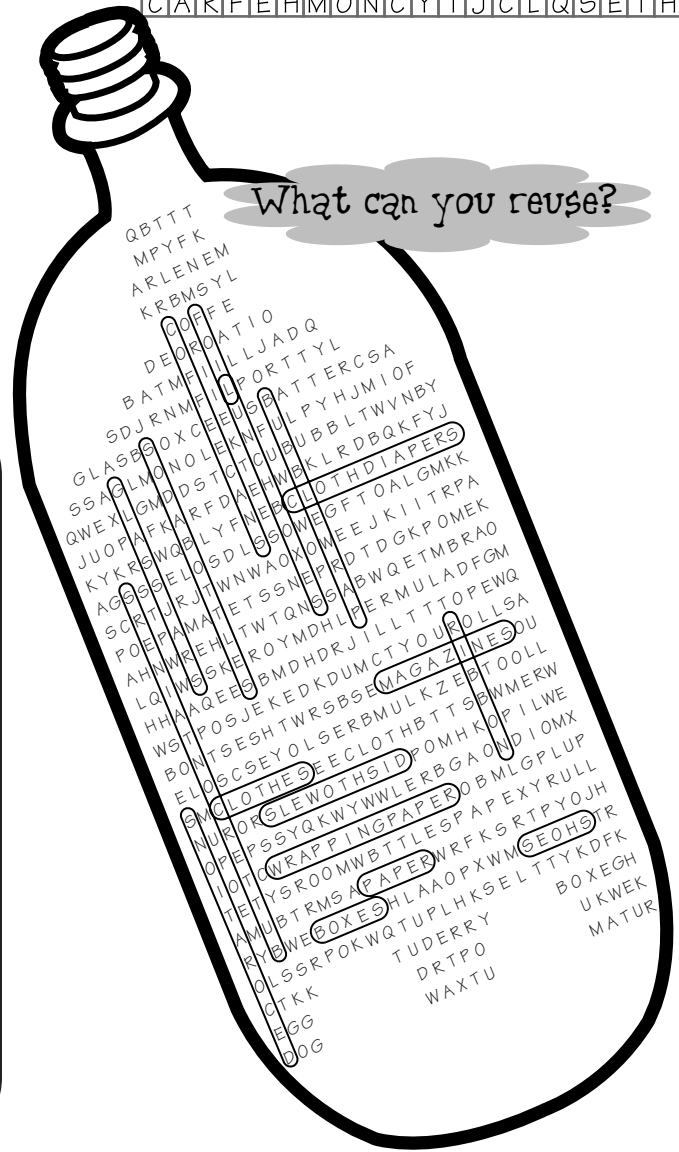
## Recycle Word Search



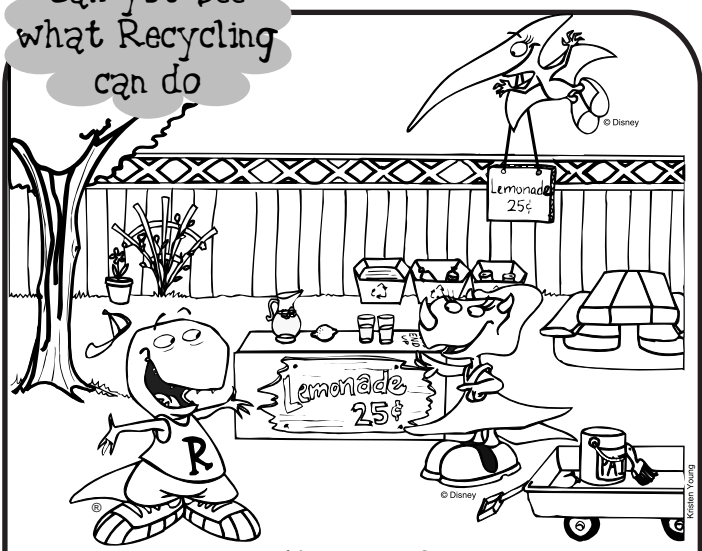
## Why Recycle?



## What can you reuse?



Can you see what Recycling can do

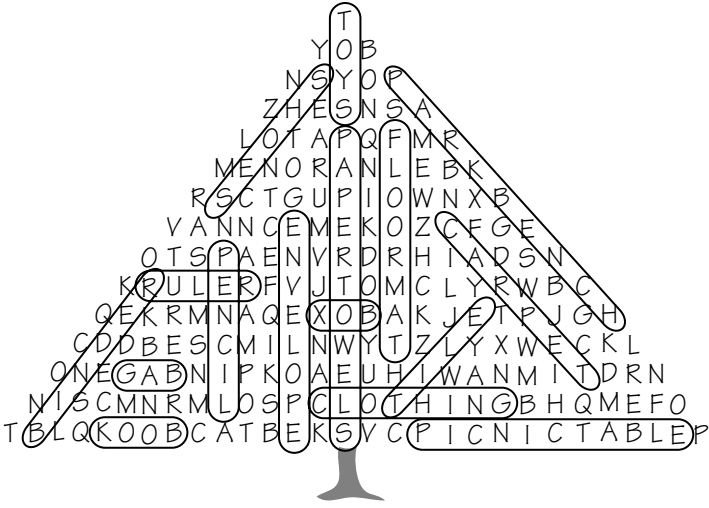


- |                  |               |              |
|------------------|---------------|--------------|
| Wagon            | Aluminum Cans | Paint Can    |
| Lemonade Pitcher | Bottles       | Paint Brush  |
| Cups             | Newspapers    | Shirt        |
| Recycling Bins   | Fence         | Dress        |
|                  | Picnic Table  | Shoes        |
|                  | Flower Pot    | Baseball Cap |



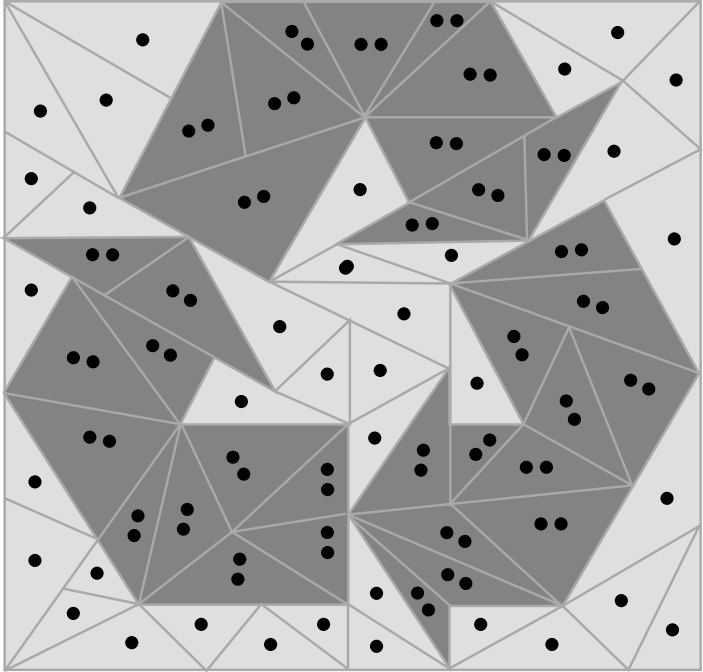
# Answer Keys to Puzzles and Games

## Close the loop, buy Recycled Word Search



## Hidden Symbol

This symbol is the recycle symbol and means that the product is recyclable. Look for this symbol on the product or product's packaging when making a purchase.



## Glass Maze

You can take the glass bottle marked "CRV" to a recycling center and redeem it for money. You can reuse your glass containers as a vase, pencil holder, a candy jar... and much, much more!



