

Earth Hero: _____
Name

Grade: _____

Date: _____



*Don Edwards SF Bay
National Wildlife Refuge*

EARTH DAY

Are you ready to be an Earth Hero?

APRIL 22ND

Earth Day Activities

Join the Mission!

<https://www.fws.gov/refuge/don-edwards-san-francisco-bay>



**NATIONAL
WILDLIFE
REFUGE SYSTEM**



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What would our Earth look like if we celebrated Earth Day, every day?



Don Edwards SF Bay National Wildlife Refuge

EARTH DAY HISTORY

Read the passage below to get a better idea of why we celebrate Earth Day!

Happy Earth Day!

This packet provides a few tips to help you protect our Earth, its resources, and its people. As Earth Heroes, you can find more ways to protect our planet and make your communities a better place by completing each activity in your classroom or at home.



THE HISTORY OF EARTH DAY

Our planet is a beautiful place, but it also needs our help to keep it that way!

The first Earth Day was celebrated on April 22nd, 1970. After hearing from his voters, Senator Nelson of Wisconsin called upon the nation to host a national demonstration of environmental concern. He said, **“Our goal is not just an environment of clean air, and water, and scenic beauty. The objective is an environment of decency, quality, and mutual respect for all other human beings and all living creatures.”** He advocated for a movement that fought for the planet and its people, and demonstrations took place across the country.

Now, every year on April 22nd, billions of people celebrate the Earth and participate in ways to protect it! By picking up litter or recycling, you can help save the Earth from pollution. By learning about climate change and the environment, you can help conserve our natural resources.

EARTH DAY WORD SCRAMBLE

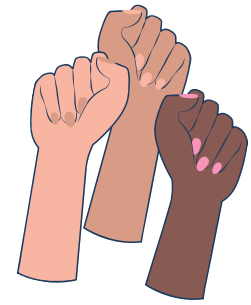
Unscramble the words below. If you are stuck, use the passage above to help you!

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A HISTORY OF ENVIRONMENTAL ACTION



1962

The written word can be an incredibly powerful tool for change! In 1962, Rachel Carson published a book called 'Silent Spring,' warning people against the use of toxic pesticides that polluted water and precious natural resources. Her work forever opened people's eyes to the damage we can cause if we take our earth for granted.

The First Earth Day was celebrated on this day more than 50 years ago! Senator Gaylord Nelson of Wisconsin wanted to respond to the concerns of his constituents, and called upon his community to collectively take to the streets for a national demonstration. Today, billions of people around the world celebrate and defend the Earth on this day.

22 Apr. 1970



Did you know that our very own Don Edwards SF Bay NWR is the nation's largest urban wildlife refuge? We would not be able to enjoy it today without the efforts of local hero, Florence LaRiviere! LaRiviere co-founded and led the Citizens Committee to Complete the Refuge, and their efforts protected almost 30,000 acres of wetlands. When average citizens work together, we can accomplish big things!

1972



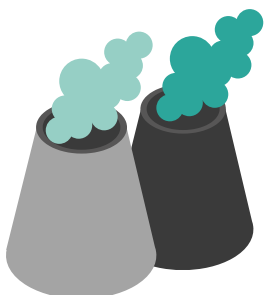
Do you know who the first tree huggers were? It was a group of women in the mountain villages of Uttarakhand, India! These women started the Chipko Movement because they were outraged by the industrial logging that was demolishing the forests they called home. They climbed and hugged the trees, stopping the logging machines in their tracks. In Hindi, the word "chipko" means to cling or stick.

1973



In the 1980s, a Black scholar named Robert Bullard gained attention as "the Father of Environmental Justice." He spoke out about the fact that poor, Black neighborhoods were exposed to unjust levels of pollutants because of their proximity to landfills and factories. He fought for their right to environmental protection, believing they deserve clean air and water as much as any other community.

1980s



A HISTORY OF ENVIRONMENTAL ACTION

Chico Mendes was a Brazilian activist whose tireless work inspired the creation of the Chico Mendes Extractive Reserve in 1990. An extractive reserve is an area of public forest set aside to be protected and used by its community. Extractive reserves help preserve the Amazon rainforest, as it keeps the land in the hands of local people, instead of being deforested by big corporations. This not only protects endangered species but countless cultural practices of the Brazilian people.



1990s

Wangari Maathai, known as “Africa’s Tree Woman,” was a Kenyan activist who founded the Greenbelt Movement. By the 1990s, this movement had planted over 10 million trees, planted mainly by women, in rural areas of Africa. This extraordinary reforestation effort is still around today! In 2004, Maathai became the first African woman to win a Nobel Peace Prize.

2004



In the last decade, millions of Native Americans have come together to form the Land Back movement. The land we live on was wrongfully stolen from Indigenous people by European colonizers. Land Back efforts show us how many strong and knowledgeable Indigenous leaders exist today to guide us in protecting the Earth. Save the Redwoods League helped give 523 acres of redwood forest to California’s Inter-Tribal Sinkyone Wilderness Council!

2010s



TODAY

ACT NOW!

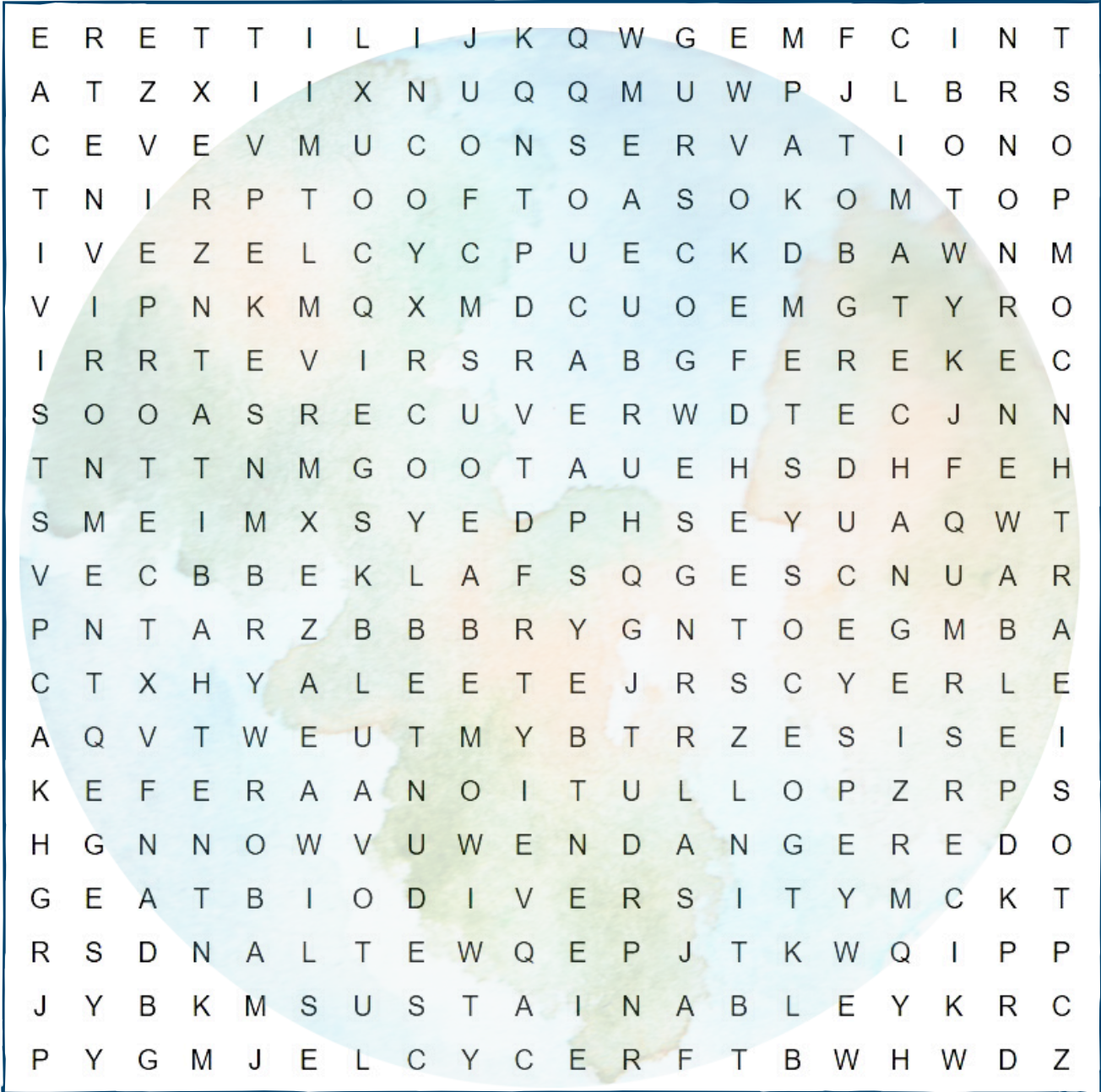


What do you think is the biggest, most important environmental issue affecting your community? How would you organize people to take action about this? Write below!



EARTH DAY WORD SEARCH

Find the words from the list in the puzzle below. Words may go up and down, forward and backward, or diagonal. Circle each word as you find them!



- | | | | | |
|----------------|--------------|--------------|-----------|-------------|
| activist | conservation | environment | pollution | resources |
| biodegradable | earth | footprint | protect | reuse |
| biodiversity | ecosystem | habitat | recycle | sustainable |
| climate change | endangered | litter | reduce | upcycle |
| compost | energy | nonrenewable | renewable | watershed |
| | | | | wetlands |

EARTH DAY VOCABULARY

Use the following vocabulary words to help you through this packet. You can reference these definitions at any time to help you on your way to becoming an Earth Hero!



Activist: Someone who works to bring about positive change.

Biodegradable: A substance that can be decomposed by bacteria or other living organisms, breaking down into natural elements that are not harmful to the environment.

Biodiversity: The variety of life, like the different types of plants and animals, found in a habitat or the entire Earth. Scientists can measure the health of a habitat by its biodiversity.

Climate: The average measurements of temperature, wind, and rain over the years.

Climate Change: The long-term changes in global temperatures that are happening much faster because of human activity.

Compost: Making food waste into a type of fertilizer by breaking it down into substances that are healthy food for soil, which helps plants grow.

Conservation: The wise use and protection of the Earth's natural resources like water, soil, animals, and plants so that they will still be around in the future.

Ecosystem: All of the living and nonliving things in an area and their environment. These plants, animals, water, rocks, and soil all make up a community and interact with each other.

Endangered Species: Any plant or animal species that is in danger of disappearing forever.

Greenhouse Effect: A process that happens when gases in Earth's atmosphere trap in the Sun's heat and is one of the causes of climate change.

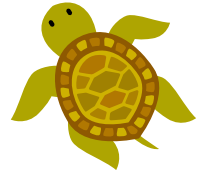
Renewable Energy: Energy that comes from natural processes like wind, water, and the Sun and will not run out. It is also called "Clean Energy" because it will also not pollute the air or water.

Nonrenewable Resources: Natural resources that cannot be replaced after they are used. Fossil fuels like oil, natural gas, and coal are examples of nonrenewable resources.

Renewable Resources: Natural resources that cannot be used up within the span of our lifetimes. Resources like water, air, soil, and plants are examples of renewable resources.

Sustainability: Using natural resources in a way that allows us to keep using them for a long time. We are sustainable when resources meet our needs without waste.

Watershed: The entire land area where water drains and collects from rainfall. Watersheds are divided by ridges of high land, and the water from many sources travels to a common point or an eventual outflow point such as a bay.



LEND A HAND TO THE EARTH



Every person can take action to help the environment both as individuals and as a community, leading us to a healthier future.



INTRODUCTION

As the next generations of leaders and voters, you have the power to take positive action to protect the environment. In this activity you will create a "handprint" that will describe one way you can help the Earth. Show us how you will take action!

MATERIALS

- 2 pieces of construction paper
- Markers or Colored Pencils
- Scissors
- Glue

EARTH DAY FACTS

1. The theme for Earth Day 2023 is "Invest in our Planet."
2. Every year in the U.S., nearly 200 billion beverage containers are sold, 2/3 of which are incinerated, littered, or end up in landfills.
3. 20 million people across the world participated in the very first Earth Day in 1970.
4. About 8 million tons of plastic end up in our oceans every year.

Want to share your action? Email us a photo of your hand activity to watershedwatchers@sfbayws.org



INSTRUCTIONS

1. Use your first piece of the construction paper.
2. Place your non-dominant hand on the paper with your fingers slightly separated, and begin tracing your hand with a marker.
3. Carefully cut out your traced hand with a pair of scissors.
4. Glue your cut-out hand to the center of the second piece of paper.
5. Now, write down one or more actions on your traced hand to describe how you will take action in protecting the environment! You can use markers, pens, colored pencils, or anything you have.



HI, I'M CALI, YOUR FRIENDLY NEIGHBOR AND NATIONAL WILDLIFE REFUGE AMBASSADOR!



SPECIES PROFILE:

An Interview with Cali, the California Ridgway's Rail!

CALI, CAN YOU TELL US A BIT ABOUT WHO YOU ARE?

My species is the California Ridgway's Rail. I am a special bird who lives only in the marsh habitats surrounding the San Francisco Bay. I eat small crustaceans buried in the mud of the salt marsh and can even drink salt water. I like to make my home in dense, grassy vegetation because I am shy; I prefer to stay hidden most of the time.

WHAT DOES IT MEAN TO BE ENDANGERED?

I am an endangered species, and it is a scary thing to be. Being endangered means my population has decreased and is now at risk of extinction - disappearing forever!



WHY ARE YOU ENDANGERED, CALI?

The main reason is because my habitat has been degraded, and my species has been over-hunted. Over the past 200 years, marshes surrounding the Bay have changed a lot due to human development. Because I can only live in the marsh, my species does not have enough room to thrive.

WHAT IS BEING DONE TO PROTECT YOUR SPECIES?

The Don Edwards San Francisco Bay and San Pablo Bay National Wildlife Refuges and other land protection agencies across the Bay are protecting and restoring the habitat I need to survive!

HOW CAN WE HELP PROTECT YOU, CALI?

Not many people know about my species. I tend to be very secretive and rarely venture out of my grassy home. You are helping right now, by taking the time to get to know me! You can also help by throwing away your trash and recycling, as this prevents pollutants from entering watersheds, marshes, and the Bay!

CHECK OUT CALI'S HOME!

Leave a like & comment.



NOW IT'S YOUR TURN! IF YOU COULD ASK ME ANY QUESTION, WHAT WOULD YOU WANT TO KNOW?



THE THREE 'R'S YOU SHOULD KNOW

Reduce, Reuse, Recycle – Three great ways you can eliminate waste and protect your environment!

WHAT IS UP WITH YOUR WASTE?

Waste, and how we choose to handle it, affects our world's environment—that's YOUR environment. The environment is everything around you, including the air, water, land, plants, and human-made things. The Don Edwards San Francisco Bay National Wildlife Refuge and its surrounding communities are all a part of the same watershed, meaning that all of our water from the rain, creeks, and storm drains ends up in the same place! All of that water carries litter and other waste from urban areas through storm drains and local creeks and ends up in the Refuge's wetlands. It is up to us to prevent pollution in these beautiful places. Healthy habitats make for healthy people and a healthy Earth! We can all help reduce our plastic consumption and pollution by following the three 'R's - Reduce, Reuse, and Recycle!



REDUCE

To Lessen: Use natural resources wisely, and using less than usual in order to avoid waste.



REUSE

To Use Again: You can "reuse" materials in their original form instead of throwing them away, or pass those materials on to others who could use them too!



RECYCLE

To Make Something New: Create fresh, or strong again - don't throw away anything that can be recycled

What is one way that you might Reduce, Reuse, or Recycle an item in your daily life?

REDUCE: YOUR CARBON FOOTPRINT

There are many different ways we can help the Earth. Some of the best ways are using the 3 'R's of sustainability.

WHAT IS MY CARBON FOOTPRINT?

A carbon footprint is the total amount of greenhouse gases (including carbon dioxide and methane) that are produced by human activities. The average carbon footprint for a person in the United States is 6 tons (one ton is about the weight of one African elephant). Globally, the average is closer to 4 tons. This makes the U.S. the highest producer in the world.

CALCULATE YOUR CARBON FOOTPRINT!

Find out your carbon footprint and see what actions you can take to help the Earth!

SCAN
THE
QR
CODE



www.nature.org/en-us/get-involved/how-to-help/carbon-footprint-calculator/

Take the Challenge to Reduce Your Footprint

Day 01

Calculate your Carbon Footprint.

Day 02

Use a **reusable** shopping bag instead of plastic.

Day 03

Do not use a car for a day. Walk or ride a bike instead.

Day 04

Shorten your shower to 5 minutes or less.

Day 05

Limit your technology use for a day.

Day 06

Have a plant-based (vegetable) meal.



REUSE: UPCYCLED SEED STARTERS



What does it mean to reuse or upcycle something?

Turning an object that would usually be trash into something else more useful is called **UPCYCLING**. Upcycling is a great way to not only reuse an everyday item, but turn it in to something better. An easy way to make sure household trash does not just go to the landfill is to make those everyday items into seed starters.

EXAMPLES

Examples of household waste items you can **reuse** as seed starters.

- Yogurt cups
- Egg Cartons
- Takeout containers
- Small milk cartons
- Empty jars
- Disposable cups
- Empty toilet paper rolls

WHY UPCYCLE?

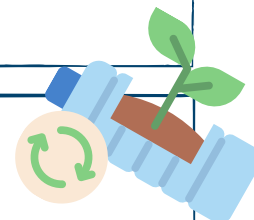
Instead of recycling or throwing away these items when you finish with them, you can give them a new life through upcycling while you help new plants grow!

LANDFILLS & WATER POLLUTION

Landfills are a threat to our watershed and it is important to keep recyclable and reusable materials out of our landfills.

INSTRUCTIONS

- Rinse your **reused** container well.
- Decorate the outside of your container however you want! Paint, markers, and stickers work well. You can also glue or tape paper to the outside. If you can, write the name of the seed you are planting on the outside.



FROM TRASH TO TREASURE!



You can even decorate your seed starters to honor Earth Day!

POTTING INSTRUCTIONS

- Fill your container with about two inches of soil. Make a small divot in the top of the soil with your finger and place a few seeds inside. Cover up with a little more soil and water lightly.
- Place your seed starter near a sunny spot like a window ledge, and follow any other directions on your seed packet.
- Water regularly and watch its progress as your little seed grows big and strong. Eventually, you can move your growing plant outside to be planted in the ground or in a bigger plant pot.

RECYCLE: DECISION TREE



INSTRUCTIONS

Pick a waste item like a plastic bottle or an old notebook and follow the decision tree to determine where the item should go after you no longer need it. With a pencil, trace your path through the tree.

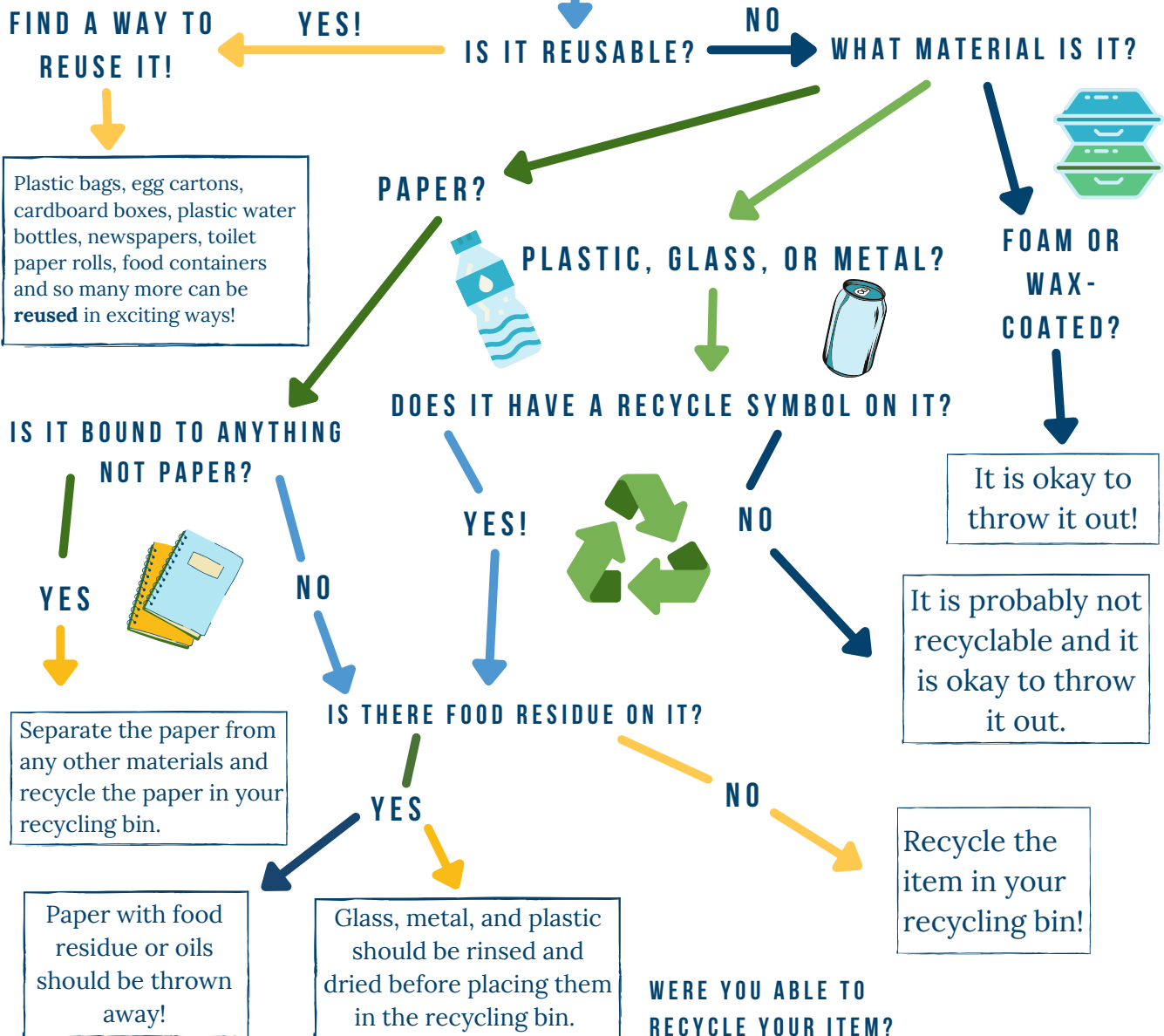
How can you tell if something is recyclable?

Not all recyclable materials have the helpful recycling symbol to let you know what to do with an item after it is no longer useful. It is important to take the time to evaluate waste items and dispose of them properly, whether it be in the trash or recycling. It is also good to make sure the items you recycle are clean so your trash service can recycle them well.

WHAT ITEM DID YOU CHOOSE?



DO I RECYCLE THIS?



EARTH DAY PLEDGE

Celebrate Earth Day, All Day, Every Day

Dear Earth Hero:

The Earth gives us all we need to live: from the air we breathe, the water we drink, the food we eat, and the clothes we wear. Earth Day is a day that we can celebrate our planet and all that it gives us. By reducing our waste, recycling properly, and reusing items, we help out our fellow plants and animals like the California Ridgway's Rail; at the same time, we are saying 'thank you' to the Earth. There are many more ways we can say thank you to our beautiful planet, like enjoying your local outdoor spaces, or telling people about how they can help. When we work together, we can make our planet a safe and healthy place for all.



WHICH ACTIVITIES DID YOU COMPLETE?

- Earth Day Word Scramble
- Earth Day Word Search
- Lend a Hand to the Earth
- Refuge Ambassador: Cali
- Reduce
- Reuse
- Recycle
- Earth Day Pledge
- BONUS: Earth Day, Every Day

You are an Earth Hero; you have the power to make the Earth a happy and healthy place. By writing your name on the line below, you pledge to celebrate the Earth every day, in the best way you can.

Thank you for completing the Earth Day Packet from the
Don Edwards San Francisco Bay National Wildlife Refuge!

Your Signature

If we celebrated Earth Day every day, what would the world look like?

Use the space below to draw or paint a picture or write a story or poem. If you want to submit your story, poem, or art piece to us, email a copy to watershedwatchers@sfbayws.org or mail it to 1 Marshlands Rd, Fremont, CA 94555. It will be posted to view at the Environmental Education Center at the Refuge.

THANK YOU TO:



**NATIONAL
WILDLIFE
REFUGE SYSTEM**

The National Wildlife Refuge System protects some of the country's most iconic ecosystems and the fish and wildlife that rely on them. The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Learn more at: www.fws.gov/refuges.



San Francisco Bay
Wildlife Society

The San Francisco Bay Wildlife Society is a not-for-profit 501(c)(3) Friends group, authorized by Congress to support the education, interpretation, and research activities of the U.S. Fish and Wildlife Service.

The San Francisco Bay Wildlife Society seeks to nurture in the public a sense of understanding, appreciation, and stewardship of the San Francisco Bay National Wildlife Refuges, their natural and cultural history, and to conserve, preserve, and restore bay lands as essential wildlife habitat.

Website: <http://sfbayws.org/>.



**Santa Clara Valley
Urban Runoff
Pollution Prevention Program**

The Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP or Program) is an association of thirteen cities and towns in Santa Clara Valley, the County of Santa Clara, and the Santa Clara Valley Water District that share a common National Pollutant Discharge Elimination (NPDES) municipal stormwater permit to discharge stormwater to South San Francisco Bay. The Program and member agencies implement pollution prevention, source control, monitoring and outreach programs aimed at reducing pollution in stormwater runoff, protecting water quality and beneficial uses of San Francisco Bay and Santa Clara Valley creeks and rivers.

Website: <http://www.mywatershedwatch.org/>.



Long time wildlife refuge neighbor and partner of the San Francisco Bay National Wildlife Refuge Complex.