

THEIR IMPORTANCE:

- part of the food web
- filter organic matter & algae, recycle nutrients
- important bio-indicators of water quality

DANGERS THEY FACE:

- habitat destruction
- pollution
- climate change
- erosion & sedimentation
- human activity

Anyone can help protect caddisflies and their freshwater habitats from home. These actions can help preserve the environment, even from your own backyard or living room!



Protecting Caddisflies by Protecting Our Water!

Below are some at-home activities and information resources for you and your family to work together to learn about water quality and what affects it, as well as what you can do to become a better steward of our environment – for us and for caddisflies!

Check it Out - What is a Caddisfly?

Video: <u>https://youtu.be/LA4CvsJzyKU?feature=shared</u>

How Can You Help Local Streams & Ecosystems?

1. Reduce Pesticides and Chemicals

- <u>Why it helps:</u> Pesticides and harsh chemicals can runoff into waterways, harming aquatic life like caddisflies.
- <u>What to do:</u> Use natural or organic alternatives in gardening and lawn care. Look for non-toxic cleaning products and compost food scraps rather than dumping them down the drain.

2. Keep Waterways Clean

- <u>Why it helps:</u> Polluted streams and rivers are harmful to caddisflies and other aquatic life.
- <u>What to do:</u> Avoid littering, especially near rivers and lakes. Organize or participate in local clean-up events in your community. If you're near a stream, make sure there's no trash, plastic, or debris near the water's edge.

3. Use Water Wisely

- <u>Why it helps:</u> Excessive water use can lead to low water levels, impacting aquatic species.
- <u>What to do:</u> Be mindful of water consumption at home. Fix leaky faucets and use water-efficient appliances. Opt for drought-resistant plants in your garden to reduce water needs.

4. Support Riparian Buffer Zones

- <u>Why it helps:</u> Riparian zones (areas of land next to rivers and streams) provide essential habitat for aquatic insects like caddisflies.
- <u>What to do:</u> If you have property near water, plant native vegetation along the banks. These plants help filter pollutants before they reach the water and provide shade and food for aquatic species.

5. Be Mindful of What You Flush or Dump

- <u>Why it helps:</u> Household chemicals, oils, and non-biodegradable waste can end up in rivers and streams, disrupting delicate ecosystems.
- <u>What to do:</u> Never flush chemicals, oils, or medications down the toilet or drain. Dispose of waste properly at hazardous waste collection sites.

6. Advocate for Freshwater Protections

- <u>Why it helps:</u> Policy and legislation can play a major role in protecting freshwater ecosystems.
- <u>What to do:</u> Support organizations and policies that advocate for clean water, such as those that promote the Clean Water Act. Join local environmental groups and encourage your community to protect freshwater resources.

7. Reduce, Reuse, Recycle

• <u>Why it helps:</u> Reducing waste helps to decrease plastic pollution, which can end up in rivers and streams, damaging habitats for caddisflies and other creatures.

• <u>What to do:</u> Reduce your plastic use and opt for reusable items. Recycle materials like paper, glass, and plastic to keep them out of landfills.

8. Participate in Citizen Science

- <u>Why it helps:</u> Collecting data helps researchers monitor the health of aquatic environments and the creatures that live there, including caddisflies.
- <u>What to do:</u> Join citizen science initiatives like stream monitoring programs. Use apps or websites to log observations about local water conditions and aquatic life. (Look for local environmental organizations or state programs that offer this!)

9. Educate and Raise Awareness

- <u>Why it helps:</u> The more people who understand the importance of species like caddisflies, the greater the community effort to protect freshwater ecosystems.
- <u>What to do:</u> Share information on social media, talk to friends and family about the importance of clean water, and support environmental education programs in your community.

10. Create a Wildlife-Friendly Garden

- <u>Why it helps:</u> Gardens that attract pollinators and other wildlife support biodiversity and healthy ecosystems, including those near freshwater.
- <u>What to do:</u> Grow native plants that provide habitat for insects, birds, and other wildlife. Consider including a rain garden or a small pond to attract more wildlife and use natural gardening methods.

More

Education Resources & Activities for All!

Copy Link for Online Water Activity: https://www.discoverwater.org

Page(s)	Activity
6-11	We Are Water Protectors
12	Pollution Hunt Scene
13	
14-15	Backyard Water Quality Activity & Maze
16-25	Stormwater Stewards Activity Book
26	Pledge to Protect Your Water

WE ARE Water PROTECTORS Activity Kit

We Are Water Protectors issues an urgent rallying cry to safeguard the Earth's water from harm and corruption. Complete these We Are Water Protectors activities and learn about ways to make an impact in your community and further protect the Earth and our waters in everyday life.

The content in this kit was originally adapted from the Inspired Community Engagement Guide, which was prepared by Jessica Ellison, a teacher educator at the Minnesota Historical Society. Jessica creates professional development and curriculum for social studies teachers and is a strong advocate for community engagement at all ages. She currently serves on her local school board.



A NOTE FROM THE AUTHOR

Dear Friend,

Miigwech, thank you, for taking the pledge to become a Water Protector! That means so much to me.

Let me tell you just a little about what inspired my story.

When I first learned about Standing Rock back in August 2016, I was overwhelmed by what was going on and the lack of national attention that this important matter was receiving. "Water is Life," and Anishinaabe women have a very important role as caretakers of the water. I am Anishinaabe, and a citizen of the Turtle Mountain Band of Ojibwe.

Feeling helpless, I didn't know what one small person like me could do. I live on the East Coast, and at the time my son was very young, so it wasn't easy for me to get to Standing Rock. I decided that I would write a book to help educate young people about the importance of water and how we must protect it and care for it. But we need everyone's help. Especially our young people. Because they are the future.

And that's where We Are Water Protectors began.

Your commitment and dedication to protecting our most valuable resource is greatly appreciated.

In Ojibwe, we say, *Aaniin*, which means, I see the light in you. So I say, *Aaniin*, to you for your commitment to and support for our planet and our water.

Chi miigwech,

Carole



DISCUSSION QUESTIONS AND TOPICS

- 1. How is water important to you and your daily life? Brainstorm all the ways we use water every day. Talk about where your water comes from. Come up with ideas to protect and save your water.
- 2. Look at the last two pages of the book, featuring many indigenous people. Learn about the indigenous people who live near you today and the people who lived in your place long ago.
- 3. What is the black snake that is poisoning the water, plants, animals, and land? Discuss environmental concerns in your community and what you can do to be better stewards for the Earth.
- 4. In the book, a young girl talks about fighting for those who cannot fight for themselves—the animals, plants, trees, rivers, and lakes. How can you fight for them? What resources exist in your community that help aid those that cannot fight for themselves?
- 5. "The four-legged, the two-legged, the plants, trees, rivers, lakes, the Earth. We are all related." Discuss the ways in which the Earth and all its creatures are related.

TIPS AND TRICKS FOR COMMUNITY ENGAGEMENT

Use these tips and tricks to learn about community and the ways you can be an active participant.

HOW TO IDENTIFY ACTIVISM

- Identify local activities that impact you directly and discuss how diverse voices are being reflected.
- Invite community members to visit your group and talk about their efforts to promote change.

HOW TO SHOWCASE YOUR VOICE

- Identify young people currently taking action to make a change.
- ♦ Highlight how kids and grown-ups can take action.

PLEASE NOTE THE FOLLOWING

We are all different so having discussions about ways to take action can sometimes be challenging.

WE ARE Water PROTECTORS

- **◊** Conversations about this topic may become politicized.
- **♦** There may be concerns from parents and educators.
- **&** Kids may not have the resources to participate in a specific call to action.
- ♦ Children may be reluctant to participate, due to trauma or fear.
- ♦ Gender and racial tensions might increase.

WAYS TO ENCOURAGE THOSE AROUND YOU TO TAKE ACTION

- Empower kids and grown-ups to learn about voting and taking action.
- Talk with kids about environmental that are issues important to them and then volunteer together.



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WHAT

(YOUR NAME)

THE EARTH AND SUPPORT THE WATER PROTECTORS PLEDGE

Most plastic takes

1,000 years to decompose.

WE ARE Water PROTECTORS

- Turn the water off when you brush your teeth
- Take shorter showers
- Use a reusable water bottle
- Turn off the lights when you leave a room
- Avoid using plastic utensils and straws

Did you

know?

27,000 trees are cut down each day so we

can have toilet paper.

- Recycle
- Plant a tree
- Turn off and unplug electronics and video games when you're not using them
- Ask your parents to carpool with your fellow classmates
- Uvolunteer with your class or family to do a beach cleanup
- Learn about your local government's environmental policies

- Write a letter to your representative
- Garden in your backyard or classroom
- Use both sides of your paper
- D_____ D_____ D_____

IS DOING TO PROTECT

1.3 million gallons of oil are spilled into the ocean every year.

There is an island of garbage twice the size of Texas inside the Pacific Ocean.

By Carole Lindstrom; Illustrated by Michaela Goade WeAreWaterProtectorsbook.com

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WE STAND AS ONE

WE ARE Water **PROTECTORS** is full of images showing humans as one with nature.

Draw a picture of you with something from nature or a natural resource that you would like to protect.

WHY DID YOU CHOOSE TO PROTECT THIS?

WE ARE Water PROTECTORS

By Carole Lindstrom; Illustrated by Michaela Goade WeAreWaterProtectorsbook.com Roaring Brook Press An Imprint of Macmillan Children's Publishing Group

TAKE THE EARTH STEWARD AND WATER PROTECTOR PLEDGE

I will do my best to honor Mother Earth and all its living beings, including the water and land. I will always remember to treat the Earth as I would like to be treated.

> I will treat ... the winged ones, the crawling ones, the four-legged, the two-legged, the plants, trees, rivers, lakes,

> > the Earth

with kindness and respect.

I pledge to make this world a better place by being a steward of the Earth and a protector of the water.

My Name

Today's Date





Watershed Investigation Walk Scavenger Hunt

One member of your class will bring a cell phone or digital camera for taking photographs. You will be looking for the following features. When you have found a feature on the list, take a picture to document it. Then record what you found and where you found it in the space below or in your activity journal. If you're not sure of a term, Google it!

- 1. An example of <u>weathering</u>
- 2. An example of erosion
- 3. A place showing a change in <u>elevation</u>_____
- 4. An example of a **<u>permeable</u>** (allows liquids to pass through) surface
- 5. An example of an *impermeable* (doesn't allow liquids to pass through) surface
- 6. An example of **nonpoint source pollution**
- 7. An element of the water cycle
- 8. An example of a storm drain _____
- 9. An example showing best practices (ways to reduce runoff, erosion, and pollution)
- 10. Members of your group standing near the highest elevation in your area
- 11. Members of your group standing near the lowest elevation in your area ______

Based on your observations, what impacts do you think human activity in your area might be having on the local waterways? Write your thoughts in a paragraph below.

All living things need water, so it is important to keep natural water sources like rivers, lakes, and oceans clean of pollution. **Pollution** can come in many different forms so sometimes it is hard to know how "clean" a water source is or where pollution is coming from. Some forms of pollution are easy to see, such as trash or oil. Even dirt can be considered pollution if too much gets into the water supply and turns the water muddy. Other forms of pollution, like chemicals, might require scientific tests to find.

Nature has different ways of helping keep the planet's water clean. The **water cycle** uses the heat of the sun to take water from the surface of the Earth up into the air in tiny droplets. These droplets are so small that many visible forms of pollution are left behind. When the droplets cool, they form clouds and fall back to Earth as rain, collecting in rivers, lakes, and oceans again.

You can build your own **Mini Water Cycle** in this activity! You'll need a large bowl, plastic wrap (pw), a cup that is shorter than the height of the bowl, small stones for weight, some dirt and a cup of water. Find a sunny spot and place the empty cup in the middle of the bowl. Now place the dirt in the bowl around the base of the cup (about 1 inch deep). Pour the water into the dirt. Cover the top of the bowl with the pw, making sure that there are no gaps between the pw and the edge of the bowl. Weigh down the edges of the pw to keep it secure and place one small stone in the middle of the pw directly above the cup. No part of the pw should be touching the edge of the cup. Let it sit in the sun for a few hours. Eventually, you should see water drops collecting on the plastic wrap and dripping into the cup. The water should be clean of mud!

Adapted from U.S. Environmental Protection Agency Office of Water

Cabbage Water Test

(Ask an adult to help you with this activity)

This at-home science project lets you test different liquids to see how they compare to pure water. Even though some liquids might look similar, they can mix and react very differently with other liquids. Completely clean water has nothing else mixed in. Red cabbage leaves react with liquids to show differences that you can't see with your eye.

Start by having an adult help you boil red cabbage leaves in 5 cups of water. After 10 minutes of boiling, let the water cool. Strain the cabbage leaves out so you are left with just the purple water. Collect different liquids from around your house (it is better if they are clear in color). Try soapy water, lemon juice, white vinegar, laundry detergent or anything else. You will need a different cup for each liquid you are testing

(clear or white cups let you see the change best). Pour the cabbage water evenly into all of your test cups. Then, slowly add small amounts of your test liquids to each cup and watch for any change in color! This color change tells us the **pH level** (how acidic or basic something is) of the liquid. To learn more about pH levels and how they are used to help measure water quality, visit: www.epa.gov/acidrain

Sources:



 U.S. Environmental Protection Agency

To learn more about water quality and ways you can help keep waters clean, visit: **NEEFusa.org**





Clean beaches, healthy creeks, rivers, bays and the ocean

are crucial to San Diego...

However, everyday activities can lead to water pollution if we're not careful. Items like litter, pet waste, chemicals and pollutants left on yards, sidewalks, streets and in gutters can flow through storm drains and pollute our waterways. Unlike treated water in sanitary sewers, storm drain water enters our water bodies untreated.

This activity book provides engaging activities that teach simple ways to safeguard San Diego's water resources to protect our watersheds and preserve the ocean. "Stormwater Stewards" is a collaborative effort by 21 governmental agencies. Our goal is to raise awareness about water pollution and empower individuals to make a positive environmental impact. By participating in the activities outlined in this workbook, you'll learn how small changes in our daily lives can contribute to cleaner waterways and a healthier ocean. Each activity is designed to be fun and educational, enabling you to understand the importance of protecting our watersheds and promoting sustainable practices.

We invite you to embark on this exciting journey with us as we explore the wonders of our local watersheds and discover how we can all contribute to a cleaner, healthier San Diego region. Together, we can make a significant difference and ensure a brighter future for our water resources and the diverse ecosystems they support.



Eco-Glossary

Condensation

The process of gas changing to a liquid due to cooling temperatures. Condensation forms clouds.

Evaporation

The process of heat transforming liquid to gas.



Infiltration

The process where water soaks into the ground and helps to replenish our groundwater.

Pollutant

Materials such as litter, pet waste, motor oil and yard clippings that harm the environment.

Precipitation

Rain, snow, sleet or hail that falls from clouds due to decreased temperatures and a saturation of water vapor.

Runoff

Water from rain, sprinklers or hoses that travels through our streets, sidewalks and catch basins to storm drains where it flows directly into our creeks, rivers, bays and ocean.

Watershed

An area of land where water drains through a series of creeks, rivers and bays into a common body of water such as the ocean. Everyone lives, works and plays in a watershed.

Urban Run-off

Water from a hose or sprinkler that flows into the street.



Storm Drain

A pipe or channel that conveys water from rain or urban runoff flows. This water picks up pollutants on the way to the storm drain. Once in the storm drain, the water and pollutants flow untreated to the ocean.

Transpiration

The evaporation process of water from plants mostly through leaves, but also stems, flowers and roots as a result of undergoing photosynthesis.

Stormwater

Water from nature such as rain or snowmelt.





1. Blue 2. Light Blue 3. Purple 4. Tan 5. Orange 6. Red 7. Brown 8. Green 9. Light Green 10. Dark Grey 11. Light Grey 12. Black

Pollution Detectives

Can you find these common sources of pollution in your local park?

Plastic Bags

Look for discarded plastic bags caught in trees, bushes or on the ground. These bags can easily be carried away by wind or rain and end up in storm drains.

Cigarette Butts

Look for cigarette butts on sidewalks, in parks or near bus stops. These small items contain harmful chemicals that can wash into storm drains when it rains.

Beverage Cans and Bottles

Watch for empty soda cans, water bottles and juice boxes. These containers can contribute to litter and potentially pollute stormwater if not correctly disposed of.

Food Wrappers

Search for fast food wrappers, snack wrappers or empty chip bags that have been discarded improperly. These items can easily be blown into storm drains during windy weather.

Don't touch or interact with the source of pollution directly. Just observe and promote responsible behaviors to protect stormwater and prevent pollution.

Dog Waste

Spot dog waste that still needs to be cleaned up. They can identify areas where pet owners may need reminders about picking up after their pets to prevent stormwater contamination.

Oil Stains

Point out any dark, oily stains on the pavement or parking lots. These stains may indicate leaked motor oil from vehicles, which can eventually find its way into storm drains.

Puddles with Rainbow Sheens

Look for rainbow-colored sheens on puddles or standing water. These sheens often indicate the presence of oil or other pollutants, which can harm the environment.

Overflowing Trash Bins

Observe overflowing trash bins or areas with scattered litter. Children can take note of these locations to promote proper waste disposal and prevent litter from entering storm drains.

Broken Sprinkler Heads

Look for broken or malfunctioning sprinkler heads in lawns or gardens. These broken heads can cause excessive water runoff, leading to erosion and potentially carrying pollutants such as fertilizers into storm drains.

Remember







Project Clean Water:

Empowering Youth Stormwater Stewards

Project Clean Water is committed to harnessing the potential of young individuals as environmental stewards. Our primary goal is to educate and engage youth in the role of proactive Stormwater Stewards, ensuring the well-being of our water bodies and a sustainable future.

We achieve this through interactive programs and practical activities, fostering a sense of environmental responsibility by encouraging young minds to become Pollution Detectives, enabling them to identify and investigate pollution sources in their neighborhoods. This education empowers them to safeguard our watersheds by maintaining cleanliness, reducing litter, and promoting responsible waste disposal.

Our ultimate aim is to cultivate a passionate cohort of clean water advocates, equipping them with the necessary tools, resources, and confidence to drive substantial change. By engaging youth as Stormwater Stewards, we aspire to create a ripple effect that inspires their peers, families, and communities to unite in taking collective action. Together, we can build a future where clean and thriving waterways are cherished and protected. Join us at Project Clean Water to empower the next generation.

Down

- To break down and return to a simpler form
- 3 Process in which items break down with exposure to light
- 6 A way to purchase items that were previously owned and still in good condition

<mark>Y</mark>. Repair

finemnorivna .8 1911il .e

6. Thrifting 5. Watershed

Litter Explorers

I Love A Clean San Diego collects tens of thousands of pounds of debris annually from San Diego County, including many singleuse or recyclable items. When these items reach the ocean, they never completely decompose; they photodegrade with exposure to sunlight into microplastics. Large ocean currents, called gyres, move these plastics and collect in the Pacific Ocean, between California and Hawaii, in an area called The Pacific Garbage Patch. This area can be compared to a large plastic soup about the size of Texas. The smaller forms of debris are often ingested by animals and can cause them harm. By using reusable items and recycling properly, you can help to keep our oceans and animals healthy.

Across

- **2** Any large system of circulating ocean surface currents
- **4** Small plastic pieces less than 5 mm long

I Love a Clean E San Diego

- 5 An area of land that drains into a common body of water
- 7 Fixing an item instead of disposing it
- 8 Everything that surrounds us! Plants, animals, trees, litter, etc.
- 9 Another word for trash. This is waste, such as paper, cans, and bottles, that is left lying in an open or public place

4. Microplastic Photodegrade





What is Project Clean Water?

Project Clean Water is a county-wide initiative dedicated to protecting water quality in San Diego County. Project Clean Water supports efforts encouraging greater awareness of everyday actions people can take to reduce runoff and stormwater pollution. The Project Clean Water website, ProjectCleanWater.org, serves as a resource to the public on water quality information and a Regional Clearinghouse of regional water quality data for State and Federal regulatory bodies.

Who is involved in **Project Clean Water?**

Project Clean Water involves everyone who lives in San Diego County. The initiative is coordinated through 21 governmental agencies, the County, Port of San Diego, San Diego International Airport, and the 18 incorporated cities within the county, and it aims to involve a wide range of regional groups, nonprofits, businesses and individuals.

Why is this issue important?

Project Clean Water is about supporting clean water and healthy communities. Many people are not aware that stormwater entering our storm drains is not treated, which means pollutants from runoff, including trash, chemicals, pet waste and more, can contaminate our rivers, lagoons and the ocean. The good news is that each of us can take steps to reduce this potential damage.

Water Pollution Experiment

Conduct a simple science experiment to demonstrate the effects of pollution on water quality. Children can fill separate containers with clean water and water mixed with pollutants like oil, food coloring or dirt. Observe and discuss the differences in clarity and appearance.

Materials Needed

- Several clear containers or jars
- Clean water
- Pollutants such as oil, food coloring and dirt
- Stirring utensil (e.g., spoon or stick)
- Optional: Magnifying glass or microscope for closer observation

Procedure:

- Gather the clear containers or jars and label them accordingly (e.g., "Clean Water," "Water + Oil," "Water + Food Coloring," "Water + Dirt").
- Fill each container with the same amount of clean water. Ensure the water level is consistent in each container.
- Choose one pollutant to add to each container. For example:
 - In the "Water + Oil" container, add a small amount of oil and stir gently.
- In the "Water + Food Coloring" container, add a few drops of food coloring and stir.
- In the "Water + Dirt" container, sprinkle some dirt or soil into the water and stir.
- Leave one container labeled as "Clean Water" without any added pollutants.
- Observe and discuss the initial appearance of each container. Take note of the color, clarity and any visible changes.

Note: After the experiment, it is essential to properly dispose of the polluted water and contaminants according to local regulations. Ensure that children understand the importance of protecting our water sources and the consequences of pollution.



- Encourage discussion and ask questions:
- What did you observe in the containers with pollutants compared to the clean water?
- How do pollutants affect the clarity and appearance of water?
- Why is it important to keep our water clean and free from pollutants?

Optional: Use a magnifying glass or microscope to examine the water samples more closely, observing any microscopic particles or changes.

Welcome to the Stormwater Maze Adventure

Get ready to learn about the journey of stormwater through a maze representing a stormwater system. Help our character navigate the maze while avoiding pollutants and making environmentally friendly choices.

Let's begin!

Tips

- Read each description or prompt carefully before making a choice. Think about the potential consequences of
- your actions on the environment. Stay focused and trace the path accurately
- to avoid getting lost in the maze.

Help Droplet go through the pipe maze and into the ocean Remember: Only water Goes down the drain

Instructions:

- Start at the beginning of the maze and guide the character towards the endpoint, representing the ocean or a clean water body.
- 9 Use a pencil or your finger to trace the path through the maze-make sure to follow the arrows and stay within the maze borders.
- Along the way, you'll encounter various obstacles representing common pollutants found in stormwater. Avoid these pollutants by taking alternative paths or making eco-friendly choices.
- M Whenever you come across a pollutant obstacle, read the description or prompt associated with it and choose the environmentally friendly action to take.

- 5 Make sure to follow the correct path based on your chosen action. If you make the right choice, continue on the correct path. If you make the wrong choice, the maze might lead you back to a previous point to try again.
- 6 Keep navigating through the maze, making smart choices and avoiding pollutants, until you reach the endpoint representing the clean water body.
- Congratulations! You successfully helped our character navigate the stormwater system maze while protecting our waterways. Take a moment to reflect on the importance of making environmentally friendly choices to keep our water clean.



Remember, the Stormwater Maze Adventure is not just a fun activity, but also an opportunity to learn about stormwater pollution and how our choices can make a difference. Have fun exploring the maze and discovering the importance of protecting our water resources!

Stormwater Stewards Quiz

Develop an interactive quiz that tests children's knowledge of stormwater protection. Include questions about pollution prevention practices, the role of storm drains, and the impacts of pollution on ecosystems. Offer small rewards or certificates for completing the quiz successfully.

1. What is stormwater?

- **C** Rainwater that is collected for drinking purposes.
- **b** Water from melting snow that fills rivers and lakes.
- Water from rain or snow that flows over the ground and into storm drains.

4. What is the purpose of a rain garden?

- **C** To collect rainwater for gardening purposes.
- To create a beautiful garden with colorful flowers.
- **C** To absorb and filter stormwater runoff.

2. Why is it important to protect stormwater in San Diego?

- **C** To protect watersheds from pollution.
- **b** To keep our communities clean.
- **C** Jo protect marine life.
- d All of the above.

3. Which of the following can contribute to stormwater pollution?

- **C** Trash and litter.
- **b** Motor oil and pet waste.
- **C** Fertilizers and pesticides.
- All of the above.

5. What should you do with household chemicals and paint?

- **Q** Pour them down the storm drain.
- **b** Dispose of them in the trash.
- C Take them to a hazardous waste collection facility.

6. True or False: Storm drains connect directly to rivers and oceans.

C True

False

7. How can you help prevent stormwater pollution in your community?

- **Q** Pick up litter and dispose of it properly.
- **b** Use environmentally-friendly products.
- **C** Limit the use of pesticides and fertilizers.
- d All of the above.

8. What is a watershed?

- **C** A type of rainstorm.
- An area of land that drains into a specific body of water.
- **C** A tool used to measure rainfall.



- **2** (d) All of the above.
- **3 (d)** All of the above.
- 4 (c) To absorb and filter stormwater runoff
- **5** (c) Take them to a hazardous waste collection facility.

9. What is the main purpose of marking storm drains with pollution prevention messages?

- **C** To create beautiful artwork in the neighborhood.
- To raise awareness about stormwater pollution.
- **C** To indicate that the drain is clogged and needs cleaning.

10. Which of the following is an example of non-point source pollution?

- **C** A factory releasing chemicals directly into a river.
- Oil spilled from a tanker during transportation.
- **C** Fertilizers washed off lawns during rainfall.

Answers:

r	6	(a)	True.
	7	(d)	All of the above.
	8	(b)	An area of land that drains into a specific body of water.
	9	(b)	To raise awareness about stormwater pollution.
	10	(c)	Fertilizers washed off lawns during rainfall.

Watershed Model

Build a simple watershed model using sand, rocks, and small containers to represent different land features and bodies of water. Children can pour water onto the model and observe how it flows and collects in various areas, understanding the concept of stormwater runoff and pollution transport.

Large tray or shallow container Clay or modeling clay

Materials Needed

- Sand
- Small rocks or pebbles
- Plastic toy animals or figurines
- Blue food coloring

labeling)

- Water spray bottle
- Small plastic cups or containers
- Paper and markers (optional for

- **Procedure:**
- Place the large tray or shallow container on a flat surface that can easily be cleaned or outside where water spillage is not a concern.
- Use clay or modeling clay to shape and create hills 2 and mountains in one area of the tray. These will represent the high points of your watershed.
- Spread sand around the clay formations to cover the rest of the tray. This will represent the flat and lower-lying areas of your watershed.
- Place small rocks or pebbles along the clay Δ formations and scattered throughout the sand. These rocks will represent natural features like trees, bushes and plants.
- Place plastic toy animals or figurines in different areas of the watershed to represent people and wildlife.
- Fill a small plastic cup or container with blue-colored water using the food coloring. This cup will represent a water source or a lake within the watershed.
- Position the water source cup at the highest point of 7 the clay formations.

- Using the water spray bottle, gently spray water from the water source cup to simulate rainfall. Observe how the water flows down the hills and mountains, through the sand, and around the rocks and figurines.
- Observe and discuss how the water moves and collects in different areas, forming streams and rivers within the watershed.
- Take note of how the water interacts with the landscape and identify areas where it may accumulate or flow more quickly.
- Optionally, you can label different parts of the 11 watershed model, such as hills, streams, riversz and the water source, using paper and markers.
- 2 Experiment with different scenarios by adjusting the clay formations, adding barriers, or creating channels to observe changes in water flow patterns.
- **13** Discuss the importance of watersheds, how they function, and how human activities can impact water quality and the ecosystem.
- **14** Finally, have fun exploring and interacting with your watershed model, observing how water moves and understanding the concept of a watershed.

Note: It's important to properly dispose of the water used in the model to prevent any environmental impacts. Also, remind children not to ingest or touch the blue-colored water, as it may stain or be harmful if ingested.

Visit ProjectCleanWater.org and use "Find My Watershed" to discover which watershed you live in.	Celebrate World Rivers Day on Sept. 24th by participating in a river clean up.	16 Find out more information about rain barrels and look into using one on your property to capture rain water.	22 Reduce your waste by opting for eco-friendly or repurposed gift wrapping and packaging.	
03 August is National Water Quality Month! This month, learn how you can monitor and find ways you can take care of the water in your area.	CP September 16 is World Cleanup Day. September 16 is World Cleanup Day. Take time to pick upt sash in your area, or participate in I Love a Clean San Diego's Coastal Cleanup Day on September 23!	15 Share information with friends, family, Share information with friends, family, and neighbors to raise awareness about stormwater pollution prevention.	21 World Soil Day was Dec. 5th. Research what kind of soil suits the plants in your yard to help retain storm water.	
02 0 Hey San Diego youth! Want to get involved? Sign up on our youth platform to connect with other water guardians.	08	14. Use our report Pollution tool if you see anything other than water from a rain event in the curb, gutter, alley or street.	20 Bring reusable bags with you during your holiday shoppping.	
G1 G Get ready for another year of loving your water! Whetheryou are recommitting or signing up for the first time, head over to ProjectCleanWater. org and take the pledge.	07 This summer, participate in local cleanup events to remove litter from your favorite parks, playgrounds, and outdoor spaces.	13 Get familiar with common stormwater pollutants and reduce your own contribution of those pollutants.	19 Plan a zero-waste Thanksgiving!	
S TO PROTECT MY WATER	06 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	12 Rebate Incentive: Upgrade your irrigation. Get a free audit and upgrade your irrigation system for water and cost savings.	18 Celebrate America Recycles Day by only using reusable items today.	
JAX IPLEDGE TO TAKE 52 ACTION	O5 Contracts of the contract o	The provide the set of	17 Parts a rain garden. Plant native plants or flowers in low or sloped areas of your yard to catch rainwater runoff.	

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28 Keep all household and landscaping items out of the storm drain. Remember, only rain in the storm drain!	34 The second se	40 Celebrate Earth Day by participating in a beach or river clean-up.	46 Donate a usable item to charity.	Congratulations on committing to small actions every week to prevent pollution! Take the pledge.
27 Redirect tail gutters and downspouts to your landscape to ensure no runoff from your property ends up in a storm drain.	33 Adjust sprinklers to avoid watering sidewalks, driveways or other impervious surfaces.	39 To protect the environment from fats, oil and grease pollution, capture cooking oil in a grease to container before placing in the trash.	45 Find your nearest recycling center for safe disposal of hazardous materials.	51 E E C E E E E E E E E E E E E E E E E
26 Skip watering before, during and after rain since your lawn or garden will have been watered naturally.	32 Matering Calculator to create a Use a Landscape Watering Calculator to create a watering schedule based on your zip code, soil and sprinkler type in your irrigation zone.	38 Celebrate National Recycling Month by Celebrate National Recycling Month by replacing one single-use plastic item with a sustainable alternative.	Drop off any non-working appliances at your local scrap metal recycler.	50 CURRENT Appreciate the wildlife. Visit a tidepool and appreciate the wildlife. Take a photo and share with us.
25 Make your New Year's resolution to take one simple action a week to reduce pollution.	31 In the second of the second	37 Rebate Incentive: Sign up for San Diego County Landscape Optimization Service. Get personalized assistance to transform unused turf areas and reduce your water bills.	43 When bathing your pets outdoors, ensure you are using shampoo that is natural, biodegradable or chemical-free.	49 Place yard trimmings, such as leaves, weeds and grass cuttings in your trash or yard waste bin.
24	30	36 It's fix a leak week! Check out our blog for tips on how you can prevent water waste and pollution.	42 Choose quality pet toys, or sustainable toys made from compostable fabric, that has minimal packaging to cut down on unnecessary waste.	48 Wear eco-friendly, mineral-based sunscreens. Wear eco-friendly, mineral-based sunscreens. Mineral-based sunscreens are safer for the environment and coral reefs.
23 ••••••••••••••••••••••••••••••••••••	Feb 2nd is World Wetlands Day. Go visit a local wetland and enjoy the wildlife. Take a photo and tag us!	35 Arange for a bulky item pick up for Arrange for a bulky item pick up for your spring cleaning.	Get familiar with your local recycling options and guidelines.	47 Avoid single-use waste and use cutlery that you can wash and reuse.

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to take one action each week to protect your projectcleanwater.org/52

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Take Small Actions to Reduce Stormwater Pollution PLEDGE TO PROTECT YOUR WATER

Put your name here

I pledge to:



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