



Watershed Activity Booklet

My Watershed | Our Ocean

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STORMWATER PROGRAM

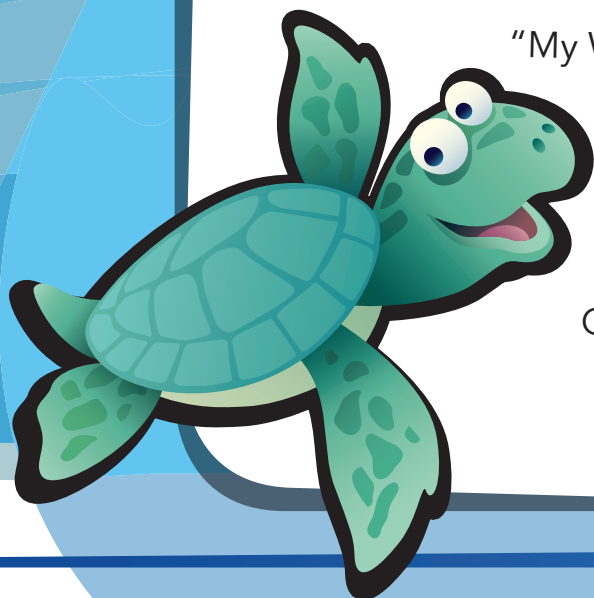


MY WATERSHED OUR OCEAN

Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common activities can lead to water pollution if you're not careful. Litter, pet waste, motor oil, fertilizers, pesticides and other chemicals that are left on our yards, sidewalks, streets and in gutters flow through storm drains and into our ocean. Unlike water in sanitary sewers (from sinks and toilets), water in the storm drains is not treated before entering our waterways.



If we protect our watersheds, we will protect our ocean. This workbook includes many activities that demonstrate simple ways to protect Orange County's water.



"My Watershed Our Ocean" workbook was created by the Orange County Stormwater Program, a collaborative governmental organization between all 34 Orange County cities, the Orange County Flood Control District and the County of Orange.

Environmental Dictionary



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.

STORMWATER: Water from nature such as rain or snow melt.

URBAN RUN-OFF: Water from a hose or sprinkler that flows into the street.

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

STORM DRAIN: A pipe or channel that conveys water from rain or urban run-off 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.

EVAPORATION: The process, caused by heat, where liquid is transformed into gas.

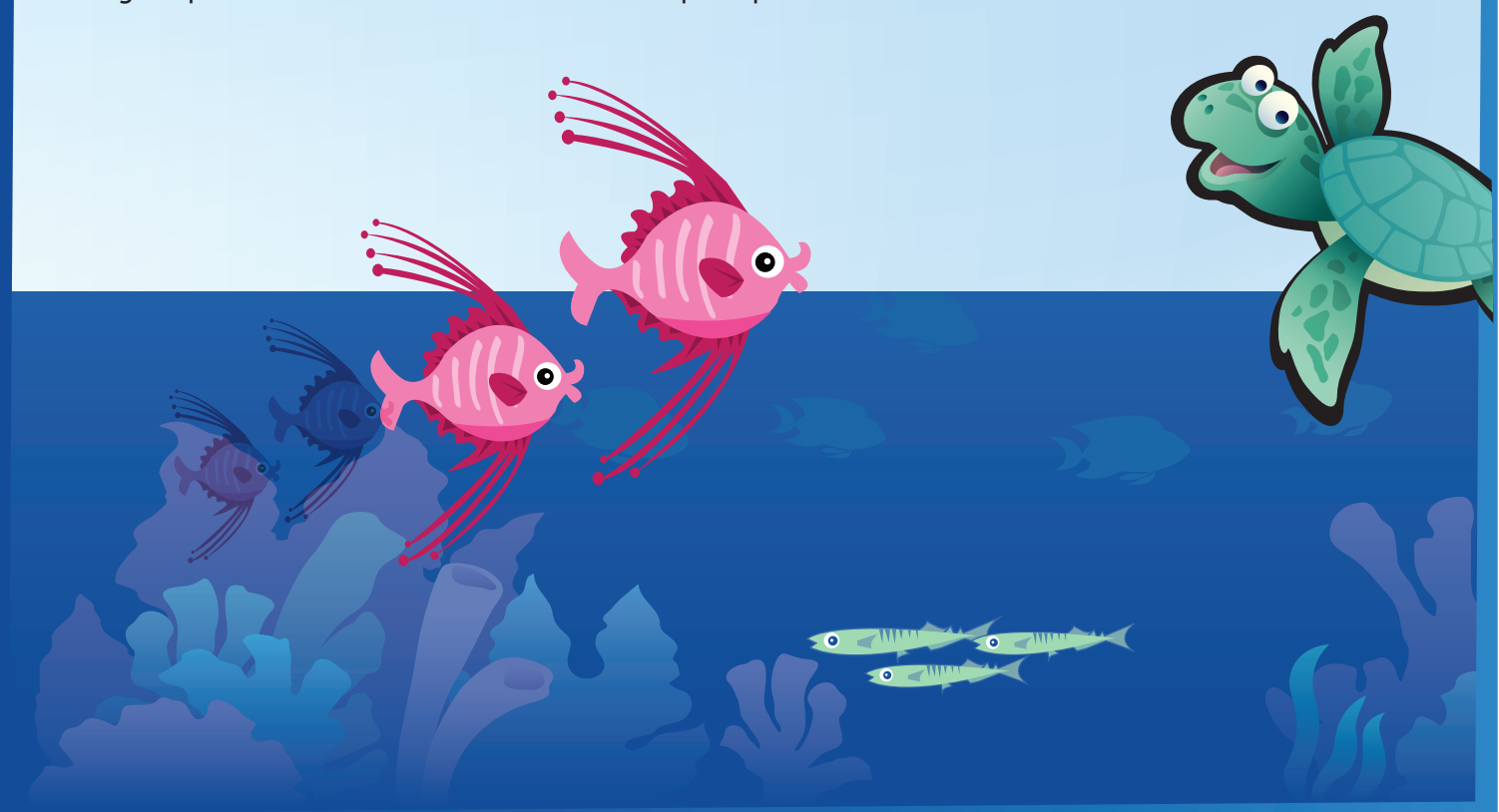
CONDENSATION: The process of gas changing to a liquid due to cooling temperatures. Cloud formation is caused by this process.

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

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

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.

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



My Watersh

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Our ocean is bright and colorful; however, the picture below has lost its color. Help the fish, shark, crabs and other sea life regain their color. **Put an "X"** on anything that does not belong in the water.



The Water Cycle

The water cycle is the movement of water from place to place on the Earth's surface. It is powered by the sun and assisted by gravity. Like a circle, cycles have no beginning and no end, although the path an individual water molecule takes may not be in a circle.

Below is an picture demonstrating various paths water molecules can take. Number the parts of the water cycle in the picture with the terms below.



Orange County Watersheds

Notice the map of the Orange County watershed areas. (A watershed is a region that drains into a particular body of water). In which watershed do you live?



BEHAVIOR/TIPS

YOU CAN HELP KEEP YOUR ENVIRONMENT POLLUTANT FREE BY:

- Not littering
- Participating in a clean-up event
- Recycling
- Picking up after your pet
- Not overwatering your lawn
- Sweeping up trash, leaves and cut grass from your driveway, sidewalk or patio and putting it in the trash
- Soaking up outdoor spills with towels
- or cat litter rather than rinsing them with water
- Reminding your parents to check their cars for leaks
- Never putting anything into the storm drain. Storm drains are only for rainwater
- Teaching others how to protect the environment

Find the Solution to the Pollution

answer key: 1-G, 2-C, 3-E, 4-H, 5-I, 6-B, 7-F, 8-D, 9-H

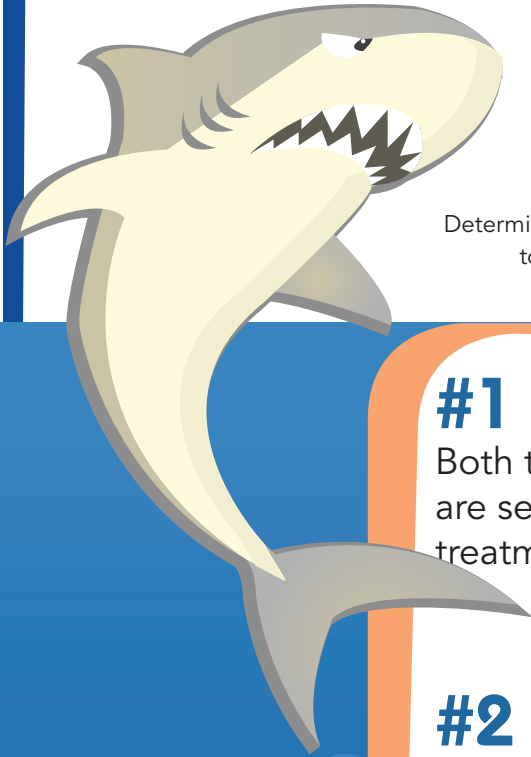
Pollution

- Pet waste
- Soda cans
- Used motor oil
- Candy wrappers
- Fertilizer and pesticides
- Washing your car in the driveway
- Litter in your local waterway
- Hosing off sidewalks
- Bathing your pet on concrete

Solution

- _____ 1. Contact your City and ask to volunteer at a cleanup day event
- _____ 2. Recycle at an auto parts store/gas station
- _____ 3. Never use when rain is forecasted
- _____ 4. Pick up after your pet and dispose of it in the trash
- _____ 5. Wash on the lawn where water can infiltrate into the soil instead of causing runoff
- _____ 6. Recycle them so they can be reused
- _____ 7. Use a commercial car wash where the water is recycled or reused
- _____ 8. Place them in the trash
- _____ 9. Use a broom to sweep up the debris and place it in the trash can





BE AWARE ~ It's not always OBVIOUS!

Determine if each of the following statements are true or false. Check the bottom of the page to see if you got it right. Quiz your family and friends to see if they are as smart as you!

#1

Both the water from the garden hose and the toilet are sent through the sewer system to be purified at a treatment plant.

True | False

#2

If motor oil spills in the driveway, it is best to absorb the oil with cat litter, then sweep it up and throw it in a trash can.

True | False

#3

Litter on our streets cannot cause water pollution.

True | False

#4

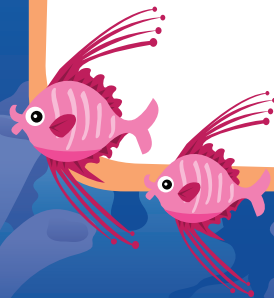
Picking up after our pet helps keep the ocean healthy.

True | False

#5

You did something today to stop some form of water pollution from occurring?

True | False



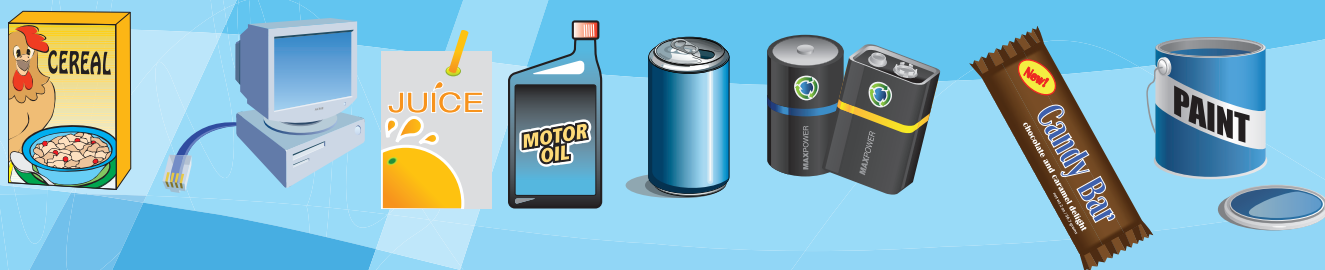
Answer key:
False 2. True 3. False 4. True 5. True (We hope!)



Help Prevent Water Pollution



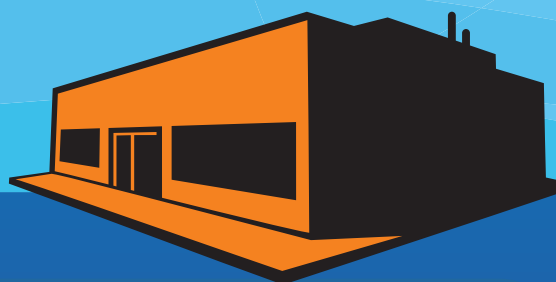
Disposing of chemicals and toxins in the storm drain, landfill or sewer system can lead to water pollution. Take these products to a Household Hazardous Waste Collection Center (HHWCC). It is FREE and easy. Products are recycled, reused or disposed of in an environmentally responsible way. **What is Household Hazardous Waste? and what should be taken to a recycling center? Draw lines from each household item to the appropriate disposal center below.**



Trash

Recycle Center

Hazardous Waste center



*Household Hazardous
Waste Center Locations in
Orange County:*



Anaheim Collection Center

1071 N. Blue Gum Street, Anaheim, CA 92806

Huntington Beach Collection Center

17121 Nichols Street, Huntington Beach, CA 92647

Irvine Collection Center

6411 Oak Canyon, Irvine, CA 92618

San Juan Capistrano Collection Center

32250 La Pata Avenue, San Juan Capistrano, CA 92675

Answer key: Recycle: newspaper, soda can | HHW: computer, motor oil, battery and paint | Trash: candy wrapper and juice box

Environmental CHALLENGE!

Are you able to spot real pollutants? Search your yard, neighborhood or schoolyard for the following pollutants. Each item has a point value. Once your search is completed, add up your points and find out how polluted your environment is.

0 POINTS: SPOTLESS

Congratulations, your family, friends and neighbors are doing a great job keeping your environment pollutant-free.

5-50 POINTS: SPRINKLING OF POLLUTANTS

Your neighbors/schoolmates are working hard to keep your environment pollutant-free. Keep up the good work.

55-100 POINTS: SEVERAL POLLUTANTS

Your environment has too many pollutants. Help keep your environment pollutant free by doing your part.

105-150 POINTS: SCORES OF POLLUTANTS

With so many pollutants in your environment, consider teaming up with a friend or family member to educate your community about the simple ways they can keep your environment pollutant free.

155+ POINTS: SUBMERGED IN POLLUTANTS

Your environment has a significant amount of pollutants that may enter the storm drain and flow directly to the ocean. Consider working with adults in your area to organize a school/neighborhood clean-up event.

Animal waste	20 points
Bag	10 points
Candy wrapper	10 points
Cardboard	15 points
Cigarette	5 points
Cut grass	10 points
Dirt on the street	15 points
Fallen leaves	5 points
Fast food wrapper	10 points
Glass	20 points
Metal	15 points
Newspaper	10 points
Oil	15 points
Paper	5 points
Plastic bottle	10 points
Soapsuds	20 points
Soda can	5 points
Water in the gutter	10 points

YOUR TOTAL _____



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