



Activity and Education Guide



LOVE BLUE LIVE GREEN

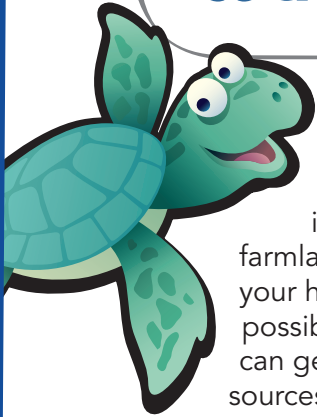
Dear Orange County Residents,

This booklet is designed by Discovery Science Center especially for you and aligns with the educational mission of H₂OC, Orange County's Stormwater Program. Water is one of our most precious, yet limited, renewable resources. But, while freshwater is renewable, it is not equitably distributed throughout the earth. We live in an area where freshwater is naturally scarce. So, it's up to all of us to make the right choices.

"Love Blue ~ Live Green." If you love water, then live an environmentally sound lifestyle. Read more to find out how!



Where do you think most of the water pollution comes from:



Schools? Farms? Harbors & Beaches? Homes?

Imagine all of Orange County, including your school, the farmlands, harbors & beaches, and your house. Think of some possible ways that pollution can get into our water sources.

On the farm, a farmer wants to produce a lot of fruits and vegetables, so he adds fertilizer to the soil. At your house, your parents might also use fertilizer to help your lawn grow and your flowers bloom.

The farmer also wants to kill insects that might eat his crops, so he uses pesticide. At your house, your parents might also use pesticide to keep your flowers bug-free.

At school, small pieces of trash from your lunch, such as a straw wrapper or sandwich bag might drop on the playground. Do you ever notice this litter as you leave school each day? Maybe you've also seen litter in your front yard. It might be a bit of newspaper that escaped from the trash can. Even leaves that have collected in the gutter can become pollution!

At home, have you ever noticed a spot of motor oil that might have leaked out from your family car onto the driveway? Other vehicles besides cars can also leak oil, such as boats in a harbor.

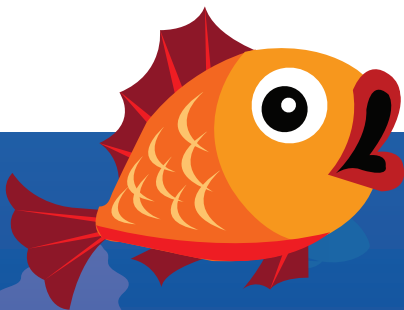


At home, your parents or siblings might decide to wash their cars in the driveway or even use soap to clean off the dripped oil in the driveway.

Do you have a pet at home? Many people with pets do not pick up their pet's waste as we should, so it stays in the backyard.

There are a lot of pollution sources: fertilizer, pesticides, litter, motor oil, soap, and pet waste! How do these pollutants wind up contaminating our water sources? Agricultural irrigation, household sprinklers, and rainwater can all carry pollution into the storm drain system, where it travels, untreated, into the ocean.

To answer our question: Where does most of the water pollution in Orange County come from? Schools? Farms? Harbors & Beaches? Or homes? The answer: Homes!

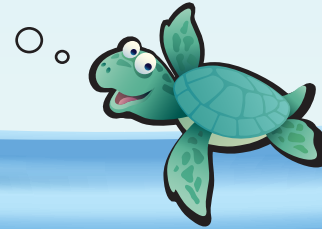


**But guess what,
if you love blue,
you have the power
to change that!**

Read on!

Orange County Watersheds

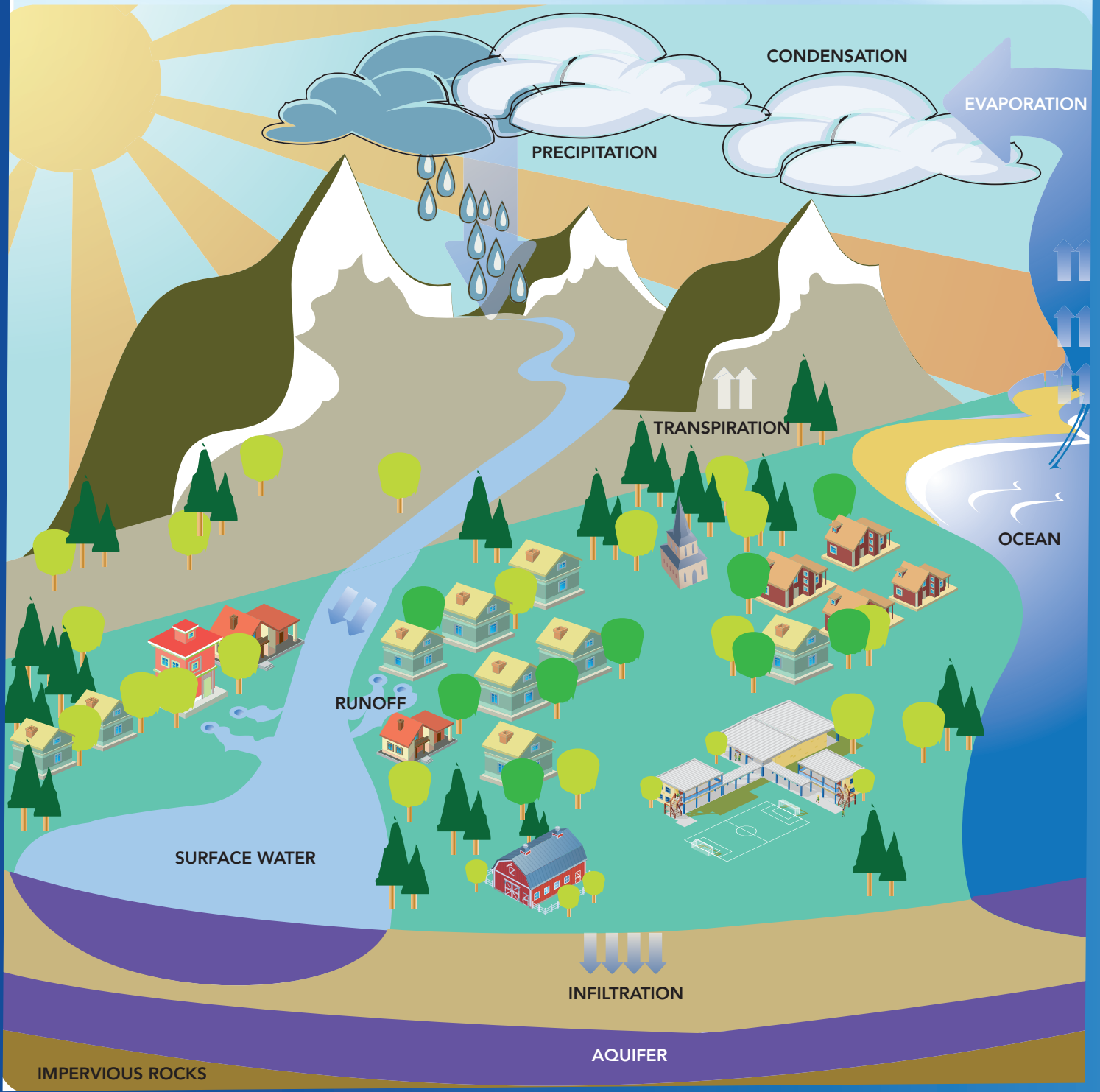
Notice the map of the Orange County watershed areas. (A watershed is a region that drains into a particular body of water.) In which watershed do you live?



The Water Cycle

Water travels through the water cycle where it is naturally cleaned during processes, such as evaporation, infiltration, and transpiration of water from plant leaves. You have the

power to impact the water in both positive and negative ways. Look at the graphic below and read the story on the next page to see if you are "living green."



Math is Power ~ WATER IS LIFE!

If each American uses about 70 gallons of water a day, how much water would a family of four use daily?

Answer: _____

(This is more than 8 bathtubs full of water per day! And Californians tend to use more than the average American!)

Most people use 50% of their water on plants. How many bathtubs full of water are used on watering plants per day?

Answer: _____

Can you make a difference?

If someone changed their car's motor oil in the street and washed one quart of oil into the storm drain, how many gallons of natural water would this oil contaminate?

(Actually, 250,000 gallons of water would be contaminated.)

If one person a month washed one quart of oil into the storm drain, how many gallons of water would be contaminated?

Answer: _____

Used oil should be taken to your local household Hazardous Waste Center.

If your faucet leaks four drops of water every minute, you will lose about 1 quart of water per day. How many quarts of water would be wasted per year?

Answer: _____

(This is equal to about 3 full bathtubs of water per year.)

How many faucets are inside and outside your house?

Answer: _____

If any of your faucets or hoses leak, imagine the water and money you would save if you fixed them.

About 1/3 of Orange County residents own dogs. If Orange County has 3.1 million people, how many dogs live in Orange County?

Answer: _____

If each dog makes about 1/4 pound of dog waste per day, how much dog waste is that for all of the OC dogs per day?

Answer: _____

Pet waste can move into the groundwater and storm drain system.

Can you make a difference?

What are Some "LOVE BLUE" Gardening Techniques?

- 1 Placing grass clippings and fallen leaves in a green waste container
- 2 Not applying fertilizer or pesticides on plants 1 – 2 days before the rain
- 3 Using mulch to reduce the amount and speed of excess water before it runs into the street, and to stabilize sediment
- 4 Redirect the sprinkler heads, so water stays on plants only
- 5 Selecting plants that require less water. Here's what to look for:

Small leaves
Light-colored leaves
Hard, waxy leaves
Fuzzy leaves

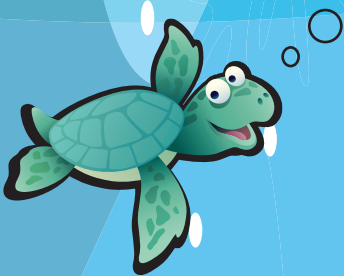


Small leaves



Light-colored leaves

Collect and attach samples of leaves that have the above-mentioned characteristics.



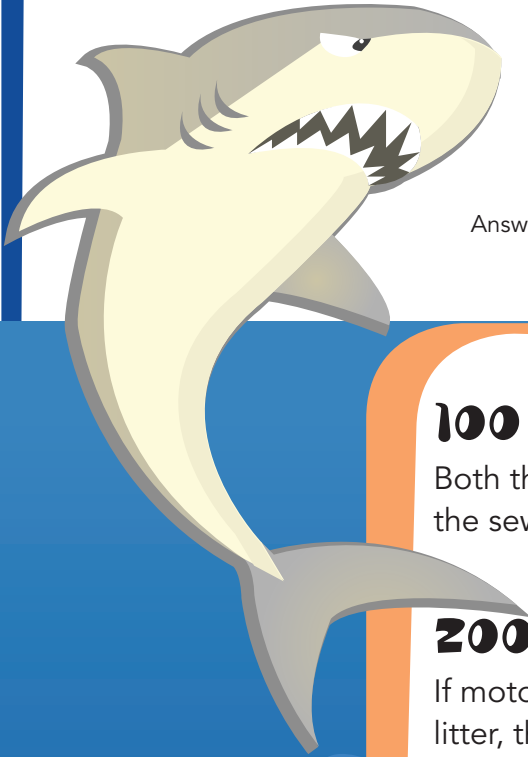
Hard, waxy leaves



Fuzzy leaves

BE AWARE ~ It's not always OBVIOUS!

Answer the questions and check the answers on the back page to see how many points you get! Quiz your family or friends to see if they are as smart as you!



100 POINTS

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

Yes | No

200 POINTS

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.

Yes | No

300 POINTS

Which of these car-washing activities can lead to water pollution?

- a. Shaking car floor mats into a trash can
- b. Taking your car to a commercial car wash
- c. Participating in a car wash held in a school parking lot

400 POINTS

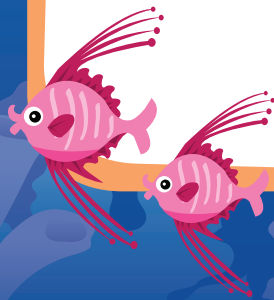
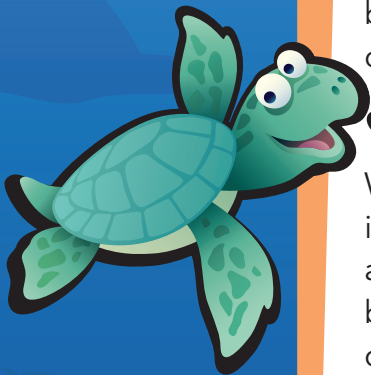
When can water from a swimming pool or spa be drained directly into a storm drain?

- a. Anytime
- b. After the chlorine and other chemicals are removed
- c. Never
- d. The first Saturday of any month

500 POINTS

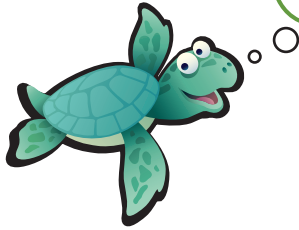
Did you do something today to stop some form of water pollution from occurring?

Yes | No



Living GREEN

You personally can control the amount of water pollution that comes from the water carried from outside of your house through the streets and storm drains.



Have you ever noticed how water recycles itself? What types of things do you recycle? By picking up litter, which is often recyclable, you can reduce the amount of pollution going into the

storm drain. You can also reduce the amount of chemicals and harmful materials that can travel to our natural waters by making the right decisions.

Here are some items that should be taken to a Household Hazardous Waste Center:

Garden chemicals, like fertilizer, pesticide and weed-killer

Car-related chemicals, such as motor oil, transmission and radiator fluid

Paints, solvents, and cleaning fluids

Chlorine and other chemicals used in pools

Batteries



Household Hazardous Waste Center Locations in Orange County:

CVT Public Recycling Center

1071 N. Blue Gum Street in Anaheim

Rainbow Disposal

17121 Nichols Street in Huntington Beach

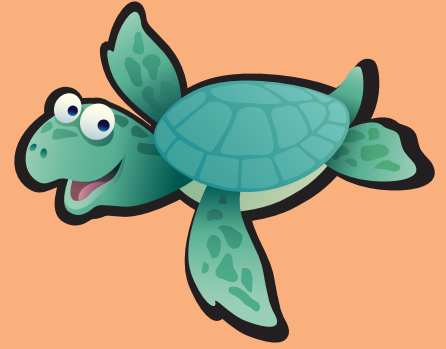
Irvine Hazardous Waste Center

6411 Oak Canyon in Irvine

Prima Deshecha Landfill

32250 La Pata Avenue in San Juan Capistrano

Visit these websites:



www.h2oc.org

www.oclandfills.com

www.discoverycube.org

Remember if you Love Blue ~ Live Green.

Answers to the "Be Aware" quiz.

100 points

b. No. In most cases, only the water from inside your house is sent through the sewer system to be treated. Most of the water from outside your house goes directly through the storm drain system into the ocean, untreated.

200 points

b. No. While soaking up the oil with cat litter is correct, you should actually take the oily cat litter to a Household Hazardous Waste Center for disposal.

300 points

c. Unfortunately, we do not always consider the potential of water pollution when we wash cars on a driveway or in parking lot. The rinse water flows down the gutter and into storm drain system carrying oil, detergent, and other pollutants into our natural waterways.

400 points

b. Water from a pool or spa can be drained into the storm drain system after the chlorine and other chemicals are removed.

500 points

We hope your answer is "yes." If it is, give yourself 500 points.



DiscoveryCube





H₂O_C
STORMWATER PROGRAM



OC & LA

DiscoveryCube

Activity and Education Guide

