



Water Awareness Research and Education (WARE) ware-easttampa.com

Fall 2011

Learning about stormwater in East Tampa at Young Middle Magnet with the University of South Florida

“My favorite experience from the Water Awareness Research and Education project was testing water quality at the pond across from our school. I measured the turbidity of the water and the pH. This was the first pond activity we did and it was exciting.” Manami Lopez



Mrs. Porteus' 8th grade math project class taking samples at the Robert Cole Lake



More inside!

Pond terminology

“Watershed – The total area contributing runoff to the pond. It’s where we live!

Robert Cole Sr. Community Lake is a stormwater pond in a watershed that is 92 Acres

Treatment Volume – The amount of water that a pond must store.

Detention ponds have an inflow and outflow for water.

Retention ponds have an inflow for water, but no outflow.” Alexa Brehio

“Florida Friendly” Practices

“One practice to conduct in Florida is using mulch for your landscaping. Benefits to using mulch are reduction in the amount of erosion and stormwater runoff. Another friendly practice Floridians can do is use rain barrels to collect water and distribute to your plants. These can all help with conserving water, something that helps your community and your environment.”
Danielle Anderson

Use these ecofriendly tips in your garden by John Veliz

1. Think before you plant. Make sure to place your plants in a location where exposure to sunlight is best for the species.
2. Mulch, Mulch Mulch. This holds moisture & helps reduce erosion. Make sure it is not made with mangrove wood – that’s illegal.
3. Fertilize and water appropriately. First of all, don’t over water. Secondly, remember that fertilizer can be harmful to local wildlife, especially if too much gets into water bodies.
4. Reduce runoff. Runoff washes nutrients & chemicals into waterways.



Resources for the homeowner:
<http://fyn.ifas.ufl.edu/>
<http://www.floridayards.org/>



The Hydrologic Cycle: Precipitation, percolation, transpiration, evaporation & condensation

“We started by cutting the top of a 2 L bottle and the bottoms of 2. Then we put water in the bottom bottle which was our “groundwater.” We then put soil and seeds in the mouth of the overturned bottle and labeled it “surface.” We observed for days and witnessed the hydrologic cycle in front of our eyes.”
Alvin Alummottil



Students built a model to show the hydrologic cycle using two soda bottles, soil & water

“Percolation is the movement of water through soil layers. Precipitation creates runoff & helps to fill lakes and rivers. It also percolates or moves downward through the soil to fill aquifers.” Yaluma Valenty.

“Our class used sand, gravel, soil, & water to measure flowrates. We filled a plastic bottle with gravel, poured water into it and measured the time it took for the water to percolate through the gravel and collect in an empty container below. The volume of water we poured divided by the time it took gave us a flowrate in mL/s.” Tia Black



Young Middle Magnet math teacher, Mrs. Porteus, & USF PhD Civil & Environmental Engineering student, Mr. Ryan Locicero.

“I learned things that I would never have known if it was not for this class. I know the importance of water and that the health of this planet depends on all of us.” Kamille Chin.

Water Sampling tells us about the water quality. We can also sample to determine the water’s biodiversity. Our experience gave us the test results below.

Samples Taken on March 24th & September 29th, 2011 using a Quanta Hydrolab & World Water Monitoring Kit.

	3/24/11	9/29/11
Temperature (°C)	24.6	29.0
pH	7.3	7.0
Dissolved Oxygen (mg/L)	6.8	2.8
Turbidity (NTU)	19.8	40
Phosphate (ppm)	1-3	1
Nitrate (ppm)	1	1-2

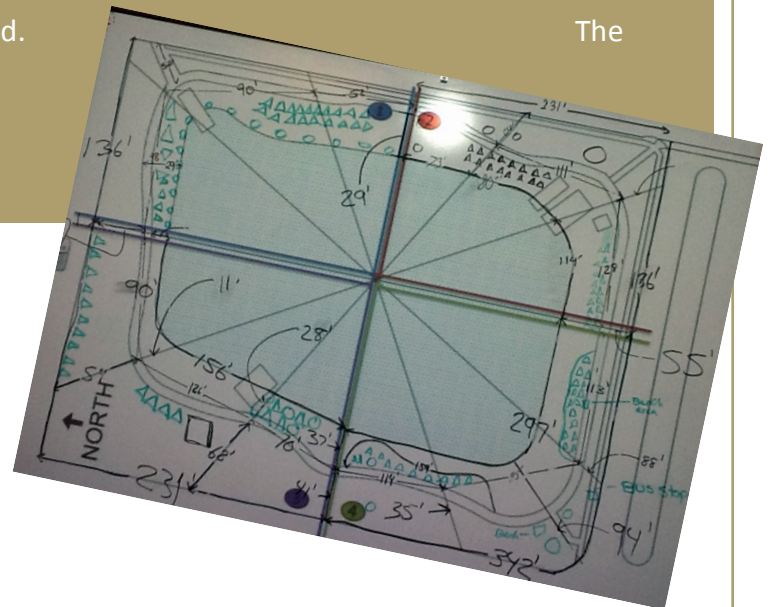


“We went to the pond and I did water quality testing. I took a test tube and fill it up to the 10 ml line with pond water. Then I took a pH tablet and put it in the water. I shook the test tube for a few minutes for the tablet to dissolve. Finally, after the tablet dissolved, I compared the water to the colors on the paper to determine the pH. It was very easy and very fun.” Joshua Hofer



Pond Mapping with a Trundle Wheel

“Pond mapping was one of the most hands on activities we have done. Our class used a trundle wheel to measure the distances around the pond. After gathering the data we mapped out the whole pond with the distances that were gathered. The landmarks at the pond were also mapped (e.g. bushes, benches, trees).” Tahjon Archibald



POLLUTION

“In my opinion pollution is when humans do things that lead toward destroying a certain environment. Ponds are deeply affected by pollution. Water in a pond that is in a polluted environment has less clarity and poor water quality. Destroying the environment near a pond also kills the animals and their habitat.” Anisha John

“In Florida we have many environmental concerns like pollution, global warming, and many others. In our lifetime we will probably burn trillions of gallons of gas. Well, we don't have to drive everywhere. If we start walking and riding bikes it is a great way to exercise. Global warming is destroying America faster than we know it and we are not doing anything to stop it.” Warren M^cRae.

Contact Us

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