



Cobb County Water System - Water Efficiency Program News - Winter 2018

McClure Middle School Excels at First Lego League Hydro Dynamics Competition

This year the Water Efficiency Program was so excited to work with many local Cobb County Schools on the First Lego League (FLL) Hydro Dynamic Competition. This year FLL’s challenge revolved around water. The Water Efficiency Team provided technical guidance and educational programs for local elementary and middle school teams. FIRST® LEGO® League introduces young people, ages 9 to 16* (grades 4-8), to the fun and excitement of science and technology. Children program an autonomous robot (using a LEGO® MINDSTORMS® robot set) to score points on a thematic playing surface, create innovative solutions to a problem, all while being guided by the program’s signature Core Values. This year’s challenge required the students to learn all about water – how we find, transport, use and dispose of it. The competition asked the bold questions what might be possible when we fully understand what happens to our water.

Many teams had innovative ideas and wanted to address a wide variety of challenges: supply, source protection, energy co-generation, drinking water quality challenges, and sustainability. The Water Efficiency Team was impressed by all the schools’ energy and ideas. In December, McClure Middle School reached back out to Cobb Water for a follow up consultation on their project, because they were named the regional champs in the competition. They are now preparing for their next step in the Super Region. The Water Efficiency Team interviewed Alex Swan, one of their teachers and FLL Coach. Their parent Coach is Richard Peach.

The FLL has multiple parts including the main project. There is a robot game utilizing programming challenges, and a core values sessions where the students respond collectively to a teamwork challenge. For the main project the McClure students narrowed down from many ideas (including using pipe hydraulics to generate electricity) after meeting with industry experts and listening to their coaches they decided to address a local issue. The students gained an understanding of the regions challenges with water supply. “I discussed Atlanta’s unique water resource situation, being located at the headwaters of multiple small river basins, a large growing population, and frequent and increasingly severe droughts” said Kathy Nguyen, Senior Project Manager. “The students were then shocked to learn that the same precious water resources were treated to potable drinking water standards and used outdoors for irrigation” confirmed Nguyen.

Cont. Page 4

Upcoming Events

For a full schedule of Cobb Water Efficiency Programs or to schedule a civic or school presentation visit <http://tinyurl.com/WaterEffEvents>, email waterefficiency@cobbcounty.org or call 770-419-6244

Adventures with Allatoona Ally and Tappy Turtle Coloring Book Autograph Party Wednesday, January 31, 2018, 5PM-7PM Cobb County Water System’s Lab Training Room - 662 South Cobb Dr. Marietta, GA

Water Drop Dash 5K/Fun Run and Water Festival - Saturday, March 24, 2018, 8AM Chattahoochee Nature Center - 9135 Wileo Rd. Roswell, GA 30075



McClure First Lego League Team

Education Update

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2

WINTER 2018

Tappy Turtle and the Water Efficiency Team are always on the move, visiting the schools of Cobb County and teaching the bright minds of the next generation. So far this 2017/18 school year, 4025 students K-12 engaged in our free conservation lessons. We enjoyed educating about water efficiency and were very impressed with the students' suggestions for how we can all save water at home and at school. We love meeting Cobb's students. We are looking forward to next semester! If you would like to schedule a lesson contact Kathy.Nguyen@cobbcounty.org.

Do you want our mascot, Tappy Turtle, to immerse your young students in a week of water conservation fun?! Book our Project Tappy lesson today! This turtle-in-residence program introduces the water cycle and the importance of water conservation in a format appealing to children K-2nd grade. To book your week with Tappy contact Christine.Rubel@cobbcounty.org and learn more!

Model Water Tower Competition

This November we partnered with Marietta Water to challenge middle school STEM students in our 3rd annual Model Water Tower Competition. Cooper and Marietta Middle school students were up to the challenge of creating fully functioning water towers that would impress our judges. It was another successful competition, filled with fun water activities for the students including: how to assemble a water meter, and locate water towers around the world. Participants completed a water carry relay designed to encompass the challenge of getting water in the developing world, and built their very own water filters. This year's winners had demonstrated engineering talent and creative designs that wowed our judges. Third place went to Team Lego City from Cooper Middle School, second place went to Team Jellyfish from Marietta Middle School, and first place went to Elyvia Joseph from Cooper Middle School. We want to thank our volunteers and the dedicated teachers for inspiring and supporting the students. Congratulations to all our winners and participants!



Pictured Above: First Place Winner Elyvia Joseph (Cooper Middle) Pictured far Left: Second Place Winners Team Jellyfish (Marietta Middle), and Pictured immediately to the left: Third Place Winners Team Lego City (Cooper Middle)



Green School Update

Green School is also off and running this year. We have received several Green School activity logs from teachers. Baker Elementary School and Hillgrove High have already reached their Green School Designation and McCall Primary has already achieved Gold Level Status. Please submit your activity logs before Friday, March 30, 2018, by 5 PM. We look forward to hearing about all the environmental initiatives you have undertaken. If you have done a big environmental project this year do not forget to submit for the Green Innovation Award. All information on Green School can be found at www.cobbcounty.org/greenschool.

8th Annual waterSmart waterArt

Cobb County middle school students have merged their artistic talents with their passion for water conservation in the eighth annual visual arts contest, waterSmart waterArt. The waterSmart waterArt contest is a collaborative program of the Cobb County Water System (CCWS) and Cobb County-Marietta Water Authority (CCMWA) that encourages students' creativity while emphasizing the value of water.

One hundred eleven students from seven Cobb County middle schools submitted artwork, which was judged on artistic ability, relevance and creativity.

The cover winner was announced at the finalists' reception on Nov. 16 at The Art Station – Big Shanty. The top 12 entries, plus two honorable mentions, are featured in the 2018 waterSmart waterArt calendar that will be distributed throughout Cobb County. This year's finalists were:

- Thulsy Krishnan – Simpson MS - Cover Winner
- Abigail McCoy – Barber MS
- Chloe Morris – Lovinggood MS
- Shreya Sudakar – JJ Daniell MS
- Areli Garcia – Floyd MS
- Isabella Humara – Hightower Trail MS
- Abby Lynes – Simpson MS
- Maria Herrera – Floyd MS
- Madison Howard – Lovinggood MS
- Emily Ross – Dickerson MS
- Ella Wileman – Simpson
- Matai Blain – Lovinggood MS
- Ivy Nganga – Barber MS
- Kierstyn Smith – Floyd MS

In addition to the calendar there will be an E-Gallery of Honorable Mention winners on display on the waterSmart page at www.cobbcounty.org/watersmart.



waterSmart waterArt Winners



Winter is here and while we might not be watering our lawns or maintaining much of a garden (remember we are in a Level One drought), there are still ways to cut back on our water usage in the frosty months!

- Drip your faucets. When temperatures drop below freezing, mix and hot and cold to prevent a pipe from bursting. Stick a large pot or a bucket under the faucet to catch the water for use later.
- Winterize your pipes. It's a good idea to make sure outdoor pipes are wrapped so that when temperatures drop below freezing, they stay warmer than the air and are less likely to freeze.
- Insulate water pipes. Hire a plumber to wrap your pipes in insulation, or head to your crawl space or basement to do it yourself. Not only does this help the hot water stay hot, but it helps prevent them from freezing, which can cause leaks.
- Use a bucket in the shower. Since it takes longer for your shower to heat up in winter, catch that cold water and use it to flush toilet or water plants.
- Check for leaks after the first thaw. The changes in temperature between night and day during the winter cause pipes to expand and contract. This added stress means you're more likely to develop a leak over the winter. Get a plumber to check your lines for leaks when it warms up.
- Make sure you know where the shut-off valve for your house is! Despite our best efforts, sometimes a pipe will still burst in the winter. The faster you can cut off that water, the less goes to waste. You need to find your house shutoff. It is most likely in the attic, the basement, or the crawl space. You can save hundreds of gallons this way!

McClure Continued

After learning about the water supply challenges in Atlanta they narrowed down their problem to: how to minimize the use of highly treated drinking water for irrigation. This was consistent with advice from their coaches that urged them to tackle a local issue. Alex Swan said "I am stressing...that they just need to act locally and do what they can on a personal level, and this will lead to bigger changes."

The students' solution was to create a system that combined the innovation of rooftop rainwater harvesting with a special system they designed for delivering water to the landscape. McClure students used: technical resources, historic rainfall, and local water rate information to build a working prototype and calculate costs, potential savings based upon 25% implementation, and the return on investment

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4

WINTER 2018

"As a coach it is my job to explain the expectations clearly and then it is up to the team to work as hard as they can to fulfill those expectations." Reflects Coach Swan. The students next step is to compete in the Super Region. They are not sure who or how many teams they will face. Georgia Tech is the governing body of FLL in Georgia and they will be organizing the placements for the Super Regional. It is clear these students are now knowledgeable and engaged in their water and the processes involved in finding, treating, and delivering it. McClure's coaches feel this knowledge is empowering, especially in the hands of young people who care about making a difference. They hope it may even change the way some of them consume water at their own homes. Congratulations to McClure Mavericks and their coaches! Good luck at the Super Region competition.

Cobb County Water System Water Efficiency Program

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This is an official publication of the Cobb County Water System, an agency of the Cobb County Board of Commissioners.

Water Source Climate Update

Rainfall late in the fall has been below normal, while temperatures have been unusually high. Cobb is in an abnormally dry status on the US Drought Monitor. Allatoona's current level is 829 feet. The streamflow in local water bodies that feed the Chattahoochee River are flowing below normal ranges, and Lake Lanier remains more than 5 feet below normal. Cobb Water depends on releases from Lanier into the Chattahoochee River. Cobb County remains in Level 1 Drought. The efficient use of our water resources is always important. Please find information about how to use water wisely at www.cobbcounty.org/waterefficiency

Declared Water Restrictions Status: Level 1 Drought Response

For Irrigation – Outdoor irrigation is permitted daily before 10 AM and after 4 PM. Visit: www.cobbcounty.org/outdoorwateringrestrictions for more information on outdoor watering rules.

Rainfall June-Aug 2017

SEPT-4.61- Inches
OCT -4.25- Inches
NOV -1.82- Inches

2017 YTD – 47.34
JAN-NOV AVG – 45.81
SOIL MOISTURE-(29.3-Inches)

To keep up with our water resources and efficiency programs and take advantage of our contests please follow Tappy Turtle on Twitter and Facebook



We are accepting entries for the waterSmart High School H2O in HD Video Contest. Show us how you value water. For more info email gwen.baldwin@cobbcounty.org