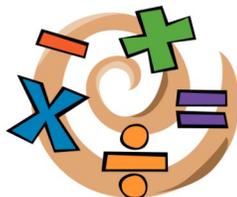
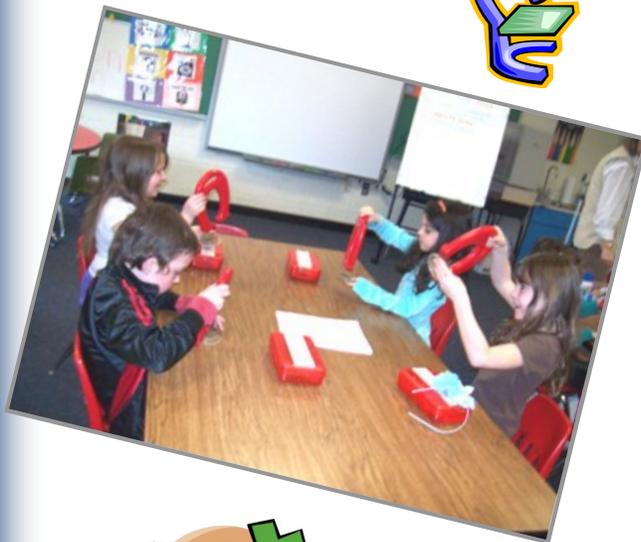


ADVENTURES IN MATH & SCIENCE



Message from the Superintendent

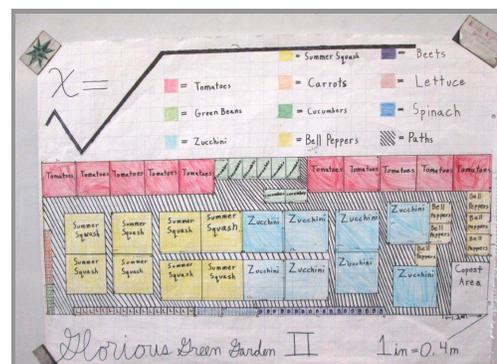
Wow! East Lyme students are certainly doing some exciting work in the areas of science, math and engineering. Join us in reading about how our schools create real life applications of learning to stimulate student problem-solving and interest in these subjects.

In this month's *East Lyme News and Notes*, you will read about the follow-up to last year's successful participation by East Lyme students in the International Space Station experimental program. Learn how our students are experiencing science, math and engineering in real life through a variety of programs: bridge design at ELMS; high school students teaching science to elementary students at Haynes; trees, magnets, and storm water technology at NCS; 3D printing for engineering projects at ELHS; and storm water treatment at Flanders.

Finally, read about how our talented teachers involve our students in a variety of national science, math and engineering competitions to motivate students and to demonstrate the need to collaborate and seek others' input on any design project.

We hope you enjoy all of the fascinating articles and stories contained in this issue.

Dr. James Lombardo
Superintendent of Schools



East Lyme Middle School Thinks Outside the Tube

Last spring's "Race to Space" science competition at East Lyme Middle School involved over 400 fifth and sixth grade students designing an experiment, one of which would be selected to travel aboard the orbiting International Space Station (ISS).



Judging underway at "Race to Space" night.

Besides the student participants, the experience attracted the greater East Lyme community of parents, scientists, and businesses who volunteered their time and treasure to promote this hands-on scientific inquiry. Although the price tag for participation in the Student Spaceflight Experiments Program (SSEP) seemed high at the time, the experience proved worthy in generating excitement and interest in science and related careers.

The winning fifth grade team of Noah Barnhart, Makaih Olawale, Nick Hyde, and Brandon Hall had the challenge of translating their *design*, of using hydrogen peroxide to kill mold on a yam (pulled from the trash!) to an actual experiment



Nick Hyde (far right) explains the design to SSEP judges.

that would fly into space within the tight confines of the test tube-sized Fluid Mixture Enclosure, or FME.

As with any good scientific research, an experiment must be repeatable by others to confirm one's hypothesis and conclusions. So in consultation with experts in the scientific community the mysterious mold on Makaih's yam was replaced by spores of *Aspergillus niger*, a common food mold available in pellet form from a scientific supply house. Meanwhile, unable to cram a yam into the tiny glass tube within the FME, they turned to malt broth as the mold's food

source. Finally, the household grade peroxide called for in their design had to be upgraded to a 30% concentration so, when diluted by the broth mixture, would come close to the 3% strength found in the local drug store. This dialog between students and experts mirrored the networking and consultation found within the 'real world' scientific community, and further broadened the boys' understanding of scientific ideas and processes.



The winning team review their design notes while prepping the FME control for their historic experiment.

The experiment was prepared and Fed Ex'ed to Florida. Meanwhile, the boys and their families put together a raffle to raise money to offset the cost of traveling to the Kennedy Space Center in Florida to observe the October 7, 2012 launch of their experiment to the ISS.

Representing their classmates, ELMS, and all of East Lyme, the boys witnessed the successful and spectacular evening launch of the nation's first commercial resupply flight to the space station, aboard the SpaceX Dragon rocket. The boys also toured the Space Center and had lunch with a NASA astronaut earlier that day.



(L-R), Nick Hyde, Makaih Olawale, Noah Barnhart, Brandon Hall, and teacher Glenn PenkoffLidbeck witnessed their experiment travel aboard the SpaceX Dragon rocket.



Zero the Hero Visits Flanders School



Zero the Hero came to visit our first grade classrooms on the hundredth day of school! On that day, we spent time estimating, counting and exploring the number 100 which of course we couldn't write without zero. The story of Zero the Hero comes from the School House Rock franchise from the early 1970's and is used by first and second grade teachers to get children excited about the base ten system. Zero is such an important idea for students in the early grades to understand since it is at the core of our base ten number system. Children need to understand that we could not count any number higher than nine without the digit zero and that it al-

lows us to hold the place of 10's, 100's 1000's etc. Under the new Common Core of State Standards, first graders are now expected to be able to count and add numbers up to 120. Teachers spend a great deal of time teaching students to count and add to 20 by first using manipulatives followed by instruction in the place value system using hundreds and tens. The digit zero allows us to hold the place of higher numbers which allows us to count on and on!



Submitted by Gil Gallant, Flanders Teacher

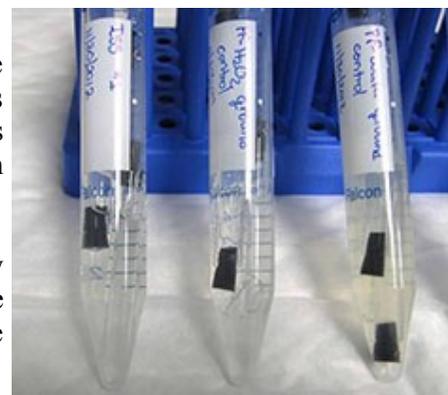
► Thinks Outside the Tube Continued from Page 2

Six weeks later, after its 16 million mile journey in low earth orbit, the East Lyme FME returned to Earth aboard a Soyuz capsule, and was back at ELMS a few days later. Initial observations showed the liquid contents were clear (see picture). This suggested the boys' hypothesis was correct: hydrogen peroxide kills mold spores in space as well as on Earth.

However, after 11 days cultivation in a Petrie dish the presence of mold was very evident. Disappointed, the boys examined the photos and video taken during the 'harvesting' process and discovered evidence of leakage as well as a small presence of mold growth on the outside of the ISS FME. Further analysis was required.

The team discovered that, while everyone had judiciously disinfected the interior of the FMEs during the pre-launch loading of contents, no one had thought upon return and prior to unloading of the FME, to disinfecting the exterior surfaces. Upon seeing the incriminating evidence, team member Brandon Hall exclaimed, "Next time we need to think *outside* the tube!"

This summer the ELMS' team will present its research paper describing the experiment to the National SSEP Convention at the Smithsonian Air and Space Museum in Washington, DC, on July 2-3, 2013. ELMS principal Dr. Judy DeLeeuw and science teacher, Glenn PenkoffLidbeck, will accompany the boys and their families in this next journey of East Lyme's science education.



Revealed: L-R, ISS FME contents, Pfizer ground control FME contents, and "no peroxide" control. The initial observation suggested success--compared to 'dirty' vial on right. Note liquids, glass tubes, and rubber stoppers that had separated FME ingredients prior to activation by ISS astronauts.

Submitted by Glenn PenkoffLidbeck, ELMS Science Teacher

East Lyme Middle School Science & Math Explored

Growing Math and Science for the Community

East Lyme Middle School has an exciting new venture – we are creating an organic vegetable garden which will benefit those families in need in our local community. Blue Crab math students have been measuring and creating scaled designs for the most favorable placement of vegetables, which include tomatoes, beet, squash, and lettuce. Grade 7/8 science club members will be developing their gardening skills and learning about the science of gardening, by creating compost, germinating vegetable seeds and planting them. The bountiful (hopefully!) crop will be nurtured and harvested by volunteers and the ELYS Summer program. The Connecticut Master Gardeners Association has awarded the project a grant and we have the expert assistance of a master gardener, Tom Kalal. Our students' math and science knowledge are the key to the success of their garden.



Submitted by Michelle Jeff and Sean Ashburner, ELMS Science & Math Teachers

Bridge Unit Fosters Budding Engineers

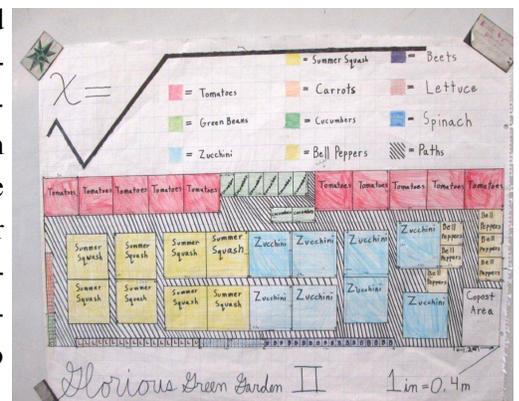
As part of their science curriculum, East Lyme Middle School students learned about the science of bridge design and the forces that are exerted upon these structures. The students were given a challenge: research and build a model of a bridge that is in use today somewhere in the world. The students created the most magnificent replicas of bridges that included: the Henderson Waves beam bridge in Singapore, the Pont Neuf arch bridge in France and the Golden Gate suspension bridge in San Francisco. Enthused students went on to enter the WestPoint virtual bridge design challenge, which continues through to March.



Submitted by Michelle Jeff, ELMS Science Teacher

Samsung STEM Contest

How does East Lyme Middle School integrate science, engineering, math and technology into its curriculum to help the environment? This was the challenge set by Samsung for its annual STEM competition. The technology department and the Grade 7/8 science club joined forces to create a video, which illustrated a STEM project that documented how chemical fertilizers pollute our ecologically sensitive Long Island Sound. The video also featured our new community vegetable garden, which will be created with organic processes for soil improvement as an alternative to these harmful chemical fertilizers. The students' efforts were rewarded with a laptop, software, and a video camera and they attained a top 25 placement out of over 1600 entrants!



Submitted by Michelle Jeff and Dave Miner, ELMS Science and Technical Education Teacher



EVERY DAY COUNTS AT LILLIE B. HAYNES



“How much money did Dr. Miko give us for the Nemo snow storm?” ask the students.

“\$50,000.00!” I replied. The students all gave a cheer and entered this amount into their *Every Day Counts* daily mathematics journal.

In September, Dr. Miko posed the question, “If I give the class the number of \$100 bills for the day’s date, will we have collected \$1,000,000.00 by the end of the school year?” Many students believed that the million dollars would be reached by the end of October. When November came and they only had \$94,000.00, they started to rethink how much money a million dollars really was. This is when knowledge of numbers and place value comes into play.

Every Day Counts provides 10 to 15 minutes of supplemental math instruction each day. It centers around a



simple bulletin board containing a calendar, a counting tape to record the days of school, a daily depositor to keep track of money collected, and other elements that change throughout the year, such as clocks and graphs. The different visual and hands-on activities engage the students in high level interaction and offer a daily exposure to rich discussion on a variety of math concepts:

place value, measurement, time, money, mental math, geometry, estimation, patterns, graphing and statistics.

So stop by in June to find out if the children were successful in reaching Dr. Miko’s goal. By the hundred third day of school, there was \$501,800.00 in the daily depositor. Using your mathematical reasoning skills, can you estimate if we will make our goal?

Submitted by Lynn Locarno, LBH Teacher



LILLIE B. HAYNES ELEMENTARY AND EAST LYME HIGH SCHOOL COLLABORATION ON SCIENCE



For the third year in a row students from Mr. Harfenist’s and Mrs. Singer’s science classes are sharing their expertise and love of science with students from Lillie B Haynes elementary school. Students from the high school volunteer their time to develop a hands on activity or demonstration that they can present to 3rd and 4th grade students as the culmination of Hayne’s *Science Spectacular* week. Planning is already underway for this year’s program, which is tentatively scheduled for late May. Popular activities from prior years include a chemistry magic show, silly physics tricks, slime, and alka-seltzer rockets. The high school students are responsible for planning, set-up, supervision, clean-up, and most importantly safety. While the program is designed to bring a love of science to the Hayne’s students, the high school students get just as much out of the event. It’s a really enjoyable evening for all involved.

Last January members of the high school science department discussed the need to recognize and reward students on a more regular basis. After discussing options, the *Science Student of the Month* program was initiated. Each month teachers are encouraged to nominate one or more students who deserve recognition for a job well done. Students receiving the honor get a small personalized certificate and a piece of candy delivered to their first period classes. The program allows teachers a chance to congratulate students for improvement, a well written lab report, a great test grade, or a positive attitude. Feedback from students and parents has been overwhelmingly positive.

Submitted by Lori Singer, ELHS Science Teacher

STEM...Not So Scary

“So what? How does this affect me? Why does it matter?” Lillie B. Haynes students often think this when learning a new concept in school. Science, Technology, Engineering, and Math (**STEM**) helps solve this problem. Embedded in STEM are the reasons why the learning is important. In isolation, science, technology, and math concepts can appear abstract and meaningless to students. Students may learn that temperature decreases the time it takes to dissolve sugar in water (science), rounding time means you have to use 30 instead of 50 to find the nearest minute (math), and an Erlenmeyer flask helps measure volume (technology). However, it is engineering that gives these concepts meaning. Engineering ties them together and engages students.

Engineering is applying scientific knowledge and mathematics to solve a problem or make our lives easier. This dovetails perfectly with a guided inquiry investigation. By the end of the investigation, students should have learned about a scientific phenomenon with data to support their learning. What better way to make this learning and data meaningful than to apply it to an engineering design task?

A common guided inquiry activity practiced in elementary schools is the Lifesaver Investigation. In this investigation, students start by sucking (and sometimes chewing!) lifesavers while keeping track of time. The class records the amount of time for each individual to finish the candy. Times are displayed on a line plot and a discussion ensues about what the data tells. Invariably there is a range of times and the natural question is: Why? Students brainstorm ideas and the teacher guides them to: water temperature, amount of water, agitation, color/flavor, and broken vs. whole. At this point, students group based on which variable they want to test and the teacher guides them through the inquiry process. At the end, most students will find the relationships of the aforementioned variables and the dissolving time. Now is the time to ask: “Who cares?!”

Engineering answers the question, “Who cares?!” There are seven essential features of engineering design tasks (Capobianco, Nyquist & Tyrie, 2013): client-driven and goal-oriented, provides an authentic context, incorporate con-

straints, use materials, resources, and tools familiar to students, require solution to be an artifact or process, yields more than one solution, and involves teamwork.

Focusing on developing client-driven and goal-oriented problems, teachers and students need to think of a way that their new knowledge gained could benefit people. In this case a soft-drink producer (client) Julie Watson wants to dissolve sugar faster (goal) into beverages. She runs a roadside lemonade stand (authentic context). Julie can’t keep up with the demand because it takes too long to dissolve the sugar. She needs to have a non-electric, healthy, inexpensive, compact way to solve this problem (constraint). Student teams look back at class data and decide which variable or variables to use in designing their

process or artifact. With classroom materials and items from home, teams apply their knowledge to design a solution. There could be more than one possible solution: (1) leave pitchers of fresh water in sun to heat up, then dissolve the sugar, finally add lots of ice to cool it down., (2) use a finer grain of sugar when mixing sugar, (3) use a hand-beater to mix batches of sugar into water, (4) or a combination of strategies.

As a team, students present their ideas and data to the client. The client chooses a solution that fits their constraints and yields the best results.

It is a challenge to make all learning meaningful to students. Engineering is one tool that makes knowledge meaningful to students in the areas of science, technology, and math. Engineering sounds like something that requires years of college, but it does not have to be complicated. Engineering involves solving problems with math and science. It may sound scary, but designing engineering activities for elementary students can be fun for both the teacher as well as the students.

Submitted by Chris Faulkner, LBH Teacher

References: Capobianco, B., Nyquist, C., & Tyrie, N. (2013). Shedding light on engineering design. *Science & Children*, 050(5), 58-64.



Learning Buddies at Flanders



Math
+ - x ÷



Math
+ - x ÷

MATH ACTIVITIES	
10 More	
Math Ball	
Addition Crossout	
Addition Tic Tac Toe	
Flashcards	
Triangle Flashcards	
Spot the difference	

Math
+ - x ÷

“It’s a great experience and a good bonding exercise!” exclaimed a second grader after she had completed a math game with her third grade *Learning Buddy*. What began as *Book Buddies* has blossomed into a weekly partnership of 38 enthusiastic eight and nine year olds at Flanders School. Ms. Whiton and Ms. Soule, 2nd and 3rd grade teachers, have decided to pair up their classes each week for 45 minutes with a concentration on the reinforcement of academic skills. Thus far, writing and math have been the focus this year. Aside from the classes benefitting from working on academics together, they also have the opportunity to strengthen social skills and to develop new friendships within the school.

One area that has resulted in noticeable growth for the students has been math skills. Children have participated in various activities which have incorporated graphing, regrouping, and basic addition and subtraction math facts. Recently, the partners had an opportunity to choose from a variety of math activities that integrated computation skills. A few of these included: “Addition Tic Tac Toe”, “Spot the Difference”, “10 More”, and “Math Ball”. As closure to the session, students gathered and were surveyed about their favorite math activities. To make a relevant extension to their learning, the group then graphed the data to demonstrate their choices; the results showed an overwhelming preference for “Math Ball”.

During a recent mid-year review of the *Learning Buddies* with the classes, one student stated that a benefit of the program was that they had learned to “say the whole math problem, not just the answer”. Doing so results in students articulating that this is an equation and that both sides are equal. These are some of the successes that are being observed. Students agreed that during the second half of the year they would like to continue working on their math and writing skills, and expand their partnered learning to other areas such as science. Since both grades study plants, it seemed to be a natural connection and another area of study that Ms. Whiton and Ms. Soule plan to incorporate in future sessions.

The program has become one of the highlights of the year, not only for the children, but for their teachers as well. With the curricular shift to the Common Core State Standards, both teachers feel that partnerships like these will continue to benefit students, and teachers, as they work with the new curriculum. Recently, one of the students commented that he and his buddy “make a great team”. The same sentiment is shared by both teachers as they reflect on their work together this year and plan for future collaborations.

Submitted by Robin Soule and Megan Whiton, Flanders Teachers



Niantic Center Goes Beyond the Kits

Little Scientist, Carolina Biological, Delta and Foss are many of the vendors that provide “Kits” for teachers to teach specific science units. Children explore topics through an “Inquiry” model. In doing so, experiments are conducted in which students ask questions and then complete investigations in search of these answers. In addition to “kits”, Niantic Center utilizes many area experts to supplement our science units. The Denison Pequotsepos Nature Center provides an educational outreach program that complements our science topics. Kindergarten students learn about animals in winter to complement their unit on seasons. First graders learn about life cycles of a variety of animals, while second graders continue to learn about the life cycle of a plant. Native trees and plants are brought to our school and students learn to identify their parts. In third grade, children learn about rocks and minerals while fourth graders continue with ecosystems.

Dominion Millstone Power Station, under the direction of community affairs consultant Sara Aitken-Hjort, builds upon children’s knowledge and provides hands on activities for them to test their scientific knowledge. Sara’s educational/outreach program enhances the first grade unit on magnets and the fourth grade unit on electricity. First graders love to show their knowledge of magnets as they work to solve, “The Mystery of the Bouncing Magnets.” Fourth graders use problem solving strategies as they make electrical circuits and learn about static electricity.

In spring, students in grades two and four take field trips to Hole in the Wall beach where they learn about water runoff and the plants and flowers that are native to this area. The town engineer and a master gardener, who tends to the plants and flowers at our town beaches, meet with students and educate them about water runoff and why certain plants, flowers and grasses thrive near the beach. The Outdoor Stormwater Classroom provides educational insights that demonstrate the latest techniques and technologies that are used to treat and reduce stormwater runoff before it is discharged into Long Island Sound.



Assemblies are also selected to compliment our science units. The Bureau of Lectures & Concert Artists, Inc. offers a variety of performances that show children science in action. Recently children enjoyed an assembly entitled *Laser Science*. Children learned how lasers work, Einstein’s ideas and the importance of art, engineering and science. NCS students and teachers have moved beyond kits and are exploring science in a variety of ways. These informative, fun and hands-on programs continue to captivate the children’s attention while allowing them to make meaningful connections with their science explorations.

***Submitted by Diane Swan
NCS Teacher/ Science Coordinator***



FLANDERS STORM WATER RESCUE

Two third grade classes at Flanders School were treated to a visit by Stonington Town Engineer, Larry Sullivan, as part of their study of Conservation of Earth's Materials. Sullivan, an East Lyme resident, and his eldest daughter Shannon, a senior at ELHS, came to Robin Soule and Lisa Vaudreuil's classes to discuss storm water pollution.

Each session began with the students being asked the following "thinking tools": "Who walks their pets?" "Who walks their pets AND picks up after them when they go to the bathroom?" "Who helps their parents wash their cars in the driveway?" "Who has a really green lawn?" These questions helped to activate students' prior knowledge and engage them in meaningful conversations. Hands were raised and giggles were heard, but the reaction turned to disgust when students learned that some of their actions can lead to harmful substances remaining on the ground, which eventually find their way into the ocean. They learned that this is what significantly contributes to water pollution.

The Sullivans brought along a "hands on" model that teaches children about storm water pollution. Students examined the model's landscape, which included a factory building by a river, farmlands, residential areas, a construction site and sewage treatment area. Larry Sullivan had prepped the model using small amounts of materials such as chocolate syrup, Hawaiian Punch, oatmeal, cocoa powder, and dish soap to represent various pollutants including oil, pet waste, fertilizer, cat litter, dirt and road sand, and car wash detergent. With the aid of a spray bottle, students created rain over the landscape and saw the runoff effect the river and waterways.



Students discussed the environmental impact of the misuse of these materials. They then worked on a Stormwater Runoff Challenge crossword puzzle as the Sullivans cleaned the model. Returning to the model, students were able to see that pollution could be greatly eliminated by taking certain actions and precautions. By using sediment fencing at construction sites, picking up after their pets, washing cars on grassy areas rather than on pavement, avoiding overuse of fertilizers, providing ponds at farms, and proper filtration of factories and sewage treatment facilities, students learned that they can help keep our storm water clean.

As the session closed, Mr. Sullivan told students that his lifelong interest in math and construction had led to his career choice. Shannon spoke of her possible interest in pursuing biomedical engineering studies. What started as an engaging, interactive lesson ended with students realizing that they had the power to have a significant impact on our planet. They were inspired to put their new knowledge into practice and start spreading the word to their family and friends.

*Submitted by Robin Soule and Lisa Vaudreuil,
Flanders Teachers*



ELHS GOES 3D

Students in Mr. Tucker's Pre-Engineering courses are regularly challenged to create and design solutions to problems using CAD software. A major limitation to the students' learning process is when the design remains untested. Most often, students visualize their design on the computer screen but have no means of actually testing it. For example, students may design with CAD software a robotic arm, but we lacked the machinery to build and test the parts to verify that they would work.

3D printing has quickly become the industry and academic standard for creating authentic plastic models of computer-aided designs. The 3D printer communicates with the CAD software and "builds" the model by extruding melted plastic into thin layers. Exact measurements and dimensions of the design guide the high resolution construction of the model layer by precise layer.



3D printing is not only for engineers. Artists may use 3D printing to construct models of a sculpture before committing to its final creation. Science students can construct molecular models and Culinary students can create a unique mold in plastic for a frozen dessert. Students in Math can see the theoretical solution to a problem now in 3D. Anthropology students can construct a historic tool based on a fragmented artifact. The possibilities for learning through touching 3D objects rather than only looking at pictures are endless!



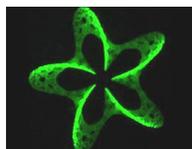
3D Printer by Dimension

Recently, the Technology Education Department at East Lyme High School acquired a 3D Dimension printer in a collaborative effort between school administration and Perkins grant funding. Students in Pre-Engineering I and CAD II, two College and Career Pathways courses, will now be able to create 3-dimensional models of their ideas and build realistic parts for their designs. The 3D printer will provide hands-on learning experiences in both creativity and problem solving for students at East Lyme High School.

To learn more about 3D printing, you can read the Bulletin "Things you should know about 3D printing" by Educause.

<http://net.educause.edu/ir/library/pdf/ELI7086.pdf>

Submitted by Dr. Marie C. Shaw, CIL, Technology Education/Library



Examples of objects printed in 3D acquired from Google Images.

HOT HAPPENINGS IN SCIENCE AT ELHS

Recently, East Lyme High School students have had opportunities to expand their science knowledge in several different venues. The Marine Scholars program, on behalf of UCONN Avery Point, selected 10 juniors from high schools in the southeastern Connecticut area. Evangeline Moore, Ben Biondi and Nathan Howard were selected from East Lyme High School. The program gives students the opportunity to attend six evening seminars, attend a three week Project Oceanology program in the summer, and work side by side with a UCONN professor on their latest research next fall. Seniors Erin McKee, Nolan Perron, Cole Tretter and Kayla Rolfe just completed the program and are eligible for two scholarships through UCONN Avery Point.



UCONN

Students participated in the 3rd annual USA Biology Olympiad in February. After competing on an open multiple choice test, the top 10% across the country will be invited into the semifinal round. Once in the final round, students attend a week-long program at Purdue University and then have the chance of scoring high enough to travel to Bern, Switzerland for the International Biology Olympiad. We are currently waiting for the results of the open test!

PURDUE
UNIVERSITY

This year's Bermuda trip has been scheduled after graduation due to storms Sandy and Nemo. Eight students will explore the ecology, history and culture of Bermuda. This is the 22nd year of the trip and over 240 students have been involved over the years. With this class, students earn credit towards the Three Rivers Community College

Career Pathways program. In addition to the jam-packed days of adventure, students must attend nightly seminars before the program, keep a journal and present on a Bermudian research topic.



Piper Hayes was selected as the Rotary Student of the month for December 2012. She represented the Science department at the monthly rotary luncheon. Piper is not only a true scholar but also an amazing young woman who is an enthusiastic, hard working, and dedicated member of the East Lyme High School Community.

In the fall of 2012, students from the AP Environmental class and Ecology Club participated in a water quality assessment project in connection with the Natural Resource commission in East Lyme. The work included several visits to local streams conducting macro-invertebrate bioassessments.

Every September approximately 100 East Lyme High School Students participate in International Coastal Cleanup Day at local beaches. The Saturday event includes collecting trash and data collection that is



reported to Save the Sound organization. This year over 300 pounds of trash were collected from McCook's and Hole in the Wall Beaches.

*Submitted by Holly Buckley and Laura Ashburn
ELHS Science Teachers*



East Lyme Middle School Science Made Exciting

Fifth and sixth graders were recently treated to two exciting hands-on days to conclude their unit on the sense organs.

A Barn Owl named “Milton” from the Connecticut Audubon Society visited with students to compare his amazing senses to theirs. Students learned that an owl’s two most important senses are hearing and eye-sight. They learned how an owl can locate prey using asymmetrical ear openings and how an owl’s eyes are structured to give them acute night vision. Many students were surprised to learn that some owls eat skunks because most birds, including owls, have no sense of smell.

Students also had the opportunity to dissect cow eyes in science class as a hands-on way to see the structures inside the eye. They learned that a cow eye is very similar to a human eye and were amazed to see all the structures in the eye so clearly. Parents came to volunteer and observe, nursing students from Three Rivers Community College assisted, and trays were donated by Tri-Town Market. The day was truly a community effort to benefit student learning.

Submitted by Deborah Galasso, ELMS Science Teacher

