



COMMUNITY CAMPUS

LIFE SCIENCE ACADEMY (LSA)

JANUARY 2013 NEWSLETTER



THE FIRST SEMESTER OF THE LSA HAS BEEN A BIG SUCCESS!

Thanks to our Partners

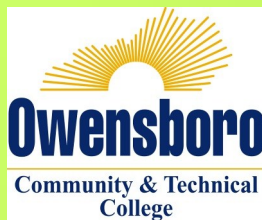


Newly created in 2012, the mission of the Life Science Academy is to improve health care in our region by improving pathways for students to pursue careers in the health care field through world-class, real-world, hands-on research and investigation.



The first day with lab coats in our AM class!

study of human medicine and research processes. It provides an introduction to bioinformatics and exposes students to investigations of human body systems and various health conditions. PBS encourages self-directed learning and experimentation.



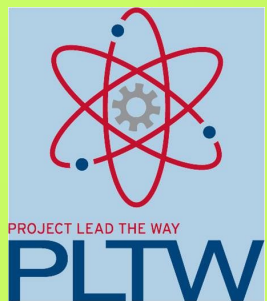
The first semester of the LSA has been a resounding success! In the spring of 2012, thirty students were recruited

from area middle schools to participate in the first LSA class, Principles of Biomedical Science or PBS.

This newsletter details the coolest projects we have completed so far and some things we are looking forward to in the Spring!

PBS engages students in the

IT ALL STARTED WITH A MYSTERY!



It was a warm summer morning. The emergency call came in at 7:15 am. The 911 operator notified the local police and the emergency medical technicians (EMT) who arrived at the scene at 7:26 am.



Our victim, Ms. Anna Garcia, was found dead in the entry to her home.

victim. Trauma to the head was clearly evident. The victim had vomited and her fingernails were gray. She had been found by a neighbor who was alerted by the loud, excited barking of the victim's dog in this normally quiet suburban neighborhood...the mystery begins.

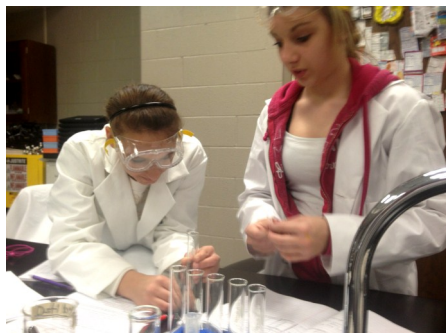


The front door was ajar and a woman lay face

down in the entry hallway. She appeared to be in her mid-thirties and of Hispanic descent. Next to the body was a

small table that had been knocked over. Blood stains were on the edge of the table and under the head of the

This mysterious scene set the stage for our exploration into forensics, the human heart and diabetes.



Candace Young and Emma Fitzgerald experiment on macromolecules.



Alek Blandford, Elaine Leslie, Ms. Mountjoy and Nathan Emery dissect a heart.



The AM PBS class poses with our victim, Ms. Anna Garcia.

***** GREAT SPEAKERS & FIELD TRIPS ENHANCED LEARNING AND ADDED**

So far this year we have had three excellent guest speakers and we have been on two great field trips.

First, after we investigated our mysterious death, we got a visit from the **Davies County Coroner, Jeff Jones**. Mr. Jones told us all about crime scene processing and investigation. Trey Kinison said, "I thought he was really cool and he had some stories that made his job seem pretty interesting and a neat



Wade Hall is ready for his ultrasound at Owensboro Heart and Vascular!

was...helpful in portraying the relevance of what we had learned."

During our unit on the human heart we dissected a real sheep heart and ran experiments on our heart rate and blood pressure and with EKG sensors! As our unit on the human heart came to a close we got to visit **Owensboro Heart and Vascular**. We had a great time and got to see all different types of cardiac therapies including an ultrasound machine and state of the art nuclear imaging equipment. Makayla Claiborne said, "It was really fun to see all this stuff that we talked about...it gives a better understanding of how it

is used once we see it!" The trip also helped us understand the important role technology plays in diagnostics.

Next, during our diabetes unit, **Ms. Merritt Bates-Thomas** came to show us the HBO documentary "Weight of the Nation." She is the nutrition Supervisor at the Green River District Health Department. Her presentation really helped us understand the human side of obesity and diabetes and how our generation is



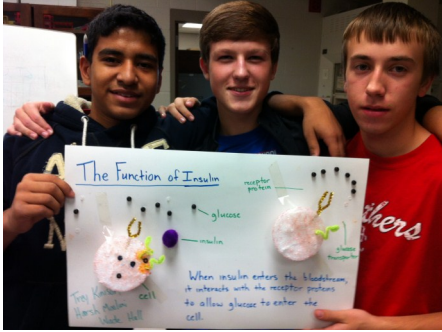
Ms. Merritt Bates-Thomas discusses obesity and diabetes with the AM class.

at risk of having a lower life expectancy than our parents because of obesity related health problems. She also told us all about careers in nutrition and dietary

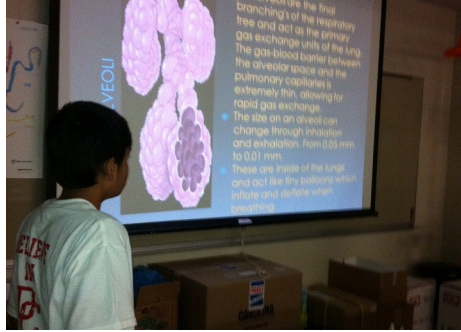


Our PM PBS class poses with County Coroner Jeff Jones after his great presentation.

career someday." We learned that although crime scene investigation is not really like CSI, it is still an interesting process! Lucy Kurtz added, "He



Harsh Moolani, Trey Kinison and Wade Hall present their poster on Insulin Uptake.



Sonal Muthalali presents group research on the Respiratory System.



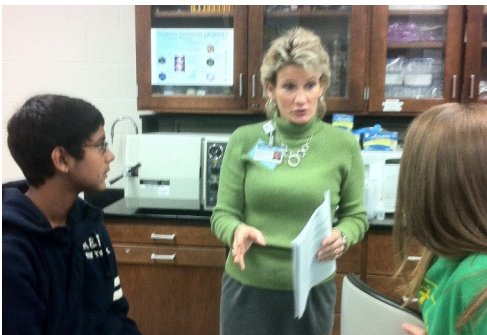
Dakota Edgell and Elaine Leslie work to build a pump, similar to the human heart.

TO THE FUN AT THE LIFE SCIENCE ACADEMY THIS SEMESTER ***

health problems. She also told us all about careers in nutrition and dietary medicine.

We have been working to identify major community health needs in the Owensboro area so we can write grants for projects to help meet the health needs of our community.

Ms. Debbie Zuerner-Johnson came by to help us out with our grant proposals. We worked on identifying our project



Ms. Debbie Zuerner-Johnson advises Akeel Kalik and Makailah Cecil on their project.

goals, objectives and measurable outcomes.

We are having a contest to see which

proposal everyone likes best. They will also be voted on by an expert panel. The winning proposal will be submitted to OMHS as part of their *Community Benefit Grant Project*. Hopefully our idea will be funded and we can implement it in the next semester!

As a grand finale to the fall 2012 semester we got to go on a two-part field trip to **OMHS and the OMHS Business Center**. First, at the hospital we got a tour of the morgue and the lab from **Lisa Cecil**; we learned about several cool careers behind the scenes at OMHS. Then we toured the Mother/Baby Unit with **Cathy Beasley** and visited the labor and delivery rooms, nursery and NICU. **Drs. Beverly and Burshears** spoke with us about their careers and all the education required.

We ended the trip with a visit to the **OMHS Business Center** where we got to tour the mock-up rooms for the new hospital. **Earl Melloy** told us all about the new special features like curved hallways to increase privacy and nurs-



Andrew McIntosh plays the role of the expectant mother with the AM class at OMHS.

ing stations by every room. We will get to visit the new hospital site and help OMHS practice moving patients next semester. We can not wait!



Earl Melloy gives the PM class a sneak-peak of the high-tech rooms at the new hospital.

Are you getting what you expected from the LSA?

"I have gotten even more out of PBS than what I expected. I feel that I learned so much information quickly at such an early age giving me a head start in the medical field."

—Eric Schwender, Daviess County High School



"Yes, I learned so much more out of the biomedical field than I thought. It is a really fun class because it is not just notes and lectures."

—Makayla Claiborne, Hancock County High School



"Yes, I never knew what a college class was like, and I got a lot more than what I expected. I only thought we'd take notes all the time, and being able to perform experiments really is awesome."

—Kristina Canary, Apollo High School



In October the president of KCTCS, Dr. McCall, visited with our students and watched as they designed experiments!

For more information on the Life Science Academy please email: Natalie J. Mountjoy at nmountjoy0001@kctcs.edu or visit our website at: lifescienceacademy.weebly.com.



LSA Joke-of-the-Day: A neutron walks into an ice cream shop and asks, "How much for a milkshake?" The cashier responds, "For you sir, no charge!"

WHAT MAKES THE LSA SO SPECIAL?

- Human Body Systems
- Heart Attack
- Diabetes
- Sickle Cell Disease
- High cholesterol
- Infectious Diseases
- Medical Interventions
- Grant Proposal

Provide a Context

- Activities
- Projects
- Problems

Real World Problems

To Explore Biological Principles

- Cellular Basis of Life
- Homeostasis
- Metabolism
- Cellular Communication
- Transport of Substances
- Inheritance of Traits
- Defense and Protection

The LSA uses real world problems to provide a context for biological concepts. Students learn without realizing it!