

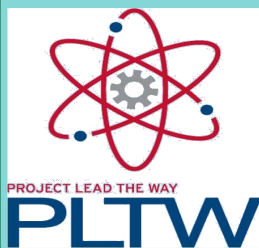


LIFE SCIENCE ACADEMY

COMMUNITY CAMPUS

JAN 2014 NEWSLETTER

This program was made possible by our sponsors



The LSA 4 Year Program

On the bus to the college from our home high school, a debate broke out about the amount of Adenosine Tri-phosphate produced through oxidative phosphorylation. The confused look plastered on the bus driver's face was quite humorous. Anyone looking into the interesting world of the Life Science Academy is certain to be impressed at the esteemed group of high school students, in full lab gear, discovering the vast world of biomedical science.

There are four classes that give students an early insight into the medical field. Freshmen make up the **Principles of Biomedical Science (PBS)** class, in

which students gain a solid bio-medical foundation. The class is based on the mysterious death of Anna Garcia. Students learn about different diseases that can affect the human body from small malfunctions to chronic issues.



AM HBS class poses for a pic!

The sophomore class is called **Human Body Systems (HBS)**.

Students focus on the structures of human systems and investigate identity, communication, power, movement, protection, and homeostasis.

Juniors will enroll in a **Medical Intervention (MI)** class in which they follow the lives of a fictitious family to discover how medical intervention helps prevent, diagnose, and treat disease.

Seniors will have a **Medical Innovation** class. They work independently in the design of innovative solutions to topics such as clinical medicine, physiology, biomedical engineering, and public health.

—Jasmyne Post & Kalen Carper

A NOTE FROM OUR DIRECTOR, MS. MOUNTJOY: We are in the middle of our second year and the LSA is exceeding student expectations! This newsletter, which is wholly student produced, shows off some of the reasons why we are so proud of all our students!



Ms. Mountjoy & Autumn Coomes

Our New LSA Faculty

Ms. Sims and Ms. Burden are the newest addition to our LSA family. They come to us through the generosity of Owensboro Health.

Martha Sims is an open-heart nurse who does patient education and is pursuing her master's degree at USI. She was recruited to teach the AM HBS class, and gladly took the position. She is enjoying her first year



Ms. Sims, AM HBS

teaching, especially the neurology unit. Jeanie Burden is a staff educator at OH and is currently pursuing a master's

degree at USI. She readily accepted the position teaching the

PM HBS class when she was approached. She says that she has always wanted to teach a health career class, and really enjoys the work. — The HBS Class



Ms. Burden, PM HBS

Anna Garcia - What Her Death is Teaching Us



Ibraheem Murtaza mixes a sample and indicator to determine the composition of Anna's stomach contents.

On a warm, summer morning, an emergency call was received at 7:15 A.M. Anna Garcia was found in her



Investigating the scene.

entry, dead on arrival. Throughout the year, PBS students will investigate her death.



Analyzing blood spatter.

- Methods of investigation:
- Blood Spatter Analysis
 - DNA Fingerprinting
 - Fingerprint Analysis
 - Polymerase Chain Reaction (PCR)
 - DNA Extraction
 - Shoeprint Analysis



Analyzing stomach contents.



DNA Extraction

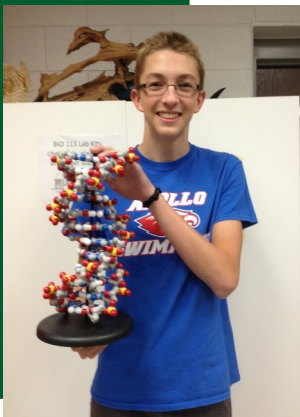
— Dakota Edgell & Ben Duncan

“I love it, and I’m ecstatic. This is the one class I look forward to everyday! I thought it was going to be overwhelming and time consuming. Comparing now to back then, it’s not hard at all but it’s still a bit time consuming.”

-Shelby Wathen

“The class is so great and a ton of fun! I’ve learned so much more than I thought was possible.”

-Ben Duncan



Our Favorite Labs in PBS & HBS

In PBS, we burned different types of food in order to find out how many calories were in each one. In addition to being a very interesting experiment, we also learned a lot about the energy content in certain

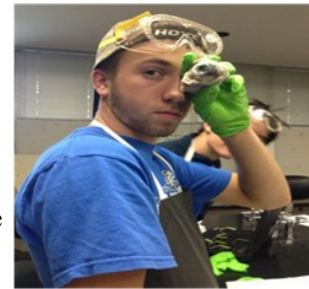


Neil Madadi and Ibraheem Murtaza performing a calorimetry experiment in PBS.

foods and how it relates to calorie count.

In HBS, we explored the eye and how it allows us to perceive

information that has been taken in. In our lab, we



“Eye can see you,” - Wade Hall (HBS)

had to investigate how the eye works and figure out the specific functions of each part of our eye. We got to dissect a cow eye and observe its unique structure. — Nikita

Gupta, Jenna Jones, Chance Meeks & Sonal Muthalali

A Welcome Perk!

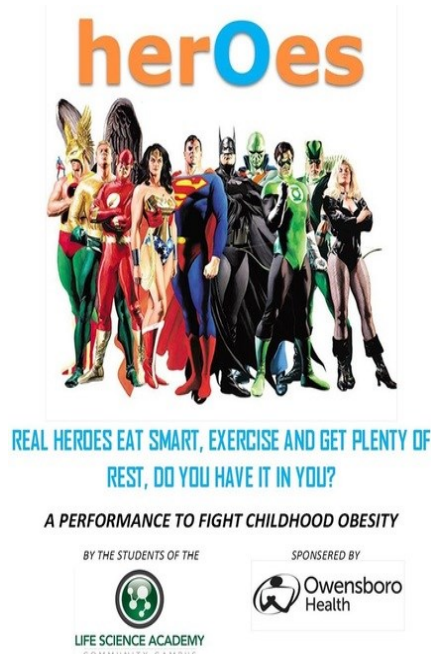


HBS students @ OCTC

The sophomores in the HBS class have formed close bonds over the course of a year and a half. The amount of group-work and the small class size have created the opportunity for the students to build strong friendships, going beyond the daily class time. Many students connect after class via social media, following one another on Twitter, texting, or friending on Facebook. While building relationships was never the main point of LSA, it is a wonderful side-effect! — Elaine Leslie & Alec Blandford

LSA Community Give-Back Project

What a day; superheroes, kids, villains, and vegetables! Our Community Give-Back Project had all this and more! Who knew it would be such a great mix? It all started on just any normal day at LSA, well normal as it gets, with our group of unique and bright students, all lead by our brilliant teachers. Today however, Ms. Mountjoy announced we would begin working on grants for our community project! We rushed into groups and pushed our imaginations to the limit to brainstorm ideas to make this the best project ever known to mankind! Each group competed for the best project and we were judged by a panel of experts. Finally after days of debate the “herOes Project” was selected. We wrote a grant to the Owens-



boro Health Community Benefit Fund and they funded our idea to perform a play using the one thing kids love more than their junk food and sweets. Yes...we used superheroes!

We worked hard for weeks, creating props and writing and rehearsing our scripts. We reached over 700 k-3rd grade children in our community. Over 89% of the students we performed in front of showed increased knowledge in healthy habits! Even now as you read this newsletter our students here at the LSA are beginning to make this year’s Community Give-Back Project bigger and better!

— Andrew McIntosh, Makailah Cecil, Kanyon & Cole Tapp



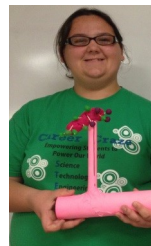
Can You Handle It?

For many people, it’s difficult to be organized enough to compete in extra-curricular activities while balancing a college level course. But many of us manage to excel in both! Just look at this list of LSA-ers involved in activities!

- ◆ Academic Team= 11
- ◆ Sports= 9
- ◆ Band= 2
- ◆ ROTC= 2
- ◆ Student Council = 3

This shows the amount of drive our students have to succeed in all aspects of their lives. The ability of students to apply themselves in extra-curricular programs like these is what we are looking for at the LSA. With hard work and good time management, it is possible to keep up with your regular high school activities and still be in the LSA!

—Wade Hall & Nate Martin

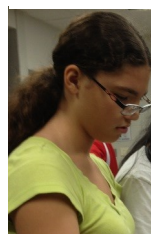


“This class really has allowed me to see beyond what we learn in science at school. This knowledge will no doubt help me excel in my future.”

-Leslie Probus (PBS)

“Learning about the body is really cool. I get to see what really goes on in mine and others’ bodies.”

-Kaleb Decker (HBS)



“I love this class. The labs and hands-on experiences we have are priceless. It helps me with fundamentals in the medical field that I will never forget.”

-Ava Embry (PBS)

The New HBS-PBS Buddy System

For the 2013- 2014 school year, the LSA launched a new program called The Buddy System. Each PBS student was paired with a HBS student based on common interests. PBS students have the HBS students to help and guide them throughout their freshman year. This year, students were interviewed to discuss their opinions of the buddy system and how it can be a great experience.

"It's a cool experience, and I love it. I've gotten a lot closer to him than I ever would have."

- Candace Young (pictured at right, co-author)

"It's really great having a 'veteran' of sorts from HBS, because I can always ask for help, and I got to make a really good friend!"

- Max Smith (pictured at right, co-author)



"The friends that I've made in this class are honestly closer to me than people at school, because we relate to each other much easier, mostly because we can understand the corny science jokes we come up with. My classmates have really made the class more comfortable as a whole. We are going through this experience together and that has caused us to form a strong bond."

- Akeel Kalik, HBS

SPECIAL THANKS TO OUR EDITORS:

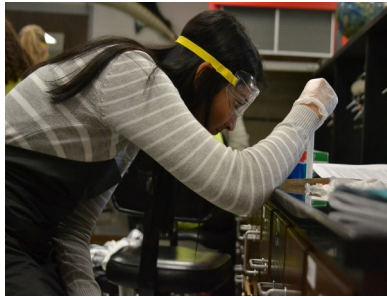
Cassie Blanford, Mason Clark, Lucy Kurtz & Marissa McDaniel

EXTRA THANKS:

Autumn Coomes, Akeel Kalik, Harsh Moolani & Sonal Muthalali

What did the femur say to the patella?
I kneed you.

How does Juliet maintain a constant body temperature?
-Romeostasis



Nikita Gupta (PBS)



Mason Clark (PBS)



Field Trips!

In the Life Science Academy, we get the benefit of going to places that most people cannot attend. For example, we got to attend and observe the new Owensboro Health Regional Hospital before it was open to the public. Students could see the new rooms, machinery and layout. We could picture how the new hospital will provide a better experience for the staff, and patients. While many students are in their classes, we are able to observe and learn new information by going to places like Owensboro Health and Owensboro Heart and Vascular. — Sonal Muthalali



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