

## KDS Science Classes Preparing for College and Beyond

The KDS High School Advanced Placement Biology, Anatomy and Physiology classes are working hard to prepare themselves for college studies and possible careers in science, biotechnology, health, and many other possible fields.



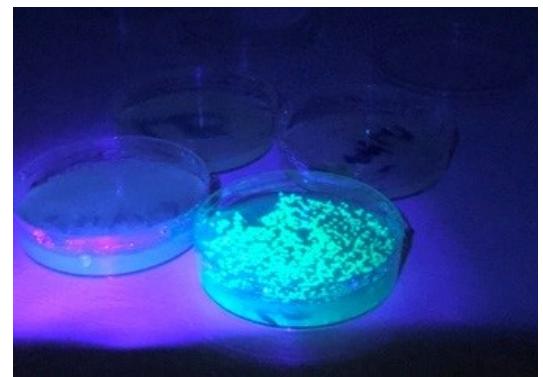
On February 1st, the AP Biology classes went on an annual field trip to visit HudsonAlpha Institute for Biotechnology in Huntsville.

There, they completed an AP required lab which utilized DNA gel electrophoresis to determine a patient's predisposition for developing cancer. The students were also able to tour the facility and learn more about biotechnological career opportunities.



In the High School Science Lab, the AP Biology classes investigated the biotechnological practice of genetic engineering last month. To do so, they completed the required pGLO bacterial transformation lab, where students insert a recombinant piece of DNA into a bacterial cell to alter its DNA and give it new characteristics.

The recombinant DNA, known as a plasmid, had a small section of DNA from *aequorea victoria*, a jellyfish, that can produce green fluorescent protein (GFP) and bioluminescence, or glow in the dark. When the plasmid was correctly inserted into the bacterial cell, and arabinose sugar was provided to "turn on" production of GFP, the transformed bacteria were able to glow under a UV light.



All the student lab groups had great success with the lab, and many are interested in learning more about genetic and genomic engineering.

The Anatomy & Physiology classes have been studying the Special Senses, and recently completed a bovine (cow) eye dissection to help them further understand the structures of the eye. The students worked with partners and had to identify both external and internal structures associated with vision.

