

# About the Laboratory LabWorks!

Labworks is a partnership between the University of Alabama at Birmingham Center for Community OutReach Development (CORD), Birmingham City Schools, and McWane Science Center. Established in 1998, CORD works to enhance science education in the Birmingham area and throughout the state of Alabama. LabWorks can accommodate two 120-minute sessions per day with a maximum size of 30 students per session. Laboratory experiences in earth and space science, life science, and physical science, designed especially for middle school students. Hands-on lab fun for middle school students.

## Additional Information

### Registration:

Required Two Weeks In Advance

### Location:

McWane Science Center  
Classroom 304

### Availability:

Monday-Friday, August-May

### Laboratory Times:

9:00 AM-11:00 AM, 12:00 PM-2:00PM

### Admission Cost:

Cost per student :\$7

IMAX: Students \$3

IMAX Cost per chaperone: \$5

# LabWorks!



[www.mcwane.org](http://www.mcwane.org)

## For Reservations Contact:

**Katie Busch**

*LabWorks Laboratory Director*

Phone: (205) 714-8454

Fax: (205) 714-8400

Email: [labworks@mcwane.org](mailto:labworks@mcwane.org)



To see how we are making a difference  
in K-12 education, visit us on the web!

[www.uab.edu/cord](http://www.uab.edu/cord)

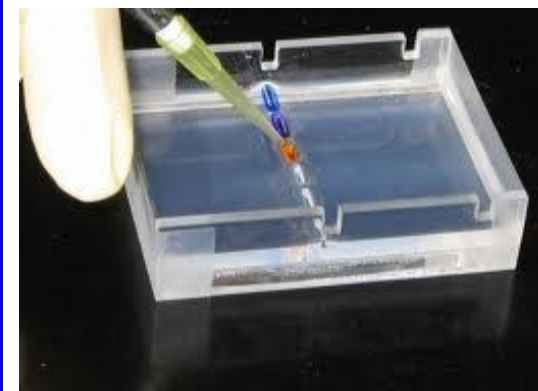
Sponsor

**SEPA** SCIENCE EDUCATION  
PARTNERSHIP AWARD

Supported by the National Center for Research Resources, a part of the National Institutes of Health

# LabWorks!

**A LABORATORY  
EXPERIENCE FOR  
MIDDLE SCHOOL  
STUDENTS  
AT McWANE  
SCIENCE CENTER**



A Partnership Program Between the  
University of Alabama at Birmingham  
Center for Community OutReach  
Development (CORD), and  
McWane Science Center



# THE EXPERIMENTS

## ♦ The Air Up There (6th grade)

Students will assess the effects of UV light on cells. Students will explore concepts related to waves, learn the importance of UV impedance by the ozone layer, and investigate radiation effects on health.

## ♦ Life in a Drop (6th & 7th grade )

Water covers 70% of the surface of the earth. What's in all that water? A lot of life! This lab will take a closer look at microorganism and test various water samples for bacteria, pH and dissolved solids. In addition, we will look at the effects that household pollutants can have on these organisms by doing a bioassay .



## NEW FOR 2013-2014! :

## ♦ Drug Physiology (7th grade)

Students will observe the effects that various non-controlled substances have on daphnia heart rate, movement, and behavior. We will discuss how drugs act on the brain and body and the danger and destruction associated with substance abuse.

## ♦ Generating Circuits: An Introduction Electrical Engineering (6th, 7th,8th)

Students will experiment to construct a working circuit, create a circuit diagram, discover how to wire a breadboard , and take over a keyboard using a circuit board and conductive material. Engineering is the perfect meaningful way to bring together all elements of STEM. Students will enjoy working as engineers and teachers will be able to see inquiry and engineering in action.

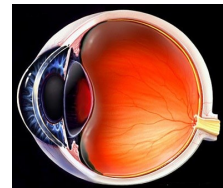
## ♦ HIV Prevention (7th grade)

In this powerful lab, students discover the link between life cycle of retroviruses like Human Immunodeficiency Virus (HIV) and transmission. Students will model the spread of HIV and perform an Enzyme-Linked Immunosorbant Assay (ELISA) to detect HIV-specific proteins in a sample.



## ♦ The Eyes Have It (7th grade)

Just how do we see? How do our eyes work? And what are they made of on the inside? This lab will give us a hands-on look with a cow eye dissection, eye dis-



## ♦ Isn't That a Crime? (6th, 7th, 8th)

Students will analyze a crime scene, look for evidence, and perform a variety of techniques used in real crime labs. Techniques include analyzing hair and fiber samples under a microscope, dusting for fingerprints, and separating DNA fragments using agarose gel electrophoresis (see picture on cover).



## ♦ It's a Wild Ride! (8th grade)

Discover the laws of physics that make roller coasters a thrill ride. Students will get hands on and explore the physics behind the engineering of a roller coaster. The experiment concludes by letting students utilize their knowledge by designing and building their own roller coasters.