



Summer School Programs 2009

Looking for a Low Cost Program in your Classroom, Scout Den, Church or Community Center?

The BYM's new AmeriCorps Program has you covered! We'll set up in your classroom, lunchroom, hallway, patio, or garage and bring Science directly to your kids. If you'd like to come to museum we'll reduce your admission rate and present the program to your group for **free**. The cost per program ranges from \$50 - \$250* (includes materials for all participants) to defray material costs and travel expenses. What do you get: two lead educators, five to 10 AmeriCorps science coaches, materials and exciting hands on activities! **Call Patsy at 573-276-3600 for more information.**

You Can bend Light but Can You Break It

AmeriCorps members will present a variety of hands on activities. Students will work with prisms, mirrors, glass water and a few surprising materials which demonstrate how light performs in our universe. Students will also make a working camera obscura out of household materials. 1st – 6th grade

Science Chef: Acid and Bases

The BYM Science Chef teams up with AmeriCorps in producing a fulfilled hand's on exploration into acids bases. Participants will create their own PH tester kit using red cabbage. This is a great starter activity for developing an interest in basic chemistry. 1st– 6th grade

Paper Airplane Aerodynamics

We'll explore different paper airplanes which have unique maneuverability, some are very fast and fly straight others fly looped loops. This program can be adjusted for younger audiences (1st – 3rd grades). 4th – 12th grade

Gooey-Science

Explore a non-Newtonian science **fluid** solid physics using Dr. Seuss and his book *Bartholomew and the Oobleck* as our guide. Learn how make two types of gooey Non-Newtonian fluids and why they break Sr. Isaac Newton's Law of Viscosity. We'll also explore units of measure in this workshop. 1st – 6th grades

What's up with Small Stuff

Do you know what a Nano is? How about how big a Nano is? Learn how small things act differently than big things. You've held water in a straw by holding your finger on the top. What if I told you I can keep a jar of water from draining out without a lid on the jar? Believe me? I can do it, and so will each of the participants. We'll also learn lots more about energy, the environment and explore our world on the Nano level. 1st – 6th grades

Puppetry and the Simple Machine

In this workshop participants will design, build and paint several puppets that utilize simple machines which will waggle their head and tail after being constructed. All materials will be provided. 1st – 12th grade

Newton's Workshop

Participants will construct a maze in which marbles will roll down ramps, bounce off trampolines and circle down vortexes. This project explores the gravitational principals explained by Sir





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Newton's Laws of gravity. 6th grade – 12th grades

Making Tracks with Lewis and Clark

Bootheel Youth Museum staff will introduce participants to the journals of Lewis and Clark, the tools the Corps of discovery used on the expedition, how to document scientific discovery and how to classify natural objects. We'll take you out to the museum classroom for a chance to make your first biological journal entry. All materials will be provided. 1st – 12th grades

Hot-Air balloon

Build and launch a mini Hot-Air Balloon while designing and fabricating their balloon students will learn how hot air and cold air affect the weather. This project will engage middle school students - adults. All materials will be provided. This is a great activity for Girl Scouts, Boy Scouts or Church Youth Groups. 6st– 12th grade

Bird House Building for Kids: 101

Learn about bird habitats and construct a birdhouse or birdfeeders. All materials will be provided. 1st – 6th grades

Mouse Trap Vehicles

Experience simple machines and other physics principles through the design and construction of a vehicle powered by a common mouse trap. Participants will construct their own mouse trap vehicle from balsa wood. All materials will be provided. This is a great activity for Girl and Boy Scouts.* 6th – 12th grades

Astronomy from the Ground Up

The universe is a very exciting and interesting in Astronomy from the Ground up we'll cover the basic concepts of astronomy through hands on activities explore a variety of topics including the solar system, Moon phases, comets, and orbits. 3rd – 7th grades

Rocketry Basics: Acceleration and Aerodynamics

The principles of practical rocketry explored in this activity are based on Sr. Isaac Newton's three Laws of Motion. These laws explain why rockets work and how to make them more efficient. 4th – 9th grades

Classifying Nature

What is it? Where does it go? And, what does it have to do with me? That is precisely what children ages six to eight will be exploring at the BYM pond. Learn all about classifying natural objects and develop an understanding classification.

Pin Hole Cameras

The camera obscura (Lat. dark chamber) was an optical device used in drawing, and one of the ancestral threads leading to the invention of photography. In English, today's photographic devices are still known as "cameras". The principle of the camera obscura can be demonstrated with a rudimentary type, just a box with a hole in one side. In this workshop each person will make a pin hole camera, test camera exposures, develop negatives and create positive prints. 4th – 12th grades





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Science Relay

Participants complete a variety of hands on experiments exploring polymers, aerodynamics, density and viscosity, sound waves, Newton's Laws of Motion and much more. This is a great science activity which really gets children excited about science and every student has a hands on experience with every experiment. 1st – 12th grades

*The materials fee for Mouse trap vehicles is \$7 per student and Pin Hole Cameras is \$2 per student. Each of these workshops requires a minimum of two sessions, one or two days to make the vehicle or camera and one day for testing.

