

DISCOVERERS 4-5

Program for 4th & 5th Graders

October 25, November 1 & 8, 2014
MSiC Campus & Harrowgate Elementary

MSiC
MathScience
Innovation Center
Imagine. Create. Lead.

MSiC Campus

Computer Math Games

We use computers for everything! Join us in learning new computer math games, puzzles and more. You will also have the opportunity to design and create your own computer game. By the closure of the course, you will take your own CD game home. Competitions in the form of contests and tournaments will be conducted with traditional "board games" as well as digital games. Are you ready for the challenge?

Crime Scene Chemistry

You will become a Super Sleuth as a Junior Chemist! Discover the methods chemists use to solve crime mysteries. You will learn about chromatography, fingerprinting, and how chemicals interact with one another to reveal clues. Use these scientific techniques to identify the culprit!

Electric Gadgets

It's electrifying! Explore fundamental concepts of electricity and magnetism; from static electricity to circuits. You will be able to make an electric motor using a dry cell, wires, and a magnet - it will be yours to keep forever. Learn about alternate sources of energy and construct a working solar powered car - that is another gadget to take home!

Engineering on the Go

What makes cars go fast and boats float? What are magnetic levitating trains? Explore the different types of transportation that makes the world move. Have fun discovering why hot air balloons fly and what makes a rocket soar. Design, build, and test your very own vehicle. The sky is the limit for imagination and adventure!

LEGO®: Advanced Machines & Robots

Are you an advanced LEGO programmer? This class is part two of the Machines & Robots Class. Learn to program with the advanced LEGO brain, the NXT. If you enjoyed the challenges of the first class then this class is for you. Tackle new challenges designed for the next level of LEGO Robotics. Prerequisite REQUIRED: LEGO: Machines and Robots class or programming in FLL.

LEGO: Building to Explore

Did you know you can not only build with LEGO building blocks but you can also program them?! Learn how to use the different LEGO blocks to build strong machines and vehicles. Computers are used to program your creation so it can make noise, kick, chomp, and a host of other awesome builds. Working in teams you can construct, test, and problem solve as you hone your LEGO expertise.

M3 – Modern Math Mysteries

Isn't math old? Has it changed at all in the last 100 years? The answer is YES to both! New applications in mathematics made smart phones possible, medical miracles happen, allowed athletes to run faster, unlocked the secrets of nature, and made movies like Cars and Star Wars possible. Explore patterns of nature, discover the science of the itty-bitty, create digital artwork that you can take home on a CD, and see how our world has changed through the awesome power of numbers!

The Power of Pokemon

Who is more powerful Dialga or Palkia? If you have an answer, then The Power of Pokemon is the class for you! Learn the science behind naming, the math of leveling-up, and the strategy in game creation. Participants will battle in Pokemon TCG, create their own character, and design their own game. Pokemon game experience is required.

Rocks, Crystals, and Gems

Did you know that Virginia rocks have been sent into space? Did you know that coal mining was a big industry in Midlothian in past times? Use microscopes, lasers, and other testing equipment to identify and study the properties of Virginia's rocks, minerals, and gems. Field trips take you to rocks, fossils, and other mineral specimens at their origin so you can start your own special collection. Perform experiments with these unique natural resources. Discover how these treasures are used in a variety of locations in the Richmond area.

Slippery, Slimy, Odd Pets

Discover the joy and adventure that unique aquatic pets can bring to your family. Explore the world of fish, frogs, toads, turtles, and other slithering slimies. You will visit local wetland locations to observe organisms in natural habitats and conduct tests and experiments as you learn to create an artificial habitat to care for these animals. Students will take at least one animal home.

Snap, Crackle, Pop! Chemistry

Work in a real chemistry lab and experiment with chemical reactions. Many experiments will be done with things right from your kitchen so you can also do them at home. Learn to make "goo," ice cream and root beer. Develop mystery inks to write secret notes to your friends. The wonders of chemistry will unfold before your eyes!

Harrowgate Elementary Satellite Site

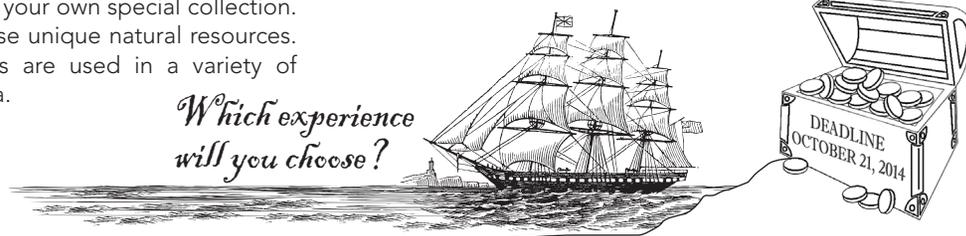
Codes, Ciphers, and Secret Messages

Learn code breaking skills and discover the history and science behind the many encoding methods used by organizations and government "spies." Develop your own "book of secrets" or treasure map and explore the world of cryptography from Ottendorf ciphers to invisible inks to microdots. Use special equipment, including microscopes, GPS and metal detectors, to follow clues and unearth the secret of the site.

LEGO: Machines and Robots

Take LEGO building blocks from simple block designs into the world of gears and wheels & axles. Learn how to use the different LEGO blocks to build strong machines and vehicles and use computers to program your bot. Working in teams, build and test vehicles for completing challenges and navigating mazes using the LEGO RCX.

*Which experience
will you choose?*



General Information

1. Students in Grades 4 & 5 currently enrolled in the public school systems from area consortium school divisions are eligible to participate (Chesterfield, Colonial Heights, Hanover, Henrico, King William, Petersburg, Powhatan, and Richmond).
2. Fall classes for 4th and 5th graders will be held on the following Saturdays: **October 25, November 1 and 8, 2014** (note that there is no weather related make-up date). Students are expected to attend every Saturday. Check your calendar carefully! Classes will meet from **9:00 am to 2:00 pm**. We will have a brief lunch break. **Students should bring their own lunch.** Snack machines and drink machines are available.
3. You may register online at www.mysic.org and pay through PayPal with your credit or debit card. Alternatively, you may complete the registration form below and mail it along with a \$30 check or money order to the MathScience Innovation Center (MSiC).
4. **Applications received by October 6th will receive priority.** However, registrations will be continuously accepted until October 21, 2014. Your registration will be confirmed prior to the opening date by e-mail and will be accompanied by specific instructions for the program. If you do not have email, U.S. mail will be used. Certificates will be awarded to every student who completes the class (only 1/2 day absence allowed).
5. Bus transportation will be provided by most school divisions at designated locations. **Bus pick-up points are listed on the right side of this sheet. Please note that the pickup locations are grouped by destination (MSiC Campus or Harrowgate Elementary.)** A schedule of pick-up times will be posted on our website in early October.
6. For additional information contact: Debbie Mitchell: Phone 804.343.6525, x 243 Email: dmitchell@mysic.org or Donna Kouri: Phone 804.343.6525, x 244 Email: dkouri@mysic.org

Mail-In
Registration: *DISCOVERERS*
Program for 4th & 5th Graders

First Name M. Initial Last Name Parent/Guardian First Name M. Initial Last Name

School Division

Grade School

Phone Fax Emergency Phone

Home Address City State Zip

Email

Class Choice 1: Course Name

Class Choice 2: Course Name

School Bus Pick-up (if applicable)



MSiC records photographs and video of adult and child students to promote our educational services. You or your child's image may appear in our event advertising and website. Personal identification will not be published unless you provide express permission.

I GRANT permission for photo/video to be recorded and used.

I DO NOT GRANT permission for photo/video to be recorded and used.

School Bus Pick-up Points

MSiC Campus:

Chesterfield

Clover Hill High (Old Hull St. Campus)
Hopkins Elementary
Manchester Middle
Matoaca High
Midlothian Middle
Reams Road Elementary
Robious Middle
Swift Creek Middle
Thomas Dale High

Colonial Heights

Colonial Heights High

Henrico

Brookland Middle
Byrd Middle
Colonial Trail Elementary
Fairfield Middle
Hungary Creek Middle
Moody Middle
Pocahontas Middle
Rolfe Middle
Tuckahoe Middle
Wilder Middle

King William

King William High

Petersburg

A.P. Hill Elementary
Blandford Academy
J.E.B. Stuart Elementary

Powhatan

Pocahontas Middle

Richmond

Albert Hill Middle
Binford Middle
Boushall Middle
Chandler Middle
Elkhardt Middle
Franklin Military @ Minnis Middle
Henderson Middle
Lucille Brown Middle
Martin Luther King Middle
Thompson Middle

Harrowgate Elementary:

Chesterfield

Bird High
Clover Hill High (Old Hull St. Campus)
Manchester Middle
Midlothian High

Colonial Heights

Colonial Heights High

Petersburg

J.E.B. Stuart Elementary
A.P. Hill Elementary
Blandford Academy