

R. E. McNair Discovery Learning Academy

2162 Second Ave. Decatur GA 30032

<http://www.mcnares.dekalb.k12.ga.us/>

<http://www.classjump.com/R/REMcNairSTEMAcademy/>

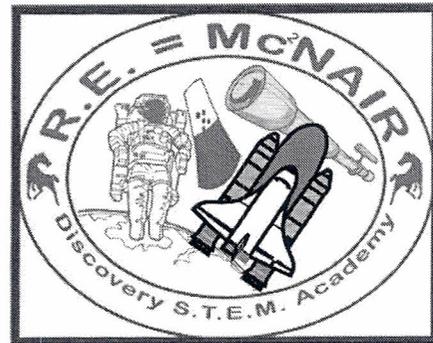
Telephone: 678-875-3402

Dear Parents,

I would like to inform you of all the Great things that have been happening here at Ronald E. McNair Discovery Learning Academy. First, Our first Robotics team attended the Robotics conference at the Georgia World Conference Center. This experience was sponsored by the 100 Black Men of Atlanta and the Fernbank Science Center. Secondly, our 4th grade students receive a presentation by Lysol in regards to germs and how to prevent the spread of germs through cleanliness. Additionally, our 5th grade students received presentations from the Women Engineers of GA Tech. Both of these opportunities for our 4th and 5th grade students were planned by Mr. Barnes in our Counseling Department. Last but not least, our students in grades K-5 participated in a robotics learning experience with Robotic Explorers. We are trying to provide our students with the best S.T.E.M. education possible. Thank you for your continued support.

Sincerely,

Kaija Spencer, S.T.E.M. Coordinator



Upcoming Events

November 10 - 14

Scholastic Book Fair

November 13

Parent Lunch and Learn

November 19

Student of the Month Celebration

November 24 – 28

Thanksgiving Holidays – No School

Important Announcements

PTA Needs You! \$10 pays for the entire school year! Please pay before October 1, 2014

Stay Connected:

Remind 101

Text @mcnairp to (703) 665-3093 to receive text messages directly to your cellphone regarding school announcements and information.

What is R. E. McNair Discovery Learning Academy's Mission?

R. E. McNair Discovery Learning Academy will be an internationally recognized school of the gifted in science, technology, engineering, and mathematics.

Robotics

Hands-On Robotics Lab: McNair DLA has a premier Robotics Lab where students explore and learn the world of engineering. Our young engineers work with Legos to identify colors, discover patterns, balance and build structures to support weight and to accurately count the number of bricks to match a model in a picture or photograph.

Our older engineers use Legos to build, test, and program interactive machines to complete certain functions. Here students use and apply STEM concepts building with gears, motors, pulleys and simple machines.

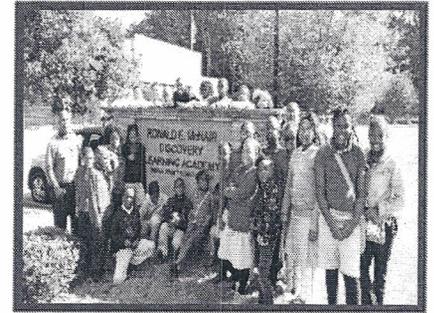


In addition to Robotics, students cover a variety of engineering disciplines including Civil, Mechanical and Aerospace. On November 11-14, our 3rd-5th grade students will take a field trip to Fernbank Science Center where they will "Learn to Fly" using a state of the art Flight Simulator in the Aerospace Education Laboratory.



We are excited to announce our first Robotics Club and Team at McNair DLA. Our team is co-sponsored by the 100 Black Men of Atlanta and SEMAA (Science Engineering Mathematics and Aeronautics Academy) at Fernbank. Students will learn, design & build robots to complete engineering challenges that apply physical science and mathematics concepts.

Recently the 100 Black Men of Atlanta held a robotics showcase at the Georgia World Congress Center. Some of our Robotics students were invited and were able to meet and network other



2014-2015 Robotics Club

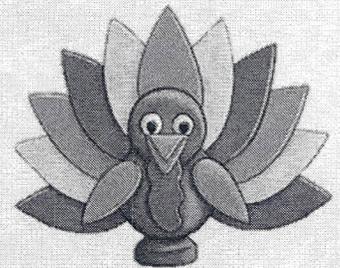
In the Community

2014 Title 1 Parent Conference

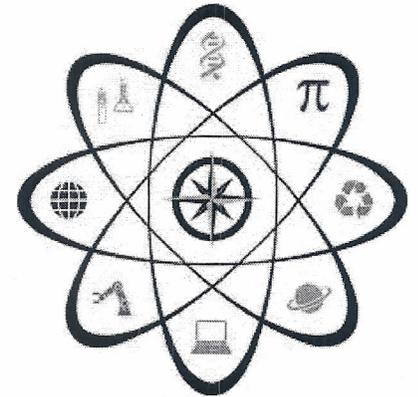
November 15th at 8:00 am to 1:00 pm at the AIC Auditorium located at 1701 Mountain Industrial Blvd. Stone Mountain, GA 30083

Thanksgiving Dinner

November 20th during students regularly scheduled lunch. Please check with your child's teacher if you would like to eat lunch with your student.



aspiring engineers in middle and high school. With the assistance of college students working in engineering, our students were able to program humanoid robots, underwater robots, and view how the military is using robotics. During this program our school was recognized as being one of their newly sponsored teams and met engineer and designer Dr. Lonnie Johnson. He holds more than 80 patents and best known for inventing the Super Soaker water gun.



Technology Project

What is Digital Citizenship?

The next Technology project focuses on digital citizenship! The students will investigate the following questions:

- What is digital citizenship?
- Why is digital etiquette important?
- What can I do to protect myself against cyberbullies?

During the next month and a half, the students will be completing a project about technology. They will be asked to present their project to their classmates. First, they will answer the three reflective questions. Then, they will complete their project. There are 4 different ways that they can choose to complete this project. They will only complete ONE of these choices. The project is due December 15, 2014.

Choice #1

Create a concept map on Digital Citizenship. Include pictures and other ways to express the concept.

Choice #2

Write and/or type a letter to persuade Dr. Bolden to Bring Your Own Device (BYOD) to school. Make sure you include the importance of digital citizenship and all of the benefits of the BYOD initiative.

Choice #3

Create a brochure against cyberbullying. Include images, statistics, resources such as phone numbers or websites to report cyberbullies, and anything else you find useful to promote anti-cyberbullying.

December In the Community

Board Community Input Meeting

December 2nd at 5:45 to 6:45 at the Robert R. Freeman Administrative & Instructional complex (AIC) located at 1701 Mountain Industrial Blvd; Stone Mountain, GA 30083

PTA Meeting

December 18th at 5 p.m.

R. E. McNair Discovery Holiday Program

December 18th at R. E. McNair Discovery Learning Academy in the Cafeteria at 6 p.m.

Choice #4

Free Choice - What creative way can you come up with to share important information about digital citizenship? Write one paragraph describing what you want to do, and get it approved by Mrs. Worthey. Then, complete your project your way.

The students' work will be evaluated by the following checklist:

| Tasks | Possible Points | Your Points |
|--|-----------------|-------------|
| Complete the Reflective Questions | 8 | |
| Writing is grammatically correct | 8 | |
| Presentation is on topic | 8 | |
| Text, Layout, Images are easy to read and visually appealing | 8 | |
| Effort | 8 | |
| Presentation (Bonus/Optional) | 8 | |
| Total Score/Grade | 40 + 8 bonus | |

Gifted Education

You may have heard the saying “All children are gifted.” At Ronald E. McNair DLA, we believe this statement is true because all students have specific strengths and talents. It is the job of the teachers, parents & caregivers, and the community at large to ensure that these gifts and talents are nurtured properly. It is important for the parents and teachers of a gifted learner to:

- show appreciation for the student’s abstract references.
- prepare for questions which the parent/teacher has no answer.
- understand that most repetition is a source of frustration.
- remember that the learner prioritizes understanding over knowledge.

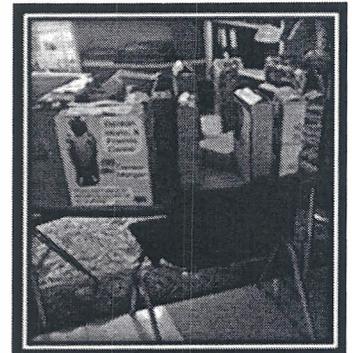
Gifted students need time to be together when they can just “be themselves.” In our gifted program, (**Discovery**), our students have been meeting and working diligently on standards-based activities that enrich their regular curriculum. Students in all grades have been studying concepts and completing projects in the areas of Social Studies and



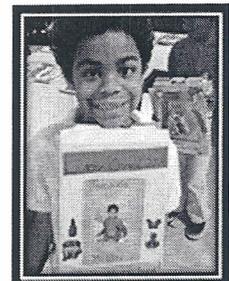
5th graders presenting an invention project



2nd graders made slime during the matter unit



Cereal box projects- all grades



Science. Our second graders have recently completed science lessons on the states of matter- solid, liquid, gas and the heroes and regions of Georgia.

Grade three has been working on the topic of heat, and grades four and five have been concentrating on inventions. These students created innovative solutions that could solve an everyday problem. The mission of the DeKalb County School District and the Program for Gifted is to form a collaborative effort between home and school that maximizes students' social and academic potential preparing them to compete in a global society.

Science Lab

Science at Home

I didn't quite hear that!

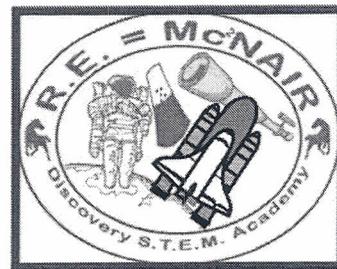
Your budding scientist can explore the properties of sound by making a soundproof box.

You'll need: cardboard, sponges, scissors, glue, box, radio or MP3 player.

Here's how: Help your child cut the cardboard and sponges into small squares. Have him glue the sponge pieces to the cardboard squares and then glue the squares randomly all over the inside of the box. Now he can turn on a radio or MP3 player and listen. Without adjusting the volume, he should put the box over the radio or MP3 player and listen again.

What happens? The music will get softer.

Why? Sound travels best through solid objects. Since the sponges are not solid and have lots of air pockets, sound is lost going through them. Also, the spaces between the sponges scatter the sound waves. And even more sound gets lost trying to go through the cardboard.



Grant Application

EYE Module Efficacy and Implementation Study to the National Science Foundation

On October 9th your STEM Coordinator and Principal applied for assistance from the National Science Foundation. This program if granted will provide additional S.T.E.M. training for teachers and materials to support our STEM initiative here at R. E. McNair Discovery. This program will be a \$40, 000 investment in our school. We are looking forward to hearing great news about our application in the future.

Science Lab Activities

Kindergarten and First grade students have been learning about matter. They should be able to explain the 3 states of matter and identify different objects that fit those categories. Over the past week students have been building bubble wands and testing them.



Second grade students have been studying matter. As part of their STEM Challenge, students had to create an environmentally sustainable glue. Students applied what they have learned about matter and made and tested their glue to determine how many beans it would hold on an index card.

Third grade students have been learning about heat and insulation. In their STEM Challenge "Heat Loss Project" students are building a house and will determine the areas in which a house can lose the most heat energy. Students will also select from a variety of materials to insulate their house.

Fourth grade students have been learning about the water cycle. Students should be able to explain the process beginning with the energy from the sun, evaporation, condensation, precipitation, and runoff. In order to test if the process is continuous students created the water cycle inside a ziplock bag.

Fifth grade students are studying plant and animal cells. Students will be making an edible cell next week. They will have to label all of the important parts of the cell. This activity will reinforce the important vocabulary.

If you would like to volunteer for our STEM Explorer Days on December 11-12 please contact Ms. Carter at Andrea_R_Carter@fc.dekalb.k12.ga.us



Science Lab Tidbits

Lights On

Does your child know what happens when he/she flips a light switch? Explain that electricity flows only when a circuit (circular route) is connected or complete. Flipping a switch either connects or breaks a circuit. To illustrate this let him/her draw or build a circular train track. Can the train keep going (complete a circuit) if the ends aren't connected?

Pet Sitting 101

Students will be able to begin selecting dates to take home animals for the weekend on Friday, November 7th. Please be reminded that parents must pick the pet up on Friday afternoon at 3 pm, and return the pet on Monday morning.

December Calendar

| | | | | | | | |
|---------------------|-----------|---|--|---|--|--|-----------|
| | | 1 | 2 Data Meetings (Reading) Tutorial 2:30 – 4:30 | 3 Data Meetings (Math) | 4 CRAM Academy 4 th Grade Model Lessons Tutorial 2:30 – 4:30 | 5 CRAM Academy 5 th Grade Model Lessons | 6 |
| Dec 2014 | 7 | 8 RACE game Assessment | 9 Principal's Coffee and Conversations TSS Holiday Social 2:45-3:30 Data Meetings (Reading) Tutorial 2:30 – 4:30 | 10 Data Meetings (Math) | 11 STEM Explore Days Tutorial 2:30 – 4:30 Lunch & Learn | 12 STEM Explore Days | 13 |
| | 14 | 15 Grade Analysis Folder Due | 16 Data Meetings (Reading) Post Grades Tutorial 2:30 – 4:30 | 17 Data Meetings (Math) Student Of The Month Celebration 8:30-9:30 (Muffins And Juice) | 18 Holiday Party Tutorial 2:30 – 4:30 Winter Holiday Program 6:00 | 19 | 20 |
| | 21 | 22 Christmas Break | 23 Christmas Break | 24 Christmas Break | 25 Christmas Break | 26 Christmas Break | 27 |
| | 28 | 29 Christmas Break | 30 Christmas Break | 31 Christmas Break | | | |
| | | | | | | | |

S.T.E.M. Project Needs for December

Parents we need your help. If you can, please donate any of the following items to your child (ren)'s classes for their December S.T.E.M. activities. If you can donate to other grade levels your assistance will be greatly appreciated. Our S.T.E.M. activities will provide students with the opportunity to apply the knowledge they and have learned and apply that information to a real world situation. We are developing thinkers and problem solvers. Our test scores show that our students need more opportunities to think critically. These activities give them this opportunity with the safety net of a teacher and collaborative groups.

Kindergarten STEM Activity: Sand Castles

Activity Summary: Students learn about wildlife habitats, environmental engineering, and the complexities of nest construction by attempting to design and build a nest themselves. **Materials Needed:** real eggs or egg-sized stones or pebbles materials for nest-building (collected from schoolyard or home)

First Grade STEM Activity: Harvesting Water from Fog

Activity Summary: In this lesson from the Peace Corps, students will learn harvesting water from fog can help people who have limited access to fresh water. They study the water challenges in Cape Verde, and the technology and benefits of fog water collectors. They then build and evaluate a own working model. **Materials Needed:** Knee highs, wire hangers, coffee can or large soup can, sand or rocks to weight containers down.

Second Grade STEM Activity: Fun with the Sun

Activity Summary: In these 8 lessons students will learn about the energy of the sun, where a multitude of items get their energy from, why electrical appliances save time, safety with electricity, and energy conservation. **Materials Needed:** Yellow Card Stock, string, magazines, yarn, pudding packets (powdered pudding), quart of milk, paper cups, plastic spoons, bar of soap, can of pineapple, battery operated toy, candle holders, flashlight, drinking straws, aluminium pans, bottle of soap, and pipe cleaners.

Third Grade STEM Activity: Shoebox Dig

Activity Summary: Students will become archaeologists on a small scale and uncover the stratified layers in a shoebox. This is a manageable, compact, and fun (although sometimes messy!) dig for older elementary school children that can be modified for middle school. Unlike the other small-scale AIA digs (Layer Cake Archaeology and Transparent Shoebox Dig), which allow younger students to see the archaeological layers of a site before digging them, this is a blind dig more like a real excavation. Students excavate in teams, uncover three or four layers, record their findings, and answer questions that reveal how carefully (or carelessly) they served as excavation supervisors and how well their digging strategies worked. **Materials Needed:** Shoeboxes, Sand, potting soil, colored sugar crystals (used in cookie and cake decorating), oregano, sesame, coffee, sugar cubes, and plastic table clothes.

Fourth Grade STEM Activity: Holiday Lights and Circuits

Activity Summary: Students will build simple circuits using a battery, wires, and light bulbs. They examine how electricity is conducted through a light bulb using a battery as a power source, and learn the difference between a series circuit and a parallel circuit. This introduction to circuits serves as a good introduction to electrical engineering, as every electrical device has a circuit designed by an electrical engineer. **Materials Needed:** Christmas lights (working or not), 6 volt batteries, and alligator clips

Fifth Grade STEM Activity: Extract DNA from a banana

Activity Summary: In this lab activity, students will use a salt/detergent mixture to solubilize a piece of a banana, then add cold ethanol to precipitate a froth of white DNA from solution. With careful technique the slender threads are wound onto a glass rod for observation of deoxyribonucleic acid, the master code or blueprint of all organisms. **Material Needs:** bananas, plastic spoons, cheesecloth, rubber bands, detergent, and salt