



FUTURE CITY COMPETITION CENTRAL PA EDITION

SEPTEMBER 2007

BACK TO SCHOOL ISSUE!

SCHOOL SPOTLIGHT: ALLEN MIDDLE SCHOOL, CAMP HILL, PA



The returning champion, Allen Middle School, is well equipped for their run at back to back championships in the 2nd Annual Central Pennsylvania Future City Competition. They have two returning students with a wealth of knowledge and experience, as well as eight new contributors joining the team this year. Patricia McAtee, their teacher and coach, is an avid Future City supporter and has seen first hand the benefits the competition can provide the students. "The confidence that the [students] gained was tremendous. The fact that they were required to meet with and speak with real engineers makes this contest stand out. A lot of contests are theoretical, but this one really makes the students APPLY engineering concepts and talk about their

ideas with trained professionals."

At the competition, Allen Middle School and their future city, Allenville, separated themselves from their competition with the intricate detail they built into every phase of the project. Some unique aspects included a functioning, "energy-free", magnetic subway system which provided public transportation for the city, solar panels used as window shades and roofing material and an amusement park which included a working Ferris wheel. Patricia recalls, "The students were thrilled that they won the first regional contest in Harrisburg and were excited that they were able to compete at the State Capitol."

Future City Central Pennsylvania welcomes the nineteen (19) newly registered schools for the 2008 competition and we are looking forward to kicking off the school year. If you have not already registered, please do so by contacting Bill Sutton at wsutton@futurecity.org (phone: 717-919-8627) or you can register directly at www.futurecity.org/registration.shtm. The upcoming competition has been scheduled for January 12, 2008 at The Whitaker Center in Harrisburg PA, Further information will be provided in the next newsletter.

COOKING UP NEW IDEAS

How many of you have microwave ovens? Most people have them now, but did you know that microwaves were first discovered in 1864 and first demonstrated in 1888?

It wasn't for almost 100 years that this new technology was used to cook food. What are microwaves? Microwaves are electromagnetic waves, that have very small wave lengths, hence micro. A microwave oven works by passing microwave radiation through food. The food absorbs the energy causing the molecules in the food to rotate. The rotation causes heat from friction as the food molecules rub against each other. Microwaves have more uses though, other than just cooking foods. Microwaves are used in broadcasting and telecommunication transmissions because of their small antenna. The news vans that you see on the road or on the news when a story is being broadcast from location, always have a microwave antenna to send out the story via microwave signals. Microwaves are also used in radar and some mobile phone networks.

What other technologies will we find new uses for 100 years from now?

If this topic interests you, then you may find Electrical Engineering to be a fun and challenging career. For more information, visit the Institute of Electrical and Electronics Engineers website at www.ieee.org.



A NEW BENEFIT FOR FUTURE CITY MENTORS:

VOLUNTEERING PRODUCES HEALTH BENEFITS!



To all the engineers who want to stay healthy, the evidence is in: Watch your diet, exercise regularly, and volunteer as a Future City mentor.

It's true. Engineers who have mentored in the National Engineers Week Future City™ Competition often say that their participation rejuvenates their career outlook and makes them happier, but a comprehensive review of more than 30 recent scientific studies on volunteering shows that their efforts may make them healthier, too. Although none of the studies specifically cited Future City nor the engineering profession, the findings seem to indicate that engineers and Future City make for a healthy mix.

Engineers who feel pressured by their work, for example, may well find themselves more at ease after mentoring, since volunteering has been proven to reduce stress. Similarly, engineers who grapple with highly detailed tasks can benefit from mentoring, as volunteers were proven to have higher functional abilities.

Volunteers were also found to have increased longevity and improved cardiovascular health. The review, *The Health Benefits of Volunteering: A Review of Recent Research*¹, was released in May 2007 and compiled by the Corporation for National & Community Service, an independent federal agency.

19 Schools in Central Pennsylvania have already registered for the competition that begins in the fall and most of them are in need of an engineering mentor. The following schools are registered: Northern Middle School (York), Central Dauphin Middle School, Central Dauphin East Middle School, Commonwealth Connections Academy, Swift Middle School, Smith Middle School, Steelton-Highspire Jr. /Sr. High School, Susquehanna Township Middle School, Allen Middle School (Camp Hill, Last Years Winner), Downey School (Harrisburg), The Harrisburg Academy, The Nativity School of Harrisburg, Dallastown Middle School, Southeastern Middle School (York), Manheim Central Middle School, 3-D Community Services and Housing, St Margaret Mary Catholic School, Middletown Area Middle School, and Manor Middle School (Lancaster).

For more information on how to mentor a Future City team in Central Pennsylvania, contact Steve Roman at sroman@WBCM.com or visit www.futurecity.org and click on "Register / Register as an Engineer." Engineers will be contacted by their area's regional coordinator.



A PUZZLE FOR FUTURE ENGINEERS:

A PIRATE'S LIFE FOR ME!



Two monzy boxes (samę sizę) arę fillęd with 2 typęs of coins.

Small coins = solid gold, \$10.00

Large coins = solid gold, \$20.00

The largę coin has twicę thę amount of gold, and is twicę thę sizę, and is twicę thę valuę of thę smallę coin.

1 box is full of small coins.

1 box is full of large coins.

Which box has thę gręatęst valuę?



HARRISBURG - LANCASTER - YORK - STATE COLLEGE - HANOVER

WWW.FUTURECITY.ORG

Solution: The same value in each box! Solve with a quantity/value table. Example: 60 Small coins: \$10 * 60 = \$600 30 Large coins: \$20 * 30 = \$600. Since the large coins are twice as big, only half as many are in the box.