MAGNET SCHOOL ATTRACTS
Space and Missile Defense Soldiers

By MAJ Laura Kenney, 100th Missile Defense Brigade (GMD)

1LT Lynsey Yoder, a Colorado Army National Guard Soldier with the 100th Missile Defense Brigade (GMD) teaches a sixth-grade math class about the advanced mathematics and science behind the technology powering the anti-ballistic missile defense system. Soldiers from the unit volunteered to work with a local math and science magnet school as part of a community partnership project, which included summer school. *Photo by MAJ Laura Kenney, 100th Missile Defense Brigade*

COLORADO SPRINGS, Colo.—Varicolored and multi-sized balls collided or more often not in mid-air, whilst foam rockets zoomed zanily on trajectories aimed more or less at a menacing missile mounted on the gymnasium wall. Eager students hunted clues via mysterious machinations on whiz-bang gadgetry courtesy of U.S. Army Space and Missile Defense Command/Army Forces Strategic Command Soldiers.

All of the above and more have been taking place at the Galileo School of Math and Science on a weekly or monthly basis, where Soldiers of the command's two brigades have volunteered to teach applications of their vastly differing sciences to the budding young scientists and mathematicians at this magnet middle school. The sessions are part of a new partnership between Colorado Springs School District 11 and the command. The deal was sealed in a ceremony in March when the Deputy Commanding General for Operations of the command, BG Kurt S. Story, signed an agreement with District 11 leaders in a ceremony held at the school. They signed a formal document, and also a huge banner which combined the emblems of the command and of the school district that was later held up by the children.

Story ambled casually back and forth in front of the bleachers full of children, parents and teachers as he described the partnership and what he expected from it.

"I'm a hands-on kind of guy, so I wish I'd had this sort of help when I was in school. I think having the Soldiers working with the students, showing them applications of math and science in the incredible ways we're using them today, can only be good."

One brigade, the 100th Missile Defense Brigade, Ground-based Midcourse Defense, a Colorado Army National Guard unit on full-time duty with the mission of defending the nation against ballistic missile attack, taught the students about the intricacies of the science behind the "bullet-hitting-bullet" technology of the intercept system. Hence, the multi-hued and sized balls thrown at each other across a volleyball net in mostly vain attempts at collision. The rarity of such a happening was a small example of how hard it would be for one missile to find another in the vast emptiness of Space.

1LT Lynsey Yoder oversaw the (mostly) non-colliding balls experiment. She was very enthusiastic about the children's involvement in the partnership program.

Colorado Army National Guard MAJ Kyle Zablocki watches intently as a student he is tutoring prepares to aim a simulated interceptor at an "incoming" ballistic missile. Zablocki, a member of the 100th Missile Defense Brigade (GMD) a full-time Guard unit tasked with the mission of defending the nation against ballistic missile attack, volunteered to teach students at a local school about the science behind his unit's mission. *Photo by MAJ Laura Kenney, 100th Missile Defense Brigade.*

"First, these kids are brilliant. Before we even began teaching them, they probably knew more about Space and missile defense than your average citizen. As time went on, they'd ask us questions that sometimes we'd have to go back and do research on to give them the correct answer for, so they really gave us a mental workout too. I have a background in teaching, which is why I volunteered for this program, but it ended up being a great experience all around."

Another fun but educational experiment involved shooting foam rockets at a large and looming enemy missile poster hung on the gym wall, simulating how the 100th Missile Defense Brigade's interceptors would actually be employed in knocking out a nuclear missile aimed at the United States. The science of trajectory was discussed, and students were awarded points for how close they physically came to hitting the target.

Sixth grade student Jarod Hawner said, "It's definitely not as easy as it looks. I had to try three times before I came even close to hitting the missile. We used math skills to figure out the best way to launch, from which position, etc."

Another 100th Missile Defense Brigade volunteer, MAJ Kyle Zablocki, described his six-month stint teaching about rockets, saying, no pun intended, "We had a blast."

"All total, (we have done) seven visits. Each visit, we taught eight classes, so in some ways it was literally physically and mentally draining, especially keeping up with these bright kids. My hat goes off to teachers everywhere! But I'm eager to do it again, because engaging these kids in pairing theory with reality was an exciting process. We taught them about what we do as a unit, taught them the science behind it, and then let those fantastic brains of theirs figure out just how hard it really is to do what we do."

1st Space Brigade volunteer CPT Gary Kelly, whose brigade's mission is to conduct continuous global Space force enhancement, Space support, and Space control operations, taught during the recent summer school session. As his command's communications officer, teaching the children how to use the Global Positioning System came naturally.

"We began with a mini-Space Fundamentals course, all about orbits, trajectories, satellites, and Space control – some of the history of the Army in Space and how it all ties in together with our current Space dominance. After that, we narrowed it down to the Global Positioning System and how, although it originated as a military system, it's widely utilized by the civilian world today.

We then got into the details of how to use the system, and learned on the school provided Magellan hand-held navigation devices. We talked about satellites and triangulation, learned about latitude and longitude, map reading and land navigation. All that learning culminated in a 'scavenger hunt,' in which the students had to locate eight landmarks (all located on school property) by grid coordinates using the GPS.

It was very rewarding. I'd say the best part was seeing how a child, when given the opportunity to see how something he or she had learned about conceptually, learns to actually apply it. The kids then took that information and ran with it, taking it to third and fourth level effects. I'd say they were at collegiate level understanding by the time we were done."

Sixth grade science whiz Haydee Rosas commented, "It's seriously cool having Soldiers in here teaching us how they use the science and math that before this, was only in the books."

And not only science and Soldiers were involved - civilians from the command could and did volunteer as well. One such was Melva Tillar, a paralegal from SMDC's legal office who coached the students on public speaking skills.

"I worked with fifth graders in developing their confidence, clarity, eye contact, posture, word choice and delivery. They wrote speeches which they had to deliver in front of their classes, which I then critiqued, using the "Rubric for Speeches."

Much of what we worked on was aimed at their production of school commercials on camera. The students were wonderful to work with, and I enjoyed it thoroughly," said Tillar.

Who ever knew math and science and public speaking could be so much fun?