

MATHEMATICS, SCIENCE & COMPUTER SCIENCE UPCOUNTY CENTER PROGRAM

Roberto Clemente Middle School
18808 Waring Station Road
Germantown, MD 20874
(301) 601-0381



June 1, 2009

Dear Eighth Grade Student,

We are looking forward to this upcoming year of learning and challenges. Below are your eighth grade Center teachers and your summer assignments. We hope you enjoy your summer!

The Math/Science/Computer Science Team

Center Computer Science

Edward Taliff, Ph.D. Edward_M_Taliff@mcpsmd.org

Dr. Taliff earned his bachelor's degree from Juniata College, his master's degree from Shippensburg State College, and his doctorate from Pennsylvania State University. Dr. Taliff has been teaching computer programming at the high school since 1983 and joined the Center program in 2004.

There are no Computer Science 8 summer assignments. Over the summer students are encouraged to consider the use of information technology in their personal world and in the world of others. Topics to consider could include artificial intelligence and the economy, social network websites and safety issues, inter-relatedness of computer programs and daily life, the proliferation of web-based video to disperse opinions and thoughts, and the legal and ethical use of technology by individuals, groups, and government.

Center Computer Science 8 will blend the learning of Center Computer Science 6 (applications) with the learning of Center Computer Science 7 (programming) and will add topics to prepare students for entry into their freshman year. Computer Science 8 uses individual, partners, and team structures to complete class assessments. Since technology undertakings often involve working with others to achieve a goal, the partner and team arrangement provides the student with knowledge as to how teams successfully function and, at times, unsuccessfully function.

The following items are not required of the students. However, if the student has *access* to them it sometimes makes assignment completion easier:

- Flash Drive, 4 gigabyte minimum, plug-and-play
- CD paper labels and plastic cases
- Access to *True Basic* at home

Center Science

Mrs. Roseann Brady Roseann_M_Brady@mcpsmd.org

Mrs. Brady graduated from Loyola University of Chicago with a degree in biology and a minor in chemistry. She worked for many years doing basic research in neuroscience at several universities and in biotechnology companies across the country. Mrs. Brady has been teaching at Roberto Clemente since 2006. Mrs. Brady is married and has four children.

Topics covered this year will be in the areas of chemistry, geology and Earth's history and atmospheric phenomena. As many of you are planning to attend a high school magnet program, you are required to complete a traditional science project this year to be presented at the Montgomery County ISEF Science Fair in March. The website is: <http://www.sciencemontgomery.org>. The high school magnet programs expect you to have the ability to take a testable question and perform an experiment using superior methodology.

Organization and preparation of your project should start during the summer. A project journal will be kept this year. Emphasis will be made on good scientific methodology, measuring techniques, and data analysis and presentation. You may either work alone or with a partner. Take care in selecting your partner. Make sure you are able to meet with them at their house and your personalities are compatible. Your partnership must last from September until March!

Begin to delineate an area of science that interests you and more specifically a topic that you can investigate using the scientific method. Here is a list of websites that you may want to explore for ideas:

<http://www.sciencebuddies.org/>
<http://www.all-science-fair-projects.com/>
<http://faculty.washington.edu/chudler/fair.html>
<http://www.ipl.org/youth/projectguide/>
<http://school.discoveryeducation.com/sciencefaircentral/>

Email me a list of three possible hypotheses before the middle of August. Your hypotheses should be in the form "if, then...because". Please come to school prepared to begin both researching and investigating your topic.

Mathematics

Lena Polishchuk (Lena_Polishchuk@mcpsmd.org)

Mrs. Polishchuk undergraduate degree is from Leningrad University in Russia and holds a master's degree from the same university in math and computer science. Mrs. Polishchuk also holds a master's degree from Boston University in business management. Mrs. Polishchuk is married with three children.

Center Geometry

Center Geometry is offered to students who have demonstrated mastery of enriched Algebra I concepts. The units of study include geometry, exploring geometric relations and properties, logic and geometric proofs, right triangle relationships and coordinate geometry, similarity and trigonometry, measurement, circles, and patterns in geometry and algebra. The concepts of Algebra I are integrated throughout the course, as their use is appropriate.

The first unit of the course is a review of Algebraic concepts. We will be reviewing Algebraic concepts as a tool for solving geometry problems.

Ms. Benaë Gibson (Benaë_E_Gibson@mcpsmd.org)

Ms. Gibson earned her Bachelor of Science degree and master's of Arts in Teaching Mathematics from California University of Pennsylvania. Ms. Gibson earned her second master's degree in Curriculum and Instruction with Administration and Supervision Certification from McDaniel College. She has taught Math B, Math C, and Algebra I and II at Roberto Clemente Middle School since 2003.

Algebra II with Analysis (magnet)

Algebra II with Analysis is an intensive, accelerated course intended to prepare students with the necessary motivation and ability for advanced mathematics courses. Algebra II with Analysis focuses on the use of technology and data analysis to develop students' thinking, problem-solving, and communication skills. The students will study the properties, applications, algebra, and parametric representation of functions including linear, quadratic, radical, exponential, logarithmic, polynomial, and rational functions. Data analysis techniques include the use of re-expression and residuals to find and verify best-fit rules will also be covered as well as applications and properties relevant to advanced mathematics. A big part of the Center's math programs is the interdisciplinary focus which enables the students to integrate topics from other disciplines for applications and investigations.

The majority of the first semester in Algebra II with analysis will concentrate on linear functions. Students will be reinforcing the topics they learned in Algebra I along with

some extension of these topics. The second semester of the course focuses on functions that are not linear including quadratics, exponential, logarithmic, polynomial and rational functions.

A graphing calculator is required for Algebra I courses. Our teachers use the TI-83+ calculator in the classroom, however, any graphing calculator which has a table of values function will be fine. Your teacher will be sending out forms at the beginning of the year if you need assistance with obtaining a graphing calculator.

Your **summer assignment** is to complete the appropriate math packet based on your placement for next year available on the Clemente web site. Our web site is www.clementems.org The math packet is due on the first day of school.