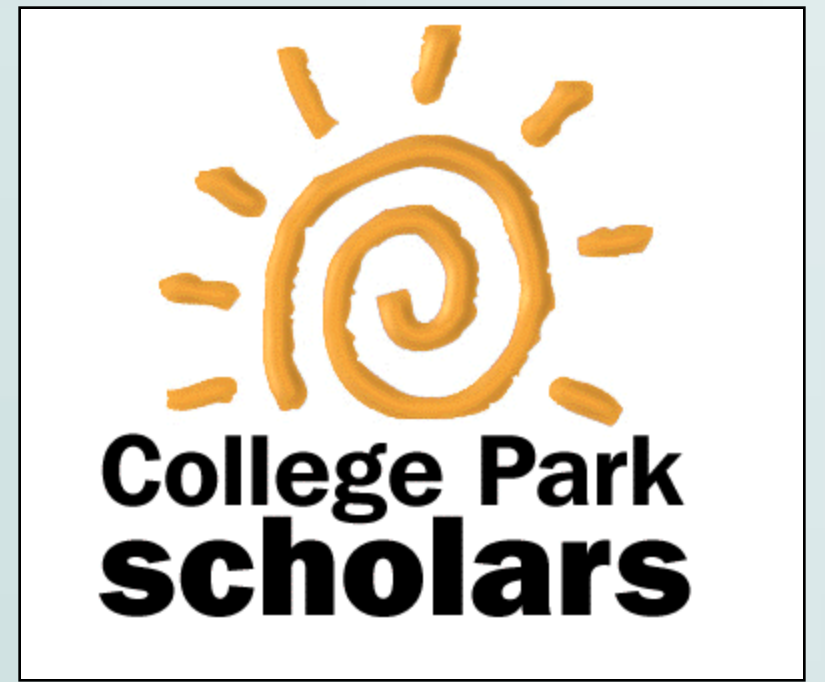




Girls Excelling in Math and Science



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Service Site

Hyattsville Middle School
Prince George's County
6001 42nd Avenue
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Mission of GEMS

Girls Excelling in Math and Science (GEMS) is a program aimed at young girls in middle school. The main purpose of GEMS is to increase the participation of women in the fields of science and technology. By focusing on girls in middle school, we are able to influence their interest in math and science at a critical, educational stage in their life. GEMS sessions give students an opportunity to explore and enhance their interest in math and science. These sessions focus on improving math and science skills through hands-on activities and field trips.

Responsibilities as a mentor

- Attend weekly mentor meetings
- Assemble a lesson plan on a scientific topic
- Instruct and mentor students throughout the activities
- Prepare and clean up before and after each activity
- Be a respectable and excellent role model for the students

A Day at GEMS

Each GEMS session starts out with a warm up that helps students get introduced to the topic of the day. There is a wide variety of topics based on science; some examples include viruses, geology, or plants. Usually after the warm up, a mentor presents the topic of interest through a detailed PowerPoint presentation. The presentation includes the objectives of the day, as well as the topic's relevance to the real world. With a bit of knowledge on the topic, students can then go to their assigned groups, led by a mentor, to participate in an activity to learn more on the topic. The activity provides hands-on experience and enables interactions with peers. The assigned groups are small in order to allow each student to participate and enable students to get the necessary attention they need. At the end of each session, the mentors lead the students through a discussion to ensure they have learned the necessary objectives for the day.

A Learning Experience

Students learned about the Painted Lady butterfly in the lesson plan I designed. The purpose of the activity was for students to learn the different phases of metamorphosis. A PowerPoint presentation was used to introduce the vital information about the Painted Lady; in addition, fun facts were added to keep the interest of the girls. For the group activity, my supervisor provided butterfly growing kits, to have the students grow their own butterflies in order to observe the different phases of metamorphosis.

One of the activities I enjoyed the most was the topic of soils. For this lesson, three University of Maryland Undergraduate students, majoring in Environmental Science and Policy, gave a special presentation on soils. The objectives covered in the lesson included what soils are (their properties and characteristics), how they are formed, and their importance to us. Their presentation was very detailed and provided the students with different images that enhanced their learning of the concept. The students were able to make different types of soils by mixing certain amounts of water and different types of dirt. With this hands-on experience with soil, the students learned about the composition and texture of different soils. In addition, the students attended a field trip to the National History Museum to see the soils exhibition; this enabled the students to apply what they learned inside the classroom to what they saw in the exhibit.

Impact

The GEMS enrichment program has given young girls the opportunity to discover the vast world of math and science. The girls of the program were able to utilize their skills of scientific inquiry and critical thinking. In addition, the girls were given time outside of school to expand their knowledge and learn about the different benefits of research to our communities. As a positive role model, I was able to support and extend the students' interest in math and science.

Working as a mentor has been a fun and memorable experience. While mentoring the students, I also learned some new information about science. In addition, I improved my communication and organizational skills. Seeing the students' enthusiasm for learning at each session has made my mentoring experience worthy.



Future Work

In the future, the GEMS program will continue at Hyattsville Middle School. Hopefully, this program will expand to other schools in the county to help increase the interest of girls in math and science. For the rest of the school year, I plan to continue my work as mentor. If given the opportunity in the future, I would help out with GEMS.

Acknowledgments

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