

Dear PTA,

10-13-14

Over the summer, I met with a parent of a child here at Shady Grove, who wanted to donate his time and energy to come in and collaborate with me and work with my students using Lego Robotics. With Shady Grove's STEM initiative in mind, this would be a wonderful opportunity for students to increase the rigor and relevance of the classroom learning experience. It would provide students with opportunities to collaborate with each other in order to design, build, test, troubleshoot, and revise programmable robots using motors, sensors, gears, wheels and axles, and other real-life robotics technology. Students would be encouraged to brainstorm together in order to find creative solutions to problems and then develop those solutions through a process of selecting, building, testing, and evaluating. This would also be an excellent way of getting students communicate effectively with each other using scientific and technical language as well as giving them hands-on experience using mathematical concepts such as estimating and measuring distance, time, and speed. Our hope is to embed Lego Robotics into each science unit we teach in order to challenge students to develop those higher order thinking skills and creativity. We are asking for the PTA's help in purchasing the EV3 Core Set + 16 Software Student Packs. This would give us 1 site license for Shady Grove and 8 sets (for 16 students if they were in pairs) of the following:

- Three interactive servo motors with built-in rotation sensors.
- Color sensor, gyro sensor, ultrasonic sensor, and two touch sensors
- Rechargeable battery and charger
- Ball wheel
- Connecting cables
- Building instructions
- LEGO Technic Building bricks for creating a vast variety of models

This core set is optimized for classroom use and contains all we need to teach using LEGO MINDSTORMS Education EV3. It contains the EV3 Intelligent Brick, a powerful small computer that makes it possible to control motors and collect sensor feedback. It also enables Bluetooth and Wi-Fi communication as well as providing programming and data logging.

According to the site, it is optimal for the students to work in pairs, however, if we work in groups of 3-4 this should be enough for an entire class. Our goal is to pilot this program in my classroom this year and then make the kits available to other classrooms at Shady Grove in the years to come. The cost for this set is \$3,050.95 and can be purchased through shop.education.lego.com. The item number is 5003822.

Thank you so very much for your consideration and I look forward to hearing from you soon. I'm excited about the possibilities this will open up in the classroom and can't wait to get started. Please let me know if you have any further questions or concerns.

In Education,

Shannon Maroney

4th grade

