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8th Grade Scientists/Engineers receive national recognition for innovative ideas

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Congratulations to the 8th grade students at Green Woods Charter School who, once again, have won Honorable Mention in the Toshiba/NSTA ExploraVision Contest. This means their winning entries were in the top 10 percent of all ExploraVision projects submitted to this national



competition this year. This exciting competition is a partnership between Toshiba and the National Science Teachers Association (NSTA) and challenges students to infuse innovativeness and critical thinking into a futuristic invention, while utilizing skills in Science, Technology, Engineering and Math, also known as STEM.

The students worked in teams to simulate real research and development. They studied a technology of interest and predicted what that technology might be like twenty years from now. The entry requirements were extremely challenging: each team had to imagine a technology of the future and then create a written description that included: details of their team's brainstorming process, the state of present related technology, the history of its development, the breakthroughs that are necessary for their invention to become a reality, and the pros and cons if it is constructed and implemented. They also had to create five sample webpages promoting their product.

Honorable Mention winners this year were "Injection of Carbon Nanotubes to Heal Bone Fractures" by Malik Bishop, Faith Fenton, and Aderinsola Solebo; and "The Peechy Toothbrush" by Maisie Brolly, Jenna Cox, and Stefanie Pleasant.

The “Carbon Nanotubes” team focused on how an injection of carbon nanotubes can help to speed up and heal a bone fracture in a new way. The injection would contain a foam made from three components: polylactic acid, hydroxyapatite, and chemically treated carbon nanotubes. This foam will support the bone fracture, similar to what an implanted polymer pin or rod would do, and the chemically treated carbon nanotubes would then attract calcium ions to help strengthen the bone while the polylactic acid and hydroxyapatite act as insulating materials. This would speed up the healing process and prevent weeks of physical therapy after an implant surgery.

The “Peechy Toothbrush” team put their brains where their mouths are and researched the potential for a new and different way for us all to have cleaner, healthier and stronger teeth. This new invention of a 21st Century toothbrush would monitor your teeth with regular digital imaging, UV and x-ray cameras. The device would come equipped with a speaker and screen to show and tell you if a cavity is developing in your teeth. If the device detects a concern, it will alert you to contact your dentist and set an appointment. Photos of areas of concern could easily be downloaded and sent directly to a dentist.

Other 8th Grade teams provided outstanding entries, as well, envisioning mining asteroids for valuable minerals, a bioengineered artificial kidney, a “Back to the Future”- style hoverboard, a refrigerator that can tell you when food items are running low or about to spoil, and a special robot to assist with the mail delivery (no more dog bites or arthritic shoulders for postal workers!).

Mo Warsame, Assistant Manager of Science Education Competitions for the National Science Teachers Association, praised 8th Grade Team Coach and Green Woods Science Teacher, Kathleen Geist, and the efforts of the students: “Your students are commended for a job well done in demonstrating innovative thinking in their exploration of science and its impact on technology and the future. You are applauded for your leadership role and for involving your students in ExploraVision.”

The regional winners will not be announced for another three weeks - so it is still possible that one of the remaining Green Woods’ entries could be selected as a regional winner.

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