



# PRESS RELEASE

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**NATHAN UPCHURCH, PHYSICS TEACHER AT TEXAS HIGH SCHOOL, RECEIVES \$10,000 GRANT FROM TOSHIBA AMERICA FOUNDATION**



**Texarkana, TX** – Nathan Upchurch, Texas High School 11<sup>th</sup> & 12<sup>th</sup> Grade Physics Teacher, is passionate about making science and mathematics more engaging for students. Because of that passion and a project titled “Factors Affecting Development of Fuel Efficient Cars,” the Toshiba America Foundation has awarded him a \$10,000 grant.

Upchurch’s grant project will allow high school students to tackle the problem of how to investigate and find the most cost effective automobile by understanding the function of batteries, hydrogen-fuel cells and vehicle design.

“I really wanted to be able to engage all students in the study of physics and make it more hands on for them,” commented Upchurch. “This grant allocation allows the students to take a conceptual theme and tie it all together so that they can see how all of these ideas apply in life. Many of the lessons I am using are a guided inquiry approach so that students will hopefully come up with more questions from the one question we start with. All of this is meant to engage the students not only in the curriculum standards they are learning but with more of a motivational design to the lessons.”

As of January, students started reading “*The Physics of NASCAR*” in order to begin research on the use of petroleum, synthetic rubbers and other structural materials used in current automobiles. “Through their reading, they will learn about forces, energy, friction and synthetic rubber which will help them understand how a limitation in materials, such as natural rubber, has led to the development of alternatives,” continued Upchurch. “Through this understanding, students can see how a limited amount of materials for batteries forces the need for development of a more cost effective battery.”

Throughout the upcoming months, students will: invite guest speakers to discuss with them electrical engineering and the powering of electric cars; research their own student automobiles as well as autos from local dealerships in order to gather data; investigate and analyze vehicle design; and compete against each other in robotic designs and challenges.

Additionally, students will visit Texas Motor Speedway to learn more about the science of NASCAR as well as The Dallas Autoshow and construct and test hydrogen fuel cell cars. Their research will culminate in the hosting of their own Auto Show which will feature some of the latest designs in electric, hybrid and/or fuel efficient technologies from dealerships in the area.

Founded in 1990, with support from Toshiba Corporation and the Toshiba America Group Companies, Toshiba America Foundation (TAF) is dedicated to helping classroom teachers make mathematics and science learning fun and successful for students in U.S. schools.

Toshiba American Foundation grants fund the projects ideas and materials teachers need to be innovative in their math and science classrooms. TAF is interested in funding projects designed by teachers or small teams of teachers for use in their own schools. Toshiba America Foundation believes science and mathematics are exciting fields in which all students can succeed with the proper tools and instruction.

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