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Practical Ways to Promote STEM Learning

(Family Features)

Demand for workers in science, technology, engineering and math (STEM) careers continues to explode. Data from the U.S. Department of Education predicts that growth opportunities in these fields will increase 14 percent by 2020. One way to nurture kids' long-term potential is to make learning STEM subjects fun, hands-on and interactive.

Whether you're looking for fresh ideas to shake things up in the classroom or planning activities to share with the family at home, consider these creative approaches to increasing students' interest in STEM topics.

Take a field trip: When learning occurs outside the confines of a classroom, it can create unexpected sparks of interest. Build classroom field trips or family outings around destinations that offer unique ways to highlight STEM subjects. For example, setting up a tour of a local baseball stadium may be a chance to get up close and personal with the game and the field, but it's also a way to discuss the math behind baseball. Similarly, a visit to an indoor skydiving facility is more than just exposure to an extreme sport; it's an opportunity to learn about terminal velocity and gravity. Additional options include an outdoor nature lesson, manufacturing facility, planetarium or local farm.

Introduce robotics: Between self-driving cars, drones that can aid in rescue efforts and robots that assist as a "butler" for day-to-day tasks, the future of robotics is here now. Researchers at Brandeis University found that students involved in robotics are two times more likely to take more challenging math and science courses and two times more likely to pursue STEM careers.

One option to increase students' interest in robotics is the TI-Innovator Rover, a robotic car that introduces middle school and high school students to the basics of coding and programming. Students without any coding or robotics experience can learn to write basic programs on their TI graphing calculators that make Rover do things like draw, dance or even crash. Learn more about the first calculator-controlled robotic car at education.ti.com/rover.

Career show and tell: Seek out speakers or mentors who have real-world STEM careers, ranging from more traditional STEM fields like scientists or engineers to more unexpected jobs that use STEM principles every day, such as a fashion designer or an ice cream flavor scientist. Encourage kids to get hands-on with these careers by having guests both show and tell how they use math and science every day. For example, students can



measure and cut materials to make a circle skirt, an unexpected lesson in geometry. Or they can scoop up a physics lesson on states of matter as milk transforms into ice cream.

Cook up some fun: When it comes to bucking tradition, the kitchen may not be the first place you think of to drive home the benefits of STEM learning. However, the kitchen is a perfect place to explore the chemistry of combining ingredients and hone math skills such as dividing fractions when splitting a recipe.

Solve real-world problems: Give students an opportunity to think through a real problem and come up with a solution. For example, challenge them to solve how they would create low-cost options for filtering water in countries without clean water. Through trial and error, students can learn that failure is OK and sometimes leads to a better solution.

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Source: Texas Instruments