



Jan. 2014 Issue

Kingswood Elementary

Cary, NC

Welcome!

We are so excited to offer a STEM program at Kingswood Elementary. Kingwood is a NC STEM Learning Network School. Our teachers are trained to provide an interdisciplinary approach by integrating science, technology, engineering, and math in all Common Core State Standards through project-based learning. We have some exciting events planned this year. Students will enjoy a science fair, STEM Expo, science night, math night, student clubs, and STEM challenges. As always, we encourage families to incorporate STEM-related activities at home through games, books, field trips, and videos.

If you would like more information, please visit our STEM website at:
<http://kingswoodelemstem.weebly.com>

3rd Quarter: All About Engineering

During each quarter, we will highlight one aspect of STEM. This quarter, we will focus on engineering. Did you know that it took 400,000 engineers, scientists, and technicians to get astronauts to the moon? Did you know that it took a team of engineers and some duct tape to get the crew of Apollo 13 back to Earth safely after there was an explosion aboard their capsule? Engineering has brought many accomplishments that we once thought were impossible. In 1994, engineers build an airport on a manmade island in Japan because the city was overcrowded. In 1863, the London Underground railroad was built. We see similar designs in New York City with the subway. Engineers designed the Panama Canal to connect the Atlantic and Pacific Oceans while allowing ships to travel through. In fact, we appreciate the safety that engineers bring to projects as we go across a bridge.

Students may browse the trophy display case highlighting engineering feats such as the Eiffel Tower, the Golden Gate Bridge, the Taj Mahal, and the Great Pyramid. They can see posters around the school about jobs or accomplishments within the field of engineering.

There are many fields within engineering that your child may show an interest in. He may love the engineering behind airplanes, cars, computers, or railroads. She may want to explore the engineering behind fire protection, plastic products, various ecosystems, or electrical motors. We hope that STEM-related lessons, activities, clubs, events, and challenges will spark an interest in science, technology, engineering, and math. Who knows? We may have a student who goes on to build a car that flies, invent new safety equipment, develop a new communication device, or teach a new generation.

Upcoming STEM Events

February 13th from 6:30 - 7:30 p.m. in the cafeteria: STEM Expo

March 7th: Engineering STEM Challenge due. Please turn in projects to the homeroom teacher.

April 10th: Science Fair (K - 2nd Grade; Pre-K class projects)

April 10th from 6:30 - 7:30 p.m.: Math Night and Science Fair Viewing



STEM Challenges

Each quarter, we will issue students a STEM challenge. This is a fun assignment that they may voluntarily complete at home. A STEM challenge is a great way for students to read, discover, and explore more about science, technology, engineering, and math. Students will have eight weeks to complete the challenge. They may turn in their assignment to their homeroom teacher at any time before the deadline.

Students will be recognized at the end of each quarter for completing the challenge. Children who finish all four challenges will be honored at our STEM Awards Night on June 5th. Enjoy your STEM challenges!

3rd Quarter STEM Challenge: Engineering

Challenge begins: January 13th

Challenge ends: March 7th

Students will receive a flyer with detailed guidelines and expectations. Here is a condensed list of STEM challenges to complete.

Read: Read a book to find out how something works or how something was built. You can read about bridges, cars, airplanes, robots, roller coasters, boats, and so much more.

Discover: Choose one fun activity. Some activities include building a bridge, house, car, tent, airplane, boat, or robot. Please check the STEM flyer for a complete list of activities.

Explore: Go on a family field trip. Students will have a variety of options to choose from. Some ideas include: building structures at Marbles Museum, watching airplanes at RDU's observation tower, building at Crabtree Mall's Lego Store, or looking at art sculptures at the NC Museum of Art. See the flyer for more options.

Nurturing and Encouraging Future Engineers

Kids love to build and create. They love to figure out how things work. This passion and curiosity can be a great way to nurture and encourage a young engineer. Here are some tips to maximize your child's learning opportunities.

- 1) **Building:** Let your children use their creativity and problem-solving skills to create a structure with a solid foundation. Items include: blocks, Legos, popsicle sticks, empty paper towel rolls, toothpicks or straws with marshmallows, playing cards, and books. Let their imagination drive their creation.
- 2) **Games:** There are several games that encourage engineering. Some include Jenga, Creationary, City Square Off, or a marble run kit.
- 3) **Engineering kits:** While these kits are expensive, they may be something for kids to do over the summer break. There are kits that explore creating robots, roller coasters, snap circuits, crystal radio, solar power, and electric inventions.
- 4) **Problem-solving:** One of the toughest things that we face is when things do not go right when creating something. You may have to build the structure in a certain sequence along with enough patience. There are some games that help kids sharpen their problem-solving skills such as chess, Rubik's Cube, Rush Hour Jr., and Brain Benders 3D puzzles.
- 5) **Field Trips:** When kids get to see engineering up close or experience hands on activities, they get inspired to learn more. Enjoy fun trips to explore engineering.

Have a fun, family STEM adventure!