

## Root Elementary's STEM Showcase

Kids are naturally curious about the world around them and about the way things work. When children have the opportunity to explore and imagine they become inventors and scientists! Root Elementary's STEM Showcase is an opportunity for our students to learn through investigation and exploration and present their findings to others.

### **Who?**

K-5th grade students may enter a project alone or with other student(s). STEM projects will need to be completed at home. Families may work on this project together or students may choose to collaborate with a friend, outside of school.

### **Where and When?**

Student projects are due on Wednesday, March 8, 2017. Projects will be on display at our curriculum night on Thursday, March 9, 2017. Each student will be expected to verbally explain his or her findings/results on Friday, March 10, 2017 for part of the day to different groups of students. Projects will not be judged but each student will receive a certificate and will be recognized on our school website.

### **How?**

A student wishing to participate in this event will need to complete the project proposal form. Signed and completed entry forms are **due** online, to your teacher, or to Ms. Dozier by Friday, January 27, 2017. The online form can be found on the Root website. Paper forms can be found outside the STEM Lab.

### **Project Categories**

Each project starts with a student question. Your child may choose to be a scientist, a researcher, an engineer, or a reverse engineer. Detailed below are the four roles.

- **Be a researcher...ask a question and research the answer:** The research process allows your child to explore a broad topic to determine what scientists have already discovered. Perhaps your child has wondered about what is on the surface of the moon. They can follow the research guide to be an information explorer and create a multi-media presentation of their discoveries.
- **Be a scientist...ask a question and design an experiment:** Picture science being a car driving towards a place called "knowledge." The scientific method is like the road map that you follow in order to get to that destination. In order to use the scientific method to find answers to your child's own questions, your child will need to: make observations, do some research, form a hypothesis, test your hypothesis, and draw conclusions.
- **Be an engineer...ask a question and create a solution:** The engineering design process is a series of steps that engineers follow to come up with a solution to a problem. Many times the solution involves designing a product (like a machine or computer code) that meets certain criteria and/or accomplishes a certain task.
- **Be a reverse engineer...ask how things work or what you can re-make with the insides of a toy or appliance.** Reverse Engineering is the science of taking things apart to see how they work. Has your child ever wondered what makes devices work or what is inside them?

## Helpful Hints for Student Success

Your support is essential to your child's success for this project. Some of the ways you can help are:

- Help your child create and follow a schedule to complete their project by the due date.
- Help your child acquire the materials needed for the project.
- Provide opportunities for your child to visit a library for research
- Help your child find a place to work on their project where they do not have to worry about siblings or pets.
- Let your child work independently, but you can provide support in areas that they have not yet mastered. (For example, discussing the scientific method with your child or help cut out project parts)
- If your child has questions, help guide them to the correct answers rather than just telling them.
- Encourage your child to keep a journal of notes, observations, and questions.
- Make sure the project is primarily the work of your child.
- Show enthusiasm for your child's project.

