

Dear Parents,

As I wrote in my letter last month, the focus for Lower School is to lay strong academic foundations for our students. Along with basic academic foundations, character development, and social skills, we also want to equip our students with problem-solving skills and strategies to enable them to be critical thinkers and competitive 21st century citizens.

By now, you are familiar with the terms STEM (Science, Technology, Engineering and Math) and STEAM (Science, Technology, Engineering, Art and Math.) As the need for different types of skill sets within the professional world have evolved, so too has the need for a curriculum adjustments in primary education. STEM within the school setting was introduced when high-tech jobs were out-pacing qualified employees. The focus on engineering was introduced at the youngest levels to inspire students to move in the direction of learning that incorporates all of the STEM elements. The concept has since been expanded to include art and design. Loosely defined, a STEAM education is where all subjects are introduced, interrelated to each other and the real world. Interestingly, similar to the STEAM concept, an educational approach known as "integrated learning" has been widely implemented in schools and at Oakwood since its inception in 1996 starting in Lower School. Integrated learning is a movement toward integrated lessons helping students make connections across curricula.

Both STEAM and integrated learning are hands-on and experiential learning at its best and differentiates our Lower School academics, as our teaching has always comprised elements of problem solving. Even at the youngest ages, problem-solving and critical thinking skills are introduced throughout the school day in a variety of settings and situations. The key is for learning to be natural, spontaneous, opportunistic, customizable and, yes, fun as well.

One of the most obvious places where you will find STEAM in action is with our Lower School science program. A'me Saverino provides many hands-on opportunities for Oakwood's youngest students to problem-solve ranging from exploring how far a pumpkin will splatter when dropped from a ladder to finding out what types of landforms make a glacier move the fastest. Recently, A'me's second graders used paper towel rolls to measure the resting and active heartbeats of fellow students after performing various types of exercise. The students were trying to discover which exercise generated the most rapid heart rates by averaging the numbers of heartbeats for each group. Upon completion of the activity, the second graders built the letters h-e-a-r-t using Legos to meet specific measurement criteria.

STEAM learning is not found just in science class. Kindergarten and first grade students recently made robots using unrecyclable items in art class, and Pre-Kindergarten students grew salt crystals on construction paper hearts. Third graders recently used an app called *Expeditions* to take a virtual field trip through the body to explore smooth muscles. After learning about the muscles and how they work, the students created anatomical diagrams illustrating and labeling the muscles in the body.

This is just a minute sampling of STEAM teaching in Lower School where teachers lay the foundations for STEAM learning beginning in Pre-Kindergarten with the building of simple block and Lego structures to more complex and collaborative projects in 3rd grade. Exploring and solving real-time problems using science, technology, engineering, art, and math not only *engages* students in learning, but also prepares them to be collaborators and problem-solvers of the future.

Please contact your child's teacher or me with any questions that you may have.

Sincerely,

[Susan Brown](#)

Lower School Division Coordinator
Pre-Kindergarten to 3rd Grades
sbrown@theoakwoodschool.org
(252) 931-0760 EXT 1110