

ST1.6 Real-World STEM applications

- Kindergarten: The Kindergarten FOSS kits and Defined STEM focus on Animals in our World, Weather, and Materials in our World.
- First Grade: First Grade FOSS Kits focus on Animal Habitats, Plants & Animals, Balance & Motion, and Earth Materials. Students listen to presentations about real world jobs that utilize STEM.
- Second Grade: STEM projects that students participate in are all problem-based. For example, students combine math and science in mixing and measuring solids and liquids, creating a substance, then inventing a real-world purpose for the invention, then persuading others to want to use their invention. Students study human body systems in science and make connections through math (counting heartbeats, measuring height...), technology (books and videos) and writing reports; Social studies, writing, and STEM connections are made when learning about inventions (Ford, Wright Brothers, Alexander Graham Bell), and predicting how these inventions will evolve and improve through time.
- Third Grade: Students were presented with the question: What is the future of agriculture in your location? Students were assigned a location around the world who are facing agricultural issues. The “Future of Agriculture” problem-based learning project asked students to research current agricultural practices and shortcomings, design a model, and prepare a product to propose the solution. Students created the rubric to guide their own work throughout the process. Teachers facilitated discussions to deepen students’ thinking, ask questions for students to consider when developing their plan. This project extended across curriculum/ disciplines because they had to research, plan, build, develop a presentation, and present. Reading and writing skills were utilized through the researching and developing/writing the presentation, math skills were applied during the planning and building stages in the form of measuring. History was woven in through the research because the students discovered that they need to understand the history of agriculture in their location in order to develop a plan for the future. Multiple areas of science were applied during this project because students engaged in the Engineering Design Process as well as investigating different methods of farming and agriculture.
- Fourth Grade: We use FOSS, EIE kits, and Define STEM regularly in our classrooms. We work together as a team to insure that there is integration between all subject areas as often as possible. Students work collaboratively in all subject areas in fourth grade.
- Fifth Grade: EIE Kits
- Sixth Grade: All curriculum is based on real-world current events, laws, scientific discoveries and students make connections and apply problem solving strategies and make judgements on how they would solve current problems, apply their chosen solutions, and evaluate the results. (Camp Surf-RW apps)
- Seventh Grade - STEM curriculum focuses on the real-world application of Forensic Science. Science and STEM curriculum uses the Arizona State, Career and College Readiness, and the Next Generation Science Standards as a guide for the curriculum taught. The 7th grade team not only implements real-world experiences through STEM, focusing on forensic science curriculum, but also in all core classes. For example, Social Studies completes a current event at the end of each unit where the students must select a modern day event that in some way relates to the unit of study.
- Eighth Grade: The curriculum follows along with Arizona’s 8th grade science standards. The teachers work as a team to integrate subject areas when possible and relevant to provide interdisciplinary learning such as Social Studies and Language Arts joining forces during the study of WWII. Students work collaboratively almost every day in science. All students participate in STEM investigations.
- Special Areas: Within and at the completion of units students create new or innovative games, set personal goals and design plans for future success within content areas. Self and peer analysis, critique of fitness activities, art activities i.e. judging, art critic
- Ren 6/7/8: All content areas are blended/cross incorporated, i.e. writing and communication are emphasized in all subjects, analysis of real-world situations for prevention as well as response to disasters (man-made/natural), current events are commonly a part of everyday instruction within each standard-based area.