

ST1.2 Independent & Collaborative STEM work

- Kindergarten: Kindergarten students are engaged in daily STEM lesson based on a monthly STEM focus. The STEM ½ day is a collaboration of that monthly focus. We utilize independent STEM bins/stations during our daily instruction.
- First Grade: Every STEM day the students have hands-on exploration in small groups or partners.
- Second Grade: Students work together in groups in planning and developing well-functioning communities. They then observe other group's communities and participate in conversations on how to not only improve the communities they built, but to improve the community they live in. They also actively participate in FOSS inquiry learning on topics of Solids and Liquids, Air and Weather, and Insects.
- Third Grade: Students participate in Stem days. They use an inquiry process before each activity or experiment. Students work together to find solutions and analyze their results. Many of the STEM activities are set up to be real world examples or problems students may face in the future. Students also work together in math to understand the outcome of problems and explain their solutions as to why they are reasonable. They also connect math to real world problems that they face and ways to solve them independently through picture representation, a number sentence, and a thorough explanation.
- Fourth Grade: 4th grade has incorporated STEM into their daily RTI time. Students are given the opportunity to work on real world problems such capturing cane toads in Australia. Students have since taken that scenario and are now applying it to the bark beetles in the mountain region of AZ. Students are also engaged in coding and logic games during RTI time as well as Genius Hour. All of these activities are student driven in which the adults are there as facilitators of learning. Students in 4th grade each present an invention during our annual STEM night. Students are encouraged to solve real world problems with their invention. They are also encouraged to work on their inventions collaboratively.
- Fifth Grade: 5th grade math focuses on working collaboratively in order to solve problems in an inquiry-based setting. 5th grade Science also incorporates solving problems, proving theories and setting up multi-set procedures in order to prove or disprove their hypothesis and creating a well-supported conclusion. By utilizing EIE kits; student's learning is directly connected to real-world problems and focusing on fully implementing Engineering process.
- Sixth Grade: Foss Investigations require collaborative work to answer questions and solve problems, prove theories, and set up variables within experiments. Differentiated math centers that require independent inquiry based learning and problem solving.
- Seventh Grade - Students participate in STEM half days where they work collaboratively to solve problems. Students also participate in Science experiments regularly (real-life and virtual) that allows them to use the skills they have learned about the Inquiry Process. Students also participate creating projects in multiple subject areas that allow them to work to solve real-world problems. The 7th grade students use half days to dive deep into STEM, specifically Forensic Science, where they can work independently and collaboratively with an emphasis in real-life problem solving. Career Day enlightens students to how STEM applies in real-world situations. Teaching practices foster student discovery and analysis daily. Students connect to real-world situations with creative problem solving in all disciplines (i.e. Budget Project). Students are given opportunities to explain their way of thinking and collaborate with others to understand a multi-way of solving the same problem.
- Eighth Grade: Case studies that are team-based that utilize the knowledge and skills to find creative solutions. Performance lesson tasks with option to work in teams to apply algebra concepts - real world application. STEM lessons 5X a year and science lessons 2X a week. Teacher posing questions to students which leads to creative problem-solving. Students work collaboratively on all classwork including hands-on investigations and individually on some projects and assessments.
- Special Areas: Art: Mural to scale- Students are provided pieces to a mural, must create to scale that mural. PE: Given movements, student perform, and then name the kinesthetic movements/body parts.
- Ren 6/7/8: Each day students work collaboratively with complex problem based learning activities, i.e. Alien Babies, Toy Design, Animal Prosthesis, New Historical Figure Memorials.