



STEM Learning & Extended Day Opportunities

1.11: STUDENTS ARE SUPPORTED IN THEIR STEM LEARNING THROUGH ADULT-WORLD CONNECTIONS AND EXTENDED DAY OPPORTUNITIES.

CLUBS

- **Swift Coding Club:** Students in grades 2-3 - Students will be using Apple's Swift Playground to learn how to code in Apple's coding language.
- **Math League:** Renaissance students in grades 4-6 - A National elementary school math competition club. Students are exposed to broad concepts from number theory, statistics, probability, combinatorics, algebra, geometry, and other branches of mathematics. Tests reward the application of problem-solving strategies. Each competition has at least one team round, where students can work together and share ideas and techniques.
- **Math Counts:** Renaissance students in grade 7-8. A national middle school coaching and competitive mathematics program that promotes mathematics achievement through a series of fun and engaging "bee" style contests.
- **Robotics Club:** FLL-First LEGO – League teams research a real-world problem such as food safety, recycling, energy, etc., and are challenged to develop a solution. They must design, build, and program a robot using LEGO Mindstorms technology, then compete on a table-top playing field
- **Rubik's Cube Club:** All students – After school club geared towards engaging students through use of the Rubik's cube. Students work together in teams to solve 25 cubes in the least amount of time possible. Students must persevere and work on logic skills to move past the rote memorization of solving algorithm.
- **STEM Club:** Students in grades 3-5. Students will engage in STEM projects and problem solving, designing and creating products.
- **Environmental Club:** All grades. Students will plant and maintain potted plants around campus, feed and take care of the campus tortoises, and ensure the area is well maintained.

FIELD TRIPS

- **Robotics Competitions**
- **Math League Regional Competitions**
- **Math Counts Regional and State Competitions**
- **Catalina Island Marine Institute – 6th grade Renaissance**

- **Tonto Creek Camp:** February 19-21st 2018 - 5th grade students experience learning in an outdoor overnight camping setting through innovative curriculum and ASU faculty/student instruction. The goals include increasing student understanding of science concepts and increasing student attitudes towards fields in science, technology, engineering, and math
- **BizTown:** October, 12th 2017 – 5th grade students experience an education program that enables students to learn economic concepts in an interactive, hands-on environment simulating a wide range of STEM fields and jobs
- **AZ Science Center CREATE Lab:** February, 23rd 2018 – Workshop will lead students through the engineering design process by making art machines based on concepts of simple circuits and motion
- **NOAA Focus Group:** December 8th, 2017 - The students examined the threats of drought for the community, created stakeholder perspectives, prioritized stakeholder values, designed resilience plans, implemented the plans and explored the vulnerabilities of the plans utilizing NOAA's interactive web-based simulation.
- **Wildlife World Zoo:** Kindergarten - Students go to the zoo to learn about animals and then has a follow-up family “Zoo Revue” night where the students display their engineered habitats and research reports.
- **Tolmachoff Farm:** – Kindergarten – Students visit the farm and then complete a “Farmyard Fit” STEM lesson where the students engineer animal enclosures
- **Lake Pleasant Field Trip:** 4th grade students – Students have the opportunity to learn about the lake and the environments that make it up. Led by Park Rangers, students learn about the construction of the lake, water conservation, and wildlife management.
- **Musical Instrument Museum:** How Science Brings Music to Life, 3rd grade students – Students explore physics of sound production, vibration, and how musical instruments can be classified. Hands-on sound experiments help reinforce concepts of sound waves and music technology.
- **Laser Quest:** Light and Optics, 3rd grade students – Students learn about light reflection and refraction, the Law of Reflection and the point of incidence, dispersion, the visible spectrum, and the electromagnetic spectrum
- **Great Skate:** STEM Field Trip, 7-8th grade students – Student participate in lessons designed to incorporate STEM and how it relates to roller skating. Lessons included are about motion, force, friction, sound waves, Doppler Effect, light waves, design and geometry.
- **Camp Surf:** STEM Field Trip for 6th graders April 16-18, 2018. Students participate in outdoor environmental education activities exploring coastal ecosystems, understanding natural resources, and improving outdoor and group building skills.

WEBINAR/VIRTUAL FIELD TRIPS

- **STEM Pro Live with OdySea Aquarium of Scottsdale:** January 17th, 2018 – 3rd grade Renaissance students viewed and participated in a webinar about animal care and educational teams.
- **Smithsonian Science How? Paleobiology:** February 8th, 2018 – 3rd grade Renaissance students viewed and participated in a lesson about unearthing fossil whales featuring Nick Pyenso
- **Robotics mentorship:** Presented to students in the robotics club by students at Boulder Creek High School in the JagBots Robotics Club