Enrichment

Both Key and Quest Academies focus on enriching the curriculum by pursuing additional study in each of the core subject areas.

In language arts and history, students are additionally supported by Enrichment activities that focus on digital citizenship, research methodology, listening skills, Chromebook/Google Applications usage, stress management, art, and theatrical exercises.

In mathematics, students explore art and mathematics through geometric constructions using compass and straightedge. Students copy and bisect angles and segments, construct perpendiculars, equilateral triangles, regular hexagons, and regular octagons, and learn the properties of different types of quadrilaterals through construction challenges. Students build hexaflexagons and torque mobiles to explore math through art.

Enrichment activities provide Key Academy Science students the time and opportunity to design and conduct controlled experiments (testing the effects of biotic and abiotic factors on plant growth in the school garden), perform lab activity extensions (DNA extraction; dissections), design solutions to meaningful/relevant scientific problems (Schoolyard Habitat Project), and conduct original research into topics of personal interest (Genius Hour Project).

Quest Science enrichment provides students more in-depth exposure to engineering principles and scientific processes. For example, activities include engineering design of single component device based on compliant properties. Critical thinking and problem solving skills are further developed by engaging students in real world engineering design applications such as developing and testing water treatment methods. Additionally, topics of interest include current technologies such as quantum teleportation, exploring recent discoveries and cutting edge research like graphene-based electronics.

Summary

Advanced learning opportunities are offered in the clustered GATE Academies Key and Quest at Granite Oaks Middle School to GATE identified students in 7th and 8th grades.

Key Academy offers students a well-rounded experience their 7th grade year with a focus on preparing GATE learners for their smooth transition into Quest Academy and advanced classes in high school. The Academy tends to focus on both the academic and emotional needs of the gifted with a focus on developing each student's talents.

Additional classes, opportunities and activities for all GOMS students include: Spanish I, Art II, school sponsored clubs, leadership opportunities in Student Senate, California Junior Scholarship Federation – CJSF- (an honors society), Symphonic Band, Performing Arts (Fall/Winter Chorus, Orchestra and Band concerts, Talent Show), field trips, Academic Talent Search testing (CSU), Career Day, and Community Service Learning activities.

Key Academy Teachers, 7th Grade
Mrs. Louie, Math slouie@rocklinusd.org
Ms. Rhoda, English Language Arts wrhoda@rocklinusd.org
Mrs. Sherrill, Social Science wsherrill@rocklinusd.org
Mr. Thayer, Science jthayer@rocklinusd.org

Quest Academy Teachers, 8th Grade
Mr. Braile, Science wbraile@rocklinusd.org
Mrs. Robeck, Math Lrobeck@rocklinusd.org
Mr. Pitz, Social Science mpitz@rocklinusd.org
Ms. Persinger, Language Arts mpersinger@rocklinusd.org

ROCKLIN UNIFIED
Educational Excellence

GATE
GIFTED & TALENTED
EDUCATION PROGRAM

Granite Oaks Middle School

The GATE Program is housed in the Key (7th) and Quest (8th) Academies

Mission Statement

The mission of the Rocklin Unified School District's Gifted and Talented Education (GATE) Program is to identify gifted and high achieving students, including those from diverse racial, socio-economic, linguistic, and cultural backgrounds, and to provide high quality differentiated instructional opportunities for learning that meet the needs of these students' unique abilities.

Program Description

The goal of the Rocklin Unified School District GATE Program is to provide differentiated learning opportunities during the regular school day for identified students. Differentiation is a process of modifying curriculum content and/or teaching methodologies used with the core curriculum so that students may learn at their own ability level and at their own pace. Strategies used may include but are not limited to flexible grouping, acceleration, in-depth study, complexity and novelty.

Science

Key: 7th Grade

In Key Academy science classes, GATE identified students experience curriculum differentiated for both interest and aptitude, and have the opportunity to move at their own pace toward and beyond mastery through compacting and extension menus.

Life Sciences are most effectively taught where life is most frequently found - out of doors! Developed in part by integrating the US Department of Fish and Wildlife Schoolyard Habitat Project, the National Environmental Education Foundation, and Project Based Learning University models, ESTEM (Environmental Science, Technology, Engineering, and Math) curriculum shifts science education from the "Informational frame" to the "Sense-making frame," and makes it fun! Students delve deeply into the relevance and potential applications of scientific knowledge, as well as the processes scientists use to attain and understand it. Through garden and outdoor-based activities, they design and conduct experiments, use physical and conceptual modeling to understand structure and function of interconnected natural systems, and investigate the cause and effect relationships, patterns, and transfers of matter and energy within those systems.

Quest: 8th Grade

Quest's Science course introduces students to topics in chemistry, physics, and engineering. In addition to adopted curriculum, our students engage in the study of vectors, projectile and centripetal motion, radioactive decay, nuclear reactions, and roller coaster physics. Quest Science pursues a project-based STEM emphasis to expand differentiation for gifted students. Examples of past projects have included mechanical arm/crushing device systems, Newton scooters, asteroid deflection methods, exoplanet detection, solar power systems, designing your own seismograph, and a NASA planetary exploration mission planning project.

Quest Science emphasizes scientific methods and processes, engineering practices and design principles, complex data representation methods, and technology integration.

Language Arts/Social Science

Language Arts and Social Science classes feature differentiated instruction targeted with the GATE learner in mind. Students engage in project-based learning and develop research skills in the humanities through extensive use of technology. Both Language Arts and Social Science focus on the unique needs of GATE learners by offering additional opportunities unique to each Academy. The program tends to both the academic and emotional needs of the gifted with a focus on developing each student's talents.

Key: 7th Grade

Key Language Arts and Social Science go into depth by integrating thematic units of study. In these two separate classes English Language Arts Common Core Standards are woven throughout the teaching of World History Medieval and Early Modern Times. These GATE classes address English Language Arts and History Social Science Standards, but at a heightened level of rigor to challenge our highest level learners using depth and complexity.

Quest: 8th Grace

Quest Academy engages the students in unique opportunities. By supporting the GATE learner's intrinsic motivation, Quest has produced both service-oriented and technological projects.

Language Arts (Key and Quest):

Students participate in the district-adopted SpringBoard curriculum in order to help prepare them for high school and beyond. The curriculum includes a variety of challenging texts and assessments. As a GATE academy, students will participate in additional enrichment activities in Language Arts that deepen their understanding of the curriculum, challenge them and provide choice. The enrichment activities will support their intrinsic motivation and abilities as GATE students.

Advanced Language Arts (Quest 8th Grade):

Students in the advanced course engage in highly-differentiated curriculum in order to help prepare them for advanced classes in high school. In addition to analyzing text and writing academic essays, students participate in literature circles, socratic seminars, expert panel discussions, blog posts and 20time projects. Students are also exposed to higher-level learning through an introduction to Shakespeare and literary criticism theory. Students are admitted into the program through a recommendation from their 7th grade ELA teacher in the spring. The expectation is that students are strong readers and writers going into the program.

Math

The chart below shows the mathematics pathways currently available to middle school and high school students.

	7th Grade	8th Grade	9th Grade	10th Grade		11th Grade	12th Grade
Standard	Math 7	Math 8	Integrated I	Integrated II		Integrated III	Pre-Calculus
				Accelerated	Everyday* Integrated II & III	Pre-Calculus	Calculus AB or BC
Accelerated	Accelerated Math 7: Math 8 and selected topics in Math 7	Integrated I	Integrated II	Integrated III		Pre-Calculus	Calculus AB or BC

In Math 7 and 8 in the Key and Quest students explore linear, proportional, and geometric relationships, and develop algebraic skills in solving equations, systems of equations, graphing, laws of exponents, and other essential topics using an exploratory, problem-solving approach.

Integrated 1 is a high school level course for accelerated students that is challenging. Students learn to use the TI-84 Plus calculators to graph functions, scatter plots, and residual plots, to enter data into tables and calculate LSRL lines of best fit. The course focuses on both linear and exponential functions as well as triangle congruence, geometric relationships, and deductive proof.