Inspiring Excellence
Upper Merion Area School District
435 Crossfield Road • King of Prussia, PA 19406 • 610-205-6400 • Fax 610-205-6433 • www.umasd.org

Upper Merion Area School District
Curriculum Information for Parents and Community

Grade 8

Eighth Grade is the final year of our Middle School (Gr. 6-8) program. Throughout students' middle school experience, we are sure to provide a rich, supportive learning environment for the whole child: academically, socially, and emotionally.

Students in Eighth Grade participate in four blocks of academic classes each day: English, math, science, and social studies. Each student is assigned to a team of teachers who teach the same students. In Eighth Grade, most students complete level 1B in their world language studies (Spanish, French, or German). In addition to their world language course, students also have one Unified Arts class each day. Which Unified Arts class a student attends changes periodically over the course of the school year. Students are invited to participate in Orchestra and/or Band on a pull-out basis.

If you have any questions regarding your child's educational program, please contact your child's team of teachers or school counselor for more information.

ENGLISH LANGUAGE ARTS (ELA)
The secondary English department in Upper Merion aims to foster a love of critically reading a wide range of texts and to develop smooth and clear writing skills in our students. Digital text, visuals, and video are integrated into our English course of studies.

In Eighth Grade, students study multiple works of literature, both fiction and nonfiction, in thematic units; analyze literary elements; focus on text analysis; study grammatical phrases and sentence structure; engage in independent reading, literature circles, and reading workshop; and write narrative, expository, and research-based essays. Students read *Crossover* by Kwame Alexander and *The Outsiders* by S.E. Hinton. Students select a book related to the Holocaust for a book club study. They are encouraged to make use of the Six Signposts for close reading as presented in *Notice and Note* by Beers and Probst. Students have access to digital resources through *Actively Learn*. Overall, our teachers instruct students toward the mastery of the Pennsylvania Core Standards to prepare them for high school.

MATHEMATICS
Eighth grade students will have an opportunity to explore algebraic concepts to support their mathematical development. There are three math courses offered in eighth grade: Students who are on-grade level will take Algebra 1A; students who are accelerated one year will take Algebra 1; and students who are accelerated two years will take Algebra 2. In the Algebra 1A and Algebra 1 courses students will learn to solve linear equations, graph linear equations, solve simple and compound inequalities, work with systems of equations, and factor polynomials to simplify quadratic expressions. The Algebra 2 curriculum is our high school honors Algebra 2 curriculum. Students must have taken Algebra 1 in 7th grade to be enrolled in Algebra 2 in eighth grade. Throughout each of these courses students will continue to build a foundation that will lead to success in higher level mathematics.

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SCIENCE
In 8th grade science students will focus on the idea of creating a sustainable planet. In this dynamic curriculum, 8th grade students are immersed in learning the Pennsylvania standards through a hands-on project using Aquaponics. They will engage in understanding multiple science concepts including: What is sustainability, grading the sustainability of real businesses; Geosphere: land usage, natural resource depletion; Biosphere: biodiversity and habitat loss, changes in the gene pool, evolution and natural selection, GMO's, selective breeding; Hydrosphere & Atmosphere: ocean chemistry, accessibility to fresh water, and weather patterns.

In their science classes, students spend time working in their businesses for the 8th Grade Entrepreneurial project. Students work within each department creating business plans, goals, scrum boards, and targeted goals to produce their basil lemonade or food truck product. Throughout the year students will spend time collaborating, using critical thinking, being creative, and communicating between teams to understand the interconnectedness of their decisions.

SOCIAL STUDIES
The secondary Social Studies department in Upper Merion instructs students in history, geography, government, and economics. Students investigate primary and secondary sources, as well as visuals and multimedia in the course of their studies.

American Studies is our eighth-grade social studies course. Students participate in four "deep dives" in important eras of American history: American Revolution and the Constitution, Civil War and Reconstruction, World War II era, and modern Civil Rights. Essay-writing with a focus on thesis development and effective paragraphing is important in this course. Students make mini-presentations that incorporate technology and public speaking throughout the school year.

UNIFIED ARTS
The following courses run for consecutive days for a full marking period:
Art - Upper House Art provides an emphasis on Elements of Art and Principles of Design. Eighth Grade students focus on Big Idea that artists collaborate with other artists to explore and invent unique solutions to problems.
Computer Science - In Eight Grade, students use their knowledge gained over the previous three years in coding to work with drones. Students will apply their knowledge to program, fly, and navigate drones through a series of challenges. Through this work students experience a real world application of coding.
Music - Eighth Grade music provides an introduction to guitar and inquiry into the science of sound.
Health - The 8th grade health curriculum covers a variety of areas including: Drugs, Alcohol, Tobacco Education/Prevention strategies and decision making skills; Human Growth and Development; HIV/AIDS. Parents/Guardians/Caregivers can contact their child's teacher if they would like specifics on what is being taught in each unit.
Physical Education - The Physical education curriculum covers: Fitness, Cooperative Games, and Tactical Sports. Students will participate in a variety of sports including: Soccer, basketball, floor hockey, volleyball, aerobics, flag football, and softball. In addition, students will engage in a swimming unit where they will either learn to swim or understand different components of aquatic fitness.

The following courses run on either a 13-day or 26-day cycle:
STEM and Engineering - The Technology and Engineering Education program is an exploratory program that focuses on developing technology problem solving skills, technological literacy, and 21st century skills through hands-on activities integrating Science, Technology, Engineering, and Mathematics (STEM). In 8th grade students take Technology Systems (Creating Technology), an activity-based course that focuses on the application of tools, materials, and processes of Communication Technology and Engineering by Design. Students will study the way resources are processed to engineer and design systems and products. Hands-on projects will focus on Science, Technology, Engineering, and Mathematics (STEM) integration. Students will work in teams and individually to complete required classroom and lab assignments. Example Projects include: Solar vehicles, Alternative energy project - design and create a working wind turbine, Advanced 3D printing - design and create a custom phone stand, and Standard and Metric measurement practice.
Family and Consumer Science (FCS) - In 7th and 8th grade students will learn the principles of all types of foods, utensil and equipment use, kitchen safety, sanitation, nutrition, and food preparation techniques including participating in hands-on cooking and baking labs. During these labs, students will apply what they have learned and feel more confident while working in the kitchen, including enjoying eating their food creations. Students will learn how to safely participate in classroom activities, use a variety of culinary utensils, and complete cooking labs.
Digital Media Studies - Students learn how to navigate the internet effectively and verify that the information they are reading, watching, or listening to is reliable or not. Students continue to become critical consumers of internet information in Digital Media.
Leadership - The upper house Leadership course explores academic and social/emotional skill areas, such as neuroplasticity, empathy, career investigation, teamwork, mindfulness, and service-learning.
Physical Education - In addition to marking-period Physical Education, students have an additional short cycle of PE.

8TH GRADE ENTREPRENEURIAL PROJECT
The project is divided into two parts: (1) Basil Lemonade business and (2) Food Truck Challenge. All of our 8th grade students, approximately 350 students, are divided into 12 small companies to create and manage a business. The companies are comprised of multiple divisions: CEO/CFO, Farmer and Sustainability Analyst, Production, Sales & Marketing, Lawyers, and Media.

Students engage with this project in multiple subject areas. In their English Language Arts classes students write resumes specific to the division they are applying for and interview for a position in a job fair setting. In Social Studies classes students file lawsuits for violations of the laws enacted by the student created legislature around Aquaponics farming. In addition, they try the cases in their Social Studies classes in front of a jury of their peers when a lawsuit goes to court. During the students Math class they determine their sales goals using linear regression to determine the amount of sales they must have to obtain a profit for their company. Logo designs and marketing materials are created in their Art classes. The actual cooking of their food happens with the support of the Family and Consumer Science teacher. The majority of the work is completed in their Science classes where students use a Scrum board to track progress and have sprints at different times of the year to complete work quickly to achieve certain benchmark progress goals.

Students are completely responsible for every aspect of the project including, but not limited to: cleaning/maintaining the aquarium; growing a portion of their ingredients; creating a recipe from scratch; determining the environmental impact of all aspects of the business; creating a marketing plan; using a fixed budget to determine costs/profits based on the recipe and sales; and creating a documentary of their experience. At different points in each project professional adult experts from each field meet with the student

divisions to provide feedback for their business. Over the past four years we have had over 50 adult experts from a variety of fields work with our students on their business.

The project finishes with four of the 12 companies competing in a Shark Tank style competition. Each company department head shares the work their team did to create the final product in the Food Truck challenge. Outside adult judges hear the pitches, try the food truck product, and determine a winning company using multiple factors including the company's sustainability plan. This Entrepreneurial project has won local and national awards for the innovative approach to learning encompassed in a project of this magnitude.

Pennsylvania System of School Assessment (PSSAs)
In Eighth Grade, students take PSSA tests in ELA, math, and science. The Text Dependent Analysis (TDA) essay makes up 25% of a student's ELA score.
Students also take the Algebra Keystone exam at the conclusion of their Algebra I course.