

Aurora Middle School Curriculum

| HUMANITIES | YEAR 1 | YEAR 2 | YEAR 3 |
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| QUEST 1 | How will we tell the story of the pandemic? | How can we as podcasters persuade adults to let kids read banned books? | Who am I? |
| Key Topics & Outcomes | Dystopian texts, personal narrative, Museum/gallery opening | Fiction literary circles, student choice (<i>The Hate You Give</i> , <i>1984</i> , <i>Maus</i> , and many more), argumentative writing, podcast listening party | Personal narrative/ speech, details, summaries, articles |
| Excursion(s) | OMCA | Skyline Recording Studios | Rockridge Library |
| QUEST 2 | How can we prevent and respond to discrimination? (with focus on AAPI hate) | What makes a good historical fiction novel and how can we write our own for NaNoWriMo? | Who is to blame for the Salem Witch Trials? |
| Key Topics & Outcomes | Nonfiction texts, informational writing, activist art | Hist Fiction literary circles, student choice (<i>Chains</i> , <i>The Blackbird Girls</i> , <i>Coming Up Cuban</i> , and many more), narrative writing, author reading event | <i>The Crucible</i> , citing textual evidence, historical causation, argumentative writing, evidence, mock trial |
| Excursion(s) | Oakland's ChinaTown: Asian Cultural Arts Center (protest art exhibit), OMCA (Dorothea Lang & Hung Lua exhibits), Angel Island, China Camp Village, Visitors: Photojournalist re: Romani | Alcatraz, Mrs. Dalloway's Bookstore | University of SF Law School |
| QUEST 3 | What's the problem with the 'buy now' button? | How can we share the history of Disability Rights in the Bay Area? | How can we use music to represent literary themes? |
| Key Topics & Outcomes | Nonfiction texts, argumentative writing, board game creation Learned about Socialism, Capitalism, Communism | Nonfiction & memoir (<i>Being Heumann</i> by Judith Heumann), informational writing, piece of tactile art | Lit circles--student choice (ex: <i>Scythe</i> , <i>Ghost</i> , <i>The Inheritance Games</i> , <i>The Secret Garden</i> , and many more.) Literary analysis, literary playlist, themes, central ideas, literary discussions |

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| Excursion(s) | Urban Ore Visitor: Todd Laby- creates art w/recycled plastic toys | DCC @ UC Berkeley, Ed Roberts Campus | SF Symphony open rehearsal |
| QUEST 4 | How can we educate others about the historical impacts of war on women & kids while raising support for Ukraine? | How can we create maps to represent lessons learned from golden age civilizations and/or from their falls, and why do those lessons matter to us today? | What is the recipe for a revolution? |
| Key Topics & Outcomes | Nonfiction texts, informational writing, Fundraising campaign + mural creation | Primary and secondary sources, research, argumentative writing, world history perspective, map making & presentation | Historical causation, knowledge of the transatlantic revolutions, informational writing, writing voice, parody, satire, primary sources |
| Excursion(s) | The Rosie the Riveter Museum | OMCA, Albany Bulb | Letterform Archive, USS Hornet Sea, Air & Space Museum |
| QUEST 5 | How can we use poetry to promote environmental and wildlife conservation in our community? | | How do you <i>do</i> poetry? |
| Key Topics & Outcomes | Poetry, written portfolio of 5-7 poems, writing workshop | | Novels in verse lit circles (ex: <i>Before the Ever After</i> , <i>Clap When You Land</i> , <i>Long Way Down</i>) Writing workshop, Poetry portfolio, poetry slam |
| Excursion(s) | Lindsay Wildlife Refuge | | SF MOMA: Infinite Love |

Standards: [CA CCSS](#), [College, Career, and Civic Life Standards](#), [Social Justice Standards](#), [Habits of Mind](#)

Curricular resources: [Achievement First](#), [Facing History](#), [The Reading and Writing Project by Teachers College of Columbia University](#), [PBL Works](#)

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| STEM | YEAR 1 | YEAR 2 | YEAR 3 |
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| QUEST 1 | How can we use data to reduce our families' impact on the environment? | How can nature inform robotics? | How can we communicate the relationships between the sun, moon, and earth? |
| Key Topics & Outcomes | Understand climate change, greenhouse gasses water cycle, watershed and water conservation, create a presentation on how our family and community can make change | Physical computing, animal adaptations | Cyclic patterns of lunar phases, eclipse of the sun and moon, seasons, roles of gravity in motions within galaxies and the solar system, scale properties of objects in the solar system, communicate relationships via manipulatives or books |
| Excursion(s) | Friends of Sausal Creek (Diamond Park), Wastewater Treatment Plant | The Tech Museum Robotics, Philip Laby's place of work Visitors: Basak Altan | Chabot Space and Science Center, California Academy of Sciences |
| QUEST 2 | How can design make a difference? | How can we develop, market, and brand an energy bar that is healthy for teens? | Should clean water be Free? |
| Key Topics & Outcomes | Engineering design process, understand designing for users needs, creating scale models, create a model of a tiny home | Food science, nutrition, food bar, present bars, recipes, logos and nutritional information | The roles of water in Earth's surface, renewable and non renewable resources, persuasive essay |
| Excursion(s) | EBHC & Lakeview Village | Nutritionist, Michelle Dwyer Clif Bar Product Developer, Alex Funk Firebrand Breads, Eating Disorders, Nicole Laby Product Marketing, Mike Woolson | Water testing at Lake Merritt |
| QUEST 3 | How do machines make work easier? | Why do native plants and animals matter? | How do we protect the things and people we care about from collisions? |
| Key Topics & Outcomes | Simple machines, compound machines, | Native gardening, ecosystems and | Newton's law of motion, energy, relationships |

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| | mechanical advantage, energy transfer, create a change reaction machine for the annual Rube Goldberg Challenge | disruptions, create a native garden plan | of kinesthetic energy to the mass of an object and to the speed of an object, protective prototype, engineering brief |
| Excursion(s) | Exploratorium: Tinkering Studio (Exhibit Designer: Jessica Strick) | Lawrence Hall of Science, Friends of Sausal Creek Nursery -volunteering | iFly (STEM physics lesson), The Pinball Museum |
| QUEST 4 | How can engineering be used in making art? | What can we learn about cells and DNA and teach to others? | How do waves impact our lives? |
| Key Topics & Outcomes | Programming concepts (events, sequence, loops, procedures, variables), use a fabrication tool such as a vinyl cutter, design an art piece using scratch, Turtle Art or TinkerCAD | Inheritance of traits, create a paper pet based on dominant and recessive traits, create a representation of the offspring between two organisms. | Waves and electromagnetic radiation, understanding how waves are transmitted, reflected or absorbed, analog and digital signals, longitudinal and transverse waves, create structure that can survive and earthquake (social factors), engineering brief |
| Excursion(s) | Engineered Artworks at Seaport Studios | DNA Lab at the Tech Penumbra, Virtual field trip with DNA Learning Center | Exploratorium (STEM lesson), USS Hornet |
| QUEST 5 | Where does food come from and why does it matter? | | How can we design protective wear that eliminates risks, from chemical reactions, for Biolab workers? |
| Key Topics & Outcomes | Food miles, food survey for a day, design an urban garden | | Chemical reactions, conservation of mass, thermal energy, chemical processes, research paper, biosuit fashion |
| Excursion(s) | Community Farm, Friends of Sausal Creek | | Fire Department, Science Lab, TBA |

Standards: [NGSS](#), [Social Justice Standards](#), [Habits of Mind](#)

Curricular resources: [PBL Works](#), [Generation Genius](#), [Khan Academy](#), [PhET Simulations](#)

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| MATH | 6 TH GRADE | 7 TH GRADE | 8 TH GRADE |
|-----------------------------------|--|--|---|
| GEOMETRY | Geometry → Ratios → Number Systems → Statistics | Proportional Relationships → Number System → Geometry → Probability | Functions → Geometry → Number Systems → Statistics |
| | Area of parallelogram Area of triangle | Area and circumference of circle Angles (vertical, supplementary, Complementary, adjacent) | congruence of polygons similarity of polygons |
| | Nets (prisms and pyramids) Surface area (prisms and pyramids) Volume (prisms and pyramids) | Surface area and nets (cone, cylinder, sphere) Volume (cone, cylinder, sphere) Scale drawing/model | Translation, rotation, dilation, reflection Sum of angles in a triangle Pythagorean theorem |
| NUMBER SYSTEM | Add, subtract, multiply, and divide by fractions Add, subtract, multiply decimals | All standard algorithms Add, subtract, multiply, and divide rational numbers | Square roots Imaginary numbers |
| | Negative numbers/absolute value (intro) | Rational numbers vs irrational numbers | Exponent rules |
| | Coordinate plane (intro) | | |
| RATIOS | Ratio/rate/equivalent ratios/percents | Proportional relationships | Functions (intro) |
| PROPORTIONAL RELATIONSHIPS | Diagrams (double number lines, ratio table) | Equations of proportional relationships | Solve linear equations |
| EXPRESSIONS & EQUATIONS/FUNCTIONS | Conversions Exponents (intro) | Graphing proportional relationships Percents | Y-intercept and slope Solve inequalities |
| | Variables and 1 step equations (intro) | Equivalent expressions | |
| | Distributive property Inequalities (intro) | Solve 1 and 2 step equations | |

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| STATISTICS & PROBABILITY | Statistical questions | Probability models (list, tree diagram, tables) | Bivariate data |
| | Measures of center (mean, median, mode) Measures of spread (range, MAD) | Probability and chance | Scatter plots |
| | Graphs (dot plots, histograms, box plots) | | |