Nueva Middle School

2018

Contents

Grade 5

Design Thinking, Engineering, and Computer Science

Course Overview

The fifth-grade Design Thinking, Engineering, and Computer Science class challenges students to use the design thinking process to transform their ideas into solutions to problems. Through this integrated yearlong class, students will learn and practice skills in design thinking, engineering, and computer science. The primary fall project involves creating a tested, durable Pueblo dwelling toy for young students. Students will observe the younger children to identify needs and values, and use those needs and values to brainstorm, prototype, and build custom mechanical toys. At each step of the project, students will be challenged to improve their skills with new engineering concepts, new tools or components, and to further refine their design process as they build their static structures, moving elements, engaging accessories, and whatever else they need to create an atmosphere of fun. We will then focus more on computer science through a series of activities and projects. Students will continue to develop their resilience as they are exposed to different programming concepts, development environments, and the digital resources necessary to confidently assess and master an unfamiliar programming language. Students will use various programming environments to create projects that may include web page design and learning Javascript. For example, we may make a a class website showing a community garden connecting all of the *Seedfolks* book's characters as an integrated humanities project. Ultimately, students will create a program that extends the theme of their tree-house and uses a device to physically interact with their structure.

Course Goals

- Expand and develop confidence in design thinking skills, including need-finding, creative ideation, and iterative prototyping skills
- Acquire engineering concepts around strong joints, mechanisms, and constraining moving parts
- Develop proficiency with woodworking, TinkerCad, 3-D printing, and laser cutting
- Gain techniques for and reflect on managing time, materials, and team dynamics over a long, multistage project.
- Develop effective ways to solve computing problems
- Continue to develop programming skills, breaking down ideas into simple computer instructions, and debugging

- Develop resilience and an understanding that intermediate failure is an important, informative part of any complex, risk-taking project

Homework and Assignments
Most work will occur in the classroom; occasional homework assignments will help students further their learning and build resiliency and persistence.

Assessment
Students will reflect both on their process and product throughout the year, supported by feedback from users as well as self-reflections. Each unit will have a set of minimum specifications that students must meet to complete that unit. Students will be expected to demonstrate improvement from the skill level at which they entered the course. In this class, what students learn when they attempt to complete an exercise is more important than the outcome.

Math

Course Goals

- Develop knowledge in four content strands of mathematics: algebra and functions, geometry and measurement, statistics and probability, and numerical relationships and operations
- Develop skills in five process standards of mathematics: problem solving, reasoning and proof, communication, representations, and connections
- Explore mathematical concepts in ways that help students develop deep understanding of concepts
- Develop attitudes of confidence, curiosity, persistence, and inventiveness in relation to mathematics
- Improve students' abilities to solve problems of varying complexity, both independently and collaboratively

Class Norms across Fifth-Grade Classes

- **Appreciate and acknowledge different ways of being good at math.** Making connections to other subjects or math ideas, thinking deeply about one thing for a while, seeing math in pictures and diagrams, enjoying computations, and describing your math thinking clearly are all different ways of being good at math.
- **Be respectful of oneself and others**. This includes comments made to oneself and others and giving each other the time to have insights (or "Aha! moments.")
- **Be curious.** Students are encouraged to ask their own mathematical questions, including "I wonder what would happen if…"

- **Seek appropriate challenge.** We value productive struggle in mathematics. If your child thinks something is too easy or feels finished, they should create a related problem that is more challenging for them or dive deeper into why the math works the way it does.
- **Develop academic habits.** This includes coming to class on time with all materials and using class time wisely. Students should email their teacher before an absence (if planned) and check the homework blog to stay on top of the work.
- **Be proactive about learning.** This includes reflecting on work and creating learning goals. Students should also reach out to their teacher to meet at lunch or after school should they have a question about class material.
- **Be willing to work together.** Students will often work in groups during math class and will learn collaborative habits to help them work with all peers productively.

Materials

Materials to bring to class every day:

- math folder
- math journal
- pencils with erasers
- water bottle

Homework

Homework serves a variety of purposes, such as practicing skills, reflecting on newly learned concepts, extending ideas from class work, introducing or previewing new concepts, and working on long-term assignments and projects. We view homework as an opportunity to explore ideas and take risks, and thus do not expect perfection. We encourage students to make every effort to do their own work before they seek help from others.

Homework will generally be assigned on Monday and due on Thursday. Over the course of the week, students should spend **one hour total** on their homework. For example, this may be 30-minute blocks over two nights or 20 minutes on each of three nights. **If students do not finish a weekly assignment in approximately one hour, they may stop working on it**. We, as teachers, consider this assignment complete as it will allow students to participate in discussions and ask questions. Larger projects will take longer (maybe much longer) than one hour, but they will not be due the next day.

Weekly homework will be a mix of:

- **Practice Problems:** Familiar problems to make sure students understand ideas from class
- **Pushing Problems:** Unfamiliar problems (problems that are different from what we did in class) to encourage deeper insights into problems from class and to develop new ideas

- **Pondering Problems**: These might be problems that seem unrelated to the current topic, where students will see a connection later in the year
- **Personal Problems**: An opportunity for students to create their own problems and ask original questions

Getting Help

Students are encouraged to form study groups whenever possible and to discuss math across grade levels in advisory or outside of class. Extra help is available from any math teacher by prior arrangement before school, at lunch, or after school. Please encourage your child to contact their teacher by email **as soon as they have a question**, so that they do not risk falling behind on class content.

Flexible Groupings and Assessment

In fifth grade, teachers will start the year co-teaching with the movable wall open for the Habits of Mind Unit. In this unit, students explore easy entry, open problems for a week at a time. Starting the year together enables students to create working relationships with the entire fifth-grade team, as well as community, which is an integral part of our program. Furthermore, this initial unit enables teachers to observe and learn about each student's problem-solving skills centered around high-ceiling tasks.

The remainder of the year is divided into five content-based units grounded in the mathematical habits of mind, outlined below, as part of our spiraled math curriculum. At the start of each unit, students will spend one day in class pre-assessing on content knowledge for that particular topic. Teachers will use the results of this low-stakes pre-assessment to create an individual action plan for each student. This plan will be shared with students and parents. For the remainder of any unit, students will work within teacher-led differentiated cohorts on specific content to meet the learning objectives outlined in their personalized action plan. Students may remain in this cohort and with a single teacher for the whole unit. However, this model does provide flexible groupings such that a student in Carolyn's cohort could move next door to work with Lora's cohort for a day or more, for example, for additional practice or extension.

Students will have the opportunity to assess at the end of each unit as a way to demonstrate and reflect on their growth for the unit. Consistent with our current model of project-based, interdisciplinary learning, units will also culminate in a project and feedback will be shared in a rubric.

Students are expected to take responsibility for their own learning and to participate fully in the assessment process. At the end of each semester, students will be expected to complete a self-evaluation addressing academic habits, mathematical habits of mind, mathematical skills (for instance, using procedures correctly and efficiently), and mathematical concepts (for instance, articulating how and why algorithms work or synthesizing and applying ideas to new contexts).

Grade 5

MATHEMATICAL HABITS OF MIND	DATA AND STATISTICS	FRACTIONS
Investigate strategies for solving unfamiliar problems, such as: • pattern sniff • describe • organize and simplify • experiment, guess, and conjecture • visualize and abstract • contextualize and reflect • persevere "Habits of Mind" project	Investigate ways to create survey questions, collect and analyze data, and represent findings using: • central tendencies — mean, median, mode • measures of variance • traditional and nontraditional statistical graphs • Google sheets technology • how to tell different stories using statistics • comparisons between data sets "Dear Data" project Social justice collaboration with humanities	Investigate procedures and concepts involving operations on fractions and mixed numbers • addition, subtraction, multiplication, and division of fractions • comparing fractions • investigate the relationships between fractions, decimals, and percentages • advanced conceptualizations of fraction operations
RATIO, PROPORTION, SCALE	**GEOMETRY**	**INVENT YOUR OWN**
Investigate uses of ratio including: • scaling for different situations • unit rates and best buys • maintaining proportions • graphical representation of proportions "If You Hopped Like a Frog" project	Investigate area and perimeter for regular and irregular 2-D shapes: • pentominoes • triangle areas • area of a trapezoid • Pick's theorem Investigate surface area and volume for 3-D shapes, including	Investigate the components of a problem space such as: • axioms • assumptions • parameters • context "Invent Your Own" project

Art

Course Goals

Fifth grade art is a balance of exploration, play, and technical problem solving. Students are encouraged to work individually as well as cooperatively, to be bold, and to try new methods and approaches. We will continue to practice and develop our studio habits and skills from past years.

Ongoing collaboration with other subjects will be furthered. Students will create visual works to support themes in humanities, writing, math, science, social justice, SEL, and more.

Course Overview

We will begin the year by using masking tape as a drawing and sculptural material, considering new ways of designing, and making art that is both inventive and temporal.

As we work with principles of design — such as unity, rhythm, balance, and proportion — we will continue to build our visual art vocabulary, confidence, sense of humor, and critical thinking as artists. We will keep a sketch book throughout the year to generate ideas and seeds of future projects. Art class will include 2–D and 3–D projects, playing back and forth, and challenging how we use everyday materials and traditional ones. Our work will be thematic, and our projects multifaceted.

We will explore drawing, design, painting, sculpture, collage, print-making, and installation art. Other material use may include paper, cardboard, plaster, wire, canvas, and fabric.

Connections will be made to art history and contemporary art. We will look at contemporary artists, such as Claudio Bravo, Sheila Hicks, Arlene Shechet, Jessica Stockholder, Mark Bradford, and Lawrence Weiner.

We also look forward to continuing some of our traditional Nueva projects, such as repainting our stools in the art room and clay heads.

Our art studio will start in our lovely lower school art room and go beyond. The Nueva campus invites us to go out of the studio and into the world.

Wednesday at lunchtime is an open studio and students may opt in to various art-based academies. We will have a spring art show and ongoing displays of our work throughout the school year. Come and visit us any time!

Music

Sounds of the Cities: A Musical Roadtrip

Course Goals

Students will gain an in-depth understanding and appreciation for the stylistic, musical and historical characteristics of the music from key cities that have shaped American popular music. This will include listening, singing, playing, studying, and group ensemble performances, which will culminate in noontime impromptu performances in the Middle School Music Room (parents invited) and in the Spring Choral Concert in April. Students will investigate key musicians and musical groups who popularized various styles from each city, and they will be led to make connections with important societal events that occurred at the time this great music was being created.

Grade 5

Course Overview

The students will listen to and analyze, perform on individual and classroom instruments, discuss, and research the following styles: country western and blues from Nashville, Motown from Detroit, folk and rock from Los Angeles and San Francisco, and blues, funk, and jazz from New Orleans.

Continued study and practice of the following musical concepts will be tied in with the course topics.

- Pitch, rhythm, tempo, meter, articulation dynamics, expressive techniques, form, structure, and chord progressions
- Timbre and instrument recognition
- Ensemble performance skills

SEL

Course Goals

SEL helps fifth-grade students:

- Become more aware of personal choices that promote self-confidence and emotional intelligence
- Gain insight into skills that promote cooperation and teamwork
- Develop leadership, empathy, positive communication, and conflict-resolution and problem-solving skills
- Build community, enhance group trust, and increase respect and acceptance for differences between self and others

Course Overview

Fifth-grade students meet weekly for SEL. Teaching methods promote experiential learning and include group work, discussion, writing, improvisation, role play, and visual arts — catalysts for the skills of emotional and social intelligence.

Our curriculum this year involves a wide range of activities, including:

Open Session Discussions Fifth graders will participate in a series of Open Session discussions, a hallmark of the Nueva SEL program for Middle School students. Using student-generated social and emotional issues such as personal decisions, real-life friendship struggles, and normal stresses of growing up and gaining responsibility, students learn to apply their listening skills to clarify their classmate's issues, offer support and encouragement, and provide practical advice and solutions. This activity also deepens trust and problem-solving skills.

Cooperative Activities Cooperative group challenge activities promote team-building and provide a chance for students to reflect on and receive feedback about their individual leadership styles and contributions and the roles that they

play in the dynamics of a group. Discussions connecting these experiences to other parts of their lives (classroom, friendship, activities outside of school) provide opportunities for self-reflection and learning.

Mindfulness Techniques Students learn and practice a variety of mindfulness techniques, using breath, body awareness, and movement to enhance focus and concentration. Guided imagery and visualization are reviewed, and new techniques are taught to promote improved self-awareness, self-management, and health and wellness. We also teach about current brain research connecting meditation and mindfulness to physical and emotional health.

Identity and Self-Awareness Fifth graders explore the questions, "Who am I?" and "Who do I want to be?" from multiple angles, using art, story, games, and self-reflection. By creating individual and class projects together using collage and mixed media, students also explore issues related to identity and developing a sense of self. They set goals, come up with solutions, and find ways to support each other and themselves to meet these personal goals.

Media Literacy The fifth-grade SEL curriculum will include an ongoing series of classes dedicated to media literacy, digital citizenship, online behavior, and online safety. The program integrates with the fifth-grade technology classes, supporting students in preparation for the One-to-One Laptop program in sixth grade.

Health, Nutrition, and Puberty Education Three class periods in the spring cover health and nutrition for the growing body. Four class periods in the spring focus on the body and puberty education. We plan to have same-gender groupings for puberty education. The nutrition and puberty education series will be presented by expert guest educators. A parent meeting is also scheduled before the nutrition and puberty education series so that parents can preview the topics being discussed and offer feedback in making this a positive learning experience for their child.

Homework and Assignments

There are occasional homework assignments in SEL. Homework is designed to be a set of enjoyable activities to provide practice with SEL skills. Students can expect assignments to include reflective thinking and/or writing, interviewing an adult, and/or observation and research. Typically, students are given time in class to complete their work, and if they need more time to finish the work they may take it home and send it to me at an agreed-upon time.

Assessment

The most essential factor for SEL assessment is each student's level of class participation and personal reflection. Students will also be evaluated on behavior and focus, respect for the other students and the curriculum, and individual effort and follow-through on completing in-class activities, class assignments, and individual projects. Assessment includes how SEL skills are

practiced and applied within the Nueva community and outside the classroom — during recess and lunch, for example.

Study Skills

Course Overview

The fifth-grade study skills class is designed to help fifth graders develop their executive functions as they transition into the busy schedule of middle school life. Organization, time management, and sustaining attention are core topics. This class intends to assuage transitional anxiety as fifth graders join the middle school by equipping students with the necessary skills to approach their greater load of responsibilities. Students will be led in recognizing and reflecting upon their individual organizational and learning strengths and aided in executing effective strategies for bolstering their areas of challenge. They will organize their concrete and tangible educational materials as well as their electronic folders, files, email, and calendars. Students will use class time to organize and prioritize coursework. For example, they may spend time breaking up a larger open-ended project by setting goals and mini–due dates to keep their work on track. Additionally, they will be exposed to a variety of online and offline tools to foster productivity and will be challenged to be wise in finding information online, making judgments on trustworthiness and validity.

Course Goals

- Expand and develop confidence in students' approach to schoolwork, organizational methods, and time management.
- Complete self-evaluations to determine areas of strength and areas in need of support in their study habits, organizational skills, and digital literacy
- Create specific, individualized goals attached to a timeline
- Develop strategies for keeping track of homework blogs, schedules, and calendars
- Actively practice effective online searching for information
- Improve typing techniques and computer literacy
- Improve researching skills — finding evidence and discerning its validity
- Integrate appropriate technology to enhance learning
- Implement file, folder, and email management strategies to keep data organized and easily searchable

Homework and Assignments

This course has been designed to provide instructional support for work assigned in other classes and will, therefore, have no additional homework assigned.

Assessment
There will be no formal assessments or evaluations for this class. As their teacher, I will be partnering with the fifth-grade teaching team to help support ongoing projects in students' classes as well as individual student learning needs.

Science

Course Goals
The goals of the fifth-grade science program are to:

- Inspire the natural curiosity of students and nurture their love for science
- Reinforce and deepen their previous scientific knowledge
- Encourage them to explore new scientific concepts
- Develop scientific reasoning and analytical thinking skills

Course Overview
Fifth-grade students will develop an understanding of scientific ideas and the scientific process through:

- Asking questions and engaging in the practices of inquiry
- Developing and using models
- Planning and carrying out investigations
- Analyzing and interpreting data
- Constructing explanations using evidence
- Communicating information

Earth Through Time is the theme of the fifth-grade science journey. During the course of the year, we will explore the patterns and cycles of Earth's history and structure, and how life has evolved over time. Along the way, we will investigate the evidence scientists have accumulated to puzzle together this ever-changing story. Interconnectedness is another important theme that we will study through an environmental science simulation. Leading up to our trip to Crow Canyon in the spring, students will work extensively with some of the core concepts of geology, including plate tectonics, volcanism, sedimentation, the rock cycle, and river valley formation, comparing the different stories in stone of each place.

Assignments and Homework
Students will keep lab notebooks and binders in class, where most assignments will be completed. Homework will be assigned weekly, for which students should plan to spend 30 minutes to an hour (or more depending on their interest). There also may be long-term assignments or projects that need to be completed at home. All homework assignments will be posted on the homework blog.

Assessment
Students will be assessed for their willingness to challenge themselves, their ability to work productively on their own and in groups, their conceptual understanding of the topics we have studied, their ability to use and understand the practices of scientific inquiry, their development in communicating their thinking and learning, and their overall attitude and contribution to the learning environment in the classroom.

Writing

Course Goals
The fifth-grade writing program has several goals:

- to write in response to literature
- to practice writing in a variety of genres
- to integrate a rich, varied vocabulary into writing pieces
- to continue to develop editing and revision skills
- to develop effective strategies for starting to write
- to write regularly and deliberately
- to accept feedback and integrate feedback into drafts

Course Overview
The fifth-grade writing program stems from the grade-wide theme of *movement*: social movements, the movement of people, and the movement of the earth. The literature for the class ranges from personal narratives to fiction, poetry, and nonfiction articles.

The first semester begins with discussions and writing around the summer reading book *I Am Malala*, by Malala Yousafzai. We'll also read *Seedfolks,* by Paul Fleischman, delve into poetry, and work on a short story. Students write daily, and there are culminating writing pieces for each of the units.

In the second semester, students explore the ecology of the Bay Area, studying flora and fauna of Nueva and the surrounding areas. We'll read *How I Became a Ghost*, by Tim Tingle, as we focus on the history and culture of the Choctaw people. For the final unit, the students investigate the history of Native American tribes in preparation for the week-long trip to Crow Canyon in May.

The course focuses on the development of writing skills across genres, as well as the development of the writer's voice. Students practice grammar and vocabulary in the context of the writing pieces themselves. Managing time effectively, breaking projects into manageable chunks, writing for extended periods of time, and improving the flow and organization of writing pieces are key goals for this class.

Homework and Assignments
Homework is a key element for success in this class. Homework time should not exceed 30 minutes per night. Homework is not given on weekends, but students may choose to complete assignments over the weekend if that fits their schedule better. Homework for the week is handed out at the week's first class meeting and assignments with due dates are posted on the homework blog on the day the class meets. Writing homework may include completing writing begun during class, reading texts, writing responses to the literature, and doing "20-minute power writes."

If your child is struggling with the homework, please let Karen know.

Assessment
Students are assessed on their writing pieces, classroom participation, focus, study skills/organization, time management, appropriate laptop use, self-advocacy, resilience, and effort. Students receive informal verbal feedback during in-class writing sessions, as well as written feedback on their writing pieces. Writing mechanics practice and class discussions will be a part of class as well. Each writing assignment has a rubric so that students can clearly understand the expectations for that assignment and receive clear written feedback on its key aspects.

Calendar

September	*I Am Malala*
October/November	*Seedfolks*
November/December	Poetry/Short Stories
January	Short Stories/Ecology of the Bay Area
February	Ecology of the Bay Area
March	*When I Became a Ghost*
April	First Americans Research and Writing
May/June	Reflections on Crow Canyon

Humanities

Course Goals
Students in fifth grade will:

- Read, gather information from, and analyze texts of various genres and formats (e.g., essays, articles, poetry, fiction, photographs, maps, timelines)
- Respond factually, analytically, and creatively to materials and concepts
- Generate relevant and complex questions for inquiry
- Find and use multiple resources to support conclusions

- Use the writing process to develop well-organized, well-supported, and even persuasive pieces
- See topics and issues from multiple perspectives
- Make comparisons and draw conclusions about cultures across time and region

Course Overview

In the fall, the fifth grade will embark on the research and writing process while analyzing themes of individuality, community, and culture through a lens of *movement*. Beginning with our summer reading of *I Am Malala*, we will discuss notions of identity and society as seen in Malala Yousafzai's autobiography, as well as several pieces on current events.

Embedded in our reading of *Seedfolks* is a concentration on the pluralism of our society, and through this fictional piece we will begin to examine the complexity of the American experience. While reading and synthesizing these texts, we will also consider the cultures (and cultural movements) of Japan, Spain, and China, as fifth grade begins to study the languages of these countries as well as the multitude of cultures with which we identify.

We will then examine how communities and cultures change, and, with the help of Social Justice Coordinators Alegria Barclay and Alison Williams, we will research historical and current social movements. With the powerful words and art of past movements as inspiration, students will create their own artwork to accompany original speeches that focus upon issues of their choosing.

Looking to where our cultures and societies came from, we will then begin our study of the earliest people in North America. Peering through the lens of archeology, we will explore local civilizations and those of the Southwest from centuries and millennia ago. For part of the year, we will focus our study on Chaco Canyon, a complex society that was located in what is now New Mexico. Some essential questions that will guide our study include:

- How do geography and geology help shape culture?
- How are cultural beliefs represented?
- How and why do cultures change over time?
- What are the ethical considerations researchers must take into account?

This study of native cultures, and Chaco Canyon in particular, will help prepare fifth graders for our culminating Southwest trip to Crow Canyon Archeological Center in Cortez, Colorado, where we will interact with the remains of the incredible civilization that arose in the Mesa Verde region during the same period as Chaco Canyon.

Homework and Assignments

Students in fifth-grade humanities can expect homework assignments for each of our two weekly meetings and should plan to spend about thirty minutes on most homework assignments. Some assignments (such as topical readings and

reflections on current events) will be given nightly as they will be related to our work in class and will facilitate enriched conversations. However, most of our work centers on projects that will allow students some flexibility in scheduling their homework time.

All homework assignments will be posted in class and on the homework blog. The blog will be updated by 4:00 pm every day.

Assessment

General areas of assessment include:

- Expression of ideas in written pieces, discussion, and creative projects
- Proper usage of newly learned skills (i.e., persuasive writing techniques and rhetorical devices for speechwriting and presenting)
- Organization of materials, timeliness, and following class agreements
- Effort in all areas

Students will receive informal feedback during one-on-one conferences in class and more formal feedback in response to written pieces and projects. Students will also assess their own work through reflection and self-assessment tools. Parents will receive formal assessments twice a year as well as periodic feedback throughout the semester.

Grade 6

Humanities
The American Experience

Course Goals
This year in sixth-grade humanities, our objective will be to review and gain an understanding of American history and the American experience. Moving from early colonization to the 21st Century and world leadership, we will look through a wide lens and move forward in time as we focus on trends, trend setters, and events that molded our country.

Course Overview
We will begin with a study of early colonization, focusing on the various reasons why colonization developed; individuals who helped organize and build the various colonies; the religious, cultural, economic and political differences that set the colonies apart; and what eventually brought the colonies together. We will also examine the Salem witch trials for a quick study on religion, society, and the human condition as we analyze the events that took place, using critical thinking as we question Why! We will review the role of the Founding Fathers and Mothers during those early years, as well as others, some of whom are historical icons and some relatively unknown, each contributing something of value to our country's foundation.

We will move forward and discuss how the growth of the country also led to the growth of independence from England, highlighting the abuses suffered by the colonists in terms of oppressive acts and externally imposed controls, which led to acts of revolt and revolution. We will look at the creation of the Declaration of Independence and the impetus toward revolution. There were verbal and written battles over the creation of the Constitution, so we will focus on Federalist/Anti-Federalist activities through debate, and review the creation of the Bill of Rights. We will compare the original Bill of Rights with modern interpretations of those rights, including court case examples for open discussion in class, as we see how our civil rights, social justice, and diversity issues are dealt with for all Americans.

We will move thereafter to an examination of the physical and economic growth of the country, and the development/differentiation of the North and South regions in terms of economy and culture. We will discuss slavery in depth, examining its growth and involvement in the division between the North and South. An overview of the Civil War will follow, with some focus on major battles, but also on the roles of women during the war period, camp life as a soldier,

and the war's ultimate conclusion. We will also examine Lincoln's role as a major influence upon the country during his terms as president. Reconstruction follows, as does the growth of the nation, internally and abroad, leading us into the Gilded Age as we study the heroes and anti-heroes of the time — including those known as robber barons or captains of industry, as well as those known as muckrakers. Once again, unbridled growth leads us into the role the United States played during World War I and its aftermath.

Once war ends, we grow as a country again; we suffer through the Great Depression and the Dust Bowl, and the class will examine the roles of children in keeping their families afloat. The 1940s see World War II and the creation of the United Nations. We will continue forward with a discussion of the Korean and Vietnam Wars and how they affected our morale, fortitude, and determination to set an example for the world.

Another topic — which does not necessarily follow the chronology of the American Experience but is still important to understand — will encompass several weeks of concurrent study. The students of the sixth grade will, as groups, have an opportunity to create their own legislative bills, using interactive materials and culminating with actual voting as is done in Congress. The students will gain an understanding of the lobbying process and how bills are actually made into laws.

The year will conclude with our annual trip to Washington, DC, in May, with side trips to Williamsburg, Jamestown, Monticello (home of Thomas Jefferson), and the Gettysburg Battlefiled so the students can see firsthand the historical sites that they have studied.

During the course of the year, we will utilize various resources. Of course, the computer will be instrumental in everyday activities, as we perform historical research, writing, and note-taking and view videos of historical events and speeches. We also have an extensive library of books covering all major course materials. Topical current events will be introduced, there will be some lectures, we'll use debates, and we'll play "history games."

There will be homework ranging from reading selected historical works — either as handouts or from research — to writing papers such as biographies of relevant people, news reports of events as they happen, creative fiction, and poetry. There will also be group projects that may involve communication among students outside of school or during class, leading to group presentations or debates, such as a debate between the North and the South prior to the Civil War. Most homework, other than long-term projects, will usually be due in a couple of days, although there may be overnight reading assignments or short responses to write. We will advise the students of the time we expect to be spent on these projects, with the hope that over time, their time management and research skills will improve. Additionally, the written assignments will be given in

collaboration with the sixth-grade writing teacher, so as not to overload the students with duplicative or overreaching writing.

Assessment

In the study of history, recall is something that many teachers find important. We find that understanding the historical meaning of events is at least as important, so our focus will be not so much on the memorization of dates or minute details of events, but on understanding why things occurred as they did, what they meant to the country, and how they affected the citizens. We will look at total class participation, writing assignments, proper source credits, bibliographies, and historical accuracy. We will assess individual oral presentations in class, how the students work together in group projects, how they prepare for class discussions, and their overall classroom decorum.

Overall Goals

We feel that understanding history is understanding life itself, that history is always around us, and that today's current events are tomorrow's history. Our students will grow with these understandings and utilize this knowledge forever. We also know and appreciate the importance of being able to express oneself in class, in peer groups and eventually in the marketplace. To that end, we place emphasis on public speaking skills throughout the school year, utilizing such methods as individual oral presentations, debates, and town hall–style meetings.

Japanese I

Course Goals

Welcome to Nueva's Japanese program! Students begin their three-year journey into the language and culture in sixth grade, culminating in an exciting exchange program with Japan in eighth grade! In hopes of creating life-long learners of global citizenship, we learn Japanese through cultural exploration and practice, hands-on experiences, and discussions. The goals of sixth-grade Japanese include becoming a passionate learner with a solid foundation of language and gaining a better understanding of Japanese, and our own, culture.

Course Overview

In the first semester, students are introduced to basic language and culture, as well as the study habits necessary to learn a language.

After learning basic self-introductions, greetings and related customs, students begin studying the first writing system, called *Hiragana*. Once we have a firm

grasp of these 46 *Hiragana* and simple structures of the language, we begin to study *Katakana*, the second writing system of Japanese.

Throughout the second semester, we expand vocabulary, daily expressions, and introduce more grammar to encourage various forms of communication. Students learn to describe themselves and families. The second semester is also when students embark on a cross-curricular project called the Sustainable Living Project. Japanese, art, science, math, and more work in concert to produce a culminating project that includes a properly scaled model of an energy-efficient dwelling for a real Japanese family. Through language class, it is impressive to watch the sixth graders produce and present a descriptive brochure written entirely in Japanese.

Homework

Homework is assigned regularly, particularly in the form of individual studying. Homework also takes the form of writing practice, brainstorming, reading exercises, and so on. As language courses only meet three days a week, these assignments, and consistent studying outside of class, are very important for successful language acquisition.

Assessment

While the styles of assessment vary, students are formally and informally evaluated on their language acquisition progress, cultural awareness and knowledge, classwork ethic, preparedness, and so on.

Calendar

Japanese class meets three days a week for fifty-five minutes each class.

In mid-October, there is a Modern Language field trip for all sixth-grade Japanese, Mandarin, and Spanish students. The Japanese language students go to an authentic Japanese supermarket in San Mateo, using language skills to read food items and experience food culture. We also explore the nearby Japanese Garden in Central Park, San Mateo, where students explore Japanese aesthetics of beauty and nature.

From April to May, all language students begin the cross-curricular project called the Sustainable Living Project. Their final products and presentations are shared at culmination night in late May. All families are encouraged to attend the sixth-grade culmination night.

Mandarin I

Course Goals

nǐ hǎo 你好！ Welcome to Nueva Mandarin program. Sixth-grade Mandarin class provides students with a thorough, in-depth introduction and foundation in all aspects of Chinese language and culture, with a focus on cultivating intrinstic motivation, engagement, personalized language-learning skills, and habits of mind. By the end of the year, students will be able to have simple conversations about themselves and their immediate environment in a variety of topics, and be prepared for further Mandarin with a solid foundation, learning habits, and confidence.

Course Overview

We start the year with three fun, engaging introductory units on pinyin (phonological system), characters (writing system), and culture. Each unit culminates in a personalized showcase project. To get ready for the language field trip on October 18, student learn vocabulary and conversations on food and drinks. In the field trip at Ranch 99 Chinese Market, students will use their Mandarin skills to complete a fun Scavenger hunt, order for food and drinks.

With the knowledge and foundation from the introduction units, we start the first project-based thematic unit — *All About Me*. In this unit, students learn how to introduce themselves and their families and ask/answer simple questions. The fall semester ends with an interactive presentation of learning.

In the spring semester, students expand their learning from talking about themselves to the world with a three-layer map project. They learn how to talk about countries and cities they have visited, have not visited, or wish to visit, with supporting explanations. They also learn the geography, climate, weather, food, and famous sites in different Chinese provinces and cities. This is to help them get ready for the interdisciplinary sixth-grade sustainable-living culmination, in which they create a bilingual brochure to introduce their house and location.

Foundational information concerning geography, history, and culturally appropriate manners and expressions will be introduced and reiterated in all the units.

Homework and Assignments

- Students are expected to spend 5–10 minutes of vocabulary review on Quizlet daily
- Students are expected to spend 20 minutes after each class on specific assignment or working on their projects/presentations

Assessment

- Weekly short vocabulary quiz

- Unit test at the end of a thematic unit (usually around three weeks)
- Presentation of learning after major projects
- Self-assessments
- One-on-one check-in and oral test

Calendar

- Field trip: Ranch 99 in Foster City on Thursday, October 18
- Mid-Autumn Festival on September 25 and class celebration that week
- Spring Festival on February 5 and special celebration that week
- Chinese exchange students visit January 25 to February 1 (tentative)

Accelerated Mandarin 1

Course Overview

Thanks to demand, we are offering two levels of Mandarin in sixth grade. Nueva's new Accelerated Mandarin class for sixth graders will build on students' prior knowledge and experience with the language. Aimed at heritage speakers, students who have transferred from immersion programs, and students who have attended extended outside classes, this first-year language course will start at a seventh- or eighth-grade level, depending on the needs of the class, and deepen the four primary language skills: listening, speaking, reading, and writing. A project-based learning approach will be used to differentiate and support student needs. Students will continue to participate in landmark integrated projects of their grade level (the sustainable living project, for example), but will move at a pace and depth appropriate to their skill. Through each thematic unit — starting from self, family, and school, expanding to community and world — students will learn pinyin, reading, writing, and typing in simplified characters, and will progress in parallel with oral skill development. Foundational information concerning geography, history, and culturally appropriate manners and expressions will be introduced and reiterated in all the units. We will create a fun, engaging Mandarin learning environment. The class will be carefully aligned to the upper school curriculum with age-appropriate interactive activities and projects.

Course Goals

- Develop a deeper understanding of the philosophies, strategies, and habits of learning a second language.
- Lay a solid foundation for further study with an all-around development of Mandarin
- Gain the systematic knowledge of pinyin, rules of characters, and typing
- Learn to create conversation, present after each lesson, and talk about some life-related topics with native speakers

- Understand teacher's instructions and questions and respond properly
- Develop an understanding of the culture and history by participating in creative activities and holiday celebrations

Homework and Assignments

- Students are expected to spend 5–10 minutes of vocabulary review on Quizlet daily
- Students are expected to spend 20 minutes after each class on specific assignment or working on their projects/presentations

Assessment

- Weekly short vocabulary quiz
- Unit test at the end of a thematic unit (usually around three weeks)
- Presentation of learning after major projects
- Self-assessments
- One-on-one check-in and oral test

Calendar

- Field trip: Ranch 99 in Foster City on Thursday, October 18
- Mid-Autumn Festival on September 25 and class celebration that week
- Spring Festival on Feburary 5 and special celebration that week
- Chinese exchange students visit January 25 to February 1 (tentative)

Spanish I

Course Goals

¡Bienvenidos! Our journey begins with Spanish language and culture in the many Spanish-speaking communities near and far. We will learn best approaches to language acquisition and mastery. The exposure to new values, ideas, customs, and traditions will lead naturally to an appreciation for and excitement about Spanish. Class meets three times a week, moving toward the ACTFL recommendation of 90% comprehensible target language. The modern-language team will occasionally engage in cross-cultural, cross-lingual opportunities so that students gain appreciation for all languages studied at Nueva.

Course Overview

Students will build a foundation of basic conversation, with oral and written interactions providing them with tools to increase their vocabulary and grammar. Daily interpersonal, interpretive, and presentational oral and written activities will enable students to comprehend at ACTFL Novice Mid to High level by the end of sixth grade. Students will use basic structural patterns in the present, present progressive, simple past, and future. We will study alphabet,

numbers, colors, days of the week, months, seasons, the weather, greetings, and likes/dislikes; regular verbs and some irregular verbs like “ser,” “estar,” and “tener”; basic geographic, family, and house vocabulary; and basic adjectives and adverbs, some food vocabulary, and the telling of time.

Culture of the many communities that speak Spanish will be woven throughout classroom discussions. Specifically, students will take a closer look at customs of Spanish speakers, geography, food, and holidays, allowing aesthetic and hands-on experiences of the cultures. The course of study includes a brief overview of Spanish-speaking countries, their geographical locations and their people, culminating in student-developed interdisciplinary work as part of their year-end Sustainable Living Projects. Other projects may include the sharing of recipes and food, artwork, recordings, movies, and a web site.

Homework
Each week, students will receive a list of homework assignments that they will turn in the following week. The expectation is that they spend 10–20 minutes a day on the activities in the assignment collection. These will include practice with assigned vocabulary, grammar, reading, writing, and pronunciation, with remedial support and optional challenge work. Individual feedback is provided in weekly return of homework, and daily class-time feedback is provided for individual and group corrections and support. Teachers may also provide individual or small-group feedback as needed during lunch-recess or before or after school.

Assessment
Weekly written quizzes will enable students to monitor their vocabulary retention, grammar progress, and language learning success. Students will also be assessed based on their class participation, preparation, progress with content, study habits, and projects.

Field trip
Students will have one language-specific field trip in October — a scavenger hunt visit to a Mexican grocery store and restaurant — where they will practice speaking, reading, and writing in Spanish.

Math

Course Goals

- Develop knowledge in four content strands of mathematics: algebra and functions, geometry and measurement, statistics and probability, and numerical relationships and operations

- Develop skills in five process standards of mathematics: problem solving, reasoning and proof, communication, representations, and connections
- Explore mathematical concepts in ways that help students develop deep understanding of concepts
- Develop attitudes of confidence, curiosity, persistence, and inventiveness in relation to mathematics
- Improve students' abilities to solve problems of varying complexity, both independently and collaboratively

Class Norms across Sixth-Grade Classes

- **Appreciate and acknowledge different ways of being good at math.** Making connections to other subjects or math ideas, thinking deeply about one thing for a while, seeing math in pictures and diagrams, enjoying computations, and clearly describing math thinking are all different ways of being good at math.
- **Be respectful to oneself and others**. This includes comments made to oneself and others and giving each other the time to have insights (or "Aha! moments.")
- **Be curious.** Students are encouraged to ask their own mathematical questions, including "I wonder what would happen if…"
- **Seek appropriate challenge.** We value productive struggle in mathematics. If your child thinks something is too easy or feels finished, they should create a related problem that is more challenging for them or dive deeper into why the math works the way it does.
- **Develop academic habits.** This includes coming to class on time with all materials and using class time wisely. Students should email their teacher before an absence (if planned) and check the homework blog to stay on top of their work.
- **Be proactive about learning.** This includes reflecting on work and creating learning goals. Students should also reach out to their teacher to meet at lunch or afterschool should they have a question about material from class.
- **Be willing to work together.** Students will often work in groups during math class. They will learn collaborative habits to help them work with all peers productively.

Materials

Materials to bring to class every day:

- math folder
- math journal
- pencils with erasers
- laptop
- water bottle

Homework

Homework serves a variety of purposes, such as practicing skills, reflecting on newly learned concepts, extending ideas from class work, introducing or previewing new concepts, and working on long-term assignments and projects. We view homework as an opportunity to explore ideas and take risks, and thus do not expect perfection. We encourage students to make every effort to do their own work before they seek help from others.

Homework will generally be assigned on Monday and due on Friday. Over the course of the week, students should spend **one hour total** on their homework. For example, this may be 30-minute blocks over two nights or 20 minutes each of three nights. **If students do not finish a weekly assignment in approximately one hour, they may stop working on it**. We, as teachers, consider this assignment complete, as it will allow students to participate in discussions and ask questions. Larger projects will take longer (maybe much longer) than one hour, but they will not be due the next day.

Homework will be a mix of:

- **Practice Problems:** Familiar problems to make sure students understand ideas from class.
- **Pushing Problems:** Unfamiliar problems (problems that are different from what we did in class) to go deeper into ideas from class, develop new ideas, and DO math.
- **Pondering Problems**: These might be problems that seem unrelated to the current topic, where students will see a connection later in the year.
- **Personal Problems**: An opportunity for students to create their own problems and ask original questions.

Getting Help

Students are encouraged to form study groups whenever possible and to discuss math across grade levels in advisory or outside of class. Extra help is available from any math teacher by prior arrangement before school, at lunch, or after school. Please encourage your child to contact their teacher by email **as soon as they have a question**, so that they do not risk falling behind on class content.

Flexible Groupings and Assessment

In sixth grade, teachers will start the year co-teaching with the movable wall open for the Habits of Mind Unit. In this unit, students explore easy entry, open problems for a week at a time. Starting the year in this manner enables students to create working relationships with the entire sixth-grade team, as well as community, which is an integral part of our program. Furthermore, this initial unit enables teachers to observe and learn about each student's problem-solving skills centered around high-ceiling tasks.

The remainder of the year is divided into six content-based units grounded in the mathematical habits of mind as part of our spiraled math curriculum. These units

are outlined below. At the start of each unit, students will spend one day in class pre-assessing on content knowledge for that particular topic. Teachers will use the results of this low-stakes pre-assessment to create an individual action plan for each student. This plan will be shared with students and parents. For the remainder of any unit, students will work within teacher-led differentiated cohorts on specific content to meet the learning objectives outlined in their personalized action plan. Students may remain in this cohort and with a single teacher for the whole unit, but this model provides flexibility for a student to move between cohorts if necessary to meet their learning plan. For example, a student in Steven's cohort could move next door to work with Carolyn's cohort for a day or more for addition practice or extension within this model.

Students will have the opportunity to assess at the end of each unit as a way to demonstrate and reflect on their growth for the unit. Consistent with our current model of project-based, interdisciplinary learning, units will culminate in a project and assessment will be shared in a rubric.

MATHEMATICAL HABITS OF MIND		
Use open-ended problems to explore mathematical habits of mind, including strategies for solving unfamiliar problems — explore and organize, generalize and test, abstract and symbolize, represent and connect, prove, apply, retrieve and strategize, communicate clearly, estimate and think precisely, show a growth mindset, respect community, reflect, develop academic habits		
NUMERICAL RELATIONSHIPS	**COUNTING**	**HISTORY OF MATHEMATICS**
Investigate properties of numbers, including: • prime numbers • LCM and GCF • number systems • decimal place values in different bases • addition and subtraction in different bases	Investigate the uses and intricacy of counting including: • combinations • permutations • counting lists • experimental probability "Group Counting" project	Learn about the history of mathematical thought, including important mathematicians "The Mathematician" project

Grade 6

PATTERNS AND ALGEBRAIC THINKING	FINANCIAL LITERACY	GEOMETRY
Investigate ways to recognize and represent linear, geometric, quadratic, and other mathematical patterns, including: • English descriptions • T-table descriptions • algebraic descriptions • graphical descriptions "Café Patternea" project	Investigate different representations of numbers, including: • Fractions, mixed numbers, decimals, and percentages • Investigate different types of numbers on the number line, such as whole numbers, integers, rationals, and irrationals "Twenty Year" Project	Investigate practical uses of geometry, including: • line and angle definitions/ properties • constructing/modeling • scale drawings, measurement • deriving area formulas for 2-D polygons Utilize project management skills to address: • budget • cross-curricular time management "Sustainable Living" project

Independent Study Mathematics — Fifth/Sixth Course Description

Independent Study Mathematics will provide an opportunity for students with a deep background in, strong enthusiasm for, and serious commitment to mathematics to explore the subject at a pace and depth that is suitable for them. The fact that the course is entitled "Independent Study" is an indication that students will have ample opportunity to explore appropriate topics in a self-directed, though closely monitored, way. But it is also true that there will be significant units that will be covered by the whole group, with appropriate differentiation as needed. Topics covered and projects tackled will reflect the readiness of the students to explore deep, varied mathematics, and thus the specific topics listed in this document are subject to change based on an ongoing assessment of the needs of the group. The year will begin with a number theory unit, with topics likely including alternate number bases (including exotic number bases), modular arithmetic, polynomials as numbers in base *x*, Gray codes, and Fermat's little theorem. We will then do an algebra unit focusing in particular on symbolic algebraic manipulation and sequences and series. Connections will be made between geometric sequences and exponential functions, infinite geometric series and repeating decimals (in various bases), and polynomial sequences and introductory topics in calculus. We will do a unit on combinatorics, with the emphasis placed on applying fundamental counting principles — combinations, permutations, complementary counting, Pascal's triangle, and so on — to novel, challenging situations. Over the course of the year, we will participate in two sixth-grade multidisciplinary projects (with appropriate accommodations made for fifth graders). The first of these is the Mathematician Project, which is a multidisciplinary project also covered in writing, and the mathematicians will be carefully assigned to provide students with significant challenge and interest. And second, we will participate in the multidisciplinary (math, science,

language, writing, art) Sustainable Living project, and the mathematics covered during that time will focus on advanced geometry and, in particular, trigonometry. Other topics are likely to emerge based on the interests of the students. And throughout the year, great emphasis will be placed on effective communication of mathematical reasoning, including formal proof-writing.

Design Thinking, Engineering, and Computer Science

Course Overview

In this yearlong class, students will practice all the elements of the design thinking process as they proceed through several integrated projects. This class will begin with a deep dive into prototyping, including an introduction to (or practice with) the tools in the I-Lab and explorations into how programming can be used as a prototyping tool. Students will then work through a project called Health Innovations wherein students will identify health condition–related needs of someone they know, research and explore the problem space, invent solutions, and present their design process and prototypes. This project provides students with a solid foundation in design thinking and gives students an opportunity to focus on identifying a need and working to make a difference in the world. As the focus shifts to computer science, students will explore and develop computational thinking and programming skills. They will investigate ways to create and debug programs integrated with existing content knowledge and to make use of their developing understanding of the design thinking process. Students will primarily use Javascript to create projects that may include website design, digital art, and data visualization.

Course Goals

Students will learn and practice:

- All the elements of the design thinking process, including user identification, gaining empathy through interviews and observation, gaining confidence through the brainstorming process, and prototyping in different ways
- Presentation skills
- Develop computer programming habits and mindsets
- Integrate concepts from other classes to help understand the context of programming as tool for interdisciplinary work
- Practice diagnosing problems and assessing algorithmic correctness

Homework

Occasionally, assignments started in class will need to be finished at home, and it is possible that some pre-investigation into a subject will help utilize class time more efficiently. Because homework is likely to be uncommon in the I-Lab, it is

very important that, when there is homework, all students complete the assignments, which will be detailed on the homework blog.

Assessment
Students will reflect on their process, as well as the results of their project, in a process of self-assessment based on core competencies. Students will receive peer and teacher feedback on delivery of their presentations and guiding support in their design work.

Visual Art

Course Goals
This class gives students the opportunity to work with a wide variety of different two-dimensional and three-dimensional materials. Through independent and collaborative projects, students will learn and develop skills and techniques in perspective, proportion, color mixing, shading, precision paper cutting, collage, modeling, and design elements. Students will look at and discuss the works of traditional and contemporary artists that will help inspire and inform their projects. Each week students will learn art terms and the elements and principles of design to assist in their discussion of their own artwork with appropriate vocabulary. To further enrich their curriculum, art topics and themes for projects draw on subject matter the students are studying in their other courses, such as humanities, writing, and SEL.

Course Overview
This course is designed to offer students opportunities to explore a variety of media. Topics and themes are taken from other grade 6 courses to broaden and further their understanding of the subject. Materials and processes to be explored include drawing, acrylic and watercolor paint, paper-cutting, photography, ink, collage, clay, printmaking, and digital art. Through the manipulation of materials, students incorporate their own experiences, ideas, and feelings into their art projects, whether they are drawing, painting, or sculpting. Students look at the work of artists such as Lotte Reiniger, Kara Walker, Beatrice Coron, Gustave Baumann, and Ellen Harvey to help give context and inspire their work.

Projects for this course include:

- Drawing (people, animals, architecture)
- Clay power animals
- Folktale silhouette lanterns
- Clay relief sculpture
- The Monument Project

December Arts Culmination and Spring Art Show

Friday, December 14, is our Arts Culmination. This a wonderful evening showcasing the students' art work and music. It is an exciting event where we share all that we have done during the semester. The expectation is that all students will attend and participate.

The Spring Art Show is at the end of April and takes place during Arts Appreciation Week. Sixth graders display work and there is a reception celebrating their artistic accomplishments.

Homework and Assignments

Students are expected to keep a sketchbook, which will be a place for them to sketch ideas and write (reflections, artist notes, and vocabulary). Periodically through the semester, the sketchbooks will be collected.

Regular homework is minimal, with the exception of project deadlines. In these cases, artwork may need to be completed at home or during lunch recesses when the art studio is open to students. The expectation is that students will complete all art assignments.

If a student misses a class, they will be expected to make up the work outside of class time. This could mean at home or during an arranged time in the art studio during a lunch period.

If there is homework, students will hear about it first in class and then see it on the homework blog.

Open Studio Time

The art room is open to students at lunch recess on Tuesday and Thursday. They may use that time to work on independent projects or receive one-on-one help with current projects.

Assessment

Students are assessed on their engagement with each project along with the four categories of skills/criteria below:

- Understanding and use of elements and principles of design
- Creativity and originality
- Effort and perseverance
- Craftsmanship, skill, and consistency

Calendar of Projects (Semester 1)

September–December

- Drawing
- Power Animals (Clay)
- Silhouette Folktale Lanterns

Music

Course Goals
The goal of sixth-grade Music is to explore Western European music theory through class study and ensemble performance. The class is designed for nonmusicians as well as students who already play an instrument. By the end of the year students will have gained a basic to advanced working knowledge of chord construction, rhythm, and ensemble skills that will serve as the foundation for continuation in the various seventh- and eighth-grade music ensembles.

Course Overview
Students will learn fundamentals of music including rhythm, pitch, interval recognition, ear training, and a basic understanding of chord construction and progression, as well as understanding the layout and notes of the piano keyboard. Once students gain a basic understanding of theory, the group will apply it by selecting and learning songs as a group. Throughout the year the students will perform their songs, and they will record a CD at the end of the year.

Homework and Assignments
A portion of class time will be devoted to theory work. Students move through the program at their own pace and it should not require regular homework assignments.

Assessment
Students will be evaluated based their participation and focus in class discussion and rehearsals in addition to completion of theory worksheets in class.

Calendar
The group will perform on 4 occasions during the school year, including:

- All-School Assembly in the GCC — 1:00 pm
- Middle School Arts Culmination Concert in the GCC — 6:00 pm

SEL

Course Goals
SEL guides sixth-grade students to:

- Understand their own strengths and appreciate differences between themselves and others

- Work effectively in partnerships and groups by honing communication skills, such as active listening, asking thoughtful questions, empathizing, asserting oneself, and negotiating
- Explore the complexities and value of genuine friendship
- Gain a healthy perspective and truthful understanding of bodies, nutrition, and puberty
- Develop ethical thought and action

Course Overview

Sixth graders meet for SEL weekly in their gem groups. The curriculum is centered on developing community, facilitating relationship building, and integrating new and returning students through activities that explore identity, individuality, similarities, and differences. Celebrations and challenges related to making new friends, maintaining friendships, and including others are common themes in class discussions each year. Students also work through ethical issues introduced by technology as they prepare for the responsibilities of managing a laptop. In the spring, the students will spend SEL time preparing for their trip to Washington, DC.

Curriculum topics in sixth grade can include time management, organization, digital literacy, gender stereotypes, media literacy, points of view, managing stress, mindfulness techniques, self-advocacy, peer pressure, friendships, conflict resolution, health/nutrition, and puberty education. Topics are addressed in a sequence and developed in response to the specific and unique needs of the group of individuals. The program also supports the integration of laptops. We strongly believe in focusing on themes that are relevant and meaningful to students, so we implement some curriculum responsively as we move through the year.

Several times each semester, students use the Open Session framework to ask (anonymously, if they wish) for input from peers to help them solve problems and make decisions related to academics, friends, social concerns, and/or personal struggles. Students participate in a problem-solving process that aids them in developing empathy, building trust, deepening relationships, establishing meaningful connections, and addressing everyday problems in an inclusive and collaborative setting. Open Session has proven to be an essential part of the sixth-grade SEL curriculum, serving as a healthy way for students to share their perspectives and gain from others' perspectives.

Sixth-grade SEL students will engage in classroom discussions, art projects, role plays, small-group and partnered activities, mindfulness practices, and writing/journal exercises. Students watch films, read fiction and nonfiction, interview others, write reflections, and work with guest educators to develop and apply skills.

Homework and Assignments

There are occasional homework assignments in SEL. Homework is designed to be a set of enjoyable activities to provide practice with SEL skills. Students can expect assignments to include reflective thinking and/or writing, interviewing an adult, and/or observation and research. Typically, students are given time in class to complete their work, and if they need more time to finish the work they may take it home and send it to me at an agreed-upon time.

Assessment

The most essential factor for SEL assessment is each student's level of class participation and personal reflection. Students will also be evaluated on behavior and focus, respect for the other students and the curriculum, and individual effort and follow-through on completing in-class activities, class assignments, and individual projects. Assessment includes how SEL skills are practiced and applied within the Nueva community and outside the classroom — during recess and lunch, for example.

Study Skills

Course Goals

- Introduce a range of strategies that support each student's individual learning and management style
- Learn about and encourage healthy computer use
- Integrate appropriate technology — productivity tools, citation and documentation platforms, and research tools — into learning
- Continue to develop time management and self-advocacy skills
- Develop strong digital citizenship habits
- Support critical thinking skills
- Implement organizational strategies to keep data organized and easily searchable
- Work on skills that support success in the classroom and on the sixth-grade class trip to the East Coast

Course Overview

The sixth-grade study skills class helps students with their executive functioning skills, research and study skills, and digital literacy. Additionally, the class supports research and work done by students in other classes, such as humanities, science, and world languages. Skills are taught in the context of those classes' curriculum. Students work on skills such as breaking projects down into manageable parts, creating systems for managing time and homework, and reflecting on their use of digital devices. Students will also reflect on their homework load and practice self-advocacy skills. Skills are taught with an

emphasis on critical thinking and problem solving. We will prepare for the sixth-grade class trip by discussing and implementing strategies around good sleeping and eating habits, conflict resolution, working collaboratively, and speaking up for one's needs. Some class time is also devoted to completing and reviewing homework.

Homework
Because the course has been designed to provide instructional support for work assigned in other classes, no additional homework will be assigned.

Assessment
Students will be assessed through teacher observation and written self-evaluation. In addition, assessment will overlap with the projects completed for other classes.

Science

Course Goals
The goals are: to learn and practice scientific habits of mind (what it means to think like a scientist), to nurture love for science and learning together, to explore new scientific concepts, and to have fun!

Course Overview
During the fall semester, sixth-grade students will start by getting some practice with design thinking principles, which we'll use in many of our major projects. Fall semester projects include labs on measurement and motion, the Watermelon Free-Fall, and the Egg Drop Project. Students will also have the chance to brainstorm, design, and conduct their own experiments, which they are welcome to showcase at Nueva's STEM Fair in the spring. Other fall topics will include velocity, acceleration, Newton's laws and force, and Einstein's general relativity. At the end of the year, we'll take the sixth grade to San Francisco's Exploratorium!

Spring projects and topics include electromagnetism, the Space Mission Project, astronomy and cosmology, sustainability, and climate science. We wrap up the year with the interdisciplinary Sustainable Living Project, which will be showcased at culmination.

Between major projects, students will participate in many lab experiments, where they will work individually and in groups. Additionally, students will learn from demonstrations, hands-on exhibits, lectures, homework, and assessments. Throughout the year, students will get to practice their design thinking and social-emotional learning skills in our class.

Homework and Assignments
All of our assignments will be announced on the homework blog. Students should spend no more than 25 minutes on their science homework.

Assessments
Students will reflect and be assessed on their progress at the end of each major project or assignment. The assessment may be based on a written check-in, worksheet, oral presentation, or lab write-up.

Calendar
Assignment due dates and project times will be posted on the homework blog.

Writing

Course Goals
The sixth-grade writing program has several goals:

- Practice a variety of writing genres, including expository (nonfiction and research) and creative writing
- Write critically about literature
- Think carefully about connections among ideas in the texts
- Plan for and organize a piece of writing using a variety of pre-writing strategies
- Reflect on learning styles, strengths, and weaknesses
- Revise writing thoughtfully, with attention to spelling and punctuation, word choice, organization, and flow
- Develop personal voice and style as a writer

Course Overview
The sixth-grade writing program is based on the overarching themes of the American experience. The literature for the course includes historical fiction, poetry, folktales, personal narratives, and nonfiction.

In the fall, the class uses literature as a basis for our writing. We look closely at the elements of character, setting, genre, and point of view, as well as consider how acts of kindness, moments of decision-making, community-building, and mentors affect story characters and our own lives. Writing pieces include analytical reader responses to literature (essays), original folktales, brief biographies, and research about a specific historical period and mathematical ideas. Our texts include *The Circuit*, by Francisco Jimenez, *Blood on the River: Jamestown, 1607*, by Elise Carbone, books of the students' choice, a variety of American folktales, and excerpts about a mathematician.

The spring semester's writing includes historical fiction, poetry, a passion project, work on the solar house project, research pieces in preparation for our Washington, DC, trip, and a Washington, DC, scrapbook. We read poetry, analyzing word choice and the use of poetry elements. Texts include a biography about an American historical figure, as well as a variety of poems, short stories, and excerpts.

The course focuses on the development of writing skills across genres, as well as the development of the writer's voice. Students practice grammar and vocabulary in the context of the writing pieces themselves. Work on managing time effectively, breaking projects into manageable chunks, writing for extended periods of time, and improving the flow and organization of writing pieces occurs throughout the year.

Homework and Assignments

Homework is a key element for success in this class. Homework time should not exceed 30 minutes a night. Homework is not given on weekends, but students may choose to complete assignments over the weekend if that fits their schedule better. Writing homework may include completing writing begun during class, reading texts, writing responses to literature, and doing "30-minute power writes." If your child is struggling with the homework, please let Sarah or Katie know.

Assessment

Students are assessed on their writing pieces, classroom participation, focus, study skills/organization, time management, appropriate laptop use, self-advocacy, resilience, and effort. Students receive informal verbal feedback during in-class writing sessions, as well as written feedback on their writing pieces. Writing mechanics practice and class discussions are a part of class as well. Each writing assignment has a rubric so that students can clearly understand the expectations for each assignment and receive clear written feedback on the key aspects of each assignment.

Grade 7

Humanities
The Silk Roads: Mapping Global Connections

Course Goals

The goals for seventh-grade Humanities are to:

- continue preparing students to be independent learners with higher-order thinking skills, understanding the process of global connection and regional change over time
- think spatially and analyze data; foster visual literacy, with a focus on decoding maps and other infographics with focus on world regional geography
- promote understanding of the integral relationship between history and geography, particularly in the contexts of the late ancient and early modern world
- encourage reflection on global interactions past and present by delving into social, political, economic, cultural, and scientific exchanges between nations and regions of the world
- integrate with seventh-grade STEM curriculum to explore big ideas across academic disciplines, including engineering, structure and function, and pattern recognition.
- improve skills in reading for information, annotating, and taking notes from discussion
- hone historical and sociological research skills, in both collaborative and independent research projects
- improve analytical writing skills, with focus on creating clear, concise thesis statements
- develop an appreciation for world literature, art, and architecture and their relation to an understanding of globalization and human history
- foster historical thinking skills such as corroborating, sourcing, contextualizing, and close reading

The guiding philosophies of the term include:

- the relevance of integrated learning in dismantling silos of knowledge and building deeper understanding, including explicit application of the design thinking method to encourage analytical risk-taking and iterated research
- the necessity of understanding change over time as a result of scientific and technological innovation, human migration, and cultural exchange

- the significance of students' metacognition for enhanced learning
- the use of the "jigsaw method" to allow students the opportunity to choose topics about which they can become knowledgeable and learn from one another
- the design of assignments that challenge students in multiple modalities to encourage synthesis and analysis within an intellectual construct
- the design of week- and multiweek-long projects (collaborative and independent) with careful scaffolding to build habits of mind, academic understanding, excitement, continuity, and group cohesion
- the design of simultaneous investigations with another grade to stimulate intellectual relationships between grades
- the integration of multiple disciplines to help form holistic understandings of complex systems

Course Overview

The humanities, done right, are the crucible within which our evolving notions of what it means to be fully human are put to the test; they teach us, incrementally, endlessly, not what to do but how to be. Their method is confrontational, their domain unlimited, their "product" not truth but the reasoned search for truth, their "success" something very much like Frost's momentary stay against confusion.

— Mark Slouka

This fall we set ourselves to the crucible of the humanities, with the Silk Roads as our medium. Using *Cave Temples of Mogao at Dunhuang: Art and History on the Silk Road* by Roderick Whitfield, Susan Whitfield, and Neville Agnew as our starting point, we will explore how different forms of exchange along the trade routes of ancient and early modern Asia altered global notions of politics, economics, religion, and, indeed, what it meant to be fully human. The study of the Silk Roads at different points in history affords students the opportunity to explore the economics of trade, transmission of belief systems, languages, scientific ideas, technologies, music, and the arts over vast stretches of both time and space, including the present. With an eye to issues of geography and natural resources, religion and religious conflict, and ethnic, regional, and national identity, students will grapple with questions of historical context and find meaningful ways to confront these weighty topics that are still so alive in the world today. The Silk Roads curriculum endeavors to demystify the vast chronology of both Eastern and Western history, as students research how geography, historical events, and scientific and technological innovations have led to the world's contemporary realities.

Throughout the semester, students will work independently, in pairs, and in small teams to develop research questions and methodologies, craft hypotheses, test them with historical evidence, and ultimately write argumentative, evidence-based theses about their work.

By the end of the term, students will demonstrate understanding of the complex relationship between natural and human engineered systems: geography, communication, economics, politics, and cultural diversity.

The semester will culminate with the grandest physical representation of these research projects. Imagine a dusty trade center, packed with merchants hawking their wares, camels stamping in the dirt, muezzins singing out the call to prayer. All around waft warm incense and spices. Multiple languages bubble up in the din, and the various ethnicities of the market's denizens are evident in the many examples of national dress. Now imagine this elaborate bazaar at Nueva!

Units and Major Assignments

- Students will begin the year by creating a snapshot autobiography that depicts four major events from their life. This assignment forms a jumping-off point for discussions we will have in class about historiographical questions such as how historians choose which events to emphasize in their narratives, and how historians uncover details of events that are not in "living memory." Ultimately this assignment provides students with the understanding that histories are very much constructed narratives shaped by a historian's choices about how to present and organize the past.
- **Religions and Cultural Contacts of the Silk Roads** — Working in small teams, students will research one of the major religions found along the Silk Roads, focusing their research with the guiding questions, "Where did it start? Where did it go?" Students will be asked to examine the history of their religion, its demographics, and some of the symbolic motifs the religion adopted as it encountered new geographic and cultural regions along the Silk Roads. This project asks students to grapple with questions of cultural diffusion and assimilation as they seek to piece the Silk Roads together through the lens of religion. As a final product, students will teach a mini-lesson to the class using an infographic they have created that captures their research.
- **Nomadic vs. Agrarian Societies** — This projects asks students to grapple with the bias with which nomadic societies are viewed in history. Using the Disney film *Mulan* as our starting point, students will be asked to compare and contrast the film and the way it depicts the nomadic "baddies" in the movie to real primary and secondary source accounts of the Xiongnu (or, as Disney calls them to fit into their musical rhyme scheme, the Huns) and other nomadic groups along the Silk Roads. Students will learn about the intricate social structure of these groups, and their invention of technologies like veterinary dentistry, the stirrup, and so forth in a way that challenges traditional characterization of these groups. Finally, students will individually compose an analytical paragraph to answer the question "Is it fair to call the nomadic societies of the Silk Roads uncivilized?" Students will draw on specific historical thinking skills such as sourcing, contextualizing, corroborating, and close reading to help them construct their paragraphs.

- **Mapping the Silk Roads** — Again working in research teams, students will explore the social, political, economic, cultural, and scientific history of various points along the Silk Roads through the lens of a single Silk Road traveler. Famous travelers include Marco Polo, Ibn Battuta, Genghis Khan, and more. Students will ultimately create one information-rich, "annotated" map using Google MyMaps that charts the route their famous traveler took, the cultures, religions, and peoples they encountered along the way, and the geographic texture of the lands they traversed. When combined across groups, these maps will contribute to a comprehensive class understanding of the effects of trade, conquest, and exploration on all realms of life (and vice versa). Students will teach their peers a mini-lesson using their maps to explain their traveler's journey along the Silk Road.
- **Silk Roads Research Project** — Working independently, students will select one area of the Silk Roads to research in depth. Practicing pre-research, the writing of precise research questions, and deep secondary and primary research, students will become experts in their respective research areas. They will then practice crafting compelling, argumentative theses from their research.
- **The Biennial Nueva Bazaar** — Our semester will culminate in the grand biennial Nueva Bazaar, wherein each student will embody a Silk Road persona of their own creation. Research from across the semester will be on display.

Regular homework assignments during the week will include reading, writing, and research. Students will be expected to devote about two hours weekly to their humanities studies. Specific assignments will remain flexible to respond to student interest and curiosity generated in our classroom discussions.

Readings will include selections from texts including, but not limited to:

- *Cave Temples of Mogao: Art and History on the Silk Road* by Roderick Whitfield, Susan Whitfield, and Neville Agnew
- *The Silk Road: A New History* by Valerie Hansen
- *Silk Road: Monks, Warriors, and Merchants* by Luce Boulnois
- *The Silk Roads: A New History of the World* by Peter Frankopan
- *Life Along the Silk Road* by Susan Whitfield
- *The Silk Road: Art and History* ed. by Jonathan Tucker
- *Dumplings: A Global History* by Barbara Gallani
- *Spices: A Global History* by Fred Czarra
- *Pasta and Noodles: A Global History* by Kantha Shelke
- excerpts from *The Journal of World History*

Assessment

Students' level of engagement, written assignments, and project work will be used to determine understanding of the material and ability to synthesize and

analyze information. We will assess the ways in which each student demonstrates task commitment in their independent and collaborative work, their capacity to use elements of historical thinking (sourcing, corroboration, contextualization, and close reading) in their written work and research, and their continued development of healthy habits of mind, including the ability to articulate the thinking and research behind the work they produce.

Writing

Course Goals

The seventh-grade writing program has the following goals:

- Think critically
- Communicate clearly in the written form
- Search for deeper meaning in literature
- Strengthen the written skills needed for critical expression
- Hone the artistic presentation of creative pieces with an eye toward precision of language and concise expression
- Revise for content as well as conventions
- Move in the direction of making reading and writing a lifelong habit
- Sharpen public speaking and oral communication skills

Course Overview

The seventh-grade students begin writing this semester with the introspective creation of a "Timeline of Learning to Write." In this piece, students reflect upon where they have been as writers, where they are as writers, and where they want to go as writers. This is a memoir with a focus: "How did you become the writer you are today?"

In the first semester, seventh graders write in a variety of genres, including memoirs, literary analysis, and short personal vignettes. To help our students grow both as writers and readers, we will participate in a shared reading of Sandra Cisneros' internationally acclaimed *House on Mango Street*, a collection of vignettes based on her experiences growing up in a working-class Latin-American neighborhood in Chicago. In the novel, Ms. Cisneros makes stories memorable through the repeated use of stunning figurative language. As students craft their very own thoughtful vignettes, taking inspiration from Sandra Cisneros, they will work in a writing workshop environment that will give them the opportunity to converse with one another and their teacher about their writing, and then to revise accordingly for meaningful content and artistic presentation.

This year, in conjunction with the humanities teachers, the seventh graders will author a creative piece from the point of view of their assigned Silk Road

historical traveler as their culmination piece for the Silk Roads Bazaar in December.

The first part of the second semester will be devoted to writing poetry that springs from the reading of Greek myths, using Gregory Orr's lyrical sequence *Orpheus and Eurydice* as a mentor text. Then, post–winter break, writing class becomes the Nueva Drama Conservatory, a cornerstone of the Nueva experience. Local professional directors introduce students to a variety of exercises and acting skills (stage combat, improv acting and singing, physical comedy, playwriting, and textual analysis) before the group breaks up to rehearse and perform five or more plays. The term ends with culminating performances and a trip to the Oregon Shakespeare Festival to see professional productions of the shows the class performed. This year students will read Shakespeare's *As You Like It* in writing class and *Macbeth* in humanities class.

Homework

Homework may include reading, writing, light research, and, at times, artwork. Ideally, the goal is to work hard in class so that evenings can be devoted to family time when possible. However, with just three meetings per week, much of this is dependent upon available class time and how each student manages their time both at home and at school. In addition, students sometimes write best at home, and thus may leave that part of their homework for later in the day. Specific assignments will remain flexible to respond to student interest and curiosity generated in our classroom discussions.

Assessment

Students will be assessed on their writing pieces, classroom participation, focus during in-class writing time, organization, and growth. Rubrics will be used on all formal pieces to communicate clearly and effectively and to aid in the revision process when necessary. Individual writing conferences will be conducted throughout the day, both in and out of class time. The goal is for students to have a very clear perception of their strengths and challenges as young writers.

Math

Course Goals

- to develop knowledge in four content strands of mathematics: algebra and functions, geometry and measurement, statistics and probability, numerical relationships and operations
- to develop mathematical practices and habits of mind (see below)
- to develop deep conceptual understanding and connections in mathematics

- to develop attitudes of confidence, curiosity, persistence, and inventiveness in relation to mathematics
- to improve your ability to solve problems of varying complexity, both independently and collaboratively

Mathematical Practices and Habits Of Mind

In addition to specific content knowledge, Nueva's math program engages you in important mathematical practices and habits of mind. The following chart distills these practices as described in work done by Nueva faculty, the Common Core Standards, and other sources.

- **Investigate, Explore, and Play** — Look for patterns; tinker and invent; experiment, guess and conjecture; discover algorithmic processes
- **Represent** — Organize and simplify; describe; visualize; attend to precision; model; apply algorithmic processes
- **Reason** — Strategize; construct viable arguments; prove; identify assumptions; critique reasoning of self and others; look for and compare multiple solutions; connect and generalize; manipulate symbolically; use appropriate tools strategically; find your own errors and correct work
- **Communicate** — Collaborate; listen; write; present (formally and informally); express ideas clearly and succinctly; support other students
- **Growth Mindset** — Persevere; contextualize and reflect; embrace challenge; see mistakes as an opportunity for growth; pinpoint areas of need; be willing to explore less comfortable topics; seek help appropriately; iterate; focus on process; show improvement over time

Materials

Materials to bring to class every day:

- graph-paper notebook or binder with loose-leaf graph paper (depending on teacher)
- pencils with erasers
- laptop

Optional but useful:

- colored pencils
- ruler
- scientific calculator, such as a TI-30X

Homework

Homework serves a variety of purposes, including practicing skills, reflecting on newly learned concepts, extending ideas from classwork, reviewing skills and concepts, introducing or previewing new concepts, working on long-term assignments and projects. We view homework as an opportunity for you to explore ideas and take risks, and thus do not expect perfection. We encourage

you to make every effort to do your own work before you seek help from others. *Your* learning comes from *your* exploration.

Expect to have about 1 to 1.5 hours of homework per week. If you do not finish an assignment after working on it for this amount of time, **you may stop** working on it and bring it in to discuss with your teacher. Some projects will take longer than this, but they will be spaced out over several weeks. Please circle or take note of the questions you got stuck on and be ready to discuss these when you come to class. You may be asked to review and revise assignments — keep them in your folder or binder after they are returned to you.

Notebook

You will keep an organized notebook, which must be brought to class every day. This notebook is your personal mathematics resource. It will serve as your place to organize both class activities and homework.

Assessment

You will be assessed in a number of different ways, including individual paper/pencil quizzes and tests, projects, presentations, and participation in classwork. At the end of the semester, you will write a self-evaluation addressing the following areas:

- academic skills (participation, in-class productivity, study/homework habits, organization)
- mathematical practices and habits of mind
- mathematical content skills

Your end-of-semester report will include the following:

- a self-evaluation
- a teacher's report — a narrative describing your learning in the three categories above. This narrative may include the mid-semester report.

Individual Assistance

You are encouraged to form study groups whenever possible. You are also encouraged to discuss your math across grade levels in advisory or outside of school. In addition, extra help is available from any math teacher by prior arrangement before school, at lunch, or after school.

Groupings

Seventh-grade math classes are grouped in three levels. Groupings are flexible, and it is possible to change your grouping if it's not right for you. If you feel like you're in a class that's hard for you to follow, you can talk to your teacher about whether a grouping change might help. Or your teacher may have other suggestions for ways to help you keep up. If you feel like you need more challenge, you can talk to your teacher about ways to pursue more challenges in the class you're in or whether a faster-paced class would be appropriate. Your

teacher may ask you to take a placement test to help assess whether a faster-paced class would be best.

DATA AND PROBABILITY	RATES, DIRECT VARIATION, AND PROPORTIONS	RATIONAL NUMBERS	ALGEBRAIC STRUCTURE
modeling probabilities with area and tree models calculating experimental and theoretical probabilities multistage events non-equiprobable outcomes calculating expected value comparing data sets using box-and-whisker plots random samples solving problems using random samples	distance-rate-time problems other rates in the real world unit rates in tables and graphs slope direct variation indirect variation proportions percents as proportions *similarity* *similar triangle postulates* *indirect measurement* *right triangle and circle trigonometry*	number systems and the real number line fraction and decimal equivalents operations on integers and signed numbers order of operations complex and continued fractions *imaginary and complex numbers* *invented operations* *absolute value*	geometric representations of equivalent expressions writing and simplifying expressions testing equivalence by substitution, graphing, and simplifying factoring and expanding using the distributive property combining like terms

3D GEOMETRY AND SCALING	SOLVING EQUATIONS	LINEAR FUNCTIONS
surface area and volume deriving surface area and volume formulas surface area and volume ratios in scaled figures the Artifact Project (Silk Road–themed) *higher dimensions* *fractal dimensions*	mental solving the cover-up method using properties of equality (balancing) simplifying and solving clearing fractions and decimals representing word problems with expressions and equations using algebra to solve word problems	making graphs from contexts interpreting graphs dependent and independent variables representing functions with tables, graphs, and equations identifying linear and nonlinear relationships finding slope and y-intercept to write linear equations *alternate linear equation forms (standard, point-slope)* *absolute value functions* *one-variable inequalities: solving and graphing* *solving simultaneous equations* *introduction to linear algebra and matrices*

Topics in italics are possible options for accelerated classes.

The Advanced Topics section will skip or quickly cover topics that students are already proficient in. This class will also cover linear algebra and matrices, and quadratic functions and graphing, with possible explorations of continued fractions, trigonometry, complex numbers, and Euler's formula, along with other (mostly algebraic) topics based on student readiness, need, and interest. Projects throughout the year will focus on proof-writing and communicating mathematical ideas, including written problem sets, a video math lesson, a math and art project, and an interdisciplinary project with Humanities involving data and statistics.

The Independent Studies section will enable students to explore topics at a depth and pace appropriate to them. Particular emphasis will be placed on developing habits of self-direction and initiative within a framework of support and guidance from the teacher. Units will include most or all of the following: linear functions and systems (including an introduction to linear algebra and matrices), quadratic functions, exponents and logarithms, counting and probability, continued fractions, data and statistics, and an introduction to trigonometry and complex numbers. Projects throughout the year will focus on proof-writing and communicating mathematical ideas, including written problem sets, a video math lesson, a math and art project, and an interdisciplinary project with Humanities involving data and statistics.

Japanese II

Course Goals

In the second year of Japanese language study, students expand and increase their foundation in order to express themselves and describe with more depth and detail. The study of Kanji, the third and last writing system of Japanese, is introduced. It is also fundamental that our students continuously develop as global citizens, so elements of cultural understanding are integrated throughout the curriculum. In particular, we explore societal values through Japanese folktales and children's stories. Students will better understand themselves in their society, compare cross-culturally with Japan, and continue to understand Japan with greater depth through their language study.

Course Overview

All students in Japanese, Mandarin, and Spanish independently review their language throughout the summer so as to start the new school year strongly. By saving several weeks of language review during the school year, we can dive into new content in September and focus on specific skills necessary for better language use and understanding.

Much of the increased vocabulary and grammar will empower students to describe their everyday activities, interests, skills, likes, and dislikes. They will also express the past and future tenses. Students study Kanji on a regular basis as well. In the first semester, students handwrite and then present a traditional Japanese-style essay.

Throughout the second semester, learning content expands through increased vocabulary and grammar acquisition, but students explore Japanese folktales and characteristics of classic children's story writing. The culminating project for seventh grade is the Storybook Project or Theater Performance. For the Storybook Project, students create a story line within their Japanese language

ability and write a simple children's story. The final project is typed, personally illustrated, narrated online, and shared with the community. For the Theater Performance, students read a children's story play and alter the script through their own language ability and expression. They can perform in person or create a culturally appropriate puppet show. Their final performance is recorded and shared with the community.

Homework and Assignments
Homework continues to be assigned regularly. It will take on a range of forms including, but not limited to, reading and writing using current grammar and vocabulary points, creating short videos, as well as time devoted to individual study. For successful language acquisition, it is crucial that students study Japanese consistently outside of the classroom.

Assessment
While the styles of assessment vary, students learn to humbly receive and respectfully give feedback and constructive evaluations to peers. Students are also assessed on their progress of language acquisition throughout the year, their cross-cultural awareness and understanding, learning efforts, preparation for class, and so on.

Calendar
Japanese class meets three times a week for fifty-five minutes each class. However, because of the Drama Unit, starting in February seventh-grade Japanese meets only twice a week for fifty-five minutes each class.

In late October, there is a Modern Language field trip for all seventh-grade Japanese, Mandarin, and Spanish students. The Japanese language students go to Japantown in San Francisco to explore the fusion of local and Japanese culture, practice working in groups with observation assignments, and hopefully engage in Japanese conversation with native speakers.

In March, seventh graders have the important and special opportunity to host international exchange students from our partner school in Japan, the Doshisha Junior High Schools. The Doshisha exchange students arrive for only seven nights, March 24–31. While the priority of hosting is given to the eighth graders, seventh-grade families are certainly eligible — and encouraged — to apply for this important experience.

In late April, all students in Japanese, Mandarin, and Spanish embark on the Storybook Project Project or Theater Performance. Their final projects will be shared with families and the Nueva faculty.

Mandarin II

Course Goals

- Develop good learning habits — to frequently review the vocabulary and practice the speeches
- Explore different ways to read and write the characters and to find the individualized ways that are the most effective
- Show evidence of sufficient language control in the learned topics with practice, polish, and editing
- Use the language to narrate simple stories
- Describe people and animals in paragraph with supporting details
- Write and orally present about a past event, such as the field trip, holidays, winter break, and weekends
- Ask and answer questions on Where, Who, When, What, and How is/How was
- Read menus in characters by identifying the category key words, such as 肉 (meat), 素(vegetarian), 汤(soup), 辣(spicy), etc.
- Read and write in Chinese characters in paragraphs on familiar topics

Course Overview

Building on students' work in sixth grade, learning continues in project-based thematic units. The fall semester starts with review and summer project presentations on Mandarin children' books. To get ready for the language field trip on October 12, we have a Menu Project, in which students learn how to read menus in Chinese characters by identifying the key words, followed by a Restaurant Project to learn how to order in Mandarin. We go to San Francisco Chinatown for the field trip, where students do scavenger hunt activities, a tea tasting lesson, and then eat in the restaurant of their choice in small groups. An important goal of this field trip is to prepare students for the culmination trip to China by the end of eighth grade. After the field trip, we have a journal project to learn how to describe a past event, which is followed by more journal projects on holidays and breaks to deepen the learning.

Then we move on to a new extended writing project — Pets, Animals, and Monsters — to learn a variety of words, phrases, and sentence structures to describe animals, with a focus on memorizing more characters. In the end of the unit, students are guided to use all that they have learned and their imagination to create their own "monster." They first write out a script with required language forms to describe their monster and then create a visual illustration. In the final presentations, they listen to each other's speech, ask questions to negotiate for meaning, and answer questions as evidence of comprehension.

After the Monster Project, students work on a unit describing people, and with the foundation from their previous lessons they start to work on their culmination Storybook Project in mid-April. In this extended project, they will be guided to create their own digital storybook with 50 sentences in Mandarin, voice-over, author's note, and original art illustration.

Homework and Assignments

- Students are expected to spend 5–10 minutes of vocabulary review on Quizlet daily
- Students are expected to spend 20 minutes after each class on specific assignment or working on their projects/presentations

Assessment

- Weekly short vocabulary quiz
- Unit test at the end of a thematic unit (usually around three weeks)
- Presentation of learning after major projects
- Self-assessments
- One-on-one check-in and oral test

Calendar

- Field trip: Scavenger hunt in Chinatown on Friday, October 12
- Chinese exchange students visit January 25 to February 1 (tentative)
- Mid-Autumn Festival on September 25 and class celebration that week
- Spring Festival on February 5 and special celebration that week

Accelerated Mandarin II

Course Overview

In the second year of accelerated Mandarin, students further develop their four primary language skills — listening, speaking, reading, and writing — in a highly personalized project-based learning environment. With their habits of independent study and collaborative learning, they continue to work in small groups on activities and projects carefully designed based on their proficiency levels, with teacher instruction and support whenever needed. Individual conference in class for goal-setting, check-in, and assessment is scheduled monthly.

With the foundation from last year, the curriculum starts to focus more on reading and writing skills. To get ready for the culmination Storybook Project, in which students create their own storybook based on authentic Chinese folktales and legends, students will read a variety of children's books throughout the year, and have monthly storytelling/book presentation/lit club days. Another focus on the curriculum this year is to gradually introduce the content from

upper school Mandarin classes with age-appropriate activities and projects. Students have monthly writing project with the goal of memorizing all the characters in their sentences/ paragraphs. By the end of the year, they should be able to write on a variety of familiar topics at different levels.

Homework and Assignments

- Students are expected to spend 5–10 minutes of vocabulary/character review on Quizlet daily
- Students are expected to spend 20 minutes after each class three times a week on specific assignments or working on their projects/presentations

Assessments

- Presentation of learning after major projects
- Monthly writing test
- Monthly storytelling/book presentation
- Monthly one-on-one check-in and oral test
- Self-assessments

Calendar

- Field trip: Scavenger hunt in Chinatown on Friday, October 12
- Chinese exchange students visit on January 25 to February 1 (tentative)
- Mid-Autumn Festival on September 25 and class celebration that week
- Spring Festival on February 5 and special celebration that week

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Spanish II

Course Goals

Students continue their progress and work toward greater proficiency in Spanish, beginning with a review of Spanish language, grammar, and culture studied in sixth grade. Students' curiosity about and understanding of Spanish-speaking communities' values, ideas, customs, and traditions will grow. Students will feel confident in moving forward with more complicated grammar structures as they begin to use imperfect and preterit verb tenses.

Course Overview

Learning continues through the practice of the four basic skills: listening, speaking, reading, and writing. Classes will be conducted almost entirely in comprehensible Spanish. We will focus on comprehension and fluency, with students reaching ACTFL Novice High to Intermediate Low level. The class will meet three times a week.

Students will be able to say and do more with their language skills. They will revisit present, present progressive, and simple future tenses (*ir* + *a*), as well as learning the preterit, imperfect, and future tenses and the imperative mood.

They will be able to talk in greater detail about their daily activities. Their grammar and vocabulary will prepare them for self-introductions, counting, ordering food, expressing past and future events in their lives (weekend/summer plans, weekly schedule), using numbers in real-life scenarios (e.g., dates, time, shopping), and scenarios in specific locations in and around a city. They will learn about the environment and geography specific to Mexico, and they will be able to talk about chores and activities at home and at school. They will study storytelling through art and murals, focusing on the "Tres Grandes" — Rivera, Orozco, and Siqueiros. Students will also explore the themes of immigration from Spanish-speaking countries to the US.

In addition to the spoken language, students will continue to practice listening, reading, and writing. They will read Spanish children's books, make changes to plot and syntax, and write summaries about what they have read. This will lead to their culmination: writing their own children's storybook in the spring semester. Food preparation and cultural activities will continue to be part of the curriculum, allowing the students to experience the culture aesthetically and hands-on.

Homework

Each week, students will receive a list of homework assignments that they will turn in the following week. The expectation is that they spend 10–20 minutes a day on the activities in the assignment collection. These will include practice with assigned vocabulary, grammar, reading, writing, and pronunciation, with remedial support and optional challenge work. Individual feedback is provided in weekly return of homework, and daily class-time feedback is provided for individual and group corrections and support. Teachers may also provide individual or small-group feedback as needed during lunch-recess or before or after school.

Assessment

Weekly written quizzes will enable students to monitor their vocabulary retention, grammar progress, and language learning success. Students will also be assessed based on their class participation, preparation, progress with content, study habits, and projects.

Calendar

Students will have one language-specific field trip in October or November to visit the Diego Rivera mural at City College in San Francisco. They will also visit the Mission District, participating in a mural tour, exploring the SF connection to Mexico and muralism and the rich cultural representation of stories through art.

They will have ample opportunity to order lunch and interact in Spanish at Mexican restaurants.

SEL

Course Goals

SEL helps seventh-grade students to:

- Develop a clearer sense of identity, personal values, strengths, and areas for growth and apply this self-awareness for the benefit of self and others
- Learn about the science and nature of well-being and learn and develop practices to enhance well-being and mental and physical health
- Understand and build healthy strategies for managing stress and emotions
- Become more aware of their relationship to and interactions with others and the outside world
- Learn about how to cultivate safe, healthy, respectful relationships
- Develop and practice effective communication and conflict resolution skills
- Build their understanding of empathy, trust, and respect and how to make them part of everyday life
- Navigate and embrace differences within the community
- Explore how aspects of power, privilege, and lack thereof influence their and others' experiences
- Understand the positive and negative aspects of technology use and develop healthy digital habits
- Learn how to protect themselves from the negative consequences of sexual relationships and of drug and alcohol use
- Grow personal problem-solving and decision-making skills
- Reflect on and apply SEL tools in day-to-day experiences

Course Overview

SEL classes meet once a week during seventh grade. At this age, students are more independent, oriented to their peers, care about how others see them, and are developing individual thinking and values. Students will reference their current life experiences while they continue to develop and apply fundamental skills within the five areas of SEL, adapted here from the Collaborative for Academic, Social, and Emotional Learning (CASEL).

Self-Awareness "I Know"	• What triggers specific emotions and can I identify these emotions and thoughts as I experience them? • What are my current strengths and areas for growth and how can I apply this knowledge? • How can I maintain a growth mindset and build my sense of self-confidence? • What can I contribute to a group of people or community? • How do aspects of my identity and personality affect me and those around me?
Self-Management "I Think Before I Act"	• How do I healthfully and effectively manage and respond to my emotions and physical needs? • What practices do I follow and which can I adopt to help me stay healthy in mind and body? • How do I manage my time to my benefit? • What helps me set and work toward personal and academic goals? • What helps me persevere through challenge?
Social Awareness "I Appreciate"	• Do I recognize, accept, and respect differences in others? • Am I empathetic toward others and do I try to understand their perspectives? • Do I explore how social justice dynamics affect my community and others? • Can I analyze, predict, and observe how my behavior may affect others? • Do I know whom to approach when I need help?
Relationship Skills "I Care"	• How do I grow and maintain healthy relationships? • How do I manage relationships when others have different needs than I do? • How do I prevent, negotiate, and resolve conflict productively? • Can I ask for help and when should I advocate for myself? • How do I communicate assertively and respectfully and listen actively?
Responsible Decision-Making "I Choose"	• How do I ensure my actions are responsible, compassionate, and ethical? • What impact(s) will my choices have on others as well as on myself? • Do I take responsibility for the consequences of my decisions? • How do I evaluate different options and make decisions that serve me best?

Through learning and practicing research-based SEL tools and engaging in interactive experiences, journal writing, and meaningful dialogue, students learn diverse ways to deepen their social and emotional intelligence skills. Themes will address the developmental needs of young adolescents: interpersonal relationships, communication skills, stress management, mindfulness, goal-setting, mental and physical health, sexual health, drugs and alcohol, the role of technology in students' lives, topics related to social justice, and identity exploration, among other topics.

Guest teachers include experts in sexual health, drug education, and perhaps other topics. The year will close with a series of classes to help prepare students for their trips to Yosemite and Ashland. Although the curriculum aims to cover

specific concepts and teach certain skills, themes will also be addressed as they arise throughout the year.

Approximately once a month, students engage in Open Session for one class period. Open Session is an invaluable SEL experience that allows classmates to respond to student-generated issues through an intentional, supportive exchange of listening and ideas. Students participate in a social problem-solving process that aids them in developing empathy and active listening skills, building trust, deepening relationships, establishing meaningful connections, and addressing everyday problems in an inclusive and collaborative setting. Students see how much they have to offer each other, support each other and feel supported, and are mutually empowered to take thoughtful action to deal with challenges. Open Sessions occasionally focus on certain themes as appropriate to their collective current experiences — for example, managing stress during busy academic periods or preparing for trips.

Homework and Assignments

There are occasional homework assignments in SEL. Homework is designed to be a set of enjoyable activities to provide practice with SEL skills. Students can expect assignments to include reflective thinking and/or writing, interviewing an adult, and/or observation and research. In the event that students run out of class time, they may be asked to finish a class assignment as homework.

Assessment

Because social-emotional learning is a personal and individual process, ongoing self-reflection is central to monitoring student learning and progress, and is a metacognitive social-emotional learning skill in itself. Students will be asked to reflect regularly on what they have learned while practicing SEL skills in their day-to-day lives. Students are also evaluated on in-class behavior, participation, and respect for others, the teacher, and the curriculum. Assessment includes how SEL skills are practiced and applied within the Nueva community and outside the classroom. Students complete two formal self-evaluations, one at the end of each term. All middle school students receive a formal written evaluation once a year for SEL; this occurs at the end of the second term for seventh-grade students.

Chemistry

Course Goals

Seventh-grade science focuses on building insights and understanding into basic chemistry principles through exploration, experimentation, observation, practice, and discussion. The course also seeks to foster students' intrinsic

curiosity about science and to strengthen students' understanding of how chemistry shapes the world around them.

Course Overview

In the first semester, students will explore laboratory safety and procedures, properties of matter, atomic structure, electron configuration, the periodic table, and chemical bonding. Throughout the semester the students will make connections by reflecting upon real-world applications of these fundamental concepts.

In the second semester, students will delve deeper into the core concepts of basic chemistry, learning about formula writing, the mole map, balancing equations, stoichiometry, and reaction energy diagrams. The class will then learn about water chemistry — including solubility, acids and bases and reaction rates — through the lens of environmental justice and green chemistry.

Homework and Assignments

In general, homework will consist of short assignments to help introduce or reinforce key concepts or to prepare for experimental work. As the year progresses, weekly lab reporting will be assigned.

Homework and assignments will be announced in class and posted on the homework blog. All electronic work will be turned in on Google Classroom. Students should spend no more than 20 minutes per night on chemistry homework.

Assessment

Students will be assessed based on their grasp of scientific concepts, the growth of their lab and scientific thinking skills, and their participation in class discussions. Formal assessments will include lab reports and unit knowledge checks. The focus of the latter is on deeper conceptual development rather than simple factual command, and students will often be able to use their science notes as a resource. In addition, students will be asked to make visible the key concepts and connections gained in each unit through creative chemistry projects and specialized culminating projects each semester.

Design Thinking, Engineering, and Computer Science

Course Overview

In this yearlong class, students will practice all the elements of the design thinking process through several projects, some focused more on engineering and tool usage, and others focused more on computer science skills and concepts. In the fall, students will develop and deepen their programming and computational thinking skills as they explore Javascript and learn how to

implement some fundamental algorithms. Later in the class, they will learn how to interface to various open APIs (e.g., an open-source artificial pancreas) and the Internet of Things. In the spring, students will work toward deepening their understanding of the design thinking process while simultaneously developing their fabrication competencies in the I-Lab. They will start by identifying the needs of their user, which in this case will be a student challenged by health problems and extended hospital stays. They will then use what they learn in the empathy and need-finding process to brainstorm and prototype effective ways to enhance or develop games to better meet the needs of the user, potentially incorporating basic electronics and/or programmable elements.

Course Goals

- Strengthen computer programming habits and skills.
- Develop fundamental skills in a programming language (Javascript), programming tools and concepts.
- Develop a basic understanding of the Internet of Things by interacting with various open web services/APIs and connected devices.
- Develop proficiency in and understanding of the design thinking process and associated mindsets and best practices
- Learn and improve fabrication and prototyping skills
- Integrate concepts from other classes to help understand the context of engineering challenges in a globalized world
- Apply scientific concepts to solve engineering and social problems
- Use tools and user feedback to diagnose problems, measure performance, and improve designs
- Build skills in collaborative problem-solving
- Improve ability to manage projects, set intermediary deadlines, and anticipate and bridge skill gaps

Homework and Assignments

Students will periodically be asked to observe, experiment, research, or prepare brief presentations about engineering concepts, design innovations, or the social context surrounding a particular problem. Homework should not exceed 30 minutes a week.

Assessment

While performing individual self-assessments, students will reflect on both their process and the resulting products of their studies throughout the semester. Students will be expected to demonstrate improvement from the skill level at which they entered the course.

Grade 8

Humanities (Fall Semester)
The Spirit of the Silk Road: Silk, Oil, and Water

Talking about a Silk Road evokes images of a road that's a precious ribbon, running from China to the Mediterranean, trodden by thousands of humans and camels. The term "Silk Road" has been used since the 19th century to refer to the historical network of trade routes that connected East Asia with the Mediterranean from about 200 BCE to 1500 CE. We use "Silk Road" to stand for the interconnectedness of peoples who were separated by vast distances, and indeed by decades and even centuries. The Silk Road is the Internet of antiquity.

— Yo-Yo Ma

Course Goals

- Continue preparing students to be independent learners with higher-order thinking skills in the context of understanding the role of geography in cultural transmission over time across the Silk Roads
- Think spatially and analyze data; foster visual literacy and pattern recognition, with focus on decoding maps and other infographics
- Promote understanding of the integral relationship between geography and history, using design thinking to decode why geography and belief systems influence agriculture
- Encourage reflection on cultural transmission over time across Eurasia from the lens of belief systems, language acquisition, and trade using elements of depth and complexity to promote synthesis and analysis and extend critical thinking
- Integrate with eighth-grade STEM curriculum for understanding of big ideas across academic disciplines, including structure and function and pattern recognition
- Continue developing skills in reading for information, note-taking, and research
- Effectively organize and communicate information in a variety of media
- Continue developing expository writing skills, with focus on analyzing sentences, writing the unified, coherent paragraph, and using the revision process
- Develop thesis statements that back up claims with textual evidence
- Enhance appreciation for world literature and its relation to an understanding of globalization

- Stimulate understanding and raise awareness of the interconnectedness of the humanities with the sciences (biology) and the scientific method
- Enhance appreciation for world literature and its relation to an understanding of cultural transmission
- Stimulate understanding and raise awareness of the interconnectedness of the humanities with the sciences (biology) and the scientific method

The guiding philosophies of the term included:

- the relevance of integrated learning to dismantle silos of knowledge and build deeper understanding, including understanding of the scientific terminology *hypothesis generation, data analysis, pattern recognition, structure and function, natural and human engineered systems,* and *flow* as applied to the humanities
- the necessity of understanding *change over time* as a result of cultural transmission, scientific innovation, and evolution
- the significance of students' applying metacognition for enhanced learning
- the use of the *jigsaw method* to allow students the opportunity to choose topics about which they can become knowledgeable and learn from one another
- the design of assignments that challenge students in multiple modalities to encourage synthesis and analysis within an intellectual construct
- the design of week- and multiweek-long projects (collaborative and independent) with careful scaffolding to build habits of mind, academic understanding, excitement, continuity, and group cohesion
- the design of simultaneous investigations with another grade level to stimulate intellectual relationships between students of different ages in preparation for the Silk Roads Bazaar
- the integration of multiple disciplines to help form holistic understandings of complex cultural processes

Course Overview

Humanities allows us to learn to read carefully, with appreciation and a critical eye; to find ourselves, unexpectedly, in the middle of the ancient texts we read, but also to find ways of living, thinking, acting, and reflecting that belong to times and spaces we have never known. The humanities give us a chance to read across languages and cultural differences in order to understand the vast range of perspectives in and on this world. How else can we imagine living together without this ability to see beyond where we are, to find ourselves linked with others we have never directly known, and to understand that, in some abiding and urgent sense, we share a world?

— Judith Butler, philosopher

Essential questions for the semester:

- How does geography affect history?

- How has trade shaped humans?
- What was life like on the Silk Roads — both the living organisms and the cultures?
- Why are the Silk Roads the birthplace of the world's great religions?
- How have geography and trade transmitted belief systems?
- How are natural resources the gateway to wealth and power today?
- How might we prepare for our future use of oil and water by looking at how the Silk Roads have influenced technology over time?

The Silk Roads curriculum endeavors to demystify the vast continent of Asia, as students research how geographical conditions, trade, and the clash of belief systems have led to Asia's contemporary realities.

This fall we investigate the legendary Central Asian trade route. The Cyrus Cylinder, a 2,600-year-old clay cylinder covered in Akkadian cuneiform script and powerful symbol of religious tolerance, governance, and multiculturalism, serves as an icon for understanding the complexities of change over time and across Eurasia. In the 19th century, explorer and archaeologist Baron Ferdinand von Richthofen coined the term "Silk Road" to refer to a collection of Eurasian roads and trade routes that connected the Mediterranean Basin in the west to China and Japan in the east. Traversing diverse terrain with numerous culturally and linguistically distinct populations, the Silk Roads offer students the opportunity to explore the economics of trade and the transmission of belief systems and scientific innovation, oral and written languages, music, and the arts over more than two millennia and ten thousand miles. From the 4th century BCE in the Eastern Mediterranean, into the Han Dynasty and the Roman Empire, through the T'ang Dynasty and into the middle of the second millennium and *Pax Mongolica* under the rule of Genghis Khan, we explore how Eurasian settlements and cities have changed over time in a quest to understand today's conflicts.

The complex relationships between geography and history, belief systems and language, and trade and economics provide the context for our work in building skills in reading for information, research, and note-taking. Everyone chose a book for summer reading related to the Silk Roads: Independent Textual Travels (ITT). The first major assignment, when students use elements of depth and complexity to extend and deepen understanding, also serves as material for presentation and note-taking so that we share one another's discoveries along the Silk Roads. We read selections from the books listed below (under "Homework and Assignments") and material from the *Economist,* the *New Yorker, World Archaeology*, and the *New York Times* to offer students the opportunity to connect the past with the present for an understanding of possibilities in the future.

For our work on *Reverence for Belief Systems,* students create banners of syncretism based on the eight major religions along the Silk Roads:

Zoroastrianism, Hinduism, Buddhism, Taoism, Judaism, Confucianism, Christianity, and Islam.

The *Silk Road Six* research project challenges students to work in collaborative groups to organize and communicate their research for six historic travelers who travelled the Silk Roads (Alexander the Great, XuanZang, Ibn Battuta, Genghis Khan, Marco Polo, and Aurel Stein). The presentations must include at least three media: a digital map plotting the journey, an Infographic focused on the traveler's primary motivation, and an interactive lesson for the class. Students have the opportunity to solidify their own learning with a take-home test based on their research and notes from class.

By November, students are prepared to choose a topic for their independent research. After developing one strong research question guided by the elements of depth and complexity, students gather data from the rich digital and print sources now available. From their notes, students write an abstract accompanied by a bibliography from their research. Students submit the abstract, bibliography, and research notes during their oral exam (Aurel's Orals*) in early December, which affords each student the opportunity to speak extemporaneously on his/her topic and respond to questions from a panel of humanities teachers. The Silk Roads Bazaar, to be held on Monday, December 17, is a dramatic realization that showcases students' investigations and demonstrates the depth and breadth of their understanding.

*Aurel Stein was a Hungarian-born archaeologist who made significant discoveries in Central Asia along the old Silk Routes.

Homework and Assignments

Regular homework assignments during the week will include reading, writing, and research. Students will be expected to devote about two hours weekly to their Humanities studies. Specific assignments will remain flexible to respond to student interest and curiosity generated in our classroom discussions.

Related literary works covered in Writing:

Lone Traveller by Anne Mustoe
Monkey by Wu Cheng'en, translated by Arthur Waley

Readings in Humanities will include articles and chapters from the following texts:

The Silk Roads: A New History by Peter Frankopan
The Geography Behind History by W. Gordon East
Sapiens: A Brief History of Humankind by Yuval Noah Harari
When Asia Was the World by Stewart Gordon
Religions of the Silk Road by Richard C. Foltz
By Steppe, Desert, and Ocean: The Birth of Eurasia by Barry Cunliffe
Cumin, Camels, and Caravans: A Spice Odyssey by Gary Paul Nabhan

Assessment
Students' level of engagement, written assignments, and project work will be used to determine understanding of the material and ability to synthesize and analyze information. We will assess the ways in which each student demonstrates task commitment in their independent and collaborative work, their capacity to use elements of depth and complexity in their written work and research, and their ability to articulate their thinking and research in the work they produce.

Humanities (Spring Semester)
Cultural Identity in the Context of History, Geography, Literature, and the Arts

Course Overview
The spring exploration in the humanities focuses on skills work in annotation, research, and essay writing. From the cultural identity collage to the ethnographic field study, students are asked to consider what influences shape the world and how beliefs are made visible. We consider the relevance of various elements of cultural identity, including age, ethnicity, ability, race, gender, sexual identity, and socioeconomic stature.

Our interdisciplinary work continues: We begin the semester with Steven Pinker's award-winning essay on his perspective of the relationship between science and humanities. The initial essay assignment links to the collage, asking students to address the elements of cultural diversity in relation to their lives. In preparation, we continue discussion of Herman Hesse's classic novel *Siddhartha* and excerpts from Josh Waitzkin's book *The Art of Learning.* We will watch the classic film *Searching for Bobby Fischer*, which chronicles Waitzkin's early years as a chess prodigy.

We will compare and contrast two articles: "Questions of Culture" by Robert Brooks and "The Case for Contamination" by Kwame A. Appiah. Both readings offer material for rich discussion and push thinking and questioning concerning cultural identity into new dimensions.

We identify Herodotus as the first ethnographer and read passages of his writings on Egypt and Persia. Daniel Mendelsohn asks big questions about the shape of Eastern and Western cultures in his review of Herodotus's *Histories*, "What was Herodotus trying to tell us?"

After reading and discussing *Mapping Cultural Identities* from the textbook *Human Geography,* students write an essay on the impact of geography on history and culture. Another essay will ask students to compare writing styles: Hesse's novel and Herodotus's *Histories*.

Each essay follows lessons on writing a strong thesis statement and identifying parts of speech in order to strengthen sentence structure and avoid the passive voice. We continue work with grammatical analysis and the logic of sentence structure and syntax by diagramming sentences, with examples from *Sister Bernadette's Barking Dog* by Kitty Burns Florey.

In preparation for the research paper on the cultural identity of a city, students will workshop effective research strategies, based on the work of Tasha Bergson-Michelson. The glossary of useful terms and tips on gathering information provides valuable material as students plunge into their ten-page research paper. Students embark on an intense period of research on a Chinese, Japanese, or Spanish city of their choice during an assigned period of history. Four sources are required for each of the elements of their paper (28 bibliographic entries). The required topics are science, technology, architecture, religion, philosophy, the arts, and politics (STARPAP). Every topic of the STARPAP is a mini–research project aimed at developing skill in writing about one point at a time. For each topic, students address the research question "How are beliefs made visible?" The research paper requires the student to prove a complex thesis by arguing through it. Students will begin research at the San Francisco Public Library and have time in class to research online and explore the classroom books. At the completion of their papers, students will be asked to consider the interrelation of the topics and how their cities functioned as an interdisciplinary system. We also ask the question "How did China, Japan, and Spain change and develop over time?"

For the literature component of the semester, beginning in February students will chose books based on their language study. Lit Club will be devoted to discussion of language-based literature selections in small groups, led by one of the chaperones for each overseas trip.

A series of field trips by language groupings will help prepare us for the May overseas trips. Assignments designed to be executed in the field will provide techniques for learning "on the road."

Acting as an ethnographer, each student will conduct an independent field study focused on one particular aspect of the national culture while in China, Japan, or Spain. As a model for their field study, we will look at gardens and high-speed rail in all three countries. Students will consider how and where people make their beliefs visible and how dominant values in their host countries are revealed. In addition, everyone will keep a travel journal with specific writing assignments designed to deepen their understanding and experience while overseas. We end the year with a powerful essay comparing travel experiences to an artist's work (Picasso, I. M. Pei, and Izamu Noguchi), a banquet of cultural icons, and writing end-of-year celebration speeches.

Writing

Course Goals

- Practice a variety of writing genres, including expository, narrative, creative, persuasive, literary analysis, and argument
- Integrate writing instruction with assignments from humanities and science
- Conduct research and evaluate sources for quality, accuracy, relevance, and depth
- Select appropriate passages for citation and embed the passages effectively into writing
- Cite research accurately
- Read and think deeply about literature
- Participate in conversations about literature both as contributor and active listener
- Read and analyze different types of literature, including novels, short stories, and poetry
- Read and analyze different types of nonfiction, including memoir, essays, and journal articles
- Plan for a piece of writing using a variety of prewriting strategies
- Implement outlining and other types of prewriting organizational strategies
- Practice the ACEIT paragraph structure (Assert, Cite, Explicate, Interpret, Tie-in)
- Using mentor texts as guides, experiment with different stylistic approaches to the sentence
- Edit writing carefully, with attention to grammar, spelling, and punctuation
- Revise writing thoughtfully, with attention to development of ideas, structure, transitions, and word choice
- Implement teacher feedback in revision

Course Overview

Eighth-Grade Writing requires students to complete stand-alone assignments for the writing class in addition to supporting the writing they do in other courses, mainly humanities and science. Whenever possible, the course integrates lessons and assignments with the interdisciplinary theme of the semester, "The Spirit of the Silk Road: Silk, Oil, and Water." Students read a 20th century travel narrative on the Silk Road — Ann Mustoe's *Lone Traveller* — and then write their own personal travel narratives. Additionally, students will read Arthur Waley's translation of Wu Cheng-en's *Monkey* and practice close reading and literary analysis skills. Students will also practice writing in variety of other genres. The final assignment of the semester will include research and allow for student choice in topics related to the Silk Roads.

In the spring semester, the writing curriculum will integrate with the humanities theme of cultural identity. Students will read *A Lesson Before Dying* by Ernest Gaines, followed by a written literary analysis. Students will practice literary analysis skills in group discussions and collaboratively in preparation for the essay. Students will read and analyze a graphic novel related to cultural identity in an online learning community. In addition, each student will create a video podcast that features the cultural identity of a subject of his/her choice. Writing class will also support the STARPAP research paper assigned in humanities.

The course is designed to inspire deep thinking about literature and writing, persuasive writing in light of a close reading of a text, careful selection and use of research, and an appreciation for literature. The course will be most rewarding and challenging when the class functions as a community of learners in which each member of the class has a voice; therefore, class discussion is paramount. Ideally, students will learn from each other, read writing aloud, write extemporaneously, work collaboratively, and share thoughts and observations with one another.

Over the course of the school year, students will conduct research for many different assignments across the curriculum, and research skills will be taught explicitly and assessed formally and informally in writing class. Students will use Noodletools to keep track of all of their resources and to keep track of their notes, ideas, and interpretations of how the research might be used.

Students practice grammar and vocabulary in the context of the written pieces themselves. Assignments will be scaffolded to help students manage time effectively, break projects into manageable chunks, and improve the flow, organization, and length of written pieces throughout the year.

Homework

Expect homework regularly. Homework might include writing incremental pieces as students work toward a fully formed draft, reading and annotating, and occasionally watching or listening to online clips posted to the blog. Often homework will be turned in via Google Classroom, but all assignments and due dates will be posted to the blog as well.

Assessment

Students are assessed on their written pieces, classroom participation, focus, study skills/organization, appropriate laptop use, self-advocacy, revision practices, and effort. Rubrics accompany major writing assignments so that students clearly understand the expectations for each assignment. Students will also receive individualized narrative feedback on working drafts and final products.

Math

Course Goals

- to develop knowledge in four content strands of mathematics: algebra and functions, geometry and measurement, statistics and probability, numerical relationships and operations
- to develop mathematical practices and habits of mind (see below)
- to develop deep conceptual understanding in mathematics
- to develop attitudes of confidence, curiosity, persistence, and inventiveness in relation to mathematics.
- to improve your ability to solve problems of varying complexity, both independently and collaboratively.

Mathematical Practices and Habits of Mind

In addition to specific content knowledge, Nueva's math program engages you in important mathematical practices and habits of mind. The following chart distills these practices as described in work done by Nueva faculty, the Common Core Standards, and other sources.

- **Investigate, Explore, and Play** — Look for patterns; tinker and invent; experiment, guess and conjecture; discover algorithmic processes
- **Represent** — Organize and simplify; describe; visualize; attend to precision; model; apply algorithmic processes
- **Reason** — Strategize; construct viable arguments; prove; identify assumptions; critique reasoning of self and others; look for and compare multiple solutions; connect and generalize; manipulate symbolically; use appropriate tools strategically; find your own errors and correct work
- **Communicate** — Collaborate; listen; write; present (formally and informally); express ideas clearly and succinctly; support other students
- **Growth Mindset** — Persevere; contextualize and reflect; embrace challenge; see mistakes as an opportunity for growth; pinpoint areas of need; be willing to explore less comfortable topics; seek help appropriately; iterate; focus on process; show improvement over time

Materials

Materials to bring to class every day:

- 1.5" math binder with graph paper
- pencils with erasers
- laptop

Optional but useful:

- ruler
- colored pencils

- scientific calculator (for home)

Homework
Homework serves a variety of purposes, including: practicing skills, reflecting on newly learned concepts, extending ideas from classwork, reviewing skills and concepts, introducing or previewing new concepts, working on long-term assignments and projects. We view homework as an opportunity for you to explore ideas and take risks, and thus do not expect perfection. We encourage you to make every effort to do your own work before you seek help from others. *Your* learning comes from *your* exploration.

Expect to have about 30 minutes of homework each day you have class. If you do not finish an overnight assignment in approximately 30 minutes **you may stop** working on it and bring it to discuss with your teacher. Some longer assignments will take longer (maybe much longer) than 30 minutes, but they will not be due the next day.

Binder
You will keep notes in an organized binder, which must be brought to class every day. This binder is your personal mathematics resource. It will serve as your place to organize both class activities and homework.

Assessment
You are expected to take responsibility for your own learning and to participate fully in the assessment process. You will be assessed in a number of different ways, including individual paper/pencil quizzes and tests, projects, presentations, and participation in classwork. You will be expected to complete a self-evaluation addressing the following areas:

- academic skills (participation, in-class productivity, study/homework habits, organization)
- mathematical practices and habits of mind
- mathematical content skills

Your end of the semester report will include the following:

- a self-evaluation
- a teacher's report — a narrative describing your learning in the three categories above. This narrative may include the mid-semester report.

Individual Assistance
You are encouraged to form study groups whenever possible. You are also encouraged to discuss your math across grade levels in advisory or outside of school. In addition, extra help is available from any math teacher by prior arrangement before school, at lunch recess, or after school.

Grade 8

Groupings

Eighth-grade math classes are homogeneously grouped. Groupings are flexible, and it is possible to change your grouping if it's not right for you. If you feel like you're in a class that's hard for you to follow, you can talk to your teacher about whether a grouping change might help. Or your teacher may have other suggestions for ways to help you keep up. If you feel like you need more challenge, you can talk to your teacher about ways to pursue more challenges in the class you're in or whether a faster-paced class would be appropriate. Your teacher may ask you to take a placement test to help assess whether a faster-paced class would be better.

Course Outline (Regular and Accelerated)

LINEAR FUNCTIONS AND DATA	PYTHAGOREAN THEOREM	FACTORING	EXPONENTS
graphing and writing linear equations in slope-intercept, point-slope form and standard form scatterplots, correlation fitting lines to data regression making predictions *exponential data* parallel and perpendicular lines correlation project	square area multiplying binomials Pythagorean triples geometric meaning basic proof taxicab vs Euclidean distance applications *advanced proofs* Pythagorean theorem poster-making project	common factors differences of squares perfect square trinomials trinomials *complex trinomials and expressions* *simplifying rational expressions* *higher degree polynomials* *dividing polynomials*	Fermi problems laws of exponents simplifying algebraic expressions powers of 10 conceptualizing large and small numbers scientific notation calculating using scientific notation
SYSTEMS OF LINEAR EQUATIONS	**INEQUALITIES**	**QUADRATICS**	**SYMMETRY**
representing solutions on a graph solving word problems with more than one variable writing and solving systems of equations with two or more variables solving word problems using systems of equations *solving systems of linear and quadratic equations* Desmos Art Project	solving linear inequalities in one variable representing inequalities on the number line solving and graphing two variables inequalities *solving systems of linear inequalities* *linear programming (optimization problems with multiple constraints)*	modeling with a graph, table, and equations solving equations using factoring and zero property solving equations by completing the square applying and deriving the quadratic formula solving word problems *finding quadratic equations using systems of linear equations* *different forms of quadratic functions*	transformations and isometries composing isometries symmetries of regular polygons symmetry groups frieze patterns and wallpaper patterns identifying symmetries and classifying designs on international trips

Topics in italics are possible options for accelerated classes.

Course Outline (Math 1 — Aligned Advanced Topics)

SETS, LOGIC, ABSTRACT ALGEBRA	ANGLES, SIMILARITY, CONGRUENCE, TRIANGLES	FUNCTIONS, TRANSFORMATIONS, SYSTEMS
Convert between verbal descriptions and formal logic notation using set and logic symbols Combine and verify the truth of logical statements Recognize and apply inductive and deductive reasoning Apply basic definitions from abstract algebra to represent ideas in different domains (eg, symmetries, permutations, arithmetic, etc.)	Perform and explain basic constructions Identify and apply congruent angles in proofs/problems Identify and apply congruent triangles in proofs/problems Identify and apply similar triangles in proofs/problems (including, but not limited to, scale factors and areas)	Identify and translate between different representations of functions Identify and connect representations of a function, especially for linear, quadratic, exponential, absolute value, and piecewise functions Transform functions via horizontal and vertical translations, reflections, and stretches Identify key features of functions, including intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; even or oddness; end behavior; and periodicity
SYSTEMS OF EQUATIONS	**DESCRIPTIVE STATISTICS**	**RIGHT TRIANGLE AND UNIT CIRCLE TRIGONOMETRY**
Solve equations (linear, quadratic, radical, rational) Convert between different forms of functions Solve and apply general systems of equations to problems Solve optimization problems using systems of equations and inequalities	Represent data using appropriate graphs (histograms, box plots, normal probability plot) Evaluate and describe measures of center (mean, median, mode) and spread (range, variance, standard deviation) and identify outliers using IQR Evaluate and describe measures of position (z-scores), test for outliers (normal curve), and determine probability using normal distribution Use technology to find and analyze least squares regression models to understand goodness of fit (r^2) and correlation (r)	Calculate and apply angles and lengths of right triangles using trigonometric ratios Recognize and apply special triangles (30-60-90, 45-45-90) Convert between coordinates and angles (in degrees and radians) on the unit circle Explore symmetry and patterns to connect trigonometric functions on the unit circle, including an introduction to identities and transformations
INTRODUCTION TO VECTORS	**TRIGONOMETRIC FUNCTIONS**	**EXPONENTIAL/LOGARITHMIC FUNCTIONS**
Define and describe vectors and their properties Perform algebraic operations on vectors Apply concepts of vectors to problems	Apply concepts of transformations to graph cosine and sine functions Apply cosine and sine functions to model real-world periodic phenomena and solve problems Explore solutions to trigonometric equations using the unit circle using inverse sine, inverse cosine, and inverse tangent (in degrees and radians)	Write exponential equations to represent and solve real-world problems Convert between graphs and equations of exponential and logarithmic functions and analyze their transformations Apply exponent and logarithm laws to rewrite expressions and solve equations, including change of base Linearize data using logarithmic scale; write and interpret linear regression equations to model data

Japanese III

Course Goals

In the third year of Japanese language study, students substantially expand their vocabulary and grammatical comprehension, aiming to use the target language conversationally at all times in class. Students also develop a more nuanced understanding of Japanese society through class discussions, field trip explorations, Lit Club readings, and so on. This course prepares students for their international exchanges: hosting a Doshisha exchange student in March and going to Japan in May as a real traveler and exchange student. Through day-to-day interactions, study, and practice, as well as day trips devoted entirely to cultural exploration, students will have many opportunities to immerse themselves in Japanese leading up to their exchange experiences.

Course Overview

All students in Japanese, Mandarin, and Spanish independently review their language throughout the summer in order to start the new school year strongly. By saving several weeks of language review during the school year, we can dive into new content in September and focus on specific skills necessary for better language acquisition. Throughout the year, covering such topics as restaurants, Japanese homes, and schools, students will develop skill at handling practical communication and cultural situations. Vocabulary and much Kanji (the third writing system) will be accompanied by applied grammar and some functions of formal and informal speech.

Homework and Assignments

As in past years, homework is assigned regularly and varies. Most of all, students are expected to continuously study independently to develop proficiency.

Assessment

Assessment continues to vary. We still use peer feedback and constructive evaluations, which develop students' metacognitive skills. Students continue to be assessed on their progress in language acquisition and cultural awareness and understanding. In eighth grade, students are asked to demonstrate their language progress in a tangible and re-usable educational format (for example, digital book, poster, recorded presentation, film clip, and so on).

Calendar

Throughout the year, Japanese class meets three times a week for fifty-five minutes each class.

Beginning in November, all students in Japanese, Mandarin, and Spanish participate in several field trips designed to increase their cross-cultural

awareness, stretch their comfort zones, practice traveling skills, and strengthen their cultural understanding. In general, the field trips are:

November ..... Japantown
March ..... San Francisco Library (research)
April ..... Asian Art Museum
April ..... Green Gulch Farm Zen Center
May ..... Hakone Gardens

In March, eighth graders have the opportunity to host Japanese exchange students from the Doshisha Junior High Schools, our partner schools in Kyoto. This hosting experience is integral to a Nueva student's understanding of what it means to be a student traveler overseas and truly develops global citizenship and empathy. The Doshisha exchange students will be here for only seven nights, March 24–31.

In May, all eighth graders travel on their culmination trips to China, Japan, and Spain, where they inevitably become goodwill ambassadors of the United States as well as a Nueva exchange student living with a host family and attending school. In their second week in Japan, Nueva students become serious travelers (not tourists) and gather observations and data for their cross-curricular assignments in humanities, SEL, math, science, language, and so on.

The culmination project in eighth grade is a cross-curricular published website. Using their yearlong studies in all courses, and gathering their observations and data in Japan, students complete their research and present their conclusive findings, stories, photos, and videos in a website which will be shared with families and the Nueva faculty at the end of the year.

Mandarin III

Course goals

- Continue to demonstrate and develop habits of mind in foreign language learning, and global citizenship in class, community, and the culmination trip to China
- Be able to use the language from previous years to express and describe self, family, school, daily activities, and preferences in conversations using a variety of words, phrases, and sentence structures
- Be able to understand and communicate both in speaking and writing new topics, including restaurant, time, daily routines, class schedule, weekends, hobbies, and China trip scenarios

Grade 8

Course Overview

Build on the foundations from the previous years, eighth-grade Mandarin class continues to develop the four primary language skills — reading, writing, speaking and listening — in thematic project-based learning units. Students are expected to demonstrate and continually develop habits of independent study and collaborative learning in and out of classroom. The fall curriculum introduces important content from the upper school Mandarin I course, for the alignment with and transition to Mandarin II class by the end of the year. Important topics include time and daily activities; hobbies and weekends; invitations, school schedule, and appointments; and restaurants and cafés. In the spring, students start to work on different scenarios to get ready for hosting the Chinese exchange students in February and their own China trip, homestay, and exchange in May. The scenarios include the most important language to express and communicate needs/preferences.

There are five field trips before the culmination trip to China, with the goals not only to practice the language in real-world contexts, but also to learn how to travel safely as a group; how to interact with people and environments with respect; how to learn with an open mindset; and how to demonstrate best behavior and global citizenship in another country.

Homework and Assignments

- Students are expected to spend 5–10 minutes of vocabulary review on Quizlet daily
- Students are expected to spend 25 minutes after each class, three times a week, on specific assignments or working on their projects/presentations

Assessment

- Weekly short vocabulary/character quiz
- Unit test at the end of a thematic unit (usually around three weeks)
- Presentation after major projects
- One-on-one check-in and oral test
- Self-assessments

Calendar

- Field trip #1 — Thursday, November 8
- Chinese exchange students visit January 25 to February 1 (tentative)
- Mid-Autumn Festival on September 25 and class celebration that week
- Spring Festival on February 5 and special celebration that week
- China trip — May 4 to May 16

Spanish III

Course Goals

The first semester of eighth-grade Spanish kicks off with review and enhancement of vocabulary and grammar concepts learned in sixth and seventh grades, with orientation towards preparation for the end-of-year culminating trip to Spain. Special attention will be given to the students' comfort in speaking and their overall language comprehension. The language of instruction continues to be almost entirely comprehensible Spanish, practicing in each class session the four basic skills — listening, speaking, reading, and writing. Students will be working towards the ACTFL Intermediate High to Advanced Low level, ready for level 2 or 3 in Upper School (pending student-teacher conference and recommendation). The class meets 3 times a week. Students will be prepared for their culminating project of travel to Andalucía for homestay and school week as well as unique tours to a variety of areas: Salamanca, Segovia, Toledo; Madrid, Alcalá de Henares, Toledo; or Córdoba, Granada, Ronda. Their interdisciplinary work in their homestay, school visit, and tour will be shared in a website presentation upon their return.

Course Overview

Students will add the conditional, present, and past perfect tenses to their repertoire as well as the simple subjunctive mood. They will deepen their understanding of stem-changing, reflexive, and irregular verbs. Organizing and differentiating between these many verbs and tenses will offer a fun challenge during the semester. The course of study includes descriptions of people and places; seeking information, expressing feelings and opinions; extending, accepting, and declining invitations; agreeing and disagreeing; and making travel and lodging arrangements. Other topics will include the deeper study of geographic vocabulary, pastimes, religions, fabrics, history, politics, social issues, and Spanish fine arts and crafts, dance, and sports.

Food-tasting and hands-on cultural activities and dance will be woven into the curriculum to allow a fuller aesthetic, vivid experience of Spanish language and culture.

Homework

Each week, students will receive a list of homework assignments that they will turn in the following week. The expectation is that they spend 10–20 minutes a day on the activities in the assignment collection. These will include practice with assigned vocabulary, grammar, reading, writing, and pronunciation, with remedial support and optional challenge work. Individual feedback is provided in weekly return of homework, and daily class-time feedback is provided for individual and group corrections and support. Teachers may also provide

individual or small-group feedback as needed during lunch-recess or before or after school.

Assessment
Weekly written quizzes will enable students to monitor their vocabulary retention, grammar progress, and language learning success. Students will also be assessed based on their class participation, preparation, progress with content, study habits, and projects.

Field Trips
Students will participate in five field trips:

- for a market scavenger hunt and restaurant visit
- to the SF public library in preparation for their STARPAP research,
- to a museum
- to learn Sevillanas and eat tapas
- to the San Juán Batista Mission, to explore the Spain-California connection

These experiences are closely tied into their humanities curriculum and will be conducted mostly in the target language, preparing them for their culminating trip to Andalucía, Spain, in May, for homestay, school visit to Alcalá de Guadaíra, and cultural tour of Salamanca, Segovia, Toledo; Madrid, Alcalá de Henares, Toledo; or Córdoba, Granada, Ronda.

Science

Welcome to eighth-grade science!

Course Overview
We open the **first semester** with two seemingly simple questions: What is life? And what do living systems require? This allows us to explore the basic chemistry of life's medium (water), and the flow of matter and energy from the molecular to the planetary scale (from enzymes to organelles to ecosystems). By focusing on themes of energy, exchange, systems, and structure/function relationships, we give students the scientific lens they need for Humanities and Writing — from the muscle-powered transportation of the ancient Silk Roads to the climate-changing demand for fossil fuels in modern Central Asia. The semester will culminate with an in-depth, interdisciplinary project on one Silk Road species.

In the **second semester**, students will zoom back into the molecular level with an exploration of genetics, DNA, and heredity. We'll build up through cells, tissues, and body systems to explore our internal structure and function. How do organ systems work? Why do they get disrupted? And how might the future of engineering (whether mechanical or biological) help us to fix and even

enhance these systems? This unit includes several dissections as well a student-designed foray into "randomized control trials."

In both semesters, students will conduct labs to develop their skills at systems modeling, experimental design, data analysis, and scientific communication.

Assessment
Students will be assessed via their science notebooks, homework questions (often submitted via a video-curating tool called EdPuzzle), formal lab reports, quizzes, assignments turned in via Google Classroom, end-of-semester interdisciplinary projects, and participation during class discussions and activities.

SEL

Course Goals
SEL helps eighth-grade students to:

- Develop a clearer sense of identity, personal values, strengths, and areas for growth and apply this self-awareness for the benefit of self and others
- Learn about the science and nature of well-being and learn and develop practices to enhance well-being and mental and physical health
- Understand and build healthy strategies for managing stress and emotions
- Become more aware of their relationship to and interactions with others and the outside world
- Learn about how to cultivate safe, healthy, and respectful relationships
- Develop and practice effective communication and conflict resolution skills
- Build their understanding of empathy, trust, and respect and how to make them part of everyday life
- Navigate and embrace differences within the community
- Explore how aspects of power, privilege, and lack thereof influence their and others' experiences
- Understand the positive and negative aspects of technology use and develop healthy digital habits
- Learn how to protect themselves from the negative consequences of sexual relationships and of drug and alcohol use
- Grow personal problem-solving and decision-making skills
- Reflect on and apply SEL tools in day-to-day experiences

Course Overview
SEL classes meet once a week during eighth grade. At this age, students are more independent, oriented to their peers, care about how others see them, and are developing individual thinking and values. Students will reference their current life experiences while they continue to develop and apply fundamental

skills within the five areas of SEL, adapted here from the Collaborative for Academic, Social, and Emotional Learning (CASEL).

Self-Awareness "I Know"	• What triggers specific emotions and can I identify these emotions and thoughts as I experience them? • What are my current strengths and areas for growth and how can I apply this knowledge? • How can I maintain a growth mindset and build my sense of self-confidence? • What can I contribute to a group of people or community? • How do aspects of my identity and personality affect me and those around me?
Self-Management "I Think Before I Act"	• How do I healthfully and effectively manage and respond to my emotions and physical needs? • What practices do I do and can I adopt to help me stay healthy in mind and body? • How do I manage my time to my benefit? • What helps me set and work toward personal and academic goals? • What helps me persevere through challenge?
Social-Awareness "I Appreciate"	• Do I recognize, accept, and respect differences in others? • Am I empathetic toward others and do I try to understand their perspectives? • Do I explore how social justice dynamics affect my community and others? • Can I analyze, predict, and observe how my behavior may affect others? • Do I know whom to approach when I need help?
Relationship Skills "I Care"	• How do I grow and maintain healthy relationships? • How do I manage relationships when others have different needs than I do? • How do I prevent, negotiate, and resolve conflict productively? • Can I ask for help and when should I advocate for myself? • How do I communicate assertively and respectfully and listen actively?
Responsible Decision-Making "I Choose"	• How do I ensure my actions are responsible, compassionate, and ethical? • What impact(s) will my choice have on others as well as on myself? • Do I take responsibility for the consequences of my decisions? • How do I evaluate different options and make a decision that serves me best?

Through learning and practicing research-based SEL tools and engaging in interactive experiences, journal writing, and meaningful dialogue, students learn diverse ways to deepen their social and emotional intelligence skills. Themes will address the developmental needs of young adolescents: interpersonal relationships, communication skills, stress management, mindfulness, goal-setting, mental and physical health, sexual health, drugs and alcohol, the role of technology in students' lives, topics related to social justice, and identity exploration, among other topics.

Guest teachers include experts in sexual health and drug education and perhaps other topics. Although the curriculum aims to cover specific concepts and teach certain skills, themes will also be addressed as they arise throughout the year.

Approximately once a month, students engage in Open Session for one class period. Open Session is an invaluable SEL experience that allows classmates to respond to student-generated issues through an intentional, supportive exchange of listening and ideas. Students participate in a social problem-solving process that aids them in developing empathy and active listening skills, building trust, deepening relationships, establishing meaningful connections, and addressing everyday problems in an inclusive and collaborative setting. Students see how much they have to offer each other, support each other and feel supported, and are empowered by each other to take thoughtful action to deal with challenges. Open Sessions occasionally focus on certain themes as appropriate to their collective current experiences — for example, hosting exchange students, managing stress during busy academic periods, or preparing for trips.

Homework and Assignments

There are occasional homework assignments in SEL. Homework is designed to be a set of enjoyable activities to provide practice with SEL skills. Students can expect assignments to include reflective thinking and/or writing, interviewing an adult, and/or observation and research. In the event that students run out of class time, they may be asked to finish a class assignment as homework.

Assessment

Because social-emotional learning is a personal and individual process, ongoing self-reflection is central to monitoring student learning and progress, and is a metacognitive social-emotional learning skill in itself. Students will be asked to reflect regularly on what they have learned while practicing SEL skills in their day-to-day lives. Students are also evaluated on in-class behavior, participation, and respect for others, the teacher, and the curriculum. Assessment includes how SEL skills are practiced and applied within the Nueva community and outside the classroom. Students complete two formal self-evaluations, one at the end of each term. All middle school students receive a formal written evaluation once a year for SEL; this occurs in January for eighth-grade students.

Design Thinking, Engineering, and Computer Science

Course Overview

In this yearlong class, students will practice all the elements of the design thinking process through several projects, some focused more on engineering

and tool usage, and others focused more on computer science skills and concepts. In the fall, students will develop and deepen their programming and computational thinking skills as they explore Javascript and learn how to implement some fundamental algorithms. Later in the class they will learn how to interface to various open API's (e.g., an open-source artificial pancreas) and the Internet of Things. In the spring, students will work toward understanding and applying the design thinking process while developing fabrication competencies in the I-Lab. They will start by identifying the needs of their user, which in this case will be children exploring biology and body systems via interactive exhibits in a museum setting. They will then use what they learn in eighth-grade biology and this class to brainstorm and prototype interactive exhibits demonstrating a body system and one of four universal concepts — gradients, homeostasis, filtration, and the relationship between surface area and volume.

Course Goals

- Strengthen computer programming habits and skills
- Develop fundamental skills in a programming language (Javascript), programming tools, debugging, and other related concepts
- Develop a basic understanding of the programmatic manipulation of data, accessing data via various tools and libraries, and visualizing data to develop deeper understandings and insights into structured datasets
- Develop proficiency and understanding of the design thinking process and associated mindsets and best practices
- Learn and improve fabrication skills
- Integrate concepts from other classes to help understand the context of engineering challenges in a globalized world
- Build skills in collaborative problem-solving
- Improve ability to manage projects

Homework and Assignments

Students will periodically be asked to observe, experiment, research, or prepare brief presentations about engineering concepts, design innovations, or the social context surrounding a particular problem. Homework should not exceed 30 minutes a week.

Assessment

While performing individual self-assessments, students will reflect on both their process and the resulting products of their studies throughout the semester. Students will be expected to demonstrate improvement from the skill level at which they entered the course.

Recital Projects

Course Overview

The Recital Project, now in its 29th year, is an opportunity for students to explore and cultivate a potential passion guided by a mentor! Each eighth grader designs and completes an independent project around an area — any area — they would like to pursue. Students are encouraged to be as independent as possible throughout the process; however, individual support is provided as needed. Recital Night will be the week before spring break, and is not to be missed!

Class Goals

Each student will:

- Identify an area that they are very excited to explore and learn more about
- Recruit a mentor to guide them in their work
- Craft an active project that develops their skills and accomplishes something
- Research and create a research paper, tutorial, or other approved demonstration of knowledge of some aspect of their project
- Create a presentation/demonstration of their work for Recital Night
- Develop project management skills, including identifying specific actionable steps (SAS's) for their to-do lists
- Reflect upon their experiences and growth

Homework Expectations

Students are expected to work for 1–2 hours every week between September and April. After spring break, students will be assigned a short design thinking project to complete on their overseas trips.

Assessment

Students will assess their own work in this course and get feedback during regular individual check-ins with the instructor, who will assist each student in building their project management, creativity, and decision-making skills.

Grades 5–8

Fifth- and Sixth-Grade Physical Education

Course Goals
Students in the middle school physical education program will use the information and skills they acquire through physical activities, sports, and games to achieve and maintain a health-enhancing level of fitness and demonstrate responsible personal and group behavior. Students will recognize, and take advantage of, the opportunities physical activity provides to experience gratification, challenge, and self-expression.

Course Overview
The fifth- and sixth-grade middle school physical education curriculum will focus on developing enduring knowledge of principles of physical fitness.

Fitness
Students will demonstrate knowledge of key physical fitness principles. Curriculum will emphasize four primary concept areas: endurance, flexibility, strength, and muscular endurance. Students will have the opportunity to track their personal progress.

Activities
Students will explore various physical activities, including cooperative games and an introduction to recreational sports. A variety of unique and nontraditional activities will also be introduced. This year's offerings will allow students to explore general fitness, throwing & catching, balance & agility, hand-eye coordination, martial arts, and creative movement.

Assessment
Assessment areas include motor skill and movement pattern execution, fitness self-evaluation, and class participation. Students are expected to demonstrate effort, focus, and positivity in class. Students will be evaluated on their ability to work both cooperatively and independently. Semester assessments will use a rubric with all these criteria, as well as a brief narrative.

Calendar

Fall 2018	Spring 2019
August — Introduction • Goal Setting, Course Overview, Team-Building, Cooperative Games **September — General Fitness**	**January — Balance & Agility** • Nueva Ninja Warriors Obstacle Course, Agility Ladder, Relay Race **February — Martial Arts & Self Defense**

• Track & Field, Cross-Country, Jump Rope, Climbing, Yoga **October — Throwing & Catching** • Team Handball, Frisbee, Collaborative Games **November — Foot Games** • Soccer, Futsal, Kickball, Hacky-Sack **December — Cooperative Games** • Team Building, Sharks & Minnows, Chaos Tag	• Taekwondo, Judo, Jiujitsu **March — Net Sports** • Volleyball, Pirate Ball, Swamp Ball, Badminton, Paddle Ball **April — Creative Movements** • Dance, Tumbling, Hula Hoop, Zumba, Yoga **May — Hand-Eye with Extension** • Hockey, Lacrosse, Paddle Ball, Tennis

Seventh- and Eighth-Grade Physical Education

Course Goals

Students in the middle school physical education program will use the information and skills they acquire through physical activities, sports, and games to achieve and maintain a health-enhancing level of fitness and demonstrate responsible personal and group behavior. Students will recognize, and take advantage of, the opportunities physical activity provides to experience gratification, challenge, and self-expression.

Course Overview

The seventh- and eighth-grade middle school physical education curriculum provides a wide array of physical activities to help students develop skills through exercises and play. Through the exploration of sport-specific skills and a variety of games, students will stay fit and learn basic athletic skills.

Fitness

Curriculum will emphasize key fitness components and planning strategies to allow students to better understand fitness and create their own exercise regime. During the second semester, students will transition into grade-focused projects. The seventh graders will be focusing on backpacking preparation, which includes conditioning for hiking and nutrition. Eighth graders will be further developing their ability to create their own functional fitness plan.

Activities

Students will explore various physical activities, cooperative games as well as recreational and traditional sports. Some of the activities planned for this year are track and field, team handball, foot games (soccer, futsal, foot volley, hacky-sack), basketball, volleyball, badminton, martial arts, and creative movements/dance.

Assessment

Assessment areas include motor skill and movement pattern execution, fitness self-evaluation, and class participation. Students are expected to demonstrate effort, focus, and positivity in class. Students will be evaluated on their ability to work both cooperatively and independently. Semester assessments will use a rubric with these criteria as well as a brief narrative.

Calendar

Fall 2017	Spring 2019
August — Introduction • Goal Setting, Course Overview, Team-Building, Cooperative Games **September — Fitness 1** • Track & Field, Cross Country, Climbing, Yoga **October — Throwing & Catching I** • Team Handball, Frisbee, Softball **November — Foot Games** • Shooting, Kicking, Punting, Juggling (Soccer, Futsal, Kickball, Hacky-sack, Takraw) **December — Throwing & Catching II**	**January — Fitness II** • Speed, Agility, Quickness, Power (Sprinting, Jumping) **February — Martial Arts & Backpacking** • Backpacking, Taekwondo, Judo, Jiujitsu **March — Net Sports & Backpacking** • Volleyball, Pirate Ball, Swamp Ball, Badminton, Paddle Ball **April — Creative Movements & Backpacking** • Dance, Tumbling, Hula Hoop, Zumba, Yoga **May — Backpacking**

Our Nueva Library

Overview

The library's mission is to support student acquisition of reading, research skills, critical thinking, and learning in general. We aim to help students find their right book!

Our students learn information literacy skills as they practice locating resources for projects, both in print and online. They will grapple with defining their need for information, analyzing and evaluating resources, and communicating their conclusions clearly. In concert with teachers, library staff help students be good consumers of information in our world of information overload. Our library affords your children the opportunity to read for pleasure or for information about their passions. The library staff is always available to introduce students to authors we think may help enlarge their worlds and hone their literacies.

Don't forget that the library also has resources for adults — parents and teachers — on gifted education, curriculum and pedagogy, social and emotional or affective education, learning differences, and, of course, books and reading and literary discussions.

Library Privileges
All members of our Nueva community — students, parents, staff — automatically have borrowing privileges. We keep barcodes at the library desk. Your student has his/hers already; stop by and ask for yours.

Our loan period is two weeks. We don't charge fines, and are liberal about renewing books. If they are not returned by the end of the year, though, we do charge a replacement fee.

Hours of Operation
From 7:30 am to at least 3:45 pm — and maybe later, as long as there is a staff person on site. You are welcome to check books out of the library any time the doors are open, whether or not any library staffer is present. Check out using the automated system, or write your name, book title, and barcode number on a slip of paper and leave it on the desk.

Check out our school's libguides — **libguides.nuevaschool.org/home**. Our lower and middle school catalog is web-based and you can access it at this link at any time, on or off campus, to check our holdings. Our school subscribes to multiple databases, which can be accessed under the upper school tab (see Databases A-Z at the top) — in addition to tips about the latest and greatest in children's literature.

Programs
We administer Nueva's 35-year-old Lit Club program for grades 2–8. See **Lit Club** below for details.

We sponsor Adult Lit Club for parents (current and alum!) and staff.

We work with our NPA to sponsor a huge Book Fair and Celebration of Literacy Week in November/December. We are the best kids' bookstore in the Bay Area! Proceeds enable us to provide students with classroom visits from first-rate authors and illustrators.

Lit Club

Overview
Founded in 1982, Lit Club began in one classroom with 6 children and an adult. This year, about 425 students in grades 2–8 will participate in Lit Clubs. Teachers, specialists, teaching associates, academic advisors, and community parent volunteers co-lead groups of 10–12 students.

Your children encounter rich and complex language arts, reading, and research opportunities in all disciplines at Nueva. The library program plays a role in supporting these crucial experiences. In Lit Club, students in grades 5–8 practice

reading strategies and literary analysis, learn about genres, and practice applying critical and creative thinking to their reading in small groups. Lit Clubs meet weekly for an hour with trained parent and teacher facilitators. Students are encouraged to read for pleasure, develop a love of literature and story, and share this passion with others in focused discussions. Fifth and sixth graders will be in Lit Club in mixed groupings on Wednesdays from 8:40 to 9:35 beginning in late September, and grades 7 and 8 will work with their teachers in Lit Clubs.

Program Goals

Developing lifelong readers who love literature and enjoy sharing that pleasure: Over time the program has increased the volume of reading among both children and adults, enticing them to explore new authors and genres. As *Becoming a Nation of Readers* and other reports confirm, proficient readers develop in schools where there are many, varied opportunities to read high-quality literature.

Talking to understand: Lucy Calkins, a leading educator in the workshop approach to teaching reading and writing to young children, tells us that the books she remembers are those she has talked about. It has also been suggested that talking can reveal our thoughts and feelings to ourselves, as well as others. Adults facilitate this search for meaning and allow for an orderly flow of verbal "traffic" in which each person's ideas are valued.

Literature-based curriculum and critical thinking: Selections are made from the rich body of children's literature in print today. Students are asked to think critically, creatively, and divergently about a piece of literature — to interpret, question, predict, evaluate, and share personal experiences or responses that relate to the work of fiction under discussion. The diversity of reading assignments, homework, activities, and explorations reflect the value placed on the styles and strengths of all children as they become a literate community through the process of what Judith Langer calls "envisioning," the sense-making we do as we read.

Electives: Grades 7–8

Science Rap Academy: The Elective

Course Overview:
Now that the "Science Rap Academy" is an elective, students will be able to go even deeper into the process of research, song-writing, narrative science communication, and video production. We will start with a brief history of hip hop culture, and progress through all of the steps needed to create a professional educational music video (which need not be rap). Specific class topics include intro to rhyming, research deep dive, scientific storytelling, lyric-writing, audio production, budgeting, video production, editing, and marketing/press release writing. Students will work in collaborative teams throughout the semester, and final music videos will be published on the "Science with Tom" YouTube channel. There may be opportunities for live performances and/or a field trip to YouTube HQ in San Bruno (near the end of the semester). The class will be both fun and time-intensive, and students must be prepared to work diligently inside of class and out. No background in music or video is needed — just a willingness to work creatively, collaboratively, and intensively. Parents should note that they will need to sign a media release form, as student work is going to be published on YouTube. At several stages, professional audio and video artists will help to teach the class.

Homework and Assignments:
Students will take on several roles (writing, production, editing, marketing) over the course of the semester. Some of these roles (particularly editing) will require time spent outside of class. There is essentially one major assignment (the published YouTube video) that is broken down into many mini-assignments (research, lyrics, audio, video, digital branding materials, etc.).

Assessment:
Students will be assessed on their ability to remain engaged and productive during class time and to be supportive of their peers during the challenging and ambitious collaborative process of creating a high-quality educational music video.

Embedded Computing Explorations

Course Overview
In this I-Lab elective course, students will explore and program embedded computing devices and various sensors and actuators. Students' projects will be built around either an Arduino or RaspBerry Pi, starting with creating and programming an Infinity mirror using an Arduino and neopixel LED strips. Beyond that we will explore the Raspberry Pi ecosystem, dc motors, various sensors, and LEDs/light strips, and dive deeper into C/Python programming. Throughout the semester, students will share their findings and their works-in-progress with the rest of the class to broaden everyone's knowledge and receive feedback on their work.

Course Goals
- Basic understanding of electronics, Arduinos, C, and sensors/actuators
- Completion of a project of their choice
- Increased mastery of computer programming and debugging skills
- Experience using C and/or Python
- Understanding of resources available for online research

Homework
All work will be done in class, though students may work at home if they need to make up in-class work or choose to make additions to their projects.

Assessment
Students will reflect on their work and receive feedback from their peers and teachers. Criteria include depth of thought, code correctness and elegance, and project creativity.

Computer Programming Explorations

Course Overview
In this I-Lab elective course, students will explore computer programming in varying depths. Students' semester research projects will use one of three computer languages, based on their selection of either the instructor-provided topic or one they choose. Throughout the semester, students will share their findings and their works-in-progress with the rest of the class to broaden everyone's knowledge and receive feedback on their work.

Course Goals
- Depth of knowledge in one or more areas of computer science

- Breadth of knowledge of computer science
- Increased mastery of computer programming and debugging skills
- Experience with code review and programming aesthetics
- Understanding of resources available for online research

Homework
All work will be done in class, though students may work at home if they need to make up in-class work or choose to make additions to their projects.

Assessment
Students will reflect on their work and receive feedback from their peers and teachers. Criteria include depth of thought, code correctness and elegance, and project creativity.

Fabricating Your Artistic (or Engineering) Vision

Course Overview
In this course students will explore their artistic and/or engineering interests as they learn how to use advanced fabrication technologies. These technologies will include 3-D printing, laser cutting, circuit design, and 2.5D CNC routers as well as more traditional fabrication methods like carpentry and sewing. Students will also have the opportunity to create digital designs with Fusion 360 and Adobe Illustrator as they experiment with new and innovative ways to bring their design(s) to fruition. Lastly, students will brainstorm and identify an area of interest or appropriate project to challenge and further develop their skills.

Course Goals
- A working familiarity with at least one digital design tool (CAD and/or vector graphics)
- Experience with digital file preparation, CAM, and other post-processes required for digital fabrication
- An understanding of the strengths and limitations of different fabrication technologies
- An understanding of the strengths and limitations of various materials and their application
- The mindset to support a "Sure — I can build that!" attitude

Homework
Occasionally, assignments started in class will need to be finished at home, and it is possible that some pre-investigation into a subject will help students utilize class time more efficiently.

Assessment
Students will reflect on their process, as well as the results of their project, in a process of self-assessment based on course goals. Students will also receive continual peer and teacher feedback and support on their project.

Design Thinking the Garden

Course Overview
The garden is an active part of the Nueva community. In this class, students will meet with Lauren, creating questions about the needs of the garden, about how they can help support and transform the garden. The projects will range from aquaponics to a chicken tractor to an off-the-grid energy source. Projects will be decided on by the students, worked on in teams, and implemented for use of the Nueva community.

FIRST Tech Challenge Robotics

Course Overview
This class is for students on the FIRST Tech Challenge robotics team. The FTC program is focused on the hands-on learning of robotics, programming, and engineering through the design and fabrication of a robot. The robot will be built using the Actobotic and Matrix systems and designed to compete in this year's FTC competition. In addition the development of a robot, FTC also incorporates a design thinking project in which students tackle a real-world problem related to the theme of the challenge. Lastly, skills like teamwork and project management are emphasized as students work with teammates in all aspects of the FTC experience.

Class Goals
Each student will:

- Work cooperatively with a team of other students and coaches to complete all parts of the FTC program
- Learn about robust mechanical design and how the creative use of sensors and programming can be used to interact with the robot's environment
- Research, brainstorm, and design a solution to the challenge's real-world problem
- Create a presentation of their work and keep an engineering notebook to present to the judges at competition
- Develop project-management and time-management skills

- Reflect upon their experiences and growth

Homework
Students are expected to attend afterschool and weekend practices as scheduled by the coaches. Students may also have other homework depending on the needs of the team and their chosen role on the team.

Assessment
Students will be assessed by the coaches on their own work in this course and get feedback during regular team check-ins with the instructors.

Current Events

Course Overview
What is happening in the world today? How do we make sense of it? Where do we find reliable news sources, and how do we account for media bias? In this course, students will engage in daily discussions about political and social issues in local, national, and international contexts. The class will focus on current events that arise each week but will also cover scheduled issues such as upcoming elections. Students will explore an array of traditional and nontraditional news sources including (but not limited to) online media, social media, newspapers, podcasts, magazines, and cartoons. They will also practice critically evaluating media sources as they continue their journey of being informed news consumers and citizens.

Students will engage daily in class discussions, tracing the historical context of current events as they unfold over the course of the semester. Their individual and collective interest will dictate emergent content and discussions. Students will also have choice in engaging in hands-on projects such as creating their own political cartoons, editorials, websites, articles or podcasts.

Homework
As an elective, this class will have a minimal amount of homework. However, there may be times when students are expected to bring in a news article to discuss.

Assessment
Students will be assessed on class participation and project work.

Introduction to Economics

Why would a student do their math homework instead of texting their friends? Why is the price of milk similar in all grocery stores? Why do we have state and national parks? If one country can produce everything better than another country, why would the two countries engage in trade? As we investigate these questions and more, we will begin to answer the key question of this class — What is economics? Together, we will analyze the economic rationale and consequences of choices made by consumers, businesses and government within the context of our larger economic system. Through news articles, case studies, and simulations, we will explore the foundational concepts of micro- and macroeconomics. Each student will work towards selecting a current event and/or policy to analyze, synthesize, and evaluate from an economic perspective and then will lead a discussion with the class.

Politics!

We began by discussing the president and his political and legal situation; our next, and larger, task is a thorough examination of the current midterm elections. Students will be following key races from now through election day (and will analyze results afterwards). We will study problems in current democracy (e.g., gerrymanders and partisan polarization). Finally, we'll look closely at a range of current issues that most interest our students.

Debate!

This course will teach kids to be better speakers. It will also introduce them to principles of structured argument in academic debate. They'll learn about two styles of competitive debate: Public Forum debate (the topic changes every month or so, and there are many opportunities for research and preparation) and Parliamentary debate (the topic changes every two hours! Live by your wits!). The course also serves as one gateway to intramural and interscholastic debate competition, which is offered at no additional cost. Other members of the Nueva upper school and middle school coaching staffs will frequently appear in the classroom; so will some of our championship upper school debaters. Everyone's welcome!

Play Production

Course Overview

Come participate in the 12th annual Middle School musical! It is open to all seventh and eighth graders, regardless of prior experience. This year's production (to be announced once school starts, pending show licensing) will be in the fall, with performances in late November. This elective time slot will be used primarily for rehearsals, but will also include some drama games and warm-up activities. In addition, as in previous years, the musical will meet as an academy on Fridays. Regular rehearsals will be on Tuesday afternoons, 3:30–5:30 (following elective) and Friday afternoons, 3:30–5:30 (following academy). We may also meet on occasional Sundays. In addition, there will some lunch and weekend rehearsals by role. As in previous years, weekend rehearsals will mostly be for principals in the cast early on, but they will become full-cast rehearsals as we get closer to performances. A more detailed rehearsal schedule will be generated once we get a sense of cast size and everyone's schedules.

Flash Fiction

Course Overview

In the anthology *Sudden Fiction*, Joyce Carol Oates describes very short fiction as “nearly always experimental, exquisitely calibrated, reminiscent of Frost’s definition of a poem — a structure of words that consumes itself as it unfolds, like ice melting on a stove.” How can you convey a narrative arc and deliver emotional resonance in 500 words? 200 words? 140 characters?

Flash fiction, broadly defined as a story under 1,000 words, is a story boiled down to its essence. To write flash fiction is to explore, push, and experiment with language, compression, evocation, and implication. We will write and examine a range of flash fiction genres and styles, including Twitter fiction, one-sentence stories, and prose poetry. This is an elective for students who wish to take risks with language and ideas, to hone and refine their work, and to say more by saying less.

Course Goals

Students will:

- gain a better understanding of the contemporary short-short story
- participate in process-oriented workshop and revision experiences
- hone close reading skills and interpret works of flash fiction through workshops and analytical discussion

- flex their creative skills, practice editing on the sentence level, and experiment with language!

Materials
A writing journal/notebook is recommended but not required; students should bring something they can write on/with. Course texts (photocopies, PDFs, or links) will be provided.

Homework
Students will complete short reading and/or writing prompts during class meetings. Over the course of the semester, they will also build a portfolio of short stories and participate in a "fictional feast" as a culminating project.

Assessments
Students will receive written feedback and encouragement on their writing exercises and projects. They will also be assessed according to their completion of in-class exercises, thoughtful and consistent participation in class, and collaboration with peers. Final evaluations will be based on the students' ongoing development of their self-expression and engagement with creative prompts and work.

Storytelling through Comics

Course Goals
Students enrolled in this elective will analyze a variety of comics across genres and eras to learn visual storytelling techniques, and then we will apply it to create our own comics anthology.

Course Overview
How do you express motion and emotion through a sequence of panels? How do you tell a story in speech bubbles and captions? What makes American comics, graphic novels, manga, et al., different from film and single images? The elective seeks to answer these questions first through analysis of existing comics and then through the actual making of a comic short story — starting with fleshing out characters' internal motivations and external designs, and then considering the main plot and setting of the comic. We will practice storytelling strategies through improvisational exercises and simultaneously hone our ability to express ourselves in visual form. At the end of the semester, every student will have a completed short comic to be compiled into an anthology.

Homework
As an elective, this course will not have any expected homework. Some students may choose to work on their comic outside of class, but dedicated

work during the class will be sufficient to allow students to create their own comic output.

Assessment
Students will be assessed on their thoughtfulness and exploration of the visual language.

Creative Writing

The purpose of this class is to give students the time, space, and support to do the creative work that only they can do. Over the course of the semester, students will engage in a wide variety of prompts, experimenting with different genres and writing styles. Students will have the opportunity to practice the art of word economy, avoiding clichés, using literary devices, and making their writing come to life through the use of descriptive detail and sensory language. The class will begin with a 1,000-word story focused on a moment in time. Eventually, students will have the freedom to design their own creative writing projects, ranging from poetry to short-story writing and everything in between. Students will read mentor texts to inspire their writing and help them develop their own unique styles. There will also be opportunities to present writing pieces to the class. By the end of the semester, students will have a portfolio of their work and self-reflections that will help them identify areas of strength and growth.

Poetry Writing and Book Arts

Course Overview
This class will focus on writing poems of all kinds. We will write in free verse, but we will also try forms like haiku, limericks, sonnets, and villanelles. In addition, we will experiment with visual poetics, trying our hand at concrete poems (poems written in the shape of their subject) and geometric representations (poems written as specific geometric shapes). In addition to these kinds of formal experiments, we will write ekphrastic poetry (poetry written in response to artwork), along with poems written in response to music, and poems written in the style of other poems (pastiches). Students will have opportunities to write found poetry and erasure poetry as well. As a culminating project, we will create our own hand-sewn chapbooks. Chapbooks originated in early modern Europe as political pamphlets, but today are generally printed as small,

handmade collections of poems by contemporary authors. We will look at examples of chapbooks in order to design, print, and sew our own.

Course Goals

- To introduce students to the rich variety of 1) the forms poems can take, 2) the meanings poems can have, and 3) activities and prompts that can inspire us to write poetry
- To introduce students to basic literary terminology so that students develop a common vocabulary in discussing literary texts
- To foster students' creativity and self-expression in ways that are meaningful to each individual student

Homework and Assignments

Students will complete short reading and/or writing prompts during class meetings. They will also design and execute a chapbook project or other project of their choice in consultation with their instructor, creating a culminating piece that showcases their own work.

Assessment

Students will receive written feedback and encouragement on their writing exercises and projects. They will also be assessed according to their completion of in-class exercises and their thoughtful participation in class and collaboration with peers. End-of-semester evaluations will be based on the students' ongoing development of their self-expression and engagement with creative prompts and work.

Materials

- Course texts (provided as photocopies to students)
- A writing journal (provided by instructor)
- Book-making materials (provided by the instructor)

Do We Really Need So Many Superheroes?

"We do not need magic to change the world, we carry all the power we need inside ourselves already: we have the power to imagine better." — J.K. Rowling.

Course Overview

In the Superheroes course we explore characters, stories, comics, film clips, websites, and short films about the evolution of heroes and superheroes, whilst considering why superheroes now make big corporations billions of dollars. Students' interests are taken very much into consideration when choosing superheroes to explore.

Homework and Assignments
Students will have the opportunity to research and present their favorite superhero to the class and to consider whether our collective imaginations play a role in saving us — and our planet. They can consider and research the economic and global success of their particular choice of hero. They will also learn how to create their own superhero and explore their hero's journey to achieve superpowers or make the supergadgets that give them extraordinary abilities. Students will develop a tragic flaw that makes their hero vulnerable — and more interesting. They will also look at the community of the Superhero — what do the people around them think of this person and their powers?

Students will then research a real-world problem the superhero will tackle. Is a superhero really the best solution to the problem they highlight — or can they find a better one? They can also present their thoughts about real-life heroes who exist and help the planet today.

Course Goals

- To develop students' visual literacy with an overview of one of the dominant media forms of the moment
- To explore the history of the superhero with reference to the context of the times and the heroes' global and economic impact
- To consider the conventions of the superhero genre
- To work creatively to show an understanding of the genre
- To consider their personal social and emotional reactions to the superhero
- To consider real-world problems, their imaginary solutions and real-life approaches to these issues

Assessment
At the end of the course students will present the evolution of their thoughts about the superhero, answering the question in the course title: does the world need another superhero? Students will argue their case through writings and drawings, perhaps use of the iLab to create a costume, an animation, perhaps a mural, a musical theme, or a play or storyboard/screenplay or short, short film.

"Klaatu Barada Nikto": An Introduction to Science Fiction

"Let us think the unthinkable, let us do the undoable, let us prepare to grapple with the ineffable itself." — *Douglas Adams.*

Course Overview
Come and create the future! Students will be exploring a variety of science fiction short stories, extracts of novels, websites, games and films — from *Frankenstein* to *Ready Player One*. We will consider how science fiction is often

used as a vehicle to examine real-world issues in movies as different as *Avatar* and *Wall-E*, building in as many references to students' own enthusiasms in the subject as possible. Students will listen to a variety of people lecture — any volunteers out there? — on their current interests in the realms of (for example) science and philosophy and consider how these interests can be reflected in their fictional creations.

Goals

Students will:

- Explore the genre of science fiction and its history
- Consider the embedding of real science in the fictional context, understanding that even if science fiction is often set in the future it is really exploring the concerns of the present
- Investigate biopunk, Asimov's Laws, and the Turing Test, and then build their own "bot" (or world) in order to consider the question "What is it to be sentient or human?"
- And — with apologies to John Scalzi for the misquotation — students may teach people not to annoy them. After all, as science fiction writers, they can and will create and destroy entire planets before lunch.

Homework and Assignments

Students will have little formal homework, but may be asked to finish work or develop an aspect of their research that cannot be covered in class.

Assessment

Students will have a final project that might involve, for example, building that "bot" (or world) to ask "What is it to be sentient?" and "What are the ethics of response to a sentient being?" Their final responses will be their opportunity to show their creativity, effort, and understanding of the genre.

Poetry Writing and Book Arts

Course Overview

This class will focus on writing poems of all kinds — we will write in free verse, but we will also try forms like haiku, limericks, sonnets, and villanelles. In addition, we will experiment with visual poetics, trying our hand at concrete poems (poems written in the shape of their subject) and geometric representations (poems written as specific geometric shapes). In addition to these kinds of formal experiments, we will write ekphrastic poetry (poetry written in response to artwork), along with poems written in response to music, and poems written in the style of other poems (pastiches). Students will have opportunities to write found poetry and erasure poetry as well. As a culminating project, we will

create our own handsewn chapbooks. Chapbooks originated in early modern Europe as political pamphlets, but today are generally printed as small, handmade collections of poems by contemporary authors. We will look at examples of chapbooks in order to design, print, and sew our own.

Course Goals

- To introduce students to the rich variety of 1) forms poems can take, 2) meanings poems can have, and 3) activities and prompts that can inspire us to write poetry
- To introduce students to basic literary terminology so that students develop a common vocabulary in discussing literary texts
- To foster students' creativity and self-expression in ways that are meaningful to each individual student

Homework and Assignments

Students will complete short reading and/or writing prompts during class meetings. They will also design and execute a chapbook project in consultation with their instructor, creating a handmade book that showcases their own work.

Assessment

Students will receive written feedback and encouragement on their writing exercises and projects. They will also be assessed according to their completion of in-class exercises, thoughtful participation in class, and collaboration with peers. Final evaluations will be based on the students' ongoing development of their self-expression and engagement with creative prompts and work.

Materials

- Course texts (provided as photocopies to students)
- A writing journal (provided by instructor)
- Book-making materials (provided by instructor)

Tableau Vivant

Course Goals

The seventh- and eighth-grade art electives are intended to give students an opportunity to choose an artistic discipline — whether it be 2-D, 3-D, or digital — and deeply explore that topic for one semester. In this vein, "Tableau Vivant" is intended to give students the opportunity to explore a mixed media approach to the 2-dimensional and 3-dimensional artistic worlds, at an intersection of visual art and theater. Students will develop skills and techniques in painting, digital photography and collage, Photoshop, stage make-up, and costume creation.

Course Overview
Students will explore ways to combine traditional studio painting, photography, and digital processes (Photoshop). Working with the form of *tableau vivant*, a 19th-century art form that literally means "living picture," students will create a painting and then digitally import themselves as a costumed actor onto the surface, becoming a part of the two-dimensional picture plane. For inspiration we will study a number of important paintings that can be transformed into tableaux vivants, however, students' original ideas are always encouraged. This class provides a fun and experimental atmosphere for the student who is interested in painting, digital photography, self-portraiture, costumes, stage make-up, and Photoshop.

Assessment
Assessment is based on the willingness to engage with the subject. In addition, students are assessed on their understanding of the elements and principles of design, innovation, perseverance, craftsmanship/skill/consistency, and attitude. Process — growth and effort — are valued above product.

Calendar
September 14 – October 9..... Painting
October – November..... Make-up/Costume and Photography
November – December..... Photoshop/Digital Collage
December 8..... Arts Culmination

Tear, Fold, Rip, Crease, Cut: Paper Art

Course Overview
This studio class explores the vast and beautiful possibilities of Paper Art. From the traditional art of origami and paper cutting through to contemporary experiments in conceptual paper installations, illustration, fashion, and theater, this course will cover 2-D, 3-D, and time-based projects. Students will investigate ideas of transformation through experimentation with materials, techniques, and tools (like the laser cutter!). Projects will include 3-D animal sculpture, cutting literary books to create illustrative assemblage objects, and combining silhouette art with stop motion animation.

Class Goals
- Learn about the history of paper and its role as an art form, from the process of its manufacture in Ancient China to the most recent technological advances
- Explore the seemingly limitless variations paper presents of form, structure, and composition

- Practice a multitude of handcraft and digital techniques and approaches in creating objects with paper
- Study artists whose practices use innovative approaches to the material of paper
- Learn self-expression through a visual medium

Homework Expectations
As a studio class, most work is completed in class; however, some projects will require time outside of class in order to be completed on time. Students will also have light reading and a couple of small research assignments designed to help them with ideas for projects.

Assessment
Assessment is based on the willingness to engage with the subject. In addition, students are assessed on their understanding of the Elements and Principles of Design, innovation, perseverance, craftsmanship/skill/consistency, and attitude. Process — growth and effort — are valued above product.

Groove Workshop

Course Goals
Groove Workshop is focused on teaching students how to perform various styles of music. Each student will learn a number of songs, participate positively during rehearsals, and work on developing instrumental proficiency. Everyone will have the opportunity to participate in live performances during the semester.

Course Overview
Groove Workshop is a music performance workshop designed to teach students how to form and maintain a band — in other words, how to rock! Areas covered will include analysis of song form and structure, rehearsal methods, chart writing, equipment setup, and performance tips and tricks. A big part of being in a successful band is having the ability to communicate and be open to the ideas of others. Making music is a great way to create bonds and build teamwork. This class gives students that opportunity.

Homework and Assignments
Students will be given song assignments and will be expected to become familiar with those songs outside of class. There are many online resources for chords and songs, and if the student has trouble we will go into the problem during class. Outside preparation will help raise the ensemble to a higher level and allow us to learn more music.

Assessment
Members of the band will be assessed on a variety of elements. With a large ensemble containing amplified instruments, cooperation from members of the group is essential. A large part of their evaluation will consist of how they participated during rehearsals. Did they stop playing when asked? Did they show positive support to the other members of the band? Did they remember to bring their instruments? They will also be evaluated on their willingness to learn and practice the music. Because every member of the group is at a different level musically, the musical evaluation will be based on their own unique abilities as instrumentalists.

Calendar
Our students will be featured at an assembly concert on October 12, paying tribute to the music of Creedence Clearwater Revival and the Eagles. We will also have opportunities to jam with professional musicians who come to visit the class. Students will perform at the Middle School Culmination Concert on the evening of December 14 in the GCC.

Music Production and Sound Design

This is a production-focused music elective that teaches students the big picture: how to imagine and fully realize their own musical creations in whatever genre they would like. We discuss the foundational elements of live recording, digital production, arrangement, songwriting, and sound design. Students will be given all the resources and skills to produce their own music or begin work as a producer and engineer in the industry. No previous musical experience is required, and students will leave the class hearing and creating music differently than they have before.

Digital Audio Recording

We will explore the various aspects of producing and recording music with computer-based systems. Using Pro Tools and Ableton Live software, students will learn basic live sound recording, including set-up of the studio, use and placement of microphones, signal routing, mix set-up, and overdubbing and tracking concepts.

This is a new elective in its second semester, and we are working at integrating our work with the Science Rap and the Digital Music Production electives with the goal being to compose, produce and record original music for the Science

Rap as well as doing live recordings of Groove Workshop and the Steel Drum Band.

Steel Drum Band

In the fall semester, the steel band will focus on learning compositions by steel drum virtuoso Robert Greenidge from Trinidad. Robert is one of the most influential steel drum composers, and while he has been known worldwide as a part of Jimmy Buffet's Coral Reefer band for the past 30 years, he is a panorama winner in Trinidad's Carnival arranging for the 120-member Desperadoes Steel Orchestra. Robert's compositions are beautiful yet technically demanding with intricate strumming rhythms, which will require much repetition in rehearsal.

The band will learn a number of pieces to culminate in a concert performance with Robert Greenidge himself on December 1 at 7:00 pm in the GCC for a "Caribbean Night at Nueva." Joining Robert and the Nueva steel bands will be Tony Lindsay, former Santana lead vocalist and 11-time Grammy winner.

In addition to learning the calypso stylings of Robert's music, we will most likely do several Santana tunes as well as music by Sting and Bill Withers.

The rhythms of each style will be rehearsed in class, as each one presents different challenges for each section of the band. Evaluation will be based on classroom participation in each rehearsal, attendance, and participation in the concert.