



## 2022-2023 UPPER SCHOOL CURRICULUM NARRATIVES THIRD TERM

### THE ARTS

#### Dance: Foundation

This term, the Dance Foundation class explored a variety of dance forms. The students worked on both the physical expression of dance and the creative process of choreography. They were challenged to navigate the many aspects of the role of a dancer as a corps member, a soloist, and a disciplined practitioner. Students learned the movement vocabulary and dance language necessary for the warm-up exercises. Students worked with partners to design and teach their own elements of warm-up to the class. Creative problem-solving skills were an integral component of all group work. The units of the first term were rooted in specific dance styles, including Musical Theater, Hip Hop, Salsa and Commercial Dance. Students learned choreography, which they practiced and performed in pairs or groups. Within each genre study, students worked collaboratively to investigate the material by designing choreographic phrases consistent with the style of the dance.

#### Dance: Cultural Traditions

In Cultural Dance this term students studied the cultural dances of Mali. Students studied the cultural landscape and history of the country and immersed themselves in the rhythms and steps of the Didadi and Sunu dances. Students created work in ensembles (families) that represented a common value and unique story told through their steps and interactions. Dancers began working in the next cultural unit study of Salsa dance. They began navigating the rhythms and steps and also partnering techniques. Students will continue with the Salsa unit in the next term and also begin to explore the connections of community and culture as expressed through dance in American history.

#### Music: Foundation

This term, students were occupied with the fundamental question of what music is. They engaged with the basic elements of music: rhythm, pitch, and form. Through reading, demonstration, and performance, they learned various methods from multiple cultures for organizing beats in pulsatile music. They also learned what pitch is and how pitches are used to create melodies in different modes (Western and non-Western) and with various contours. Through demonstration and performance, students also explored textures (the interaction of melodies and harmonies) and learned about cyclical, strophic, binary, and ternary forms.

#### Music: Cultural Traditions

This term, students reviewed the basic elements of music found in all cultures: rhythm, pitch, and form. They also learned the fundamentals of instrument classification and explored the acoustics behind timbre through the music of Tuva/Western Mongolia. Through reading, listening, and self-guided presentations, students then explored the music and cultures of the Middle East and North Africa, focusing on the Arabic concepts of *maqam* (melody) and *iqa'* (rhythm) and using them to create their own short improvisations.

They also began engaging with the music and cultures of South Asia, specifically Hindustani music and its uses of *raga* (melodic dimension) and *tala* (rhythmic dimension).

### **Theatre: Foundation**

The work of the course this term was primarily focused on the question, "What makes a strong Theatre ensemble?" Students were asked to work together to create a strong ensemble through a variety of theater games, activities, exercises, scenes, and performances. A variety of improvised scenes made up much of the work in this unit, allowing students to begin to develop their skills of quick thinking and decision-making, accepting and building, being believable, developing character, observing, and risk-taking. This term, students' grades consisted of classwork, audience behavior, one unit vocabulary quiz and three performance assessments. Classwork grades were based on each student's organization, participation, revision, and collaboration in class.

### **Theatre: Improvisation**

In the first term of Theatre: Improvisation, students explored the essential tools, rules, and philosophy of improvisation through games, drills, and in-class scene/skit prompts. First, students worked with the four Rules of Improvisation: "Yes, and" - accepting and building, making partner(s) look good, telling a story, and making statements. After establishing the Rules of Improv, students learned the importance of how Given Circumstances and Character Specifics help performers create and deliver engaging scenes and skits for an audience. The end of the term found students demonstrating their understanding of improvisational skills to create 10-minute short parodies of the popular NBC television series *The Office* - called *The School*. Students' grades comprised classwork, audience behavior, two unit vocabulary quizzes, and three performance assessments this term. Classwork grades are based on each student's organization, participation, revision, and collaboration in class.

### **Visual Art: Foundation**

During the third term of Visual Art Foundation, the goal is for every student to have a strong fundamental skill set in drawing so that these systems and habits of depicting space will be in place for the remainder of their time at Rising Tide. These systems of drawing are also meant to break down our understanding of a complex reality into identifiable sections. Varying approaches to drawing have been the primary focus of the first term in Visual Art Foundation. Students started the semester by focusing on establishing successful drawing habits in order to accurately draw objects from direct observation. These skills generally require breaking down preconceptions of what objects look like in order to see the world more critically. A major emphasis this term has been placed on scaling, which is a technique in observational drawing in which the size of part of one object is used to determine the size of every other object or part of an object. This system of measuring and comparing aids in the ability to draw well-proportioned objects and place them believably in constructed space. The use of vertical and horizontal reference points was also emphasized this term. These points encourage students to think of their drawings as cohesive "wholes" where each part of a drawing relates to every other part. To develop these skills, students completed two major studio projects that consisted of a drawing of a bicycle with a corresponding object of their choice that challenged their understanding of scaling and proportion and the use of reference points, and a negative space drawing of a stack of stools. In these projects, students were expected to demonstrate their understanding of the successful drawing habits practiced this term.

### **Visual Art: Sculpture**

This term, students focused on an introduction to three-dimensional design in order to conceptualize and construct three-dimensional space. Students completed a brief refresher of two-point perspective that provided drawing tools for them to conceptually design their three-dimensional projects. Students then constructed three-dimensional forms from paper using templates; this work laid the foundation for an additive sculpting project using cardboard. Students were expected to demonstrate their understanding

of how to design three-dimensional space and utilize their experience and understanding of precise building practices.

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## **COMPUTER SCIENCE**

### **Computer Science**

In the third term of Computer Science, students learned the properties and applications of arrays, two-dimensional arrays, and lists. Students practiced writing algorithms to utilize these various fundamental data structures, applying the organizational ability offered by these tools to the real world and honing their own iterative problem-solving skills. Students used these principles of data storage and processing to engage with the concept of “big data” in the age of modern computing, and discussed the ethical responsibilities of programmers in handling massive quantities of user data. Most recently, students have begun to explore the object-oriented programming concept of inheritance, using relationships between classes to create more organized, maintainable, and reusable code.

### **Digital Literacy and Computer Science Principles**

During this past term of Digital Literacy and Computer Science, students were introduced to the core principles underlying human-computer transactions, first by modeling binary questions using a hands-on, computers-off activity, and then by migrating to simulations of binary devices that facilitate the encoding, decoding, and transmission of data. The three major types of network infrastructure were covered, as well as the basics of HTTP and server/client interaction, a brief overview of net neutrality, and the overarching role abstraction plays in connecting each of the disparate layers that compose the Internet. Subsequent to the foundations of networking, students practiced composing and structuring their own lines of code using decks of cards, and, immediately thereafter, began using code.org’s App Lab programming environment to carry that skillset over to an authentic workspace where the creative and self-directed components of coding come into play. Students developed their own functions (procedures) in the real world, modeling a day in their life, and practiced directing the “turtle” (computer cursor/icon) by layering and calling functions within functions to demonstrate the utility of abstraction as a guiding principle of all computer languages.

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## **ENGLISH**

### **English I**

In the third term of English I, students developed and practiced their reading, writing, and oral communication skills through the study of the novel, *Animal Farm* by George Orwell. Students acquired knowledge and skills in crafting thesis statements and writing five-paragraph essays. Students also read a variety of poems by authors such as Edgar Allen Poe and Langston Huhes. Students learned to evaluate a poem by identifying a poem’s subject/theme, deciphering its tone, and analyzing the poetic techniques used. Students then applied what they learned about poetry to create a book of original poems. Grammar and vocabulary skills were regularly practiced and applied throughout the term.

### **English II**

In the third term of English II, students finished the novel study of *There There* by Tommy Orange. Students practiced literary analysis through a close read for symbolism and tone. In addition, students practiced writing on demand by responding to writing prompts and citing relevant textual evidence to support a claim. Following the novel study of *There There*, students began a unit on Realist short stories. Students read a variety of texts from Willa Cather, Kate Chopin, Sylvia Plath, and more. Students considered the way literary devices such as tone, mood, and symbolism impact the story’s themes.

Throughout both units, emphasis was placed on the tenth grade guiding question, “How can we recognize and demonstrate integrity?”

### **English III**

In the third term of English III, students completed reading Shakespeare’s *Henry IV*. Students crafted a creative and analytical social media project, in which they wrote from the perspective of the play’s characters in order to analyze Shakespearean language, characterization, and themes. Students also engaged in the writing process through writing multiple in-class essays to practice their on-demand writing skills and then choosing one essay to submit as their final essay for the term. After careful peer editing, responding to teacher feedback, and self-assessment, students generated polished final essays. Finally, students demonstrated their speaking and analytical thinking skills by participating in a student-led discussion in a Socratic seminar.

### **English IV**

During the third term of English IV, students completed their novel unit on *The House of the Spirits* by Isabel Allende. Students researched the historical background and applied knowledge of the author’s biography and the setting that inspired the text to their understanding of the characters, themes, and ideas in the book. Students completed a RAFT assignment which asked them to creatively express these ideas in a format of their choice. Students also honed their writing skills by completing several in-class essays and then choosing their best work to polish into a final essay. Students engaged in peer review, responded to feedback from their instructor, and assessed their own writing using our class rubric and editing guidelines in order to craft a final product. Finally, students demonstrated their speaking and analytical thinking skills by participating in a student-led discussion in a Socratic seminar.

### **Individualized English I**

In the third term of Individualized English I, students continued to practice their writing skills, composing daily journal entries in response to the fiction and non-fiction texts read in class, as well as other thought-provoking prompts. As they explored various texts, students applied their learned explicit and inferential comprehension skills and continued to develop their skills in literary analysis, with a particular focus on analyzing genre, identifying theme, figurative language, and identifying and analyzing textual evidence. Through their writing, students were required to develop and apply their skills in grammar and mechanics. Students’ grades this term consisted of daily journal entries, classwork activities, various writing assignments, and participation during in-class discussions.

### **Individualized English II**

Throughout the third term of Individualized English II, students read graphic novels. The class read two different graphic novels with a focus on both vocabulary and literal comprehension strategies such as two column notes. Students would read aloud in class and answer a variety of both literal and inferential questions. Additionally, the class wrote an essay comparing the graphic novels to current events finding both similarities and differences. There was also an emphasis on grammar and punctuation skills in order to improve editing. Next term the class will read students selected novels with a focus on abstract comprehension.

### **Individualized English III**

In the third term of Individualized English III, students continued to develop their textual analysis skills while reading a short story and informational texts. Students worked through symbolism using colors and compared how characters interacted with shared events. Students took part in active discussions based on guided reading questions and further developed their writing through a series of analytical prompts. Students also worked through grammar units during the term, building their writing skills. At the end of the term, students began to read the final story of the year, *The Hobbit* which they will finish in the next

term. In order to continue to grow as readers and writers, students should use their marking strategies to annotate their books and actively participate in whole class discussions to build their communication skills while deepening their understanding of the text.

### **Individualized English IV**

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## **MATHEMATICS**

### **Advanced Statistics with Programming**

Students began the third term of Advanced Statistics with Programming by completing a research project on experimental design where they conducted their own simulation, study, or experiment on a topic of their choosing. Then students worked with the various laws of probability, defining independent and disjoint events, and outlining how to identify them. They applied the laws of probability to study geometric and binomial probability models for Bernoulli trials. Students also defined the differences between discrete and continuous random variables and explored expected value problems. Next, the students connected their knowledge of probability and the normal model to analyze distributions that can be modeled using a normal model.

### **Algebra I**

In the third term of Algebra I, students solved one-step and multi-step linear inequalities and graphed two-variable linear inequalities in the coordinate plane. Students then learned to solve systems of linear equations in two variables by graphing, substitution, and elimination. They also graphed systems of inequalities in the coordinate plane. Students had to identify contexts outside of the math classroom in which to apply these tools. All students are expected to thoroughly complete each homework problem using their notes and other resources and then check their work against the answers in the back of the book to help develop questions to ask in class or Academic Support.

### **Algebra II**

In the third term of Algebra II, students used their knowledge of quadratic functions to find real, imaginary, and complex roots by simplifying radicals, factoring, and completing the square. Students expanded their understanding and skills related to functions, equations, and graphs. Students discovered how the degree of a polynomial function informs them about the end behavior of the graph. Students further explored how factors, zeros, and x-intercepts of polynomial functions are related. Students ended the term by combining these skills to perform various operations with polynomial functions.

### **Algebraic Functions & Trigonometry**

In the third term of Algebraic Functions and Trigonometry, students applied their knowledge of exponential functions to model physical problems. These models included human, animal, and bacteria population growth, animal and agricultural decay, and rates of financial models with interest earned and paid. From here, students worked with the concept of a function inverse, both finding and verifying

inverses. The class then defined a logarithm as an inverse of an exponential function and applied the properties of logarithms to logarithmic functions. At the end of the term, students began to study angles and their measure. They began by measuring angles on the coordinate plane. Students then extended their investigations to perform conversions from degrees to radians as well as from degrees to degrees, minutes, and seconds. Students finished the third term by finding the arc length and area of a sector of a particular circle and by then applying their knowledge to word problems involving linear and angular velocity.

### **Applications of Probability and Statistics**

In the third term of Applications of Probability and Statistics, students explored the questions, “What is Probability?” and “What is the difference between independent, dependent, mutually exclusive, and non-mutually exclusive events, and how does that difference affect probabilistic calculations?” They learned ways to organize probability calculations and to graphically represent sample spaces and probability including probability models, probability trees, and probability tables. Students also examined the differences between empirical and classical probability methods and when to use each methodology.

### **Calculus**

In the third term of Calculus, students explored applications of the derivative and rates of change. They applied implicit differentiation to solve related rates problems in a variety of contexts.. Next, students examined the relationship between higher order derivatives of functions and the shapes of graphs. Students then used the Extreme Value Theorem, Rolle’s Theorem, the Mean Value Theorem, and limits to develop analytic criteria for determining the precise graphical behavior of a function. Students then had to recognize how to apply these tools to solve optimization problems in scientific, geometric, and economic contexts.

### **Geometry**

In the third term of Geometry students used deductive reasoning and logic to formulate mathematical proofs and expand their knowledge of triangles. Students applied their logic and reasoning skills established to prove congruent relationships between angles formed by the intersection of parallel lines and a transversal. Students then extended the notion of congruence to triangles and learned how to prove triangle congruence. The students next applied the theorems, algebraic skills, and techniques established in the Parallel Lines and Triangles unit to discover and prove various properties of quadrilaterals. Students ended the term drawing connections between their knowledge of quadrilaterals with previous knowledge from Algebra I. Throughout the term, students returned to a central essential question of “How can I apply what I’m learning in Geometry to real-life applications?”

### **Individualized Algebra I**

During the third term of Individualized Algebra I, students continued to build off of the foundational skills learned in the previous term. Students were asked to apply their understanding of linear equations by creating a travel project in which they had to create several linear equations based on their travel expenses. This required them to demonstrate their understanding of how the slope represents the average rate of change in a linear equation. As the term progressed, students spent time exploring arithmetic sequences, first by identifying the pattern in the sequence, followed by identifying what the  $n$ th term would be based on that pattern. Students also applied their knowledge of solving equations in order to solve single step and multi step inequalities. This required identifying when the inequality sign would flip when solving for the missing variable. Towards the end of the term, students began working on systems of equations by graphing. This required students to utilize their prior knowledge of graphing linear equations in order to identify the solution to two graphed lines on a single coordinate plane.

## **Individualized Algebra II**

During the third term of Individualized Algebra II, students applied their knowledge of linear equations to identify and develop a travel itinerary by utilizing these equations to project their budget over a given period of time. This required students to recognize how the slope of a line relates to the rate of change as well as how a constant impacts a linear equation. Students then explored absolute value and solving absolute value equations. This required students to activate their prior knowledge from solving multi step equations from their previous math course. Later in the term, students worked on solving multi step inequalities and graphing them on a number line. This required them to identify each inequality symbol and how that impacts the graphing of the inequality. Towards the end of the term, students worked on solving systems of linear equations using the methods of graphing, elimination, and substitution.

## **Individualized Geometry**

The third term of Geometry began with identifying relationships between angles created by a transversal through parallel lines. Students identified the theorems associated with angle relationships created by transversals through parallel lines. In a culminating assignment in this unit, students created a City Planning Project where they had to put specific local places in Plymouth in corresponding areas of specific angle relationships on a map. Students then reviewed slopes of parallel and perpendicular lines, by taking notes, and completing in class worksheets. They were assessed on their knowledge through a quiz. Finally, students identified transformations of shapes on a coordinate plane. They identified if a shape rotated, translated, or reflected. Students had to identify the original coordinates of their pre-image and then determine the coordinates of the image based on the specific transformation. Their knowledge was assessed on a test at the end of the unit. Finally, the term ended with comparing triangles and determining if they are congruent and if they are, what theorems prove they are congruent to each other.

## **Pre-Calculus**

In the third term of Pre-Calculus students analyzed polynomial functions. The students looked at applying Descartes' Rules of Signs to determine possible zeros and combinations of zeros in polynomial functions. Students studied the Rational Root Theorem and how to use the Theorem to anticipate whether or not a function had rational or irrational roots. Students were able to find all the roots of polynomial functions by taking the rational roots to find irrational and imaginary roots both graphically and analytically. Students then completed the unit on analyzing rational functions, which included solving rational equations, finding the domain and range of the function, differentiating between point discontinuity and infinite discontinuity, and identifying the x-intercepts and y-intercepts. Also, students were introduced to how horizontal and slant asymptote(s) function. Students used these concepts to develop graphs of rational functions based on these patterns. At the end of the term, students started their study of conic sections by taking both explicit and implicit relationships to determine distance between points, whether relationships possess rotational symmetry or reflect over the x-axis, y-axis, and the equation  $y=x$ . Finally, the students ended the term with the study of circles and will use these principles as they expand into studying relationships between ellipses and hyperbolas.

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## **SCIENCE**

### **Advanced Biology**

In the third term of Advanced Biology, students began a broad unit on how living things communicate. They investigated communication on varied scales, beginning from within a cell, to across populations of organisms. Students learned about mitosis and meiosis in detail, including how mutations may occur, impacting human development. After this, students discussed inheritance, where they discussed how

genes are passed from one generation to the next. Following that, students segued into a unit on the use of mathematics to model and investigate populations of organisms. Students learned how to use the Chi Square test to statistically determine if changes to a population are significant. They read a scientific paper on the impact of the environment on epigenetics and discussed as a class the role of different environmental stressors and the impact that they have on the human body. Students who were successful this term completed assignments thoroughly, asked questions when they required clarification, and used their homework time to review class notes or solidify their understanding through the use of their text.

### **Advanced Chemistry**

During the third term, students in Advanced Chemistry investigated general concepts of chemical bonding, including covalent, ionic, and metallic substances. They learned about different models of molecular structure, the structure of different types of solids, and how energy relates to bonds and chemical reactions. They also learned about intermolecular forces and the behavior of condensed states of matter, then finished the term with a unit on the gas laws. Students who were successful in this course engaged in class discussions, completed all practice assignments, and took advantage of teacher feedback to improve their understanding of the content.

### **Advanced Physics**

In the third term of Advanced Physics, students completed work on the applications of Newton's Laws of Motion, as well as completing a unit on Conservation Laws, which focused on momentum and energy as conserved quantities. They looked at the concepts of impulse and momentum and their application to collisions and explosions in one and two dimensions. They also studied energy, work, and power, and learned to apply these concepts to solve a diverse group of problems through exercises done both collaboratively and individually. The class also completed a unit on the rotation of rigid bodies and began their study of electricity. Laboratory activities for this term included an investigation of rotation, equilibrium of rigid bodies, and conservation of momentum.

### **Biology**

The third term of Biology focused on cellular aspects of living organisms while addressing the essential question "What makes you *you*?" Students began by learning about how cells divide, including an in-depth look at both mitosis and meiosis. Students created a Mitosis Flip Book to show all of the moving parts of Mitosis. This segued into the following unit on inheritance, where students learned how to predict the physical traits of offspring based on the genetic makeup of their parents. They completed simple Punnett Squares but also learned about more complex inheritance patterns as well. To get into the spirit of the March, students participated in March Mammal Madness, where they researched sixty-four animals to see who would win in a simulated battle. Students who were successful in the third term took thorough notes, asked questions in class, completed practice problems, and took advantage of review time to ensure they knew how to complete and understand the meaning of the Punnett Square problems.

### **Chemistry**

In the third term of chemistry, students practiced many of the Next Generation Science Standard (NGSS) Practices including: developing and interpreting models, constructing explanations, and analyzing and interpreting data. They practiced NGSS Cross Cutting Concepts focused on patterns, structure and function, cause and effect, and stability and change. Students applied these skills and their knowledge of periodic trends from the previous term to explore ionic compounds and chemical reactions. Their objectives with ionic bonds were to explain how and why ionic bonds form based on the periodic trends in electronegativity, ionization energy, and reactivity, write chemical formulas for ionic compounds based on valence electrons, the rule of zero charge, the octet rule, and name ionic compounds. Student's also focused on predicting the products of basic chemical reactions using their knowledge and skills of ionic

compounds to produce models of balanced chemical reactions following the law of conservation of mass. Students performed procedural labs of chemical reactions and learned to describe what is seen in any given chemical reaction in preparation for designing and carrying out their own chemical reaction experiment in the fourth term.

### **Earth & the Environment**

In the third term of Earth and the Environment, students completed a unit on weather. Students researched a city of their choice and created a weather report for the city including a video where they acted as a weatherperson. The class studied the scope of human impact on the land on Earth. Students discussed how mining can be detrimental to land by participating in a Cookie Mining Lab. Students began an investigation into their own personal carbon footprint. Throughout this term, students worked on their collaborative efforts in small groups and as a whole class, crafting presentations, informative posters and working through Advanced Placement questions. Students who were successful in this course took thorough notes, asked questions, completed classwork and projects, and used their resources to ensure that they were well prepared for assessments.

### **Individualized Introductory Physics**

In the third term of Individualized Introductory Physics, students studied a wide variety of physics concepts, including energy, work, power, momentum, and impulse. Laboratory exercises included computer simulations to look at two-body collisions, building a device to keep an egg safe as it fell from a height, and daily demonstrations on various topics. Students continued to develop their problem-solving skills by applying their learned techniques to problems involving new concepts and applications. Grades for the third term consisted of daily warm up activities, classwork activities, an assessment, homework assignments, and in-class participation.

### **Introductory Physics**

In the third term of Introductory Physics, students studied a wide variety of physics concepts, including energy, work, power, momentum, impulse, and electricity. Laboratory exercises included computer simulations to look at energy transformations, an exploration of the use of energy in human exercise, and an activity to relate graphical representations to energy changes, as well as daily demonstrations on various topics. Students continued to develop their problem-solving skills by applying their learned techniques to problems involving new concepts and applications.

### **Technology & Engineering**

In the third term of Technology and Engineering, students completed their design of a truss bridge by testing their model and presenting on all aspects of the project: from design choices to proposed budget. During the second half of the term, students started an exploration of water pumps and the basic principles of fluid dynamics. In teams, students will design and build a water pump model, and customize their proposal to a region of their choice.

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## **SOCIAL STUDIES**

### **Civics & Economics**

In the third term, students studied Microeconomics. Through the lens of Adam Smith's *Invisible Hand*, students learned what it means to be an individual consumer in a free market economy. They then studied concepts such as resource allocation, scarcity, opportunity cost, supply and demand, and market equilibrium and price. Students developed their understanding through creating and answering potential real world scenarios that encouraged them to see the perspectives of both consumers and producers. Finally, students demonstrated their understanding of the unit in a summative assessment.

## **Global History I**

Global History I students began the term by completing research projects on Native American societies. They then engaged in a study of the extent and effects of European colonization. To begin the unit, students examined the Columbian Exchange and its impacts through close reading of primary source documents, maps, and images. Later in the term, students did comparative work studying early modern empires in the Middle East, Asia, and Europe. Students also analyzed documents and images related to the Atlantic slave trade, as well as mercantilism and the emerging global economy.

## **Individualized US History**

During the third term of Individualized US History the class learned about World War II. The students learned about the timeline of important dates and events. Additionally, students spent time learning about Japanese Internment Camps and the Holocaust. Throughout the unit, students focused on key vocabulary to enhance their understanding. Students continued to work on study skills such as note taking and annotating articles. Next term students will learn about the Cold War and The Civil Rights Movement.

## **Modern Global History**

Students in Modern Global History began the course by examining the origins, methods, ideologies, and experiences of the new system of global imperialism that structured international political and economic relationships from the late-19th century until the mid-20th century. Students then analyzed the causes, key events, and consequences of the first World War through a global lens. They participated in a simulation to better understand the goals of different global leaders at the Paris Peace Conference. In groups, students also completed a research project on one of the four major world revolutions of the 1910s and used their findings to teach their classmates what they learned. Students were assessed on two in-class essays, which measured their skills of formulating arguments, selecting evidence to support claims, nuanced analysis, and academic writing.

## **Philosophy**

Students in Philosophy began the semester studying epistemology using the writings of Rene Descartes, John Locke, David Hume, and others. Students compared epistemological theories, including empiricism, rationalism, and skepticism, as well as competing theories of truth. The class then moved on to metaphysics, and discussed questions about the nature of existence, the self, time, free will and determinism, and the origins of the universe. Students explored these topics by engaging in class discussions, verbal and written debates, creating their own thought experiments, and completing written exercises.

## **United States Government & Politics**

During the third term, students pondered the role of the Supreme Court and the Constitution in a 'Civil Rights and Liberties' Unit. Much of this exploration was done by reading and analyzing Supreme Court case opinions, such as *DC v. Heller*, *Engel v. Vitale*, and *Brandenburg v. Ohio*. Students then undertook a deep-dive into various aspects of the First Amendment, using their Expressive Communicator skills to create group presentations on a specific element of the First Amendment. Students also conducted a mock debate around the implications of the 2nd Amendment and the question of "collective safety versus individual liberties." Finally, students researched and wrote an analytical essay in which they analyzed a social movement's fight for liberties or civil rights. Students ended the term by beginning a new unit on political socialization and behavior.

## **United States History**

Students in U.S. History continued to explore the twentieth century trajectory of the United States within a global context. Students studied the cultural and economic changes of the 1920's, and used

historical skills to locate the root causes of the Great Depression. Students proceeded to study the effects of the Great Depression on everyday Americans, and evaluated the legacy of the New Deal with a project that assessed their research and presentation skills. Students continued to hone their writing skills by crafting multi-paragraph responses on the origins of the Great Depression and Japanese Internment. Students studied the origins of the second World War, fascism, the U.S.'s entry into the conflict, Japanese Internment, and the Holocaust. Students then concluded the third term with an assessment of their knowledge on the second World War and the United States' role in the conflict.

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## **WORLD LANGUAGE**

### **Latin I**

This term, students continued their exploration of Latin grammar by learning the main functions of the remaining noun cases, becoming familiar with the imperfect tense, and committing the various endings to memory. In addition, they practiced reading in the target language for both understanding and direct translation. Students continued their exploration of Roman culture by looking at Roman Numerals and the Latin words for various numbers, learning some ancient geography, and looking at the history of the Roman Monarchy. Students also prepared for and took the National Latin Exam in March. Students should continue practicing their vocabulary and the endings they have learned this term in order to keep these concepts fresh for utilization throughout the rest of the year.

### **Latin II**

This term students continued their exploration of Latin grammar by learning all of the passive forms for the indicative mood. This included the perfect passive system, which required a completely new method of forming and understanding verbs. Students also began expanding their understanding of adjectives and adverbs by learning the comparative and superlative degrees of comparison. In addition, students continued to read and translate Latin stories, which helped them both to practice their skills with the language and also to explore new cultural topics such as natural disasters in the ancient world and dining and party etiquette. Students also prepared for and took the National Latin Exam in March. Students should continue practicing their vocabulary and endings they have learned this term in order to keep these concepts fresh for utilization throughout the rest of the year.

### **Latin III**

This term students continued learning new grammar constructions, such as new forms of infinitives and participles. Most importantly, students began their exploration of the subjunctive mood, a large topic which will expand the types of text they are able to read, will increase the types of phrasings they are able to write, and will be a focal point of their learning during the last term of the year. In addition to this, students continued to discuss and explore aspects of Roman life, including dinner parties and etiquette, the lives of women in Rome, and some history of the Roman empire. Students also prepared for and took the National Latin Exam in March. Students should continue practicing the vocabulary and endings they have learned this term in order to keep these concepts fresh for utilization throughout the rest of the year.

### **Latin IV**

Students began investigating Latin poetry this term by beginning to read Vergil's *Aeneid*. Students learned background information about Homer's previous epics and the required historical context for the work, building off of things they learned about this time period in previous years. Students also explored the brand-new skill of poetry scansion, focusing on the dactylic hexameter of Vergil. Students explored the differences between long and short syllables in Latin, the process of elision, and how meter creates a rhythm to the text they are reading. In addition to this, they began reading the actual text, which

necessitated learning new quirks of reading poetry, including strange word order, unique vocabulary, and syncope of verbs to fit the meter.

Outside of this, students began working on their own rhetorical speech project, building off of the rhetoric skills which they learned during the first semester. Students have been tasked with picking an argument about anything and making it through the lens of classical rhetoric, including rhetorical devices, classical argument structure, and different Aristotelian appeals to their audience. Students will present their finalized speeches during the last term. Students also prepared for and took the National Latin Exam in March. Students should continue practicing the vocabulary and endings they have learned this term in order to keep these concepts fresh for utilization throughout the rest of the year.

### **Latin V**

Students began investigating Latin epic poetry this term by beginning to read Vergil's *Aeneid*. Students learned background information about Homer's previous epics and the required historical context for the work, building off of things they have learned about this time period in previous years. Students also refreshed their skills of poetry scansion, focusing on the dactylic hexameter of Vergil. Students paid special attention to the ways in which the meter of poetry enhances and complements the words of the story. In addition to this, they began reading the actual text, which necessitated learning new quirks of reading Vergil's poetry, including strange word order, unique vocabulary, and various forms of syncope of verbs to fit the meter. Students also prepared for and took the National Latin Exam in March. Students should continue practicing the vocabulary and endings they have learned this term in order to keep these concepts fresh for utilization throughout the rest of the year.

### **Spanish I**

During the third term, students in Spanish I completed their fourth unit, *Navegando el mundo digital* (Navigating a Digital World). Through this unit, students explored Spain and the Dominican Republic, and they also learned about technology and its influence on people in Spanish-speaking countries and in the United States. Students also worked through their fifth unit, *Un mundo nuevo* (A New World). This unit focused on traveling and also allowed students to learn about differences between living in the country and living in a big city in Spanish-speaking countries. Students continued to practice their language skills through a variety of communicative activities, and they engaged in a grammar review that allowed them to practice using the present and the past tenses in the target language. Students closed the third term with an Integrated Performance Assessment pertaining to their fifth unit. This task allowed students to synthesize what they learned in the fifth unit and to show their understanding through interpretive, interpersonal, and presentational communication.

### **Spanish II**

During the third term, students in Spanish II completed their fourth unit, *Buena salud, buena vida* (Good Health, Good Life). In this unit, students learned vocabulary related to health and healthcare while continuing to use the present and past tenses. They regularly engaged in tasks that allowed them to practice their listening, speaking, reading, and writing skills. Students completed their fourth Integrated Performance Assessment as well as an exam, which required them to synthesize the content and skills they acquired during the fourth unit. Students then began their fifth unit, *Los héroes nacionales* (National Heroes). This unit focused on vocabulary related to describing national heroes and explaining why they are celebrated as such. Through the activities they completed, students were able to practice their communicative skills while also learning about national heroes and cultural products, perspectives, and practices in Nicaragua and Argentina. Students closed the third term with an Integrated Performance Assessment, which allowed them to synthesize what they learned in their fifth unit and to show their understanding through interpretive, interpersonal, and presentational communication tasks.

### **Spanish III**

During the third term, students in Spanish III completed their fourth unit, *El sabor de la vida* (The Flavor of Life). In this unit, students learned vocabulary related to food and eating habits while continuing to use the present and past tenses. They regularly engaged in tasks that allowed them to practice their listening, speaking, reading, and writing skills. Students completed their fourth Integrated Performance Assessment as well as an exam, which required them to synthesize the content and skills they acquired during the fourth unit. Students then began their fifth unit, *Mucho trabajo, poco dinero* (A Lot of Work, A Little Bit of Money). This unit focused on vocabulary related to jobs and work opportunities and had students consider connections between work opportunities, education, and future goals. Through the activities they completed, students were able to practice their communicative skills while also learning about a variety of professions. Students closed the third term with an Integrated Performance Assessment, which allowed them to synthesize what they learned in their fifth unit and to show their understanding through interpretive, interpersonal, and presentational communication tasks.

### **Spanish IV**

During the third term, students in Spanish IV completed their fourth unit, *Las familias y las comunidades* (Families and Communities) and also their fifth unit, *La vida contemporánea* (Contemporary Life). Students began each unit by reading a story related to the unit theme and then explored a variety of cultural perspectives, products, and practices related to those themes. Through their work, students learned new key words in context, which they worked to identify, define, and provide examples for in the target language. Students also worked with a variety of authentic texts that required them to use their interpretive listening and reading skills in order to engage with the content of those texts. They also participated regularly in tasks that allowed them to practice their presentational speaking and writing skills, as well as their interpersonal speaking and writing skills. Through these various activities, students worked on skills including writing about their opinions and making arguments while citing evidence from textual sources, as well as understanding the differences and similarities between their own perspectives and practices and those of others.

### **Spanish V**

During the third term, students in Spanish V completed their fourth unit, *Las familias y las comunidades* (Families and Communities) and also their fifth unit, *La vida contemporánea* (Contemporary Life). Students began each unit by reading a story related to the unit theme and then explored a variety of cultural perspectives, products, and practices related to those themes. Through their work, students learned new key words in context, which they worked to identify, define, and provide examples for in the target language. Students also worked with a variety of authentic texts that required them to use their interpretive listening and reading skills in order to engage with the content of those texts. They also participated regularly in tasks that allowed them to practice their presentational speaking and writing skills, as well as their interpersonal speaking and writing skills. Through these various activities, students worked on skills including writing about their opinions and making arguments while citing evidence from textual sources, as well as understanding the differences and similarities between their own perspectives and practices and those of others.

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## **ELECTIVE COURSES**

*Each elective course is a semester-long course (0.5 credits).*

### **Abstract Painting**

This painting class is designed to allow students the opportunity to construct a non-representational painting language. Students were encouraged to experiment with the physical properties of paint in order

to develop a personalized approach to painting that is unconcerned with depiction of a recognizable image. In the first term, great importance was placed on the technical execution of paintings, and students gained experience controlling the value of color. Students completed their first painting of the semester, and were expected to design and complete an abstract painting that used value scales of the three primary and secondary colors.

### **Astronomy**

The first term of Astronomy began with a unit on the scale of the universe and how we observe the universe from Earth. Students discussed both time and distance scales, using simulations and analogies to visualize these vast numbers. During this unit, students also looked at the major types of known objects in the universe and discussed their relative sizes and relationships. The various coordinate systems used to describe the locations of objects in the night sky were explored, and students learned to read star charts, to plot the locations of stars, and to understand the apparent motions in the night sky. Students also investigated eclipses, tides, seasons, and other aspects of the Earth-Sun-Moon interaction. They learned about the Moon and did a lab activity investigating the formation of craters. They also began a unit on light and how we use the properties of electromagnetic radiation to determine the properties and behavior of distant objects. Students observed the spectra of different elements in the lab to determine the composition of distant objects.

### **Broadcast Journalism**

In this term, students collaborated with the students from the Print Journalism course to create mini news teams. In their groups, students created news reports for many forms of media (journal articles, vertical, and horizontal videos for social media platforms such as Tik tok and Instagram)—three cycles of topics in various journalism subjects. The five main topics of investigation included Local, Feature Profile, Entertainment, and Sports. Additionally, students learned Journalism vocabulary to help them navigate their research, writing, and presentational skills for their cycle projects. This term, students' grades consisted of classwork, participation in enrichment activities, class presentations, and three-cycle projects. Classwork grades were based on each student's organization, participation, revision, and collaboration in class.

### **Commercial Dance**

In Commercial Dance this term students began learning movement vocabulary particular to the field. They worked in groups to conceive and bring to fruition a Public Service Commercial. Components of the commercial included finding a message to convey, identifying the intended audience, researching the facts, establishing a storyboard, utilizing dance to convey the message, filming, editing and presenting. During the next term, the students will apply similar components to executing a live performance using dance as the main vehicle of expression.

### **Current Events**

In the third term, Current Events students were acquainted with the varied forms and formats of news media. Students analyzed current events by reading newspapers and online news sources and were asked to think about the larger context in which those events were created. Partner-pairs then began leading the start of every class period with a 'Spotlight-News presentation,' in which they offered an in-depth analysis of a contemporary news story. These presentations consistently led to long class discussions and debates. Students ended the term by focusing on news literacy and the methods to identify and assess reliable news information online.

### **Fantasy Literature**

Students in Fantasy Literature spent the first term exploring the characteristics and possibilities of the fantasy genre. Students read selections from classic works of fantasy including J.R.R. Tolkien's *The*

*Hobbit*, as well as portions of the first term's central text, Patrick Rothfuss's *The Name of the Wind*. Students used these texts to discuss themes like destiny or good and evil, while encountering a variety of literary devices, such as foreshadowing and metaphor. Students also had the opportunity to write short fiction stories, including our major project, a short story with the theme of destiny.

### **Film Studies**

In the third term of Film Studies, students considered films grouped around the topic of environmentalism. Taking a broad look at this theme in very diverse genres, students looked at the film techniques used in *Jurassic Park* (dir. Steven Spielberg) to examine how science and technology are depicted alongside nature and compared it to clips from films excerpted to consider how post-apocalyptic worlds and nature are portrayed through film effects. Students considered the animation and strategies used by *Wall-E* (dir. Andrew Stanton) compared with documentary-style footage used in *Blackfish* (dir. Gabriela Cowperthwaite). Going forward, students will finish preparing for a student-led discussion on these films in a Socratic seminar.

### **Fitness**

In the third term of Fitness, students explored various aspects of fitness, on a rotating basis, depending on grade level. Students in grade eleven and twelve developed their flexibility and learned various low-impact body movement skills through yoga positions, poses, and the flow of combining movements. Students in grade nine and ten participated in High Intensity Interval Training where they practiced callisthenic and resistance exercises to improve their endurance and condition their muscles. Students in grade ten and eleven participated in spin class where they trained their cardiovascular health through simulations of uphill climbs, standing positions, downhill speeds, and pacing models. Students in grade nine and twelve engaged in a holistic wellness program in which they learned to attend to the various aspects of their social, emotional and physical health. Additionally, all students learned to create smart, personalized fitness goals for themselves.

### **Internship**

During the third term, seniors in the Internship course combined academic, skills-based learning with an internship in the field. During class time in school, students learned about professional life, with major themes including business communication etiquette, resume creation and refinement, and the analysis and development of their own skills and values related to their future careers. During their time in the field, students worked closely with their worksite supervisors on a variety of projects. Worksites this semester are: Alpha One Flight School; Bay State Physical Therapy; Crosswinds Golf Course; Long Pond Physical Therapy; Planet Subaru; the Plymouth Antiquarian Society; the Plymouth office of Congressman Bill Keating; Rising Tide Athletics Department; SHP Financial; Sprezzatura Boutique; Starboard Academy; and Sustainable Plymouth. Worksite Supervisors communicated with the school and the students about students' performance on site. Please note that this course is worth one full credit, even though it is semester-long, because it meets daily.

### **Marine Biology**

In this term, students discussed the importance of the ocean by beginning the course by talking about just how much of the Earth is ocean. Students labeled and discussed the different ocean zones and the organisms that live in each zone. Students learned how diversity impacts the ocean by discussing the different adaptations in the ocean and the impact of sunlight on the ocean. To discuss sunlight, students participated in a Plankton Adaptation Lab where they built their own 'plankton' out of materials like popsicle sticks, tin foil, and clay and tested the plankton to see which one sank the slowest. Students watched clips of video taken on a submarine that showed the deepest, darkest part of the ocean and the incredible organisms that live here. Students that were successful ensured that they were fully engaged

in the course work, asked questions, demonstrating good Self-Directed Learner Skills and Community Steward Skills.

### **Math Skills**

The third term in Math Skills was used to determine where the students were in preparation for the 2023 MCAS Exam in Mathematics. Students have looked at previous MCAS Exam questions and the course has covered the topics from three of the five standards - Patterns, Relationships, and Algebra, Number Sense, and Operations, and Statistics. From the algebra standards, we have covered the topics of Scientific Notation, Solving Multistep Equations, Solving Systems of Equations, Writing the Equation of a Line, and Parallel and Perpendicular Lines. We covered the topic of Measures of Central Tendency, specifically finding the mean, median, mode, and range of a given set of data. As we end term III and transition into Term IV, we are starting to look at the standards of Geometry and Measurement as we have reviewed the Distance Formula and how it applies to the Pythagorean Theorem, the Midpoint Formula, the Segment Addition Postulate, and the Angle Addition Postulate. We will build off of these topics in these two standards as we prepare for the MCAS Exam.

### **Music in Science-Fiction Film and Television**

This term, after a brief exploration of the history and definition of “science fiction” in pre-cinematic literature and music drama, students learned about the three main components of a film soundtrack: speech, sound effects, and music. They delved further into music, learning the basic elements, such as texture and instrumentation, that contribute to its power as an expressive cinematic device. They also parsed out the various roles in the creation of a film score, such as composer, orchestrator, and music editor. Through written assignments and in-class-response discussion, students then explored the narrative effectiveness of symphonic scores to pre-synch films such as *Faust* and *Metropolis* and early sound films such as *King Kong* and *Bride of Frankenstein*. They also addressed the interaction of diegetic and non-diegetic music in the neo-symphonic score to *Close Encounters of the Third Kind*.

### **Print Journalism**

In this term, students collaborated with the students from the Broadcast Journalism course to create mini news teams. In their groups, students created news reports for many forms of media (journal articles and vertical and horizontal videos for social media platforms such as Tik tok and Instagram)—three cycles of topics in various journalism subjects. The five main topics of investigation included Local, Feature Profile, Entertainment, and Sports. Additionally, students learned Journalism vocabulary to help them navigate their research, writing, and presentational skills for their cycle projects. This term, students' grades consisted of classwork, participation in enrichment activities, class presentations, and three-cycle projects. Classwork grades were based on each student's organization, participation, revision, and collaboration in class.

### **Robotics**

The first term of robotics started with an in-depth exploration of the habits of mind necessary for a successful build of the basic robot. This hands-on, project-based class places particular emphasis on using an ethical matrix as a way to understand the complexities and ethical implications of artificial intelligence. Students started building the basic robot, and creating some code to have the robot complete independent basic tasks (move forward, move back, turn right, open the pincers for the claw...).

### **Sociology**

In the first term of Sociology, students completed Unit One: Sociological Theories and Methods, and began Unit Two: Society, Culture & Media. In each unit, students practiced their Communicator, Investigator, and Community Steward skills, engaging in daily discussions and examinations of social

issues. In Unit One, students discovered key concepts and figures in the field of sociology, practicing the application of major theories to contemporary social problems. Students then explored the many forms and methods of sociological research, exploring infamous social experiments of the twentieth century and collaboratively to determine how they would conduct research on a particular subject. In Unit Two, students explored the concepts of Culture and Media, discussing and debating their influence on individual experience and watching documentaries on media impact. Students demonstrated their knowledge through multiple short response papers, contributions to collective notes and discussions, and two unit quizzes. They closed this term by beginning their proposals for research projects, which they will complete in the next term.

### **Traveling the World**

In the third term of Traveling the World, students selected a group of countries they wanted to travel to and identified a variety of topics to explore about each country. They completed several research projects, each pertaining to a different country: South Korea, Fiji, Brazil, the Bahamas, Norway, and Finland. Each project involved working with a group to research the currency, history, food, language, culture, wildlife, weather, flag, and geography of that country, as well as developing an itinerary based on a provided budget for traveling to that destination. Each project concluded with students making a poster to showcase their research and then presenting their findings to the class.

### **The Tudors**

Students in this course are seeking to answer the questions, “Who were the Tudors, and how did they affect the politics, culture, society, and economy of England?” and “What is history, who writes it, and how do we make our own?” Students began the course by examining the world of pre-Tudor England by analyzing relationships between social classes and the circumstances that brought the Tudors to power. Students delivered a short presentation on research on the policies of King Henry VII. Next, students practiced deconstructing historical narratives from the reign of King Henry VIII, specifically related to his religious policies and the lives of the women who were married to him. Students engaged in a debate over the legacy of the Henrician Reformation and its place in historical memory.