

NEEDHAM PUBLIC SCHOOLS
Needham, Massachusetts

PROGRAM OF STUDIES

GRADES 6 – 8

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MIDDLE SCHOOL STATEMENT OF PURPOSE

We dedicate ourselves to cultivating academic excellence, civic responsibility and the personal growth of each member of our community.

We Know:

Students enter middle school at a critical phase of their development. They experience rapid physiological and emotional changes, an emerging sense of self, and an increased need for self-assertion. Cognitively, middle school students move from concrete toward abstract thinking. Middle school students strive for self-acceptance and a sense of belonging which shapes their behavior and perceptions. Healthy connections with adults and peers are crucial. Adult recognition reinforces students' sense of worth and their ability to balance extreme and competing developmental needs.

We Believe:

- All students can learn and it happens at varying rates through multiple learning styles.
- Active learning requires taking risks, and mistakes are valuable for learning.
- Learning through a broad-based curriculum and exposure to different perspectives are integral to educating the whole child.
- Learners should feel safe, cared for, and valued.
- Learning requires a partnership between school, home, and the community.

We Work To Provide:

- A student-centered curriculum that is experiential, interdisciplinary, and exploratory.
- A staff that plays multiple roles in fostering student growth as they impart knowledge, serve as role models, and respond to each individual's needs.
- A middle school environment that stresses civic and global awareness and each student's role as a member of a family, a community, and society at large.

We Strive To Develop:

- Creative and critical thinkers.
- Confident and open-minded risk takers.
- Responsible and thoughtful decision-makers.
- Articulate and reflective communicators.
- Collaborative and socially conscious contributors to the community.

Middle School Cluster Model

At High Rock and Pollard we value the National Middle School Association’s ideal of developing and sustaining a middle level program that embodies interdisciplinary teaming, advisory, varied instruction, exploratory programs, and transitional activities. The current design of interdisciplinary teams in our middle level program is referred to as our “cluster model.” The environment of a cluster assists in supporting the transition of students from an elementary school model to their high school experience. Clusters create smaller schools or “family units” within our larger school community and support students in their cognitive, social and emotional development. Having this team of teachers working with the same group of students provides flexibility in order to schedule a variety of curriculum needs and foster programs of interdisciplinary study.

Currently both High Rock and Pollard have clusters comprised of teachers who represent the following disciplines: English language arts, mathematics, science, and social studies. In addition to the study in these subjects, students will participate “essential” courses. Students participate in two essential courses per day that occur on a rotating basis. These essential courses fall under the departments of fine and performing arts, technology, library and media, world language, and wellness. A typical middle level daily course experience for a Needham student is as follows:

Advisory
English
Math
Science
Social Studies
Essentials 1
Essentials 2

Clusters are developed in order to have heterogeneous classes that maximize the educational possibilities for all children. Our primary goal is to create balanced classes in terms of gender, academic strengths, social maturity, special needs, and supportive peer groups that are likely to promote healthy and productive learning environments.

OVERVIEW OF THE PROGRAM

Grades 6 through 8

Students in each grade will receive instruction in the four (4) core subjects every day, which includes English Language Arts (ELA), mathematics, science, and social studies. In addition to the study in these core subjects, students will participate in Essential courses. Students participate in two Essential courses per day that occur on a rotating basis. These courses are scheduled as trimester or year-long courses.

Grade 6 Essentials	Grade 7 Essentials	Grade 8 Essentials
Physical Education	Physical Education	Physical Education
Health	Health	Health
Spanish	World Language	World Language
Visual Art	Visual Art	Visual Art
Computer Technology	Computer Technology	Engineering Design
Literacy for Learning	Engineering Design	
Performing Arts Option	Performing Arts Option or Essential Rotation Grade 7	Performing Arts Option or Essential Rotation Grade 8

Performing Arts Options

Grade 6	Grade 7	Grade 8
Beginning Band Concert Band Strings Ensemble Chorus/General Music	Concert Band Strings Ensemble Cambiata Chorus Treble Chorus	Concert Band Strings Ensemble Cambiata Chorus Treble Chorus

Essentials Rotations (for students not choosing a Performing Arts Option)

Grade 6	Grade 7	Grade 8
	Music Explorations 7 Ceramics/Sculpture 7 Experiential Education 7	Ceramics/Sculpture 8 Chinese Culture 8 Global Art 8 2D Design 8 Experiential Education 8 Theater Musical Arts 8

World Language Options

Grade 6	Grade 7	Grade 8
	Spanish French Mandarin	Spanish French Mandarin

MIDDLE SCHOOL PROGRAM OVERVIEW

The middle school program has been developed with the understanding that the young adolescent is at a critical phase in their personal and social development. Given that students will face a rapidly changing world there is a core belief that students require a rigorous program that has a broad-based curriculum, which is experiential, interdisciplinary, and exploratory in nature. As a result, the program at the middle school level in Needham is comprehensive and it is expected that students, with few exceptions, will take all courses represented at each grade level outlined below.

DEPARTMENT OVERVIEW

ENGLISH LANGUAGE ARTS

Through a wide variety of classroom learning experiences which are largely literature based, our goal is to teach children how to fully comprehend and respond to what they read and teach them how to use the English language most effectively in their writing and speaking. This program has three components: language arts, composition, and literature.

The English curriculum draws on the four main literary genres: fiction, nonfiction, poetry, and drama. Selected age-appropriate readings within these genres are meant to expose students to a vibrant cross-section of viewpoints, cultures, and communities from around the world, past and present, and to foster an appreciation of this diversity.

Along with gaining skills in comprehending text on a factual level, students also learn how to think critically while they read and are given the tools to respond analytically and personally. These responses include small group and whole-class discussions, written responses, and projects that tap students' strengths in visual and performing arts. Students are also encouraged to read independently outside of what is required in school by teachers who model for children a love of reading as a lifelong habit of mind.

In all three grades, emphasis is placed on using the five-step writing process (prewriting or brainstorming, drafting, revising, editing, and publishing) to meet success in conveying ideas on paper. Students will increasingly learn how to adapt the writing process to fit the demands of individual assignments and shape their writing to satisfy specific purposes and audiences.

Generally, writing assignments ask students to: provide information or explain what something is about (expository); tell a story (narrative); describe a place or person (descriptive); persuade others to understand and accept your point of view (persuasive); express thoughts and feelings and create fictional worlds (expressive). In all the writing they do, students are encouraged to develop their own individual voices and styles.

FINE AND PERFORMING ARTS

As a core academic subject, Needham Public Schools students engage in a rigorous standards based arts education in both the visual and performing arts. Instruction is rooted in the creative process, where students are actively engaged in performing and producing. All students will become skilled in and develop an understanding of the four components of the creative process; 1. Creating, 2. Performing, Presenting, and Producing, 3. Responding, and 4. Connecting, as outlined by the National Standards for the Arts. Instruction in the Fine and Performing Arts further develops a child's ability to communicate, think creatively, problem solve, and collaborate. Social Emotional and Twenty-First Century Skills are also inherently taught in and through all of the arts courses.

VISUAL ARTS

The Visual Arts are part of our nation's Academic Core for all students. In our Visual Arts courses, students explore a variety of mediums and methods in both 2D and 3D. Our hands-on visual arts program captures the imagination, energy, and creativity of the students, while building a variety of skills. We have four distinct goals:

- To build upon and add a layer of complexity to student's knowledge of art elements, principles, and techniques.
- To develop student's critical and creative thinking skills through the process of making art (creating the idea, problem-solving, analyzing, evaluating, etc.).
- To develop intra and interpersonal skills through both independent and cooperative learning (including the ability to challenge themselves and explore new possibilities).
- To connect our visual arts program to the arts in life outside the classroom using art and cultural history, current events, etc.

Interdisciplinary Visual Arts Program

Students at the High Rock School receive visual arts instruction throughout the year through a Visual Arts Interdisciplinary Program. The visual arts are integrated into and through the other academic subject areas. The Visual Arts Teacher co-teaches specific units and lessons in science, social studies and ELA, embedding visual art skills and concepts into other academic areas. This program greatly enriches all involved curricula areas and brings real-world elements into the schools, creating a higher level of personal connection and insight.

PERFORMING ARTS

Music and theater are part of the performing arts, which are part of our Nation's Academic Core for all students. The Theater classes offer students an opportunity for individual and group expression through dramatic presentations. The music program offers the middle school student opportunities in three distinct areas: music performance, music theory/skills, and musical self-expression. In addition to the curricular ensembles, students also have the opportunity to participate in several select co-curricular performing groups, which meet outside of the school day. Participation in these select ensembles are by audition and are fee based.

Co-Curricular Select Performing Groups

These performing groups are open to sixth, seventh, and eighth grade students by audition. All ensembles rehearse in the afternoons, outside of the regular school day. Participating students must be members in good standing in the corresponding school ensembles or receive permission from the Fine and Performing Arts Director. There is an ensemble participation fee for each of the performing ensembles if admitted. Any family with financial concerns should contact the Fine and Performing Arts Director.

After School Theatrical Productions

There are two Middle School Theatrical Productions held each year; a Musical in the Winter and a Play in the Spring. These productions are open to sixth, seventh, and eighth grade students. The cast is selected by audition. There are opportunities for interested students to participate in the many facets of a theatrical production including set building, costumes, and the technical theater crew.

HEALTH SERVICES

The Nursing Department bridges healthcare and education and provides evidence-based, episodic care to all students. School nurses build collaborative partnerships with school staff, families, and community partners to ensure that the delivery of school health services is culturally responsive, equitable, and responsive to individual student needs. School Nurses are an integral part of each school's team and help students to optimize their health so that they can fully participate in educational programming and achieve academic success. Services include: illness and injury assessment and treatment, assessment of physical and mental health conditions, health record compliance, implementation of State mandated screenings and referrals, anticipatory guidance, care coordination, development of individualized healthcare/medical 504 plans and promotion of disease prevention.

WORLD LANGUAGES

World language study in the middle schools focuses on developing students' linguistic and cultural proficiency in a modern language. Curriculum and instruction supports the development of novice range learners, consistent with the national standards for foreign language learning (ACTFL Proficiency Guidelines).

Students at each grade level will develop the four basic language skills of speaking, listening, reading, and writing. Teachers provide extensive comprehensible input in the target language, use authentic materials, integrate technology, create opportunities for purposeful play, design tasks with interactive exchanges, and use short stories to practice writing and speaking as well as reading comprehension. Teachers of world languages strive to nurture students' love of language learning, positive self-efficacy, and appreciation of diverse cultures.

At Needham High School, students are required to study at least two years of the same world language, though at three or four years is strongly recommended. We currently offer Spanish, French, Latin and Mandarin at NHS.

Spanish 6: High Rock School

Students entering High Rock School will continue their study of Spanish through 6th grade. The 6th grade experience is designed to reinforce essential knowledge and skills introduced in the elementary Spanish program and further expand students' communicative capacity and cultural competence. Thematic units of study include: question words and expressions, intro to reading a short novel in Spanish, the school day, numbers, greetings and introductions, and an intro to South America (geography and various countries' practices and products).

Pollard Middle School: Seventh Grade

Students will have the opportunity to: a) continue their study of Spanish; b) begin Spanish (select Spanish 7a); c) begin French; or d) begin Mandarin. The language selected at the start of 7th grade is a two year commitment. It is designed to serve as the foundation for the 2 years of required language study at Needham High School.

Pollard Middle School: Eighth Grade

Students entering eighth grade at Pollard Middle School will continue to study the same language studied in seventh grade. The Pollard world language experience is a two year commitment.

MATHEMATICS

The Middle School Mathematics Department aspires to equip students with the skills necessary to:

- value mathematics and recognize its importance in real-life.
- demonstrate confidence in their mathematical abilities.
- develop into enthusiastic mathematical problem solvers.
- communicate mathematically both verbally and in writing.
- reason mathematically.

The overarching goal of the Middle School Mathematics program is to provide a sequential transition between the basic arithmetic, geometric, statistical, and problem solving skills studied in the elementary grades to the advanced mathematical skills of algebra, geometry, analysis, calculus, and statistics taught at the high school. The study of pre-algebra and algebra at the middle level prepares students for a successful transition to high school mathematics.

Students begin their study of mathematics in Grade 6 in an unlevleed classroom. In this transitional year, all students review and extend the mathematical concepts introduced in Grades K-5. Students demonstrate the necessary mastery of skills and knowledge that are essential for success in the subsequent years at the middle school. Mathematics 6 begins the transition from concrete learning to the learning of abstract concepts.

Upon entering Grade 7, the middle school mathematics sequence in Needham has two paths, both aligned with the MA Common Core Standards and leading to a college preparatory

sequence at the high school. Students will enroll in Math 7 Accelerated or Math 7. Students who demonstrate beyond grade level proficiency in Mathematics 6 will enroll in Accelerated in Grade 7. Math 7 further develops the foundation of mathematical knowledge needed for success in later math courses.

It is important to build a strong foundation in mathematics at a pace that enables each student to develop mathematical understanding and ability appropriately to apply math concepts and skills. The middle school Accelerated Mathematics curriculum provides academic rigor beyond grade-level expectations. It is designed to meet the needs of the qualified student, who will study intensified, compacted content. **In order to make a collaborative recommendation for the appropriate placement for each student in the spring**, teams of middle school math teachers examine student performance in conjunction with data from several assessments that are taken by all students.

The Pollard math programming is designed to be a two-year sequence. On a case-by-case basis, there is limited opportunity for movement between levels. It is expected that students from Math 7 Accelerated will continue with Math 8 Accelerated, and students who study Math 7 will continue with Math 8. Math 7 students who have exceeded beyond grade level proficiency and Math 7 Accelerated students who have not met course expectations may be recommended for movement. Recommendations for placement start in late winter/ early spring of the previous year.

An important part of student mathematical work in the middle grades is the Massachusetts Standards of Mathematical Practice. These eight practices frame how teachers and students engage with school mathematics:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Whenever possible, the middle school teachers attempt to integrate the mathematics curriculum with other disciplines. This integration demonstrates to the students that all subjects are connected and not separate entities. In these units, students take knowledge learned in one subject and apply it to situations in other classes. The skills of analysis, synthesis, and generalization are the expected outcomes.

Calculators are an essential part of the middle school mathematics program. Students will use calculators to study certain mathematical topics where tedious computation detracts from the learning of concepts and development of problem solving strategies. Calculators will not be used for all units. Mathematical competency should not be dependent upon the use of a calculator.

MEDIA AND DIGITAL LEARNING

Media instruction and information literacy skills, which emphasize research, are integrated into project based learning experiences that occur in all content areas. The library media teacher collaborates with all teachers to integrate these skills into curriculum topics being studied. Students work in the Library/Media Center to gather, organize, evaluate, and use information from a broad range of print and electronic sources.

The library media teacher also collaborates with the language arts teachers to explore varied genres of literature with students, including fiction, non-fiction, poetry, and biography. The library media teacher supports the independent reading programs of the language arts teachers by providing tools and strategies to students to assist them in the selection of independent reading books.

Digital technology instruction is part of a K-12 sequence of skill development. Through direct and integrated instruction, students expand their knowledge and use of various technology tools. There is a continued focus on 21st century skills such as collaboration, communication, creativity, critical thinking, and independent problem solving. In grades 6 and 7, students take direct technology instruction through a required one-trimester course. In addition, all teachers, with the support of Technology Integration Specialists, engage students in the use of innovative applications and tools while promoting digital literacy and citizenship.

SCIENCE

It is increasingly important for all students to develop a firm understanding of scientific methods, content and skills. We aim to provide students with the content and skill set for viewing their world and communicating solutions as they make informed decisions about their environment, use and production of resources, and development of systems and products that will best serve the world's changing societies. Through a variety of lab investigations and experiments, case studies, inquiry opportunities, class discussions, and presentations, students will better understand the integrated nature of STEM (science, technology, engineering and math) fields.

Earth and Space, Life, and Physical Sciences, as well as Technology and Engineering principles, are continually integrated throughout sixth, seventh, and eighth grades. An emphasis is placed on relating the various principles, practices and concepts to real life and multiregional experiences. Development of effective communication (reading, writing, speaking and listening), problem solving, laboratory techniques, and study skills are important objectives of the science program. The integrated, spiraled approach of the curriculum ensures that students develop a strong science foundation, and the regularly applied Science and Engineering Practices ensure that students develop and apply the skills for approaching new challenges and decisions with a scientific mindset and framework.

Thus, in accordance with the new standards, students in *each* grade have ample opportunity to:

- Ask questions and define problems
- Develop and use models
- Plan and carry out investigations
- Analyze and interpret data
- Use mathematical and computational thinking
- Construct explanations and define solutions
- Engage in argument from evidence
- Obtain, evaluate and communicate information.

SOCIAL STUDIES

Now, more than ever, social studies is a key component of a child's education. In order to understand events in the world and to participate in a democratic society, children need to build their knowledge of public policy and the complex interactions of individuals, governments, and nations.

We aspire to equip children with a knowledge of history so that they can begin to understand the multiple reasons why events unfold as they do and that the future is a result of the past. Knowledge of governments, past and present, helps students understand how people organize themselves in different ways. Experience with the viewpoints of diverse cultures and individuals challenge students and teachers alike to examine different opinions and approaches to living. Close attention is paid to essential skills such as writing and reading in history and the social sciences, using geography to understand history and how to use these skills to conduct research. We also dedicate ourselves to providing important experiences in areas such as teamwork and public speaking as well as providing opportunities for students to discuss and analyze current events.

WELLNESS

Health, Physical Education, and Experiential Education make up the middle school portion of our K through 12 comprehensive wellness program. Although each course is taught separately, they each incorporate a multidimensional approach to understanding human health and well-being. In a unique way, each course contributes to each student's ongoing development of skills, knowledge, and attitudes needed to participate in an active, healthy lifestyle. The wellness curriculum emphasizes each student's responsibility for his or her own health and well-being based on a six-dimensional wellness model (social, emotional, physical, intellectual, spiritual, and environmental). The middle school wellness program builds upon the knowledge, skills, and behaviors learned and practiced in grades K through 5, and is valuable in preparing middle school students for their high school experience.

Pollard Middle School: Community Service Learning Project

Overview:

Students at Pollard Middle School participate in a Community Service Learning (CSL) Program. The program is implemented over the course of the seventh and eighth grade years and requires students to share their findings with their peers, faculty, and parents/guardians. The goal is to reinforce for students the importance of being active, responsible citizens who commit time and energy to “help make our world a better place.”

Goals of The CSL Project:

Research indicates that if students are involved in their learning in a hands-on way, they are likely to get more out of these learning experiences and feel that their efforts can and do make a difference. We hope that through this program students will be inspired to become involved with human and animal rights issues in our community and the larger society, both now and in the future.

Scope of The Project:

Students are exposed to service work on a local, national or international level. They consider areas of personal interest in the realm of humanitarian and social justice work, and select a specific social issue and an organization or project in which to base their community service learning. Students select community organizations in and outside of Needham as sites for their service projects. They have a wide range of choices and we encourage parents/guardians to participate in the selection process so that both the student and the parent/guardian can be informed and comfortable with the project and site selected.

The project consists of the following steps:

- Brainstorm and discuss social/societal issues of concern.
- Consider personal and academic interests related to service learning.
- Research the social issue selected for service work.
- Select an organization where a minimum of 10 hours of service is performed.
- Develop an action plan for service learning.
- Reflect on the service done, contributions made, and the learning and personal growth that occurs through the service experience.
- Share their findings with peers, staff, and parents/guardians.

Expectations of Student Involvement:

We expect that students will perform a minimum of ten (10) hours of service over their two years at Pollard. Students will begin their community service learning work midway through 7th grade and complete their work in the spring of 8th grade. Full participation in our end-of-year social activities is contingent on the participation in this CSL Program.

COURSE DESCRIPTIONS

ENGLISH LANGUAGE ARTS

In **Grade 6 English Language Arts**, students are immersed in the study of literature, composition, vocabulary, and grammar. The goal is to help students become careful readers and thoughtful, expressive writers.

At the beginning of the year, students review ‘active reading’ strategies and begin their independent reading logs. They review the rudiments of the short story while reading and analyzing classic and contemporary tales such as *The Necklace*, by Guy de Maupassant, and *Charles*, by Shirley Jackson. Over the course of the year, students read young adult novels such as *The Breadwinner*, as a whole-class and choose from a curated list of novels to read in small-group settings. Additionally, students study a variety of short and long nonfiction texts, poems, and myths. Always the emphasis is on knowledge acquisition, interpretation of meaningful passages, and careful examination of theme or main idea. Students learn how to take notes, write analytical responses, back up interpretations with textual evidence, and identify effective craft techniques. Throughout the year, students also read numerous self-selected titles as part of the school’s Independent Reading Program.

In composition, students write personal narratives, informational articles, critical and persuasive essays, book reviews, reflections and journal entries, and analytical responses to texts they have read. Students apply their knowledge of short story elements by constructing an original plot line and writing a well-developed story scene. They begin by reviewing the steps in the writing process with an emphasis on effective narrative techniques (dialogue, flashback, interesting lead, etc.), thoughtful revision of ideas and word choice, and careful proofreading/editing to ensure correct punctuation and capitalization. They learn about expository structure and organization: how to write an effective introduction, how to support a thesis statement with facts and evidence, and how to conclude with a summarizing paragraph. As part of the poetry unit, students create an anthology that includes analytical interpretations, original poems, and reflections about their growth as a poet. Throughout this exploration of language and self-expression, the emphasis is on finding one’s voice as a writer, developing ideas, and learning effective organizational strategies.

In conjunction with reading and writing activities, each week students acquire new vocabulary, practice important grammatical constructs, and learn how to speak, argue, and listen effectively.

LITERACY FOR LEARNING

This trimester course is designed to ensure that students gain an introduction to the range of reading skills needed for the complex literacy tasks they will encounter in various academic areas throughout middle school and beyond. In this engaging course, students study a topic (such as sugar) that can be examined from many perspectives through a variety of texts. Students explore a selection of real-world texts in order to see how information can be presented through different types of texts across a range of subject areas (i.e. scientific articles and journals, news stories, books and articles, poetry, etc.) The texts themselves may vary over the course of the year, depending on the needs and interests of the students. The goal of the course

is to enable students to apply the powerful literacy skills and strategies learned in this course to their academic texts in school, as well as in their lifelong reading experiences.

In this course students will:

- Build their awareness of disciplinary literacy, the idea that there are unique skills and strategies used by expert readers and writers in each subject area.
- Identify their personal reading preferences, strengths, and areas for growth.
- Talk about their reading processes with peers to uncover and strengthen how they make sense of challenging texts.
- Read a wide-range of texts while considering text structures and styles, the author or source, and the various skills and approaches a reader must use to navigate different types of challenging reading.
- Learn and apply a core set of strategies that they can use flexibly as readers depending on the text, context and purpose of their reading.

Students demonstrate their learning in various ways including collaborative conversations, self-assessment, written responses, and project-based assessments.

In **Grade 7 English Language Arts**, students study literature, composition, vocabulary, and grammar. The goal is to help students become careful, inferential readers, critical thinkers, and thoughtful, expressive writers.

At the beginning of the year, students review useful ‘active reading’ strategies and effective note taking skills while reading and analyzing a variety of challenging short stories. Building on the work begun in grade 6, students study character development in relation to plot events (the ‘emotional journey’ of the main character), point of view, setting, and theme. Over the course of the year students read a variety of texts, including a young adult novel (*The Outsiders*, by S. E. Hinton), a complex novel (*Roll of Thunder, Hear My Cry* by Mildred Taylor), poetry, nonfiction articles and books, and a number of theme-based literature circle selections. The emphasis is on understanding the influence of history and culture on characters’ behavior and on authors’ decisions as well as appreciating the multiple themes of a complex young adult novel. In discussions and written responses, students learn to support claims and opinions with examples, reasons, and textual evidence. Students explore word choice, language, and writing style, with special attention given to understanding figurative language. As students move from concrete understandings to more abstract generalizations, they are encouraged to think broadly and deeply about topical questions, the challenges of adulthood, and their own lives. They study several themes in depth, particularly *identity*, *the role of the individual in society*, and *culture as a determinant of point of view*. Throughout the year, students read numerous self-selected titles as part of the school’s Independent Reading Program.

Students in grade 7 continue to write and experiment with a variety of forms and genres. In addition to summaries and analytical responses, students learn to write short story scenes, poems, personal and persuasive essays, narratives, and informational pieces. Each student in grade 7 develops and presents a portfolio of original poems and interpretations of published poems. Building on the work begun in grade 6, students continue to learn about the elements of an essay, including a well-developed thesis statement, topic sentences, transition words, embedded

quotations, and a conclusion that extends the main idea. Increasingly, attention is paid to developing and supporting persuasive arguments, employing effective word choice, and revising and polishing final drafts.

In addition, each week students acquire new vocabulary (including Latin and Greek root words and combining forms); learn about parts of speech, sentence structure, and sentence boundaries; and practice speaking, arguing, and listening effectively. A culminating event is a declamation that is carefully practiced and delivered orally to the class.

In **Grade 8 English Language Arts**, students study literature, composition, vocabulary, and grammar. The goal is to help students become careful, inferential readers, critical thinkers, and thoughtful, expressive writers.

Building upon previous work in grades 6 and 7, at the beginning of the year students review ‘active reading’ strategies, note taking techniques and summarizing skills while reading a variety of challenging stories by Jackson, Poe, Connell, Bradbury, LeGuin, and others. The emphasis is on careful reading; identification of narrative techniques such as flashback, foreshadowing, and suspense; and understanding symbolism, mood, satire, irony, methods of characterization and theme. Students read, discuss, analyze, and write about short stories using examples and evidence from the text to support their interpretations. As a further assessment, students *apply* everything they have learned about short stories by developing their own original plot line and composing a well-developed scene.

As the year progresses, students move from shorter texts – both fiction and nonfiction – to a variety of longer texts, including complex adult novels, memoirs, plays, poetry, and nonfiction. Titles include *Fahrenheit 451* by ~~Lois Lowry~~ Ray Bradbury, “*A Midsummer Night’s Dream*,” by William Shakespeare, and *Friedrich* by Hans Peter Richter, among others. The emphasis is always on inferential thinking, identification of text structures particular to each form or genre, language and writing style, the creative choices an author makes, and a thorough evaluation of thematic content. Students learn to read deeply; that is, to reflect on themes and issues in relation to their own experiences, to generalize about larger issues that affect society as a whole, and to compare diverging points of view and the cultural and personal factors that influence an author’s – or a reader’s – perspective. Specific units of study focus on *heroic archetypes*, *moral courage*, *the role of the individual in an unjust society* and *freedom vs. independence*. With increasing sophistication, students learn to make claims about the texts they are reading and support those claims with reasons, examples and evidence rooted in the texts themselves. In the spring of grade 8, students engage in a six-week literature-based study of the Holocaust in which they examine historical roots of the Holocaust, issues of ethics and moral justice, and Holocaust-related contemporary issues such as the treatment of some cultural groups by other cultural groups. Throughout the year, students read, write about, and give oral presentations on numerous self-selected titles as part of the school’s Independent Reading Program.

Students in grade 8 increasingly take control of their own writing as they learn new forms, write longer essays and narratives, and become more sophisticated at revising and editing their pieces. In addition to autobiographical and fictitious narratives and vignettes, students write a number of expository pieces including persuasive essays, literary essays, feature articles, speeches, and

analytical responses to their reading. Learning how to write a sophisticated, well-structured essay is a primary goal in preparation for high school. Over the course of the year, students learn to plan and organize their ideas, use examples and evidence to argue effectively, and choose words and phrases precisely. Students are expected to use newly acquired vocabulary - including academic words and figurative language - in their writing and to demonstrate increasing control over the grammatical structures they have studied.

FINE AND PERFORMING ARTS

VISUAL ARTS

VISUAL ART 6

This class focuses specifically on the skills outlined in the MA State Visual Arts Frameworks and bridges the elementary and middle school art programs. Skills learned in the elementary grade are reviewed and expanded upon as students demonstrate their understanding of Visual Art structures and functions. Students will complete units incorporating the elements and principles of art, techniques in drawing, color, design, and ceramics (including observation, abstraction, and expression), craftsmanship, and the creative process. As part of this course, students complete a digital portfolio of their work. This course lasts for one trimester.

VISUAL ART 7

This is the required art class for all seventh graders regardless of chosen track. Art 7 reviews and continues to develop skills learned in Art 6 and expands upon their understanding of visual art structures and functions. Students will complete units incorporating the elements and principles of art, techniques in drawing, color, and design (including observation, abstraction, and expression), craftsmanship, the creative process (brainstorming, problem-solving, analyzing, evaluating and presenting).

VISUAL ART 8

This is the required art class for all eighth graders regardless of chosen track. Art 8 reviews and develops skills learned in the earlier grades and further expands students' understanding of visual art structures and functions. Students will complete units incorporating the elements and principles of art, techniques in drawing (including observation, abstraction, and expression), craftsmanship, and the creative process.

CERAMICS/SCULPTURE 7

This is the visual arts trimester class that seventh graders take as part of the Fine and Performing Arts Grade 7 rotation. Students in this course will explore the 3D art process with a variety of materials, such as paper mache. Both functional and sculptural projects will be produced that demonstrate understanding of craftsmanship, while maintaining a workspace responsibly. This course focuses on 3D skills outlined in the MA State Visual Arts Frameworks.

CERAMICS/SCULPTURE 8

This art class is part of the Fine and Performing Arts 8 rotation. Students in this course will continue the exploration of the 3D art processes and materials used in Ceramics/Sculpture 7. Emphasis will be on producing 3D artwork that shows understanding of craftsmanship while

maintaining a workspace responsibly. This course focuses on 3D skills outlined in the MA State Visual Arts Frameworks.

GLOBAL ARTS 8

This art class is part of the Fine and Performing Arts 8 rotation. Global Arts enable students to produce individual works in a variety of media. Students study how artists around the globe express their culture through art, and then interpret the culture's style and symbolism in their own works. In addition to reinforcing the skills of creating and producing expressive art works; this course specifically brings focus to the standards relating to artistic meaning, critical response, and connection to different cultures.

2D DESIGN 8

This art class is part of the Fine and Performing Arts 8 rotation. 2D Design 8 expands on the visual art skills developed during Art 7 with an emphasis on using color and design to develop expressive *2D Design composition skills*. Students will also use color and craftsmanship to enhance the impact of their compositions. Some of the mediums used will be paint, pastels, colored pencils and marker.

PERFORMING ARTS

CHORUS and GENERAL MUSIC 6

This course is part of the sixth grade curriculum for students to sing in a chorus and continue with general music. In this class, students will study and perform music representative of a variety of musical styles and cultures through which they learn to control their rapidly changing adolescent voice in a safe and supportive environment. Public performances are important culminating experiences for this class. In addition, chorus/general music students spend substantial class time engaged in composition, drumming, notation study, and listening analysis. Students develop and use creative and critical thinking skills and cooperative learning techniques as they study all the elements of music in addition to performance. This course focuses specifically on skills outlined in the MA State Music Frameworks.

CAMBIATA CHORUS 7

This course is appropriate for all seventh graders whose singing voice corresponds to a voice in the tenor or bass range and/or is anticipated to change into one of these voice ranges. Students in this class are able to focus on developing and fine tuning their changing adolescent singing voice in a supportive and comfortable environment. Students experience a variety of musical styles designed to give them a strong artistic choral experience, while developing healthy vocal techniques. Students also learn the important skills of ear training, sight singing, and dictation. In addition to the two major concerts each year, the chorus may also perform for functions in Needham and surrounding communities. Members of Cambiata Chorus 7 are encouraged to audition for the Middle School Select Choir. This course continues the development of skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble.

TREBLE CHORUS 7

This course is appropriate for all seventh graders whose singing voice corresponds to a voice in the soprano or alto range and is expected to sing in one of these voice ranges. Students experience a variety of musical styles designed to give chorus members a strong artistic choral experience, while developing healthy vocal techniques. Students also learn the important skills of ear training, sight singing, and dictation. In addition to the two major concerts each year, the chorus may also perform for functions in Needham and surrounding communities. Members of Treble Chorus 7 are encouraged to audition for the Middle School Select Choir. This course continues the development of skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble.

CAMBIATA CHORUS 8

This course is appropriate for all eighth graders whose singing voice corresponds to a voice in the tenor or bass range and/or is anticipated to change into one of these voice ranges. Students in this class continue to develop and fine-tune their changing adolescent singing voice in a supportive and comfortable environment. Students experience a variety of musical styles designed to give them a strong artistic choral experience, while developing healthy vocal techniques. Students also learn the important skills of ear training, sight singing, and dictation. In addition to at least one major concert each year, Cambiata Chorus 8 also spends time exploring techniques and concepts used in musical theater. Members of Cambiata Chorus 8 are encouraged to audition for Middle School Select Choir. This course continues the development of skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble.

TREBLE CHORUS 8

This course is appropriate for all eighth graders whose singing voice corresponds a voice in the soprano or alto range and is expected to sing in one of these voice ranges. Students experience a variety of musical styles designed to give them a strong artistic choral experience, while developing healthy vocal techniques. Students also learn the important skills of ear training, sight singing, and dictation. In addition to the two major concerts each year, the chorus may also perform for functions in Needham and surrounding communities. Members of Treble Chorus 8 are encouraged to audition for the Middle School Select Choir. This course continues the development of skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble.

BEGINNING BAND 6

This course is open to and designed for sixth grade students WITHOUT any prior playing experience on a brass, woodwind, or percussion instrument. Students will learn the fundamentals of their specific instruments, proper playing technique, and note reading. Students will participate in sixth grade concerts, a district-wide band performance, as well as other performance opportunities that arise. Band members are strongly encouraged to study their instrument privately, though it is not required. This course focuses specifically on skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble. At the end of this course, students will be ready to join Concert Band 7.

CONCERT BAND 6

This course is open to sixth grade students who with a minimum of one year playing experience on a brass, woodwind, or percussion instrument. Students continue to expand the fundamentals of musicianship and technical skill through the study of different styles of band literature. The concert band participates in sixth grade concerts, district-wide band performance, as well as other performance opportunities that arise. Band members are strongly encouraged to study their instrument privately, though it is not required. Band members may also audition for the Middle School Wind and Jazz Ensembles. This course focuses specifically on skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble.

CONCERT BAND 7

This course is open to seventh grade students who enter seventh grade able to play brass, woodwind, or percussion instruments at a beginning/intermediate level. A minimum of one-year experience on the instrument, or permission of the instructor, is needed to enroll. Students learn the fundamentals of musicianship and technical skill through the study of different styles of band literature. The concert band participates in a variety of school and district-wide bands performances, as well as other performance opportunities that arise. Band members may audition for the Middle School Wind and Jazz Ensembles. Interested students are strongly encouraged to study their instrument privately, though it is not required. This course continues the development of skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble.

CONCERT BAND 8

This course is open to eighth grade students who enter eighth grade able to play brass, woodwind, or percussion instruments at a beginning/intermediate level. A minimum of one-year experience on the instrument, or permission of the instructor, is needed to enroll. Students learn the fundamentals of musicianship and technical skill through the study of different styles of band literature. The concert band participates in a variety of school and district-wide bands performances, as well as other performance opportunities that arise. Band members may audition for the Middle School Wind and Jazz Ensembles. Interested students are strongly encouraged to study their instrument privately, though it is not required. This course continues the development of skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble.

STRING ENSEMBLE 6

This course is open to sixth grade students who play violin, viola, cello, or string bass with a minimum of one year's playing experience or with permission of the instructor. String Ensemble 6 performs in all Middle School string concerts as well as the annual district-wide strings performance. Sixth grade string ensemble members may audition for the Town Orchestra. Interested students are strongly encouraged to study their instrument privately, though it is not required. This course focuses specifically on skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble.

STRING ENSEMBLE 7

This course is open to seventh grade students who play violin, viola, cello, or string bass with a minimum of two year's experience on their instrument, or with permission of the instructor. String Ensemble 7 performs in all Middle School String concerts as well as the annual district-wide strings performance. Seventh grade String Ensemble members may audition for the select Town Orchestra. Interested students are strongly encouraged to study their instrument privately, though it is not required. This course continues the development of skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble.

STRING ENSEMBLE 8

This course is open to eighth grade students who play violin, viola, cello, or string bass with a minimum of two year's experience on their instrument, or with permission of the instructor. String Ensemble 8 performs in all Middle School String concerts as well as the annual district-wide strings performance. Eighth grade String Ensemble members may audition for the select Town Orchestra. Interested students are strongly encouraged to study their instrument privately, though it is not required. This course continues the development of skills outlined in the MA State Music Frameworks. Participation in public concert performances are a required component to this ensemble.

MUSIC EXPLORATIONS 7: Arts Rotation Course

This is the music trimester class that is part of the Fine and Performing Arts 7 rotation. Students who are not enrolled in a performing ensemble (band, orchestra, chorus) are enrolled in the Arts Rotation. In this class, students will explore how music interacts with and changes according to cultures, both their own and others. A variety of genres including jazz, popular, rock, and world musics are studied. Students will compose and perform music using technology and instrument. Through this, students will continue to develop their command and understanding of the fundamentals of music: rhythm, melody, harmony, and timbre. This course continues the development of skills outlined in the MA State Music Frameworks.

THEATER MUSICAL ARTS 8: Arts Rotation Course

This theater/music trimester class is part of the Fine and Performing Arts 8 rotation. Students who are not enrolled in a performing ensemble (band, orchestra, chorus) are enrolled in the Arts Rotation. In this integrated performing arts class students will expand upon and develop their musical and theatrical skills by participating in a variety of roles used in professional and amateur productions. These roles include that of actor, singer, choreographer, and director, among others. Class activities may include improvisations, re-enactments of classic theatrical/musical scenes, and development of original monologues and scenes to given prompts. Script reading, analysis, and active performance will be constants throughout this class. This course will continue the development of skills outlined in both the MA State Theater and Music Frameworks 1-5.

Co-Curricular Fee Based Select Performing Groups

MIDDLE SCHOOL SELECT CHOIR:

This performing group is composed of students selected by audition. Accepted students must be members of the sixth, seventh, or eighth grade curricular performing ensembles. Select Choir rehearses two afternoons per week at Pollard and members need to commit to attend both rehearsals to be admitted into the group with a successful audition. All Select Choir members need to commit to a minimum of two afternoons to be in the group. Some additional rehearsals may be added as the concerts approach. The Select Choir performs for professional and community organizations, and regional festivals. Interested students are strongly encouraged to consider studying voice privately, though it is not required.

JAZZ ENSEMBLE:

This performing group consists of students selected by audition from the sixth, seventh and eighth grade bands. Students study and perform multiple styles of jazz and popular music. The Jazz Ensemble performs at school events, and a variety of community and state events. Instrumentation includes saxophones, trumpets, trombones, drum set, guitar, bass, piano, and other instruments at the discretion of the director. The Jazz Ensemble meets two afternoons a week at Pollard. All accepted students must be in Concert Band preferably, or one of the other daytime performing groups, if the student is skilled and dedicated enough to manage both ensembles. Interested students are strongly encouraged to be studying their instrument privately, though it is not required.

TOWN ORCHESTRA:

This performing group consists of string players from grades six through nine who are selected by audition. Accepted students must be members of the sixth, seventh or eighth grade string ensembles, or one of the daytime performing ensembles, if the student is skilled and dedicated enough to manage both ensembles. The Town Orchestra performs in numerous school concerts, in addition to community and regional events. Town Orchestra meets one afternoon per week at Pollard. Interested students are strongly encouraged to be studying their instrument privately, though it is not required.

WIND ENSEMBLE:

This performing group consists of wind and percussion players from grades six through eight who are selected by audition. Accepted students must be members of the sixth, seventh or eighth grade concert bands, or one of the other daytime performing ensembles, if the student is skilled and dedicated enough to manage both ensembles. The Wind Ensemble rehearses one afternoon per week at Pollard and performs at a variety of concerts each year, including participation in the state concert band festival (MICCA). Interested students are strongly encouraged to be studying their instrument privately, though it is not required.

MIDDLE SCHOOL MUSICALS:

This co-curricular experience involves students from the sixth, seventh, and eighth grades in producing a classic fully staged musical production. Students with acting/singing roles on stage are selected by audition. Other students have the opportunity to join the technical theater crew,

working backstage on set, costumes, lighting, props, and more. The majority of rehearsals take place 3-5 days a week after school, with some weekend and evening dates as the performance dates get closer. The production process usually runs from early November through early February. All students grades six through eight are welcome to audition.

MIDDLE SCHOOL PLAY:

This co-curricular theater experience involves students from the sixth, seventh, and eighth grades in producing a traditional play. Students with speaking roles will be selected and cast based on auditions. Other students have the opportunity to join the technical theater crew, working backstage on set, costumes, lighting, props, and more. The majority of rehearsals take place 3-5 days a week after school, with some weekend and evening dates as the performance dates get closer. The production process usually runs from late March through early June. All students grades six through eight are welcome to audition.

WORLD LANGUAGES

Spanish 6

Students entering High Rock School will continue their study of Spanish through 6th grade. The 6th grade experience is designed to reinforce essential knowledge and skills introduced in the elementary Spanish program and further expand students' communicative capacity and cultural competence. Thematic units of study include: question words and expressions, intro to reading a short novel in Spanish, the school day, numbers, greetings and introductions, and an intro to South America (geography and various countries' practices and products).

Spanish 7a

Spanish 7a is an introductory, novice level course designed for students who have not previously studied Spanish. Like Mandarin 7 and French 7, Spanish 7a begins a two-year language commitment. Students who enroll in Spanish 7a continue to Spanish 8a. Thematic units of study include: greetings & cultural courtesies, likes & dislikes (sports, arts, extracurricular activities), weather, the calendar, family and pets, the house, food and ordering at a restaurant, and places around town. This course also introduces students to elements of Spanish culture (products, practices and perspectives).

SPANISH 7

Spanish 7 is a continuation of Spanish 6 and is conducted primarily in Spanish. In Spanish 7, students' capacity to understand and be understood continues to grow, as does their knowledge of Spanish-speaking countries. Throughout the school year teachers intentionally review previously learned content to reinforce knowledge and skills acquired in Spanish 6. Thematic units of study include: describing oneself, family and pets, friends, and one's home.

SPANISH 8

Spanish 8 is a continuation of Spanish 7 and is conducted primarily in Spanish. In Spanish 8, students broaden their use of previously learned vocabulary and continue to develop their communicative capacity in the novice range. In this course, students transition from the production (speaking and writing) of short phrases to the creation of complete sentences and

short paragraphs. Students' comprehension of conversations and short passages in the target language expands as does their capacity to ask and answer basic questions. Throughout the year, there is intentional spiraling of previously studied vocabulary and expressions to reinforce essential knowledge and skills. Thematic units of study include: community, clothes and shopping, food, and ordering at a restaurant.

Students who choose to continue with their Spanish studies at Needham High School will move on to "Spanish 2" in 9th grade and then "Spanish 3" in 10th grade.

FRENCH 7

French 7 is designed for students who wish to learn French and who have not previously studied French. Like Mandarin 7 and Spanish 7, French 7 begins a two-year language commitment. Students who enroll in French 7 continue to French 8. French 7 offers an introduction to French language and culture at the novice level. Thematic units of study include: greetings & cultural courtesies, likes & dislikes (sports, arts, extracurricular activities), weather, the calendar, family and pets, the house, food and ordering at a restaurant, and places around town. This course also introduces students to elements of French culture (products, practices and perspectives).

FRENCH 8

This course is a continuation of French 7. It is conducted primarily in French. In French 8, students broaden their use of previously learned vocabulary and continue to develop their communicative capacity in the novice range. In this course, students' capacity to ask and answer basic questions expands as does their comprehension of conversations and short passages in the target language. Students transition from the spoken and written production of short phrases in the target language to the creation of complete sentences and short paragraphs. Throughout the year, there is intentional spiraling of previously studied vocabulary and expressions to reinforce essential knowledge and skills. Thematic units of study include: community, shopping (for food and clothing), film study (les Choristes), study of literature (Fama va en Californie), descriptive language (people, places, things), and leisure activities.

Students who choose to continue with their French studies at Needham High School will move on to "French 2" in 9th grade and "French 3" in 10th grade.

MANDARIN 7

Mandarin 7 is designed for students who wish to learn Mandarin and who have not previously studied Mandarin. Like French 7 and Spanish 7, Mandarin 7 begins a two year language commitment. Students who enroll in Mandarin 7 continue to Mandarin 8.

Mandarin 7 offers an introduction to the pronunciation and intonation of Mandarin as well as the the development of novice level speaking, listening, reading and writing skills. Thematic units of study include: Greetings, numbers, the calendar, age, polite expressions, and classroom objects. This course also introduces students to elements of Chinese culture (products, practices and perspectives).

Mandarin 8 Mandarin 8 is a continuation of Mandarin 7. In Mandarin 8, students broaden their use of previously learned vocabulary and continue to develop their communicative capacity in the novice range. Throughout the year, there is intentional spiraling of previously studied vocabulary and expressions to reinforce essential knowledge and skills. Thematic units of study include: Family, animals, sports and leisure activities, physical descriptions, and food. This course also introduces students to elements of Chinese culture (products, practices and perspectives). Students who choose to continue with their Mandarin studies at Needham High School will move on to “Mandarin 2” in 9th grade and “Mandarin 3” in 10th grade.

INTRODUCTION TO CHINESE LANGUAGE & CULTURE 8 (Trimester Elective)

This trimester course is part of the Performing Arts rotation in grade 8. It is an option provided to students who do not select band, strings, or chorus. This course is designed to enable students to gain some exposure to the extensive and profound Chinese civilization. It will introduce students to various Chinese cultural forms, including fine arts, language, festivals, and cuisine, as well as give students a glimpse of both ancient and modern Chinese life. The course will include hands-on projects, arts and crafts, a taste of Chinese food, and simple conversations in Mandarin.

MATHEMATICS

MATH 6

The Massachusetts Standards for Mathematical Content frame the major mathematical work in this course. The purpose of the MATH 6 course is to insure that all students have been introduced to and have mastered the necessary prerequisite skills and essential knowledge to begin the transition to algebraic reasoning. This course will review and extend the students' mathematical knowledge and skill development. Students study the following topics: number theory, fractions, decimals, ratio and proportion, percents, geometry, integers, statistics, probability, and an introduction to variables and equations. In addition, preparation for the Grade 6 MCAS will be provided. Calculators, iPads, and units integrated across the curriculum are used, when appropriate, to meet instructional goals. At the end of the school year, after evaluating a student's performance, each child is recommended for either ***Math 7 Accelerated or Math 7.***

Math Support 6, 7, 8

High Rock and Pollard offer small group math support to general education students who would benefit from additional mathematics instruction. Math Support Class provides students an opportunity for repeated practice, pre-teaching, re-teaching and/or explicit teaching of essential math concepts and skills. This additional math course allows students to address any areas of need and gain critical support on topics students are learning in their grade level math course. Groups are small, and instruction is targeted toward the unique individual needs of the student. Students are identified for Math Support using MCAS, in-class assessment data, and teacher recommendation.

MATH 7

The Massachusetts Standards for Mathematical Content frame the major mathematical work in this course. It is aligned with the recommended pathway for grade 7 students as outlined in these mathematics standards.

The MATH 7 course is designed to develop basic arithmetic and pre-algebraic skills and concepts. Students placed in this level will apply arithmetic and pre-algebraic skills to real-world situations involving ratios, proportions and percents; understanding and application of proportional reasoning is emphasized. Variables are used in working with patterns, formulas and graphing. Integer and rational number operations are introduced. Students simplify numerical expressions and evaluate variable expressions. Geometric relationships and spatial sense are developed by drawing, measuring and classifying geometric figures; real-world applications such as scale drawings, area, surface area and volume frame the focus. Experiments and simulations help students determine probabilities, make predictions and inferences based on experimental and theoretical probabilities. In addition, preparation for the Grade 7 MCAS will be provided. Calculators, iPads, and units integrated across the curriculum are used, when appropriate, to meet instructional goals.

MATH 7 ACCELERATED

The Massachusetts Standards for Mathematical Content frame the major mathematical work of this course. It is aligned with the recommended compacted pathway for grade 7. The Math 7 Accelerated is a fast paced course incorporating all of the topics taught in the Math 7 course in addition to approximately two-thirds of the topics included in Math 8 course. Students placed in this level have extensive math background knowledge and have met strict performance-based placement criteria. This small cohort of students thrives in a highly challenging learning environment. Concepts and skills are reinforced using rational numbers. Emphasis is placed on an introduction to algebraic language, concepts and skills. The course provides experiences in logic and deductive reasoning, writing algebraic expressions and equations, solving linear equations and inequalities. Students work extensively with rational expressions, linear equations and systems of open sentences, geometry and probability. Students will derive formulas, explain the advantages of different forms of equations, and apply these algebraic skills to a variety of real world applications and mathematical problems. Problem solving, communicating mathematical ideas and technological connections are stressed throughout the course.

In addition, preparation for the Grade 7 MCAS will be provided. Calculators, iPads, and units integrated across the curriculum are used, when appropriate, to meet instructional goals.

MATH 8

The Massachusetts Standards for Mathematical Content frame the major mathematical work in this course. It is aligned with the recommended pathway for grade 8 students as outlined in these mathematics standards.

This course focuses on formulating and reasoning about expressions and equations, using functions to describe quantitative relationships, analyzing two and three dimensional space and figures and understanding and applying the Pythagorean theorem. Students use linear equations and systems of linear equations to represent, analyze and solve a variety of problems. Understanding of distance and angles, translations, rotations reflections and dilations, and ideas about congruence and similarity are used to describe and analyze two-dimensional figures and to solve problems. Students apply the Pythagorean theorem and complete their work on volume by solving problems involving cones, cylinders and spheres. Students will derive formulas, explain the advantages of different forms of equations, and apply these algebraic skills to a variety of real world applications and mathematical problems. Problem solving, communicating mathematical ideas, technological connections, and reading a textbook for understanding are stressed throughout the course.

The Standards for Mathematical Practice complement the content standards so students increasingly engage with the subject matter as they grow in mathematical maturity and expertise throughout middle school. In addition, preparation for the Grade 8 MCAS will be provided. Calculators, iPads, and units integrated across the curriculum are used, when appropriate, to meet instructional goals.

MATH 8 ACCELERATED

The Massachusetts Standards for Mathematical Content frame the major mathematical work of this course. Math 8 Accelerated is a fast-paced, rigorous course covering all of the High School level Model Algebra 1 Common Core Standards while incorporating the remaining units of the grade 8 curriculum standards not covered in Math 7 Accelerated. The small cohort of students placed in this level have extensive math background knowledge and have met strict performance-based placement criteria. They thrive in a highly challenging learning environment.

This course focuses on linear, quadratic, and exponential functions, including sequences. Students explore absolute value, step, and piecewise-defined functions while translating between representations and studying the limitations of various representations. Students extend their understanding of integer exponents to consider exponential functions. They interpret arithmetic and geometric sequences. Regression techniques will be used to describe and approximate linear relationships between quantities. Problem solving, communicating mathematical ideas and technological connections are stressed throughout the course. In addition, preparation for the Grade 8 MCAS will be provided. Calculators, iPads, and units integrated across the curriculum are used, when appropriate, to meet instructional goals.

MEDIA & TECHNOLOGY

DIGITAL TECHNOLOGY 6

In this class, using a variety of applications and platforms, students develop technology skills that they will be able to transfer to other academic areas. Students learn to access, use, and organize files and applications on multiple devices. Students will practice and apply skills in multimedia presentations, video editing, interactive games, and coding. Focusing on effective communications, they will author creative works in a variety of media, including video, animation, and podcasts. Students will build upon their knowledge of coding and will develop a simple interactive program. Students will expand their knowledge and understanding of digital citizenship and anti-cyberbullying, and will learn that what they do online can be permanent and can impact themselves and others, now and in the future.

DIGITAL TECHNOLOGY 7

In this class, students will improve their use of digital tools to collaborate, communicate, and create. Students will explore new technologies through project-based learning with an emphasis on developing independent problem solving skills and practicing concepts of design process. Internet safety and anti-cyberbullying instruction continue to be a focus of the digital citizenship curriculum in this course. Students will develop 21st century skills transferable to other applications, devices, and a variety of academic areas.

SCIENCE

The newly revised state science, technology and engineering (STE) standards, adopted in January 2016, provide guidance and flexibility during a district's development of new methods, content and skills. We have redesigned our curriculum accordingly, and are in the process of implementing the new standards with our students.

SCIENCE 6

This is a general science course focusing on topics in the physical, life, and earth sciences. It includes the study of matter and its interactions, waves and communication, force interactions and motion in our universe, cellular and body systems, fossils as evidence of past events, and aspect of engineering design.

Laboratory activities are an integral part of the course. Considerable emphasis is placed on the development of laboratory, writing, and study skills through an integrated learning approach. The Science & Engineering Practices (skills) and Crosscutting Concepts (themes) are emphasized throughout the course.

SCIENCE 7

This is a general science course focusing on topics in the physical, life, and earth sciences. It includes the study of energy and heat concepts, ecology, electromagnetism, human impacts and interactions with the environment, and Earth's changing surface. These units of study are united through an overarching theme of systems and cycles.

Concepts are reinforced by multiple teaching strategies including teacher led instruction, hands-on activities, inquiry and student presentations. Considerable emphasis is placed on the development of problem solving, and science thinking skills, as well as student decision making based on specified and diverse current event case studies. The Science & Engineering Practices (skills) and Crosscutting Concepts (themes) are emphasized throughout the course, and students are often asked to consider the role that humans play in shaping and being impacted by their environment.

SCIENCE 8

This course is an integrated program relating the important physical science, earth science, and engineering and technology concepts of our world. The principles of forces, motion, density, forms of energy, and chemistry are studied and related to concepts that describe the features and processes of the earth and its resources. The principles and processes of technology and engineering are also woven into the above scientific concepts. Teacher led instruction, hands-on activities, and inquiry based learning are an integral part of the course. Emphasis is placed on the development of communication, reading, writing, problem solving, inquiry, and laboratory skills. The Science & Engineering Practices (skills) and Crosscutting Concepts (themes) are emphasized throughout the course.

ENGINEERING DESIGN 7 & 8

The course is a hands-on course that applies engineering and technology principles to practical engineering and technology problems. The investigated technologies are in the fields of manufacturing, construction, transportation, communication, and environmental engineering. The course integrates science, engineering, and technology concepts and relates them to improving the environment and people's lives. Problem solving and critical thinking skills provide students with opportunities to simulate real-world applications of science and math. Classroom studies take place in a shop and laboratory environment where practical safety procedures are emphasized during the learning.

In **grade 7**, students apply the Engineering Design Process as they develop products, design systems, and reflect on the interactions of products and systems.

In **grade 8**, students look at materials and manufacturing. Within this framework, they develop an understanding of how we can sustainably support the wants and needs of a growing and evolving population.

Engineering Elective in Urban Planning (Pollard) Today, about 55% of Earth's population live in urban areas, and that number is expected to grow markedly in the coming decades. This course allows students to apply principles of engineering & technology, while understanding the considerations of urban planning and development. We will look at real and imagined case studies to learn about development and design of urban areas, as well as the modes of transportation, communication and material distributions that allow urban areas to thrive. Then, students will examine and create solutions that ensure an optimal quality of life for occupants of Earth's growing urban regions.

SOCIAL STUDIES

SOCIAL STUDIES 6

Grade 6 Social Studies introduces students to the cultural achievements of ancient and classical civilizations worldwide. The course begins with a study of archaeology and traces human development from prehistoric times through the ancient time period in the Near East, Eastern Africa, and Southern Europe. Students learn about civilizations in each region including Sumer, Babylonia, Assyria, Phoenicia, Israel, and Palestine in the Near East; Egypt and Nubia in Eastern Africa; and Greece and Rome in Southern Europe. The regional approach provides students with the opportunity to extend their knowledge of the physical world and expand their capacity for geographic reasoning.

Developing students' critical thinking skills around how we study history using primary and secondary sources to understand the past is a key component of the course. Special attention is paid to exposing students to a wide variety of sources, especially traditionally underrepresented voices, as students learn about each region. Additionally, through a variety of research projects, the course strengthens students' ability to develop research questions and conduct historical inquiries.

SOCIAL STUDIES 7

Grade 7 Social Studies builds on the foundation set by Grade 6 Social Studies. Similar emphasis is placed on introducing students to the cultural achievements of ancient and classical civilizations worldwide. The course is also organized by geographic region as students continue to extend their knowledge of physical geography and expand their capacity for geographical reasoning. The regional approach challenges students to understand the movement of peoples and ideas across time and place. Students learn about the ancient history, indigenous peoples and cultural traditions of Australia and Oceania, South Asia, East Asia, the Middle East, and Central America, the Caribbean Islands, and South America.

This course broadens students' understanding and appreciation of diverse and indigenous people around the world while empowering students to be critical thinkers. It helps students to recognize the universal human conditions while providing opportunities to learn about the unique contributions of each region to world history. Special attention is paid to exposing students to a wide variety of sources, especially traditionally underrepresented voices, as students learn about each region.

Fostering students' religious literacy skills is a major component of the course. Students learn about the origins of various belief systems, and make connections between geography, theology, and culture. Additionally, through a variety of research projects, the course strengthens students' ability to develop research questions and conduct historical inquiries.

SOCIAL STUDIES 8

Grade 8 Social Studies focuses on civics and early American history. The course introduces students to key ideas contained within the Declaration of Independence and the Constitution, their history, and their impact today. By focusing on the time period before, during, and after the

American Revolution, students gain knowledge about how our government developed and its contemporary legacy.

The course provides opportunities for students to practice skills needed as citizens, such as how to express their ideas and respectfully participate in conversations with those of differing opinions. Special attention is paid to exposing students to a wide variety of sources, especially traditionally underrepresented voices, as they learn about American history. Other important civics concepts include how to get involved with one's community or government and the rights and responsibilities of citizenship.

Developing students' critical thinking and media literacy skills are major components of the course. The course challenges students to use evidence to develop persuasive arguments orally and in writing. Conducting inquiries through a variety of short and long-term research assignments helps students solidify skills taught in prior years and prepare for subsequent courses.

WELLNESS

The Middle School wellness program is designed to influence healthy behaviors and provide students with the knowledge and skills necessary to make lifestyle decisions that will promote optimal health and well being throughout their entire lives. The program is comprised of Health Education, Physical Education, and Experiential Education. The curriculum in each of these disciplines emphasizes students' responsibility for their own health and well being and fosters the development of skills and knowledge that will help them to nurture and care for themselves in the social, emotional, physical, and intellectual areas of their lives.

Notice to Parents about sex and sexuality education in grades 6, 7, and 8.

A unit focusing on sex and sexuality education is included in the **grade 6** and in the **grade 8** health education programs as part of our comprehensive sexuality education program. Detailed information about the content of these courses can be viewed on the Needham Public Schools website:

http://www.needham.k12.ma.us/departments/curriculum_and_academics/wellness/sexuality

In 7th grade, there will be **no formal sex education presented**. Issues of sexuality related themes will be included, however within other health units. There is mention of how the use of alcohol can influence your decisions around sexual behavior, and how peers can pressure you to do things you really don't want to do. The issue of sexual harassment will be discussed during a presentation by Needham Youth Services. HIV/AIDS is discussed briefly within the context of a unit on diseases.

Parent Engagement: We believe that parents/guardians are their children's primary educators and that each family has its own values and beliefs about sex and sexuality. The units with sexuality related topics/themes are designed to include homework assignments that promote

discussion between students and a parent/guardian or other trusted adult about topics that are being covered in class.

Parent Notification: Parents/guardians will receive a letter in the fall from the Superintendent's Office that will inform them that topics related to sex and sexuality will be included in their sons/daughters 6th grade and 8th grade health classes. Prior to the start of these curriculum units, an additional communication will be sent home by the school. Detailed information about our curriculum can be viewed online at http://www.needham.k12.ma.us/departments/curriculum_and_academics/wellness/sexuality

Under Massachusetts law, parents/guardians have the right to decide whether their child will participate in any single lesson or unit that includes information about human sexuality. If you want your child to be exempted from any lesson(s) that contain information about human sexuality, a note or letter to the building principal requesting that your child not participate in the sexuality portion of the health education curriculum is all that is needed. An appropriate alternative activity will be provided for students whose parent(s)/guardian(s) chooses to have them not participate.

GRADE 6

In Grade 6, health education and physical education are combined to make up our wellness program. Students are assigned to a wellness class and spend part of that time in physical activity and part of that time in the classroom devoted to the study of health education. Both disciplines contribute to each student's ongoing development of the skills, knowledge, and attitudes needed to participate in an active healthy lifestyle.

PHYSICAL EDUCATION 6

The physical education portion of this experience provides a natural opportunity for students from five different elementary schools to develop physical skills, get to know one another, make friends, and develop lasting relationships. Physical education provides students with an opportunity to interact with one another through their physical involvement in games, sports, dance, and other movement activities. A special emphasis is placed on improving physical fitness and creating positive social experiences. In sixth grade physical education classes, teachers modify traditional games to increase students' opportunities to apply skills learned in elementary school, practice new skills, and develop a better understanding of movement concepts and game strategies. In addition, students learn fitness concepts and begin to understand how goal setting can help to improve personal fitness. Specific units for students in the sixth grade physical education classes include activities such as basic sports skill practice, basketball, creative games, fitness, invasion games, self-exploration, team handball, and volleyball. Students are expected to change into appropriate clothing for physical activity. This includes loose fitting shorts or sweatpants, T-shirts or sweatshirts, socks and sneakers.

HEALTH EDUCATION 6

The health education portion of this experience begins with an introduction to our wellness model and includes activities that help students make new friends and understand the qualities of healthy friendships. Conversely, students are taught how to identify characteristics of harmful friendships and resolve conflicts in their relationships. Students also study diet, food marketing,

and nutrition fads as they relate to issues of healthy and unhealthy eating behaviors. They learn practical skills, such as how to choose healthy snacks and how to read food labels. They compare food products to learn how to make the best choice out of three different brands of the same food (e.g., name brand, store brand, organic brand).

A unit called Healthy Relationships is taught within health education and contains issues of sex and sexuality. This unit defines sex, sexuality and intimacy and teaches communication and decision-making skills to help support the healthy relationships and the new social expectations these students will encounter in middle school and beyond. Students will be given a homework assignment that promotes communication with a parent/guardian or other trusted adult about the topics and experiences covered in this unit. The specifics of this unit can be viewed on the Needham Public Schools website: http://www.needham.k12.ma.us/departments/curriculum_and_academics/wellness/sexuality

PHYSICAL EDUCATION 7

The seventh grade physical education program recognizes the uniqueness of the middle school child and is designed to support students' healthy social development by emphasizing the qualities of cooperation, competition, and good sportsmanship. Through their active participation in games, sports, adventure activities, fitness, and dance, students develop physical

skills and improve their individual fitness levels. Specific units for students in the seventh grade include basketball, circuit training, creative games, invasion games, paddle tennis, survivor challenge, team handball, volleyball, and weight training.

HEALTH EDUCATION 7

In seventh grade health classes, students are expected to be more reflective by exploring how their behaviors, and the behaviors of others, influence health and well-being. Students revisit the wellness hexagon, identify areas where their habits contribute positively to their overall well-being and target a few behavior changes for improvement (physically, socially, emotionally, spiritually, and intellectually). They explore the website *MyPlate.gov* to learn about the five major food groups and how to incorporate them in to their meal planning. They learn to read food labels and carefully analyze some of their favorite foods. Students study the causes, signs and symptoms of communicable diseases and non-communicable diseases with a focus on strategies for keeping the immune system healthy. They examine the spread of communicable diseases including direct contact (sexual contact, close touching, etc.), indirect contact (airborne, foodborne, waterborne, animal/vector – e.g. rabies transmitted by an animal bite or malaria transmitted by a mosquito bite) and explore prevention strategies. Students learn ways to prevent and manage non-communicable diseases with emphasis on prevention. For example, they learn how to check their skin for melanoma and are given a homework assignment that requires them to teach a parent/guardian to do this life-saving skin check. Students study the physical, social, emotional and spiritual consequences of substance use (tobacco, electronic cigarettes (vaping), hookah, marijuana, and alcohol). They learn about the effects of smoking on the different systems of the body and the connection between tobacco and cancer. Students learn about the consequences of addiction and the dangers of other forms of smoking (electronic cigarettes, hookahs, marijuana). Students learn about the short and long-term effects of marijuana and discuss social and emotional consequences. They use a decision-making model

and refusal skills to practice getting out of a situation in which they are being pressured to use marijuana. Students learn about the dangers of using alcohol at an early age, calculate blood alcohol levels for different types of alcoholic drinks (beer, wine, hard liquor) and study the short and long-term effects of using alcohol (including the effects on the teenage brain). Students research current events to find a real-life consequence of binge drinking or heavy drinking. They share their article with the class and are asked to take the article home to discuss with a parent/guardian. Students also study mental health illnesses such as anxiety, depression and suicide prevention. They are taught how to recognize warning signs of a mental illness, ask for help, or respond as a bystander (S.O.S. training – Acknowledge, Care, Tell (ACT)). A unit called “risky behaviors” has been established to deal with current student issues, which fall into the categories of peer pressure, friendship/gossip, and social media safety. Although the skills taught in this unit remain consistent, the specific examples used within these units are fluid and designed to respond directly to current health and social issues within the Pollard community.

PHYSICAL EDUCATION 8

The eighth grade physical education program recognizes the unique role that eighth grade students play as leaders in the middle school community. Through the use of games, sports, adventure activities, fitness, and dance, students are encouraged to be active, improve their fitness levels, and model good sportsmanship. Health fitness assessments are conducted to help students assess their own cardiovascular health, abdominal strength and endurance, upper body strength and flexibility. Students are given the results of their individual tests and are encouraged to develop exercise practices that will help them to improve their scores. Specific units for students in the eighth grade include basketball, circuit training, creative games, invasion games, paddle tennis, survivor challenge, team handball, volleyball and weight training.

HEALTH EDUCATION 8

In eighth grade health classes students examine the causes and potential influence of body image, and eating disorders. Students explore gender stereotypes to see how culture can influence our feelings about our bodies and the bodies of others. They are encouraged to identify the positive qualities and characteristics of themselves in an effort to improve self-esteem. Students also explore mental health to better understand anxiety and depression. Students learn that it is just as important to seek help for a mental health concern as it is for a physical health concern. Students will continue to study the effects of alcohol and marijuana as well as other drugs (e.g. cocaine, heroin, prescription drugs) as a progression to the substance abuse prevention units. They study the vocabulary of important drug terms (illicit drug, prescription drug, over the counter drug, synthetic drug, ingestion, inhalation, absorption, etc.). Students gain an understanding of how drugs affect the teenage brain and how repeat use can cause addiction. They explore marijuana, cocaine, heroin, (what does it look like, what type of drug is it, how is it used, how does it affect the body, and practice ways to say no to drugs (refusal skills). Members of the Students Advocating Life without Substance Abuse (SALSA) group at the high school speak to the advantages of living substance free and reiterate and practice the use of refusal skills. Lesbian, Gay, Bisexual, Transgender, and Questioning (LGBTQ) Identities as well as other terms relevant to sexuality are reviewed at the start of the sexuality education unit. Students learn the structure and function of the male and female reproductive systems and examine the advantages (physically, socially, emotionally) of delaying sexual activity. Students examine the characteristics of healthy and unhealthy relationships. They learn about the pressures involved in being in a relationship and focus on skills to deal with the pressures that some may feel to make

choices in order to please another person (this will include the pressure to participate in sexual behaviors). Students will discuss personal boundaries, practice assertive communication skills, and practice strategies for making good decisions that reflect their values and goals. They will also learn skills for resolving conflict in their relationships. Needham Youth Services will present a workshop about sex in the media called “Picture Perfect”.

EXPERIENTIAL EDUCATION 7

This course uses the Needham Public Schools social and emotional learning standards as guidelines for student outcomes. In this course, the teacher purposefully engages students in a variety of indoor and outdoor challenge activities to facilitate a process of participation, reflection, and growth. Participation in these activities provides an opportunity for students to practice skills for decision-making, communication, cooperation, conflict resolution, problem solving and developing a healthy relationship with self and others. Students will be given problems to solve that will require them to practice these skills and then participate in a process of reflection and discussions to encourage them to think about ways to apply these skills to their daily lives now, and in the future. At the core of this program, is the student’s need for a safe, risk-taking environment, which fosters appreciation of others and promotes individual contribution, commitment, and follow-through. Specific activities stress creating community, developing healthy interpersonal relationships, group problem solving, and building trust and empathy.

EXPERIENTIAL EDUCATION 8

This course uses the Needham Public Schools social and emotional learning standards as guidelines for student outcomes. The eighth grade experiential education course was developed, specifically, to address the high levels of stress students have reported in the MetroWest Adolescent Health Survey (MWAHS). Survey data suggests that stress has become a significant health factor in the lives of adolescents in Needham and beyond. According to the 2016 MWAHS, 38% of Needham High School students report life being “very stressful in the past 30 days.” Data shows that students report that stress steadily increases as they progress through high school (19.8% in the 9th grade - rising to 61.9% in 12th grade). Pollard Middle School students are also reporting that school issues, social issues, appearance issues, and family issues represent four areas of significant stress in their daily lives. Given that students will encounter life situations that are stressful, and that these encounters will become more frequent as they grow older, this course will teach eighth grade students a variety of different skills and strategies that they can use to help them cope with stress. This course will also teach strategies to recognize the difference between healthy stress and unhealthy stress and help students discover ways to monitor their own capacity for stress.