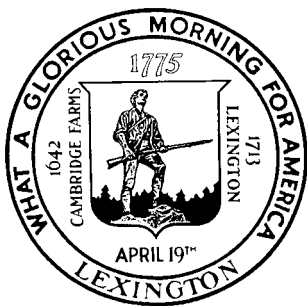# Middle School
Benchmarks

Jonas Clarke Middle School
William Diamond Middle School

Lexington Public Schools

Lexington, Massachusetts

Lexington Public Schools

Lexington, Massachusetts

Middle School Administration

Jonas Clarke Middle School
Stedman Road, Lexington, MA 02421
(781) 861-2450
  Pamela Houlares, *Principal*
  David Daviau, *Assistant Principal*
  Stephen Ralston, *Assistant Principal*

William Diamond Middle School
99 Hancock Street, Lexington, MA 02420
(781) 861-2460
  Joanne Hennessy, *Principal*
  Barbara Haughey, *Assistant Principal*
  Shane Wilson, *Assistant Principal*

Central Administration

Joanne Benton
Superintendent of Schools

Carol Pilarski
Assistant to the Superintendent

Richard Grandmont
Director of Elementary Education

Susan Bottan
Director of Business and Finance

Denise Rochlin
Director of Special Education

Maura Johnson
Supervisor of Student Services for Middle School

Kelly McCausland
Director of Human Resources

Dana Ham
Interim Director of Facilities, Grounds and Support Services

Elaine Sterzin
Director of Grants and Development

School Committee Members

Anthony Close, Chair
Scott Burson
Helen Cohen
Sherry Gordon
Thomas V. Griffiths

Policy of Non-Discrimination

It is the policy of the Lexington Public Schools not to discriminate on the basis of race, gender, color, religion, sexual orientation, national origin, age, or disability in its educational programs, services, activities, or employment practices. Inquiries regarding the application of the Lexington Public Schools' non-discrimination policy may be referred to the Director of Human Resources at 1557 Massachusetts Avenue, Lexington, MA 02420.

Middle School Benchmarks
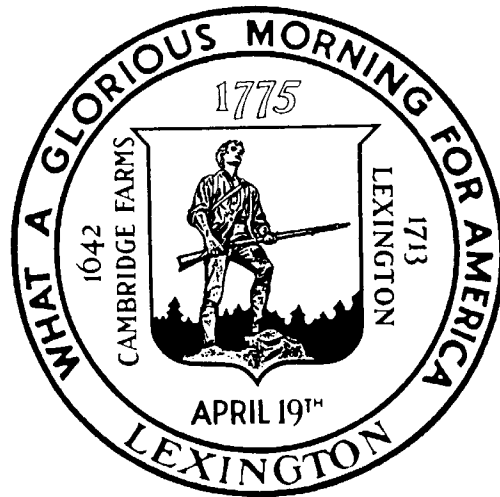
Jonas Clarke Middle School
William Diamond Middle School

Lexington Public Schools – Lexington, Massachusetts

August 2003

# Dear Members of the Lexington Middle School Community,

I n an effort to raise the achievement level of all students, the Education Reform Act of 1993, enacted by the Commonwealth of Massachusetts, called for the establishment of statewide learning standards for all students, educators, schools, and districts in ALL academic subjects. As a result of this legislation, the Massachusetts Curriculum Frameworks were developed by statewide teams consisting of teachers, parents, and program specialists. The Curriculum Frameworks have, in effect, become the blueprint for content standards and serve as the foundation for the development of more specific curriculum. They can be viewed in their entirety on line at <www.doe.mass.edu>.

The Lexington Public Schools, along with all other districts in the Commonwealth, have been hard at work aligning our own curriculum standards with those outlined by the state. This handbook represents the evolution of that work and focuses specifically on the academic program in our Middle Schools.

During the 2002-2003 school year, Lexington Public Schools' curriculum leaders met regularly to develop learning benchmarks for all students in each of the Middle School subject areas. This document, the *Middle School Benchmarks* handbook, represents a collective effort on the part of district program leaders and Middle School educators to portray, in a consistent and clear format, the standards and their accompanying benchmarks. What are benchmarks? Simply stated, benchmarks are learning objectives that help to clarify content standards. They serve as indicators of student performance along various developmental levels. You will notice that for purposes of this document, the benchmarks have been organized by grade level(s). Benchmarks identify thresholds that are achieved by most students and may be surpassed by others. As is true of all curricula, benchmarks, too, are ever-evolving. They are reviewed and revised on a regular basis.

In creating a rich and valuable learning experience for all students, it is important to maintain a unified view of curriculum. The benchmarks comprise a single piece of that bigger picture. We cannot and should not minimize the significance of our collective responsibility in educating the 'whole' student, on the path to becoming a lifelong learner.

The philosophy underlying the work of the Curriculum Frameworks is equally important to note here. In November of 1992, the Board of Education stated that the mission of public
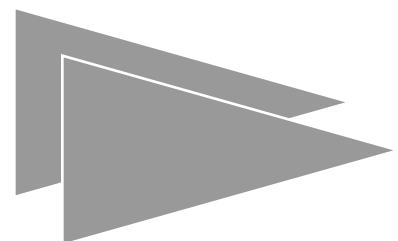
education in Massachusetts is to "provide each and every child with the values, knowledge and skills needed to achieve full potential in his or her personal and work life and to contribute actively to the civic and economic life of our diverse and changing democratic society."

The Lexington Pubic Schools subscribes wholeheartedly to this mission statement and believes that all children can become lifelong learners and meet high standards. This guiding principle is the basis for establishing high expectations for teaching and learning within our district.

As stated by the Massachusetts Board of Education, the following are the principles and beliefs that should form the Basis of the Common Core of Learning if students are to succeed in the 21st century and meet the future's challenge:

- *They must recognize the importance of education as a lifelong effort.*

- *They will need to communicate effectively with others through reading, writing, speaking, computing, the arts and technology.*

- *They will need to respect and understand people of different backgrounds in our diverse society.*

- *They will need to understand environmental and other issues with worldwide implications.*

- *They will need to make informed decisions for themselves, their families, their communities, and our country.*

- *They will need to contribute to our society.*

- *They will need to take responsibility for their own behavior.*

With this overarching mission in mind, I invite you to review this *Middle School Benchmarks* handbook. For specific Middle School course descriptions, please refer to the *Middle School Program of Studies* available at each of our Middle Schools. For further information on each of the particular academic programs, you may contact the appropriate Middle School Department Chairperson listed on the following page.

Sincerely,

Carol A. Pilarski

Carol A. Pilarski
Assistant to the Superintendent
Lexington Public Schools

Should you be in need of further information, please contact the appropriate individual listed below:

Jonas Clarke Middle School
781-861-2450

Principal
Pamela Houlares

Assistant Principals
David Daviau
Stephen Ralston

English Language Arts
Richard Gilman, Department Chair

Foreign Language
Maureen Bennani, Department Chair

Library and Information Technology
Arden Veley, Library Media Specialist

Mathematics
Loretta McCormack, Department Chair

Science
Richard Thibeault, Department Chair

Social Studies
Beverly Dougherty, Department Chair

William Diamond Middle School
781-861-2460

Principal
Joanne Hennessy

Assistant Principals
Barbara Haughey
Shane Wilson

English Language Arts
Barbara Beckett, Department Chair

Foreign Language
Cheryl Kolodziej, Department Chair

Library and Information Technology
Harriet Wallen, Library Media Specialist

Mathematics
Evagrio Mosca, Department Chair

Science
Laura Krich, Department Chair

Social Studies
Herbert Gowen, Department Chair

Fine and Performing Arts
Walter Pavasaris, Coordinator K-12
781-861-2320, ext. 2175

Health Education
Jennifer Wolfrum, Coordinator K-12
781-861-2320, ext. 2180

Instructional Technology
Shelley Chamberlain, Coordinator K-12
781-861-2320, ext. 2174

Physical Education
Anthony Porter, Coordinator K-12
781-861-2320, ext. 1022

The Lexington Public Schools gratefully acknowledges the expertise and efforts of the following individuals for their work in the development of this handbook:

Assistant to the Superintendent
Carol A. Pilarski

Clarke Middle School Principal
Pamela Houlares

Diamond Middle School Principal
Joanne Hennessy

English/Language Arts
Scott Webber, Lexington High School, former Department Head
Barbara Beckett, Diamond Middle School, Department Chair
Richard Gilman, Clarke Middle School, Department Chair

Fine and Performing Arts
Walter Pavasaris, Coordinator K-12

Foreign Languages
Mary Alice Samii, Coordinator 3-12
Maureen Bennani, Clarke Middle School, Department Chair
Cheryl Kolodziej, Diamond Middle School, Department Chair

Health Education
Jennifer Wolfrum, Coordinator K-12

Instructional Technology
Shelley Chamberlain, Coordinator K-12
Susan Collins, Technology Integration Specialist

Library and Informational Technology
`   Susan Lum, Lexington High School, Lead Librarian

Mathematics
Gary Simon, Lexington High School, Department Head
Loretta McCormack, Clarke Middle School, Department Chair
Evagrio Mosca, Diamond Middle, Department Chair

Physical Education
Anthony Porter, Coordinator K-12

Science
Margaret Bradley, Lexington High School, Interim Department Head, retired
Nancy Hsu, Clarke Middle School, former Department Chair
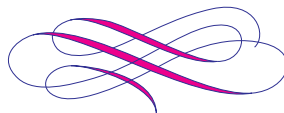Laura Krich, Diamond Middle School, Department Chair

Social Studies
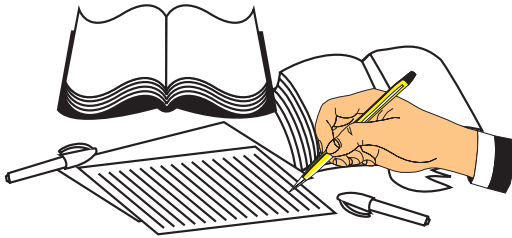John Papadonis, Lexington High School, Department Head
Beverly Dougherty, Clarke Middle School, Department Chair
Herbert Gowen, Diamond Middle School, Department Chair

Table of Contents

Middle School
English Language Arts Program

Overview

The purpose of the English Language Arts curriculum is to provide students with daily or regular practice in developing skills and strategies in reading, writing, speaking and listening. The program focuses on the connection between reading, writing and thinking.

The curriculum is organized thematically around compelling literature. Teachers make conscious efforts to integrate literary selections with the themes and issues studied in social studies. Students experience the full range of literary genres: fiction, non-fiction, poetry and drama. Vocabulary is integrated within the study of literature. Teachers select books, materials and methodologies to meet students' learning needs.

The English Language Arts curriculum engages students in both imaginative and expository writing, with an increasing emphasis on expository writing in grades seven and eight. The writing process—pre-writing, drafting, revising, editing, publishing—guides the writing curriculum. Writing tasks, which are student selected and drawn from personal experience, comprise a part of each week's work.

Grade six students review and extend skills and strategies, such as organizing and using examples, developed in elementary school. Grade seven students begin to make the transition from skill and strategy acquisition to practice and application. In grade eight this application finds focus in doing research and in writing thoughtful, reflective logically developed sentences and paragraphs for stories, poems and essays. In grade seven students work on developing paragraphs according to particular formats—like

Continued

cause/effect, sequence and examples—and employing them in compositions intended for a specific purpose. In grade eight, composition work, concentrating on character descriptions, the use of comparison and contrast, the documentation of sources and the making of judgments based on textual evidence, reflects and nurtures students' emerging power of abstract reasoning.

Oral expression and listening skills are developed through class discussions, classroom presentations, interactive writing groups and/or drama activities so that students have an opportunity to develop all of the requisite language skills, achieving increased precision, economy and sophistication in both speech and written composition.

All of these skills, strategies and processes reflect our commitment to helping the children of Lexington to be effective readers, sound thinkers, and articulate communicators of their thoughts, feelings, and concerns. These goals and methodologies, compatible with those of the Massachusetts State Framework in English Language Arts, represent best practices and are consistent with those of our program in our elementary schools as well as with those in our high school.

Thematic Units in Grade Six

- multicultural issues
- developing a sense of fairness
- building bridges
- personal growth and self reflection
- friendship
- coping with injustice

Thematic Units in Grade Seven

- survival
- anti-racism
- prejudice
- intergenerational issues
- the emerging adolescent

Thematic Units in Grade Eight

- moral or ethical dilemma
- family issues
- gender issues
- war and peace
- multicultural issues
- coming of age
- disabilities and handicaps

Language

Speaking and Listening

Classroom Discussions

Students will be able to:

- employ formal rules of discussion which include turn taking, responding to the previous speaker, and asking for clarification

- gather relevant information for a research project or composition through interview techniques.

Oral presentations

Students will be able to:

- present oral reports to their class/team about the non-fiction work of selected authors

- make oral presentations based on fables, myths, short stories, plays and novels

- present similar content to various audiences for different purposes

- demonstrate their understanding of informal and formal language through role playing

Grammar, Usage and Mechanics

Students will be able to:

- review the identification and use of parts of speech

- demonstrate words performing different functions according to their positions in sentences

- identify the subject and predicate of a sentence

- identify verb phrases and verb tenses

- write sentences in which verbs agree in number with their subjects

- weave multiple sentences of simple structure into a kernel sentence with correctly embedded modifiers without creating a run-on sentence

- capitalize and punctuate properly

Reading/Literature

Reading

Students will be able to:

- use word recognition and context clues to read fluently

- use knowledge of punctuation to assist in comprehension

- use table of contents and indexes to locate information

- use text features such as headings, captions, and titles, to understand and interpret informational text

- recognize organizational patterns such as cause/effect and chronological order including their signal words

- distinguish between fact and opinion

- separate relevant and non-relevant information and details

- recognize author's purpose

- identify main ideas, make inferences, and draw conclusions from a variety of reading materials, both fiction and non fiction

- connect experience, prior reading , knowledge, and observations in response to a text

- self-select appropriately interesting, diverse, and challenging books for independent reading

- use appropriate comprehension strategies before, during and after reading, in order to understand text

- locate and use school and public library resources, with some direction, to acquire information

- adjust reading rate according to purpose for reading

Reading/Literature

Literature

Students will be able to:

- identify and define the characteristics of various genres (fiction, non-fiction, poetry and drama)

- identify and explain elements of setting, plot, character, conflict and theme

- retell the events of a story in light of the story's main idea or theme

- apply the knowledge to which the concept theme refers to the main idea and meaning of a selection, whether it is stated or implied

- analyze and evaluate similar themes across a variety of selections, distinguishing theme from topic

- respond to and analyze the effects of sound in poetry (alliteration, assonance, consonance, onomatopoeia and rhyme scheme)

- identify and analyze sensory details and figurative language

- identify and analyze author's use of dialogue and description

- compare traditional literature from different cultures

- identify and analyze structural elements particular to dramatic literature in the plays they read, view, write, and perform

- identify and analyze the similarities and differences between a narrative text and its film or play version

- develop characters through the use of basic acting skills.

Research Skills

Students will be able to:

- generate questions related to their topics and create a plan for their study

- produce a product in answer to one of their self-generated questions

- organize their reports according to a teacher-department-created format

Writing/Composition

Writing Process

Students will be able to:

- use the steps in the writing process (prewriting, drafting, revising editing, and publishing)

- consider audience and purpose when writing

- use the appropriate genre to achieve a rhetorical purpose (persuasive, informational, or expressive)

- develop and organize compositions with a clear focus and supporting ideas

- revise writing to improve organization and diction

- order ideas and use vocabulary with precision

- edit writing using their understanding of grammar, usage, and spelling

- evaluate writing using prescribed criteria

Writing Products

Students will be able to:

- compose descriptive, persuasive, expository, and narrative paragraphs

- compose a friendly letter, review, or a news story

- compose research reports or informational presentations using graphic organizers

- keep a journal

- write a persuasive essay on any subject

- write a personal essay or narrative using details

- write a folk tale, tall tale, poem or story

- write paragraphs utilizing a variety of methods (e.g., chronological, cause and effect, definition)

- develop multi-paragraph responses to open-ended questions

Media

Evaluating and Citing Sources

Students will be able to:

- search for and collect data from print and electronic media for research, using resources that are both traditional and computerized

- demonstrate their ability to navigate through electronic data sites, and store data on a computer disc, hard drive, or school server

- explain what constitutes plagiarism from both print and electronic sources, and be aware of its academic consequences

- distinguish factual and reliable sources from embellished, unreliable or misleading sources

Creating Media Presentations

Students will be able to:

- evaluate the appropriate use of different presentations of literature through such means as dramatic presentations, music, sound effects, and/or the use of graphics

- create media presentations using effective images, sound effects, text, music and graphics

- use media to demonstrate their understanding of a particular text
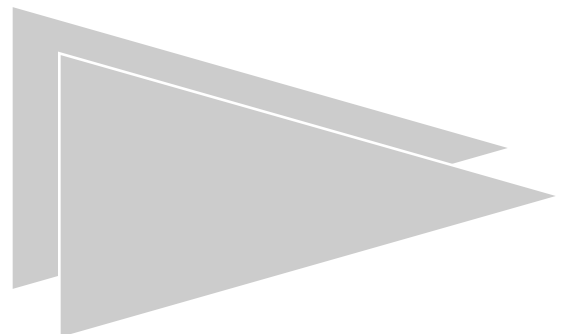
Language

Speaking and Listening

Students will be able to:
- employ agreed-upon rules and individual roles in a variety of discussion formats
- summarize a speaker's main point before responding to it
- use interview techniques to gather research for a project or composition
- adapt a content presentation for various purposes and audiences, showing appropriate changes in gesture, vocabulary, pace and support materials
- use such techniques as memorization, sensory recall, concentration, diction, body alignment and expressive gesture to develop characters, describing the artistic choices made in their development
- participate in a discussion or debate, give an oral report, recite from memory, and act in a content-related skit
- identify and effectively use words related as synonyms, homographs and words related through etymology through the use of a dictionary or related reference
- distinguish between denotative and connotative language
- distinguish between literal and figurative language
- define and explain dialects in their own speech and language
- relate the use of dialect to characterization
- identify examples of dialect in their own reading

Grammar, Usage and Mechanics

Students will be able to:
- identify all parts of speech
- identify phrases and clauses
- identify types of sentences (simple, compound, and complex)
- use complete sentences, avoiding sentence fragments, run-on sentences, and comma splices
- recognize subject/verb agreement
- use correct pronoun reference
- capitalize proper nouns and adjectives, first words and titles
- use quotation marks correctly
- use standard English spelling
- use modifiers in the proper place
- use the comma correctly with phrases, clauses, appositives, and parentheticals
- use the apostrophe, colon, hyphen, dash, semicolon and ellipsis correctly
- use parentheses to clarify or add additional information

Reading/Literature

Reading

Students will be able to:

- demonstrate fluency in reading

- before reading, examine and identify appropriate texts for a specific purpose (e.g., literary enjoyment, for information, or to perform a task)

- identify and use common organizational structures and graphic features to comprehend information

- preview materials to gain an overview of content or locate specific information

- identify and recall basic facts and ideas in what they have read, heard, or viewed, using such strategies as recalling genre characteristics, setting a purpose, generating essential questions, and clarifying ideas by re-reading selected parts of a text

- separate fact from opinion in reading material

- distinguish between essential and non-essential information across texts

- identify the presence of propaganda techniques in reading materials

- identify main ideas, make inferences, and draw conclusions from a variety of reading materials based on explicit and implied information in both fiction and non-fiction

- connect experience, prior reading, knowledge, and observations in response to a text

- self-select appropriately interesting, diverse, and challenging books for independent reading

- use appropriate comprehension strategies before, during and after reading, in order to understand text

- apply corrective strategies to assist in comprehension

- locate and use school and public library resources, with some direction, to acquire information

- adjust reading rate according to purpose for reading

Reading/Literature

Literature *Students will be able to:*

- identify and analyze characteristics of four major genres (non-fiction, fiction, drama and poetry) as forms chosen by an author to accomplish a purpose

- locate and interpret characters, plot, setting, theme and conflict using evidence from the text

- apply the knowledge to which the concept theme refers to the main idea and meaning of a selection whether it is stated or implied

- identify and respond to sensory imagery and direct or indirect comparisons

- determine how the use and meaning of literary devices such as symbolism, metaphor and simile, alliteration, personification, flashback and foreshadowing convey the author's message or intent

- identify social context and other characteristics of the time period in order to enhance understanding and appreciation of text

- analyze how a short story, poem, film, or essay can be shown to reflect the author's personal history, attitudes, and beliefs

- compare a film, video, or stage version of a literary work with the written version

- identify poetic elements such as repetition, rhythm, and rhyming patterns in order to interpret poetry

- compare and contrast traditional literature from different cultures

Writing/Composition

Writing Process

Students will be able to:

- use the steps in the writing process (pre-writing, drafting, revising, editing, and publishing)

- consider audience and purpose when writing

- use the appropriate genre to achieve a rhetorical purpose (persuasive, informational, or expressive)

- develop and organize compositions with a clear focus and supporting ideas

- revise writing to improve organization and diction

- order ideas and use vocabulary with precision

- edit writing using their understanding of grammar, usage, and spelling

- evaluate writing using prescribed criteria

Writing Products

Students will be able to:

- compose descriptive, persuasive, expository, and narrative paragraphs

- develop multi-paragraph responses to open-ended questions

- write paragraphs which use a variety of organizational approaches (chronological, cause and effect and definition)

- compose informational or research reports using common expository organizational structures and graphics

- write a persuasive essay (that includes a clear thesis, a body of evidence and conclusion)

- compose a friendly letter, review, or a news story

- compose research reports or informational presentations using graphic organizers

- keep a journal

- write a personal essay or narrative using details

- write a folk tale, tall tale, poem or story

- write paragraphs utilizing a variety of methods (e.g., chronological, cause and effect, definition)

- develop multi-paragraph responses to open-ended questions

Media

Students will be able to:

- use a variety of media such as computerized card catalogs, online data bases, and electronic almanacs and encyclopedia for research

- use different kinds of images—music, sound effects, graphics, or visuals—to create an effective audio visual production

- analyze how different media—newspapers, radio, and television—cover the same event, noting the use of words, sounds and images in each medium

- analyze the effect on the reader, viewer, or listener of the use of camera angles, montage and/or sound effects in radio and television, and the use of graphics in print journalism

- identify the different techniques used by different media to achieve emotional effects and convey meaning

- distinguish factual and reliable sources from embellished, unreliable or misleading sources

- demonstrate their understanding of a particular literary text through both electronic and traditional media

Middle School
Fine and Performing Arts Program

Overview

The arts, a basic form of human communication, provide an outlet for creativity and serve as a source of aesthetic satisfaction. Through the arts, people can explore, express, and understand thoughts, emotions and feelings. They provide a means for the enrichment of life through self-expression and response to the expression of others. However one participates in the arts, they are a source of great enjoyment, contributing significantly to the quality of life.

The inclusion of the Fine and Performing Arts within the basic curriculum of every child is essential. The arts stand alone not only for their intrinsic value, but as a way of perpetuating our heritage and culture. As children work in the arts, they also develop self-discipline, self-esteem, critical and creative thinking skills and motivation. The arts enhance the student's ability to analyze emotional and intuitive responses, to problem solve, and to develop communication skills.

The basis of arts education is to provide experiences which will develop the ability of children to express themselves through the arts and perceive the arts at increasingly deeper levels of meaning. Education in the fine and performing arts must also provide for the development of literacy in using signs, symbols, and terminology of the arts. This knowledge is required to describe, analyze and interpret the arts. Finally, learning in the arts should provide students with a knowledge of their cultural heritage as well as an awareness of the role and function of the arts within our society and other cultures of the world.

Students in the Lexington Public Schools experience drama, music and the visual arts through a comprehensive, sequential, longitudinal curriculum taught by arts specialists. The core concepts of the curriculum include performance, creating and responding, critical and reflective thinking and understanding the historical and cultural contexts of music.

In grades 6-8, students learn by doing. Through the drama curriculum students learn about life through actions and consequences as well as through exploring customs and beliefs. They develop techniques, approaches and habits for applying knowledge and skills beyond school. Students experiment with improvisation as they broaden their knowledge of their immediate world and other cultures. They are encouraged to share their work with others and to be creative as they develop skills in observation, interpretation and evaluation.

In the music curriculum, students learn singing, playing instruments, and moving to music. By creating music, children acquire musical skills and knowledge that can be developed in no other way. Learning to read and notate music gives children a skill with which to explore music independently and with others. Listening to, analyzing, and evaluating music are important building blocks for musical growth. Furthermore, to participate in a diverse, global society, students must understand their own historical and cultural heritage and those of others within their communities.

In the visual arts curriculum, students learn the skills and concepts by using a wide range of subject matter, meaningful images, and visual expressions to reflect their ideas, feelings and emotions. Students also develop techniques, approaches and habits for applying knowledge and skills in the visual arts to the world beyond school. Students experiment with art materials and investigate the ideas presented to them through visual arts instruction. They are encouraged to make and share their work with others. Students are encouraged and nurtured to be creative as they develop skills in observation, interpretation and evaluation.
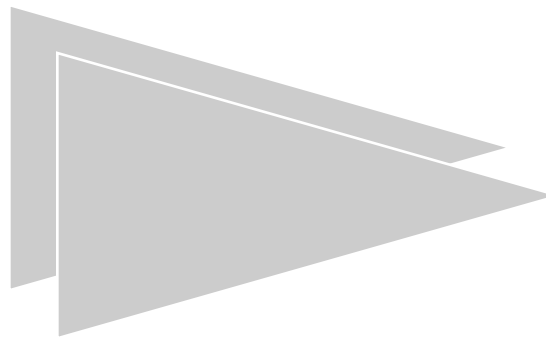
Creating and Performing

Script Writing

Students will be able to:

- write script based on personal experience, heritage or imagination

- individually and in groups, create characters, environment, and actions and create tension and suspense

- refine and record dialogue and action

Acting

Students will be able to:

- analyze descriptions, dialogue, and actions to discover, articulate, and justify character motivation and behavior based on ethical choices and emotional responses

- demonstrate acting skills to develop characterizations

- interact as the invented characters in an ensemble

Directing

Students will be able to:

- plan visual and aural elements in rehearsing improvised and scripted scenes in small groups

Perceiving and Understanding

Design Improvised and Scripted Scenes

Students will be able to:

- explain functions of scenery, properties, lighting, sound, costumes and makeup

- analyze improvised and scripted scene for technical requirements

- develop focused ideas for the environment using visual elements and principles

- work collaboratively to select and create different elements

Research by Using Cultural and Historical Information to Support Improvised and Scripted Scenes

Students will be able to:

- apply research from print and non-print sources to script writing, acting, design, and directing

Compare Art Forms by Analyzing Methods of Presentation and Audience Responses for Theatre, Dramatic Media and Other Art Forms

Students will be able to:

- describe and compare characteristics of characters, environments, actions and other media

- incorporate elements of music, dance, and visual arts to express ideas in scripts

- compare personal reactions to several different art forms

Creating and Performing

Sing Alone and with Others a Varied Repertoire of Music

Students will be able to:

- sing accurately and with good breath control throughout singing range, alone and with ensembles

- sing appropriate vocal literature with expression and technical accuracy

- sing music representing diverse genre and cultures

- sing music written in two and three parts

Perform on Instruments Alone with Others a Varied Repertoire of Music

Students will be able to:

- perform on at least one instrument accurately and independently, alone and in small and large ensembles with good posture, playing position and good breath, bow or stick technique

- perform with expression and technical accuracy, on at least one instrument, a repertoire of instrumental literature with a level 2 (out of 6) difficulty

- perform literature representing diverse genres and cultures

- perform with expression and technical accuracy a varied repertoire of instrumental ensemble literature

Improvise Melodies, Variations, and Accompaniments

Students will be able to:

- improvise simple harmonic accompaniments

- improvise simple melodic and rhythmic variations on pentatonic melodies and major keys

- improvise shore melodies with consistent style, meter and tonality

Creating and Performing

**Compose and
Arrange Music**

Students will be able to:

- compose short pieces within given guidelines, demonstrating such elements as unity, variety, tension, release and balance

- arrange simple pieces for voices or instruments other than those for which the pieces were written

- use a variety of traditional and non-traditional sound sources and electronic media when composing or arranging

Read and Notate Music

Students will be able to:

- read whole, half, quarter, eighth, sixteenth, and dotted notes and rests in a variety of meters

- read simple melodies in both treble and bass clefs

- record musical ideas using standard notation

- identify and define standard notation symbols for pitch, rhythm, dynamics, tempo, articulation, and expression
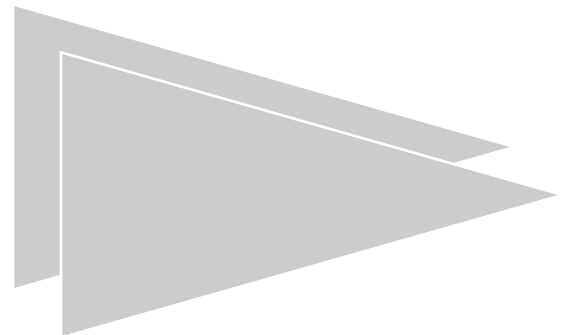
Perceiving and Understanding

**Listen to and
Analyze Music**

Students will be able to:

- describe specific musical events such as form, style, etc. using appropriate terminology

- analyze the uses of different musical elements representing different genres and cultures

- demonstrate basic knowledge of basic principles of meter, rhythm, tonality, intervals, chords and harmonic progressions

Evaluate Performances

Students will be able to:

- describe specific musical events such as form, style, etc. using appropriate terminology

- analyze the uses of different musical elements representing different genres and cultures

- demonstrate basic knowledge of basic principles of meter, rhythm, tonality, intervals, chords and harmonic progressions

Connecting

**Understand Music in
Relation to History and
Culture**

Students will be able to:

- describe distinguishing characteristics of representative music of different genres and cultures

- classify by genre and style a varied body of exemplary musical works

- compare in different cultures the role of music and musicians

Creating

Materials and Tools

Students will be able to:

- increase skill and understanding of properties, capabilities, and understanding of drawing materials

- demonstrate skills in using a variety of paints

- understand the use of exacto knives

- demonstrate the effective use of tools and equipment for painting and drawing

Using Knowledge of Structures and Functions

Students will be able to:

- demonstrate an understanding of the concept of balance and organize content, shapes, and forms

- use a variety of compositional techniques to create a focal point or center of interest in artwork to include size relationships, contrasting visual elements, sight lines, and location

- organize art elements and subject matter so that the eye is directed around compositional high-points

- use contrasting materials, subject matter, and art elements to create variety in artworks

Responding and Creating

Choosing and Evaluating a Range of Subject Matter, Symbols, and Ideas

Students will be able to:
- use subjects, themes, and symbols that demonstrate knowledge of contexts, values, and aesthetics that communicate intended meaning of artwork
- observe and accurately draw the contours of objects
- use lines and colors to create increasingly realistic figures
- use complimentary colors to alter color schemes
- draw the human figure relatively accurately

Understand the Visual Arts in Relation to History and Culture

Students will be able to:
- know and compare the characteristics of artwork from various eras and cultures
- describe and place a variety of art objects in historical and cultural contexts
- analyze, describe, and demonstrate how factors of time and place influence visual characteristics of works of art
- analyze contemporary and historic meanings of specific artworks through cultural and aesthetic inquiry
- describe and compare individual responses to their own artworks, and those from other eras and cultures

Reflect and Assess the Merits of Their Work

Students will be able to:
- compare multiple purposes of creating works of art
- identify important standards or criteria to evaluate artwork
- self-evaluate artwork in terms of imagination and/or originality
- self-evaluate the overall design quality of artwork and how the work could be improved

Make Connections with Others

Students will be able to:
- compare the characteristics of works in two or more art forms that share similar matter, historical periods, or cultural context
- describe ways in which the principles and subject matter of other disciplines interrelate with the visual arts
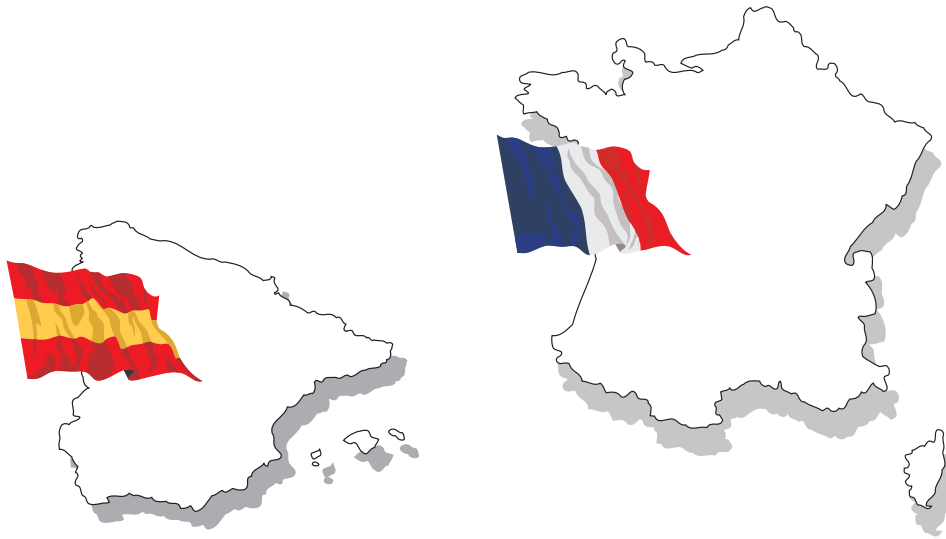
Middle School
Foreign Languages Program

Overview   The mission of the Foreign Languages Department is to provide programs that begin early enough to allow for the development of proficiency in at least one language. At the middle-school level, the program allows students a choice between two foreign languages (French and Spanish) and uses a variety of instructional strategies to promote their success. The target program is immersed in cultural experiences for each language.

The curriculum is organized into strands supporting the Massachusetts Foreign Languages Curriculum Framework. Students use interpersonal, interpretive, and presentation communication in applying the language in the classroom and beyond the school setting. They gain an appreciation of the target culture through understanding traditions, practices, and perspectives, increasing their sensitivity to diverse histories and ethnic differences. Comparing their own language with the foreign language helps students develop an insight into the nature of the language being studied. Through connections and communities, the students expand their knowledge of other disciplines using the foreign language.

The Foreign Languages Department offers a program that stresses the active involvement of students, creates multiple opportunities for the students to speak foreign language, and focuses the entire effort of instruction on the development of proficiency. The levels of instruction allow for individual interests, learning styles, and abilities. It gives opportunities for students to participate in cultural and exchange programs in the appropriate countries in the secondary schools.

Continued

Content in Grade Six
- numbers
- color
- weather
- seasons
- calendar (days, months, date)
- time,
- self, family, home
- travel and transportation
- hobbies
- clothing
- occupations
- simple food
- recreation
- shopping
- geography
- art and music

Content in Grade Seven
- extension of grade six content
- friends
- health
- classroom
- sports
- entertainment
- countries and nationalities
- seasonal activities
- directions
- parts of the body
- places in the city

Content in Grade Eight
- extension of grade seven content
- leisure
- food
- clothing
- fashion
- cultural activities
- camping
- restaurant dining
- vacation planning
- shopping abroad
- weekend activities
- literature

Communication

Students will be able to use the skills of speaking, listening, reading and writing.

Students will be able to:

- greet and respond to greetings
- introduce and respond to introductions
- ask simple questions in the present tense
- answer simple questions in the present tense in the content areas
- use present tense to make simple requests
- respond appropriately to teacher requests
- use present tense to express likes and dislikes in reference to the content areas
- respond appropriately to a wide array of classroom commands used by the teacher on a regular basis
- provide information using simple sentences in the present tense in the content areas
- ask for information using simple questions in the present tense in the content areas
- use present tense and correct adjective agreement to describe places or events
- write lists
- read and interpret signs and simple informational texts
- understand some ideas and familiar details when listening to the target language

Culture

Students will be able to gain knowledge and understanding of other cultures.

Students will be able to:

- identify some countries where the target language is spoken
- identify some distinctive cultural products such as toys, clothes, musical instruments, and foods from the target culture
- use appropriate expressions of courtesy: *please, thank you, you're welcome, excuse me, I'm sorry*
- explain some cultural contributions of the countries where the target language is spoken
- sing songs from the target language
- participate in activities, such as games, crafts, storytelling, celebrations, and dramatizations

Communities

Students will be able to participate in communities at home and around the world in other languages.

Students will be able to:

- apply knowledge of the target language and culture beyond the classroom setting

Comparisons

Students will be able to develop insight into the nature of language and culture by comparing their own language and culture to another.

Students will be able to:

- give examples of ways in which the target language differs from or is similar to English

- give examples of borrowed or loaned works

- describe some patterns of behavior of the target culture such as celebrations and compare/contrast them with similar behaviors of their own culture

- describe some cultural beliefs and perspectives relating to family, school, and play in both the target culture and their own

Connections

Students will be able to make connections with other subject areas and acquire information.

Students will be able to:

- use the target language to reinforce and expand their knowledge of other disciplines and to acquire new information and knowledge

- find and share information (in the target language about a variety of topics related to other curricular areas) from various sources

- relate works of art to the study of the target language

Communication

Students will be able to use the skills of speaking, listening, reading and writing.

Students will be able to:
- greet and respond to greetings
- introduce and respond to introductions
- ask simple questions in the present tense
- answer simple questions in the present tense in the content areas
- use present tense to make simple requests
- respond appropriately to teacher requests
- use present tense to express likes and dislikes in reference to the content areas
- respond appropriately to a wide array of classroom commands used by the teacher on a regular basis
- provide information using simple sentences in the present tense in the content areas
- ask for information using simple questions in the present tense in the content areas
- use present tense and correct adjective agreement to describe places or events
- write lists
- read and interpret signs and simple informational texts
- understand some ideas and familiar details when listening to the target language

Cultures

Students will be able to gain knowledge and understanding of other cultures.

Students will be able to:
- interact appropriately in a social situation
- explain cultural contributions of diverse groups
- identify aspects of culture presented in photographs, plays or films
- identify major geographic features of the target culture, such as rivers, mountains, cities, climate
- sing songs, perform dances, recite poems from the target language
- explain appropriate gestures and expressions for greetings, leave-takings, and daily classroom interactions

Communities

Students will be able to participate in communities at home and around the world in other languages.

Students will be able to:
- apply knowledge of the target language and culture beyond the classroom setting

Comparisons

Students will be able to develop insight into the nature of language and culture by comparing their own language and culture to another.

Students will be able to:
- ask and answer questions regarding similar or different phonetic or writing systems used in the target language
- identify linguistic characteristics of the target language and comparing and contrasting them with English linguistic characteristics
- describe more patterns of behavior of the target culture such as celebrations and compare/contrast them with similar behaviors of their own culture
- describe more cultural beliefs and perspectives relating to family, school, and play in both the target culture and their own
- make a presentation comparing cultural characteristics

Connections

Students will be able to make connections with other subject areas and acquire information.

Students will be able to:
- use the target language to reinforce and expand their knowledge of other disciplines and to acquire new information and knowledge
- find and share information (in the target language about a variety of topics related to other curricular areas) from various sources
- use multimedia sources to obtain information and knowledge
- relate works of art and age-appropriate literature to the study of the target language
- present relevant information acquired from print and non-print materials and other informational sources

Communication

Students will be able to use the skills of speaking, listening, reading and writing.

Students will be able to:
- greet and respond to greetings
- introduce and respond to introductions
- ask simple questions in the present, near future, and past tenses using learned expressions and/or vocabulary from the content area
- use present tense to make requests
- respond appropriately to teacher requests
- use present tense to express likes and dislikes in reference to the content areas
- use present tense to describe feelings (happy, sad, worried, etc.) and states of being (tired, cold, hungry)
- use present tense to express needs
- follow directions
- provide information using simple sentences in the present, near future, and past tenses in the content areas
- provide information and knowledge using simple questions in the present, near future and past tenses in the content areas
- use present tense and correct adjective agreement to describe people, objects, places or events
- write lists and short notes in the present, near future, and past tenses using short sentences and learned expressions in he content areas
- read and interpret signs, simple stories, poems, and informational tests
- present information in a brief report

Cultures

Students will be able to gain knowledge and understanding of other cultures.

Students will be able to:
- interact appropriately in a social situation
- explain cultural contributions of diverse groups
- identify aspects of culture presented in photographs, plays, films, or museums
- identify major geographic features of the target culture, such as rivers, mountains, cities, climate
- sing songs, perform dances, recite poems from the target language
- explain appropriate gestures and expressions for greetings, leave-takings, and daily classroom interactions

Communities

Students will be able to participate in communities at home and around the world in other languages.

Students will be able to:
- apply knowledge of the target language and culture beyond the classroom setting

Comparisons

Students will be able to develop insight into the nature of language and culture by comparing their own language and culture to another.

Students will be able to:
- ask and answer questions regarding similar or different phonetic or writing systems used in the target language
- identify linguistic characteristics of the target language and compare and contrast them with English linguistic characteristics
- describe more patterns of behavior of the target culture such as celebrations and compare/contrast them with similar behaviors of their own culture
- describe more cultural beliefs and perspectives relating to family, school, and play in both the target culture and their own
- make a presentation comparing cultural characteristics

Connections

Students will be able to make connections with other subject areas and acquire information.

Students will be able to:
- use the target language to reinforce and expand their knowledge of other disciplines and to acquire new information and knowledge
- find and share information (in the target language about a variety of topics related to other curricular areas) from various sources
- use multimedia sources to obtain information and knowledge
- relate works of art and age-appropriate literature to the study of the target language
- present relevant information acquired from print and non-print materials and other informational sources

Middle School
Comprehensive Health Education Program

Overview   The core purpose of the Comprehensive Health Education program is to
develop and nurture "resiliency" in students, defined as the ability to
thrive, persevere and maintain a positive attitude. Comprehensive health
education teaches students to avoid problems such as substance abuse and
contagious diseases and to understand and demonstrate the responsibility
they share as individuals, family members and citizens to act in ways that
enhance health for themselves and others.

Three core concepts: health literacy, healthy self management and health
promotion and advocacy reflect the Massachusetts state frameworks and
form the nexus of Lexington's health education program. Health literacy,
the capacity to obtain, understand and evaluate basic health information
and services, emphasizes student's abilities to read, listen and think criti-
cally, to distinguish fact from opinion and to analyze information carefully.
Healthy self-management enables students to integrate and apply essential
knowledge and skills with respect to their own health-related decisions and
behaviors; life long physical fitness and activity is integral to healthy self-
management. Health promotion and advocacy enables students to
recognize and demonstrate personal, social and civic responsibility by
learning to treat others with respect, to reduce conflict and prevent violence
and to preserve the natural environment.

Health Education classes are provided by Health/Physical Education
teachers at the middle school level. At the middle school level, all seventh-
grade students take Health Education for one semester, two classes each week.

Continued

The course focuses on three major areas: the **Circle of Wellness** which includes examining what it means to be healthy, nutrition, fitness and stress reduction; **Healthy Relationships** which explores the multitude of relationships in an individual's life with a focus on adolescent growth and development and a discussion of harassment issues; **Threats to Health and Wellness** which focuses on threats that can undermine health including sexually transmitted diseases including HIV infection and substance abuse.

Two elective courses are offered to eighth-grade students. Multimedia Health Messages combines computer technology with health education; students research and prepare health education messages targeted to their peers that either encourage healthy behaviors or discourage unhealthy behaviors. Students at each middle school take this course for one semester, either in the spring or fall. First Aid and CPR is also offered at both middle schools for eighth graders; in this course students have the opportunity to learn and practice first aid and CPR procedures. Both elective courses meet twice each week for one semester.

The 7th-grade Health Education curriculum is divided into three modules:
• Circle of Wellness
• Healthy Relationships
• Threats to Health and Wellness

Each module has a specific focus and follows one from the other.

Circle of Wellness focuses on the overall concept of health and the variety of activities and considerations that sustain health. The lessons contained in this module include:

   Lesson 1: What Does Being Healthy Mean?
   Lesson 2: Looking Good
   Lesson 3: You Are What You Eat, Part I
   Lesson 4: You Are What You Eat, Part II
   Lesson 5: Balancing Your Act
   Lesson 6: Dimensions Of Exercise
   Lesson 7: Eating Disorders
   Lesson 8: Eating Disorders, Con't.
   Lesson 9: Recognizing And Coping With Stress

**Healthy Relationships** focuses on the varieties of relationships that 7th-graders experience and how important relationships are to a healthy individual. The lessons contained in this module include:

   Lesson 1: Communication: Key to Healthy Relationships
   Lesson 2: The Inside Story
   Lesson 3: What Kids Want to Know About Sex, Part I
   Lesson 4: What Kids Want to Know About Sex, Part II

Lesson 5: Emerging Relationships
Lesson 6: Flirting or Hurting?
Lesson 7: Flirting or Hurting?, Con't.

Threats to Health and Wellness focuses on all of the variables that can undermine good health. Topics that receive in-depth coverage include sexually transmitted diseases including AIDS and drug and alcohol abuse including tobacco. Lessons included in this module include:

Lesson 1: Bugs and Germs
Lesson 2: Modern Day Diseases: STDs & AIDS,
Lesson 3: Tobacco & Chew, Part 1
Lesson 4: Tobacco & Chew, Part 2
Lesson 5: Alcohol, Part I
Lesson 6: Alcohol, Part 2
Lesson 7: Marijuana and Hallucinogens
Lesson 8: Recipe for a Healthy Future
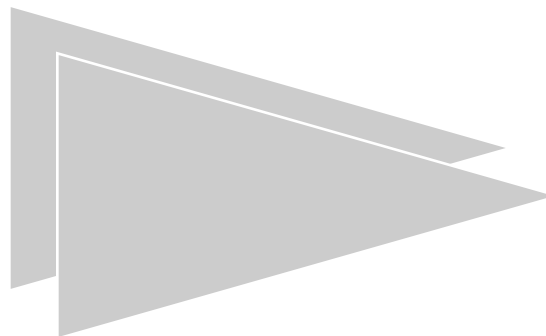
Personal and Community Health

Consumer Health and Resource Management

Students will be able to:
- obtain health information from a variety of resources and demonstrate how to evaluate it for accuracy
- explain where a person can go to seek help for health-related issues and problems
- review and evaluate articles and websites containing health information

Community and Public Health

Students will be able to:
- describe the characteristics of a healthy school community
- explain the role good communication plays in keeping a school safe

Physical Health

Growth and Development

Students will be able to:
- identify the different stages of development through the life cycle
- describe at least two markers for each stage of development
- explain why it is important to have a plan for a healthy lifestyle
- describe how different choices and decisions can lead to good or bad health
- explain how a person's feelings are impacted by the changes of puberty
- demonstrate respect for other students who are at different stages of growth and development
- describe why it is important to appreciate difference in others
- construct a definition of health that includes physical, social and emotional aspects
- demonstrate responsible decision-making related to health behaviors

Physical Activity and Fitness

Students will be able to:
- identify the components of fitness
- identify and describe the benefits of life long fitness
- explain how regular exercise can result in good health, both now and in the future
- exercise regularly (at least three times/week for a minimum of one hour)

Physical Health

Nutrition

Students will be able to:

- describe a nutritionally-balanced diet

- describe how a well-balanced diet maintains good health

- explain how healthful eating and regular exercise affects overall appearance

- explain why food is the best source of nutrients

- explain how food translates into energy for the body and how exercise utilizes this stored energy

- explain how balancing food intake and energy output results in a healthy weight

- eat a nutritionally-balanced diet and make healthy choices about eating

- describe eating disorders and their effects

- avoid disordered eating behaviors

Reproduction/Sexuality

Students will be able to:

- identify at least five physical changes of puberty and relate those changes to one's self

- identify parts of the male and female reproductive anatomy and describe their functions

- describe the wide range of "normal" experienced by individuals as they go through puberty

- differentiate between factual information relating to puberty and popular myths and misconceptions

- increase their comfort level when discussing issues relating to sexuality and relationships

- identify the factors involved in making informed and responsible choices in matters relating to sexual activity

Social and Emotional Health

Mental Health

Students will be able to:

- describe causes and effects of stress on the body
- explain people's different reactions to stress
- explain how controlling stress can prevent health problems
- demonstrate and practice a variety of stress reduction techniques

Interpersonal Relationships

Students will be able to:

- describe the characteristics of a good communicator
- explain how talking can be a helpful way to solve problems
- practice good communication techniques
- identify at least three qualities of friendship
- describe a variety of relationships and discuss how relationships change over time
- explain how having good relationships can enhance a person's health
- describe how actions and words can have positive or negative impacts on others
- identify at least two ways to communicate comfort or discomfort in a relationship

Family Life

Students will be able to:

- describe the family's role in supporting healthy behaviors and decision-making
- identify areas of stress and conflict within families
- explain techniques for solving family conflict

Safety and Prevention

Disease Prevention and Control

Students will be able to:

- differentiate between bacteria and viruses
- describe the transmission, treatment and prevention for a minimum of three sexually transmitted infections including HIV
- explain how specific behaviors can prevent certain illnesses
- explain why a sexually-active person is susceptible to a sexually transmitted infection
- describe at least three ways that a person can prevent the transmission of sexually transmitted infections
- demonstrate proper handwashing techniques
- explain the connection between sun exposure and cancer
- identify at least three ways to protect one's self from sun exposure

Safety and Injury Prevention

Students will be able to:

- explain how to evaluate risky situations
- identify at least three techniques for avoiding risky situations

Safety and Prevention

Tobacco, Alcohol and Other Substance Use/Abuse Prevention

Students will be able to:

- identify and describe a minimum of three short-term and three long-term health effects of smoking and/or chew

- identify and describe a minimum of three short term and three long-term health effects of drinking alcohol

- identify and describe a minimum of three short term and three long-term health effects of smoking marijuana

- explain the connections between smoking and/or the use of chew and serious health consequences

- describe the difference between occasional, moderate, and heavy drinking

- describe the variety of health consequences that can result from smoking marijuana

- abstain from smoking or using chew

- abstain from the use of alcohol until they are of a legal age, at which point, continue to abstain or drink moderately

- abstain from smoking marijuana

Violence Prevention

Students will be able to:

- describe the difference between flirting and sexual harassment

- discuss and identify at least two consequences of sexual harassment

- understand and describe different forms of harassment

- explain the Lexington Public School's policy regarding harassment

Middle School
Instructional Technology Program

Overview　　The Lexington Public Schools has established the core values addressing individuality and diversity, continuous improvement and shared responsibility. Technology is a partner to these values. To ensure that all students have equitable opportunities to benefit from the diverse learning that technology can facilitate, the system has committed considerable thinking, funding and professional time to technology. Developing technological competence is viewed as an essential part of our students' learning experience.

Instructional technology involves the use of educational applications (such as word processing, spreadsheets, multimedia presentations) that support teaching and learning in the classroom. As teachers review the relationship between our curriculum and the State Frameworks, they consciously include technology and are in the process of identifying basic content, skills and larger concepts related to technology that they expect students to achieve. They have identified core skills (technology competencies) for middle school students to become technologically proficient. These skill are embedded in lessons and projects that teachers have designed to integrate technology with the curriculum. The system envisions technology as a strand integrated into and throughout the curriculum, as both a tool for learning, and at appropriate times, as a focus of instruction in its own right.

Technical Skills

Basic Operations   *Students will be able to use input and output devices*
- save and retrieve a file to the server
- identify and report common hardware and software problems (e.g., frozen screen, disk error, printing problems)
- demonstrate printing protocol and demonstrate efficiency (e.g., printing selected text and graphics using NetPrint)
- begin to use various peripherals and explore their applications (e.g., camera, scanner, camcorder)
- apply concept of connectivity and networking
- use correct terminology in speaking about electronic communications (e.g., browser, search engine, online)

Communications Tools   *Students will be able to use a variety of media to communicate information and ideas to multiple audiences*
- create a slide show (e.g., Claris SlideShow, PowerPoint)
- create a multimedia presentation (e.g., HyperStudio, PowerPoint)
- create a published product (e.g., brochure, flier, newsletter)

Instructional Tools   *Students will be able to use technology tools to enhance learning and increase productivity*

Word processor
- use editing and formatting features (e.g. centering, line spacing, margins, cut and paste, fonts, styles, spelling)

Spreadsheet
- create an original spreadsheet, entering simple formulas
- use basic structure of spreadsheet (cells, rows, columns) and apply formatting features
- produce simple charts draw
- use functions of draw applications as appropriate for class projects

Database
- use a database (e.g., record, field)
- create a database (e.g., record, field)

Graphic organizer for concept mapping
- create organizer

Slideshow tool (Claris SlideShow, PowerPoint)
- create and present a slideshow multimedia tool (HyperStudio, Power-Point, iMovie)
- create a presentation

Content specific tools
- select appropriate technology tool for a problem-solving task:
  - simulation software
  - environmental probes
  - measuring devices
  - dynamic geometry software

Research Tools

Students will be able to use technology to locate, collect and process information from a variety of sources

- locate information on the Internet

- use browser features effectively (including bookmarking, go, back)

- use search engines and directories

- make effective use of online databases

- evaluate online resources for authenticity, objectivity, accuracy, currency

- write correct citations for text and images gathered from electronic sources

Social and Ethical Issues

Students will be able to practice responsible use of technology systems

- protect personal identification

- follow classroom rules for responsible use of computers

- abide by Lexington Public School's Acceptable Use Policy and know the consequences of violating that policy

- explain user's responsibility to cite all electronic sources

- demonstrate ethical and legal behavior in copying files, applications and media

Technical Skills

Basic Operations

Students will be able to use input and output devices use computers for learning activities

- save and retrieve a file to the server

- identify and report common hardware and software problems (e.g., frozen screen, disk error, printing problems)

- follow printing protocol and demonstrate efficiency (e.g., printing selected text and graphics using NetPrint)

- use various peripherals and their applications (e.g., camera, scanner, camcorder)

- apply concept of connectivity and networking

- use correct terminology in speaking about electronic communications (e.g., browser, search engine, online*)*

Communications Tools

Students will be able to use a variety of media to communicate information and ideas to multiple audiences

- create a slide show (e.g., AppleWorks Slide Show, PowerPoint)

- create a multimedia presentation (e.g., HyperStudio, PowerPoint)

- create a published product (e.g., brochure, flier, newsletter)
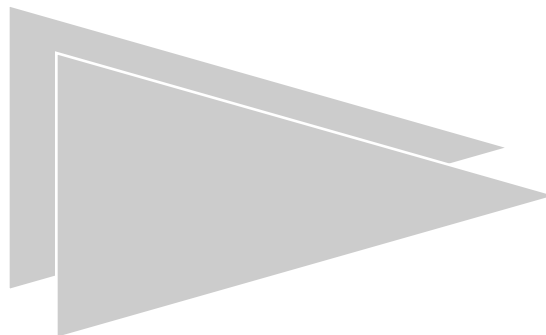
Instructional Tools

Students will be able to use technology tools to enhance learning and increase productivity

Word processor
- use editing and formatting features (e.g., centering, line spacing, margins, cut and paste, fonts, styles, spelling)
- insert and manipulate images (e.g., graphics, clip art, tables from other files into document)
- format a bibliography

Spreadsheet
- create an original spreadsheet, entering simple formulas
- use basic structure of spreadsheet (e.g., cells, rows, columns) and apply formatting features
- product simple charts
- use more advanced functions of spreadsheet (Grade 8)

Draw
- use functions of draw applications as appropriate for class projects database
- use a database (e.g., record, field)
- create a database (e.g., record, field)
- know the difference between draw and paint (Grade 8)
- introduce basic paint techniques (Grade 8)
- use more advanced draw functions as appropriate for class projects (Grade 8)

Database
- use a database (e.g., record, field) (Grade 8)
- create a database (e.g., record, field) (Grade 8)

Graphic organizer for concept mapping
- create organizer slideshow tool (e.g., AppleWorks Slide Show, Power-Point)
- design with master page multimedia tool (e.g., HyperStudio, PowerPt., iMovie)
- import graphics, sound, text
- select appropriate technology tool for a problem-solving task:
  - simulation software
  - environmental probes
  - measuring devices
  - dynamic geometry software

Content specific tools
- select appropriate technology tool for a problem-solving task (Grade 8):
  - simulation software
  - environmental probes
  - measuring devices
  - dynamic geometry software

Graphing Calculator
- use scientific calculator functions and operations
- use graphing capabilities (Y= menu, windows, zoom and trace scatterplots)
- use regression calculation feature
- use simple ERROR troubleshooting

Research Tools

Students will be able to use technology to locate, collect and process information from a variety of sources

- locate information on the Internet

- use browser features effectively (including bookmarking, go, back)

- use search engines and directories

- research using online databases

- evaluate online resources for authenticity, objectivity, accuracy, currency

- write correct citations for text and images gathered from electronic sources

- use key word searching and other search strategies effectively to find appropriate information

Social and Ethical Issues

Students will be able to practice responsible use of technology systems

- protect personal identification

- follow classroom rules for responsible use of computers

- abide by Lexington Public School's Acceptable Use Policy, and know the consequences of violating that policy

- cite all electronic sources

- demonstrate ethical and legal behavior in copying files, applications and media

Middle School
Library and Information Technology Program

Overview

The goal of the Department of Libraries and Information Technologies is to develop productive, socially responsible lifelong learners, who value the richness of diversity in their lives. This goal is based on our beliefs that every student has the capacity to learn and the right to open and easy access to information and ideas. Such students contribute positively to the learning community and to society because they are information literate and recognize the importance of learning to a democratic society. The three strands of this curriculum are Life-Long Learning, Research Skills and Literacy Appreciation. In a sense, Research Skills and Literary Appreciation are sub-sets of Life-Long Learning, but they are separated here so the skills can be specifically related to other curricula. Students become lifelong learners when they transfer and develop the skills of research and literary appreciation, acquired in formal, academic settings, to their daily lives. As they develop these skills they grow in their abilities to reflect critically, to construct knowledge and to communicate ideas. They seek out information from a diversity of viewpoints, cultural perspective and scholarly traditions in an attempt to arrive at a reasoned and informed understanding of issues. The students realize that equitable access to information from a range of sources and all formats is a fundamental right of democracy. When students become life-long learners they actively and independently seek information to enrich their understandings of career, community, health, leisure and other personal situations.

The habits of lifelong learning, which grow from internalizing the skills of research and literary appreciation, lead to continuing personal growth and an increasing awareness of social responsibility. The needs for critical and creative thinking, developing productive capabilities, and valuing community and diversity are intrinsic to both strands.

Life-Long Learning

Students will be able to develop a critical approach to information and ideas.

- recognize that more than one point of view can be valid
- recognize that authors may present their point of view or opinion
- evaluate person or organization responsible for publication
- look for evidence to support claims

Students will be able to grow in ability to use information resources independently.

- understand the varieties of resources available and select appropriate ones
- understand the organization of library materials
- recognize there are many other sources of information, e.g., museums, experts in the field, relatives

Students will be able to recognize Libraries as providers of Information from diverse sources, contexts, disciplines and cultures.

Students will be able to earn to respect the concept of Intellectual Property.

Students will be able to seek information related to various recreational pursuits.

Students will be able to use resources in an ethical manner.

Research Skills

Students will be able to identify the information needed to solve a problem or answer a question.

- read for overview
- identify questions to ask
- refine questions with more research

Students will be able to use the variety of resources that are available for research.

- books
- periodicals
- electronic sources

Students will be able to use strategies for locating each resource.

- use of library online catalog
- use of reference materials—print and online
- use of online periodical databases
- use of Internet, school web pages and search engines

Students will be able to use search techniques.

- broaden or narrow search terms
- use key words and subject headings
- use subheadings
- use cross references
- use specialized searching techniques, e.g,. truncation, parentheses, quotation marks, and, or, not
- cite sources appropriately

Students will be able to evaluate information.

- for reliability and validity
- differentiate between fact and opinion
- recognize different points of view on topic may be valid
- justify selection or rejection of ideas

Students will be able to evaluate the research process.

Literary Appreciation

Grade 6   *Students will be able to:*
- focus on the attributes of:
     Fantasy
     Science Fiction
     Biography
     Mythology
- select and use quality recreational reading materials appropriate to reading comprehension levels
- explore various genres
- expand skills, understanding and interest
- supplement specific areas of classroom work

Grade 7   *Students will be able to:*
- focus on the attributes of :
     Poetry
     Historical fiction
- select and use quality recreational reading materials appropriate to reading comprehension levels
- explore various genres
- expand skills, understanding and interests
- supplement specific areas of classroom work

Grade 8   *Students will be able to:*
- focus on the attributes of:
     Drama
     Short Stories
- select and use quality recreational reading materials appropriate to reading and comprehension levels
- explore various genres
- expand skills, understanding and interests
- supplement specific areas of classroom work
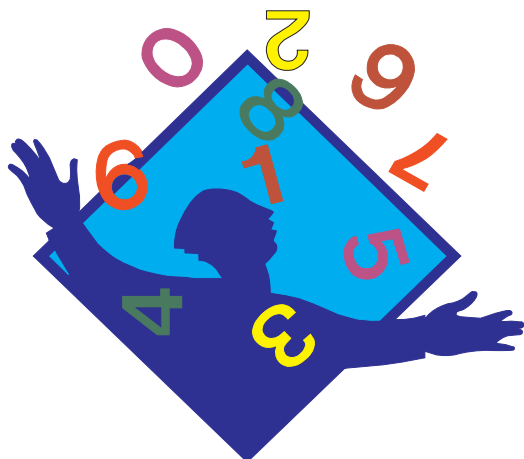
Middle School
Mathematics Program

Overview

The "Standards" and the "Frameworks"

The Lexington Public Schools' Middle School Mathematics Benchmarks is directly aligned with the *Massachusetts Mathematics Curriculum Framework* (November 2000) <http://www.doe.mass.edu/frameworks/> which draws heavily from the National Council of Teachers of Mathematics (NCTM) *Principles and Standards for School Mathematics* (2000) <http://standards.nctm.org/>. Both the *Frameworks* and the *Standards* espouse a similar vision for the teaching and learning of mathematics that has informed the mathematics education reform movement in this country and, in turn, the Lexington mathematics curriculum. The guiding principles and pedagogy described in these documents offer a well-balanced approach that develops both procedural skills and conceptual understanding.

The organization of the two documents differs slightly. The NCTM Standards specify ten standards that are divided into five Content Standards—Number and Operations, Algebra, Geometry, Measurement, and Data Analysis and Probability which "explicitly describe the content that students should know and be able to do" and five Process Standards—Problem Solving, Reasoning and Proof, Communication, Connections, and Representation which describe "ways of acquiring and using content knowledge." The Frameworks use these same ten standards with a different nomenclature. The Frameworks organize the mathematical content into five Strands—Number Sense and Operations; Patterns, Relations, and Algebra; Geometry; Measurement; and Data Analysis, Statistics, and Probability and emphasize that all students "engage in problem solving, communicating,

Continued

reasoning, connecting, and representing as they achieve mathematical competence through a strong mathematics program." We have synthesized and incorporated these two documents into the document that follows and we offer it to the community as a window into the mathematics classroom in which your children are actively engaged.

Goals of Mathematics Teaching and Learning

The Mathematics Department offers a substantive mathematics program for students in grades six through eight with varied learning styles and academic interests. Our goal is to enable every student to reach his or her potential in a supportive, academically-focused environment. In every mathematics course, we want students to learn what it means to explore and discover mathematics; what it means to collect data, observe patterns, make conjectures, and generalize these findings; what it means to produce a coherent logical argument–to think deductively; what it means to create a mathematical model; what it means to represent a solution analytically, geometrically, numerically, and verbally; what it means to analyze a problem and persevere until it is solved; in essence, what it means to develop the habits of mind of a mathematician and to think critically. We believe all students can reach high standards of academic achievement and come to appreciate the power and beauty of mathematics.

Process Standards

(as stated in NCTM Standards)

Students will be able to:

Problem Solve
- build new mathematical knowledge through problem solving
- solve problems that arise in mathematics and in other contexts
- apply and adapt a variety of appropriate strategies to solve problems
- monitor and reflect on the process of mathematical problem solving

Reason and Prove
- recognize reasoning and proof as fundamental aspects of mathematics
- make and investigate mathematical conjectures
- develop and evaluate mathematical arguments and proofs
- select and use various types of reasoning and methods of proof

Communicate
- organize and consolidate their mathematical thinking through communication
- communicate their mathematical thinking coherently and clearly to peers, teachers, and others
- analyze and evaluate the mathematical thinking and strategies of others
- use the language of mathematics to express mathematical ideas precisely

Process Standards

(as stated in NCTM Standards)

Students will be able to:

Connect
- recognize and use connections among mathematical ideas
- understand how mathematical ideas interconnect and build on one another to produce a coherent whole
- recognize and apply mathematics in contexts outside of mathematics

Represent
- create and use representations to organize, record, and communicate mathematical ideas
- select, apply, and translate among mathematical representations to solve problems
- use representations to model and interpret physical, social, and mathematical phenomena
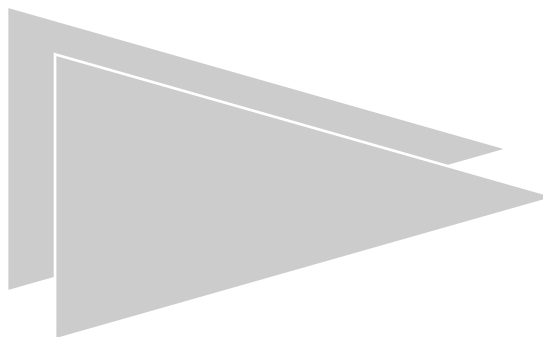
Number Sense and Operations

Students will be able to:

Understand numbers, ways of representing numbers, relationships among numbers, and number systems

Understand meanings of operations and how they relate to one another

Compute fluently and make reasonable estimates

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Students engage in problem solving, communicating, reasoning, connecting, and representing as they:

- apply the order of operations

- use multiple algorithms for +, -, x, and ÷ and choose one algorithm that will be developed for automaticity and efficiency for each operation

- use various problem-solving strategies

- use powers and exponents in expressions

- identify prime and composite numbers

- apply divisibility rules

- find prime factorization of a composite number

- use prime factorization to find GCF and LCM/LCD

- find squares of numbers and square roots of perfect squares

- recognize and extend arithmetic, geometric, and other numerical and visual patterns including fractals

- demonstrate a functional understanding of the inter-relationship between decimals, fractions, and percentages:
    - apply algorithms for +, -, x, and ÷
    - compare and order
    - round and estimate
    - comprehend and apply scientific notation
    - convert metric to metric units
    - recognize and apply decimal equivalents of fractions and percentages
    - determine unit rates/prices
    - express ratios as fractions and determine whether two ratios are equivalent
    - express fractions and ratios in simplest form
    - solve proportions using mental math and cross products
    - find percent of a number
    - apply a given percent of increase and decrease

- integers:
    - read, write, compare and order
    - find opposites and absolute values
    - +, -, x, and ÷ with integers

Geometry and Measurement

Students will be able to:

Understand measurable attributes of objects and the units, systems, and processes of measurement

Apply appropriate techniques, tools, and formulas to determine measurements

Analyze characteristics and properties of two & three-dimensional geometric shapes and develop mathematical arguments about geometric relationships

Use visualization, spatial reasoning, and geometric modeling to solve problems

Apply transformations and use symmetry to analyze mathematical situations

Specify locations and describe spatial relationships using coordinate geometry and other representational systems

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Students engage in problem solving, communicating, reasoning, connecting, and representing as they:

- convert units within the customary system including time, length, liquid volume, and weight

- solve problems using scale drawings

- construct perpendicular and parallel lines

- measure and classify angles

- construct congruent segments and angles

- distinguish standard polygons from regular polygons

- classify specific types of triangles and quadrilaterals

- calculate the sum of a polygon's interior angle measures

- draw three-dimensional figures given the top, side and front views

- determine congruence and similarity between polygons

- use proportional reasoning to determine missing lengths in similar polygons

- find area and perimeter of triangles and quadrilaterals

- estimate the area of irregular figures

- find the surface area and volume of rectangular prisms

- recognize the relationships between π and a circle's basic components: circumference, diameter, radius, area

- do problem solving calculations involving a circle's basic components

- recognize and apply transformations: translation, rotation, and reflection

- graph transformations on a coordinate plane

Patterns, Relations, and Algebra

Students will be able to:

Students engage in problem solving, communicating, reasoning, connecting, and representing as they:

Understand patterns, relations, and functions

Represent and analyze mathematical situations and structures using algebraic symbols

Use mathematical models to represent and understand quantitative relationships

Analyze change in various contexts

- identify, analyze and extend numerical patterns

- identify and construct geometric patterns including fractals

- use mathematical models

- translate verbal phrases into algebraic expressions and equations

- evaluate simple algebraic expressions and equations

- solve one and two-step variable equations using mental math, guess and check, and inverse operations

- solve equations with two variables (x,y) and graph the solution

- solve inequalities

- represent functions as ordered pairs

- use a function rule to find the output of a function

- graph linear functions

Data Analysis, Statistics, and Probability

Students engage in problem solving, communicating, reasoning, connecting, and representing as they:

Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them

- organize data in a frequency table
- choose appropriate scales and intervals for data
- make predictions from graphs and data
- find and apply mean, median and mode

Select and use appropriate statistical methods to analyze data

- construct and interpret line plots
- construct and interpret stem and leaf plots

Develop and evaluate inferences and predictions that are based on data

- construct and interpret box and whisker plots; graph quartiles and determine the interquartile range
- construct and interpret circle, bar, double bar, line, and double line graphs
- make predictions from graphs
- recognize when statistics and graphs are misleading

Understand and apply basic concepts of probability

- find the probability of a simple event
- find and compare experimental and theoretical probabilities
- use tree diagrams to count outcomes
- use multiplication to count outcomes
- find the probability of independent and dependent events
- explore fair and unfair games

Number Sense and Operations

Students will be able to:

Students engage in problem solving, communicating, reasoning, connecting, and representing as they:

Understand numbers, ways of representing numbers, relationships among numbers, and number systems

- work flexibly with fractions, decimals, integers and percents

- compare and order fractions, decimals, and percents efficiently and find their approximate locations on a number line

- understand and use ratios and proportions to represent quantitative relationships

- develop an understanding of large numbers and recognize and appropriately use exponential, scientific, and calculator notation

- use and apply factors, multiples, prime factorization, and relatively prime numbers

Understand meanings of operations and how they relate to one another

- understand the meaning and effects of arithmetic operations with fractions, decimals, and integers

- use the associative and commutative properties of addition and multiplication and the distributive property

- understand and use the inverse relationships of addition and subtraction, multiplication and division

Compute fluently and make reasonable estimates

——

- select and apply appropriate methods and tools for computing and estimating

- develop and use strategies to estimate the results of rational-number computations and judge the reasonableness of the results

- develop, analyze, and explain methods for solving problems

Geometry and Measurement

Students will be able to:

Students engage in problem solving, communicating, reasoning, connecting, and representing as they:

Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships

- classify relationships among types of two- and three-dimensional objects
- identify relationships among angles, side lengths, perimeters, areas, and volumes of geometric objects

Specify locations and describe spatial relationships using coordinate geometry and other representational systems

- identify and locate points and axes in the Cartesian coordinate plane

Apply transformations and use symmetry to analyze mathematical situations

- describe sizes, positions, and orientations of shapes under informal transformations such as flips, turns, slides, and scaling
- determine the congruence, similarity, and line or rotational symmetry of objects using transformations

Use visualization, spatial reasoning, and geometric modeling to solve problems

- draw geometric objects with specified properties, such as side lengths or angle measures
- use two-dimensional representations of three-dimensional objects to visualize and solve problems such as those involving surface area and volume
- recognize and apply geometric ideas and relationships in areas outside the mathematics classroom, such as art, science, and everyday life

Understand measurable attributes of objects and the units, systems, and processes of measurement

- use both metric and customary systems of measurement
- identify relationships among units and convert from one unit to another within the same system
- select and use units of appropriate size and type to measure angles, perimeter, area, surface area, and volume

Apply appropriate techniques, tools, and formulas to determine measurements

- select appropriate methods for estimating measurements
- select and apply techniques and tools to accurately find length, area, volume, and angle measures
- develop and use formulas to determine the circumference of circles and the area of triangles, parallelograms, trapezoids, and circles
- solve problems involving scale drawings using ratio and proportion

Patterns, Relations and Algebra

Students will be able to:

Students engage in problem solving, communicating, reasoning, connecting, and representing as they:

Understand patterns, relations, and functions

- represent, analyze, and generalize a variety of patterns with tables, graphs, words, and, when possible, symbolic rules

Represent and analyze mathematical situations and structures using algebraic symbols

- develop an initial conceptual understanding of variables
- use symbolic algebra to represent situations and to solve problems
- recognize, generate and simplify simple algebraic expressions
- solve linear equations and inequalities

Use mathematical models to represent and understand quantitative relationships

- model and solve contextualized problems using various representations, such as graphs, tables, and equations

Analyze change in various contexts

- use graphs to analyze changes in quantities in relationships
- create, read, and analyze graphs

Data Analysis, Statistics and Probability

Students will be able to:

Students engage in problem solving, communicating, reasoning, connecting, and representing as they:

Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them

- formulate questions, design studies, and collect and analyze data
- select, create, and use appropriate graphical representations of data

Select and use appropriate statistical methods to analyze data

- find, use, and interpret measures of central tendency, including mean, median, and mode
- discuss and analyze the correspondence between data sets and their graphical representations

Develop and evaluate inferences and predictions that are based on data

- use observations about differences between two or more samples to make conjectures about the populations from which the samples were taken

Understand and apply basic concepts of probability

- explain the difference between theoretical and experimental probability
- use proportionality to make and test conjectures about the results of experiments and simulations
- compute probabilities using such methods as organized lists, tree diagrams, and area models

Number Sense and Operations

Students will be able to:

Students engage in problem solving, communicating, reasoning, connecting, and representing as they:

Understand numbers, ways of representing numbers, relationships among numbers, and number systems

- work flexibly with real numbers to solve problems
- use ratios and proportions to represent quantitative relationships
- use exponential, scientific, and calculator notation appropriately
- compare and contrast the properties of numbers and number systems, including the rational and real numbers

Understand meanings of operations and how they relate to one another

- use the properties of real number operations to simplify computations - commutative, associative, distributive, identity, and inverses

Compute fluently and make reasonable estimates

- select appropriate methods and tools for computing with real numbers
- develop and use strategies to estimate the results of rational-number computations and judge the reasonableness of the results
- compute fluently with algorithms

Geometry and Measurement

Students will be able to:

Students engage in problem solving, communicating, reasoning, connecting, and representing as they:

Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships

- understand and extend relationships among the angles, side lengths, perimeters, areas, and volumes of similar objects
- create and critique inductive and deductive arguments concerning geometric ideas and relationships

Specify locations and describe spatial relationships using coordinate geometry and other representational systems

- use coordinate geometry to examine and analyze special geometric shapes and situations using a Cartesian coordinate system

Apply transformations and use symmetry to analyze mathematical situations

- examine the congruence, similarity, and line or rotational symmetry of objects using transformations

Use visualization, spatial reasoning, and geometric modeling to solve problems

- use visual tools to represent and solve problems
- use geometric models to represent and explain numerical and algebraic relationships

Understand measurable attributes of objects and the units, systems, and processes of measurement

- understand, select, and use units of appropriate size and type to measure angles, perimeter, area, surface area, and volume
- make decisions about units and scales that are appropriate for problem situations involving measurement

Apply appropriate techniques, tools, and formulas to determine measurements

- develop and use formulas to calculate linear, area, and volume
- use unit analysis to check measurement computations

Patterns, Relations and Algebra

Students will be able to:

Students engage in problem solving, communicating, reasoning, connecting, and representing as they:

Understand patterns, relations, and functions

- extend, represent, analyze, and generalize a variety of patterns with tables, graphs, words, and, when possible, symbolic rules
- relate and compare different forms of representation for a relationship
- identify functions as linear or nonlinear and contrast their properties from tables, graphs, or equations
- understand relations and functions and select, convert flexibly among, and use various representations for them
- explain and analyze both qualitatively and quantitatively how any change in one variable results in a change in another
- interpret representations of functions of two variables

Represent and analyze mathematical situations and structures using algebraic symbols

- understand different uses of variables
- explore relationships between symbolic expressions and graphs
- use symbolic algebra to represent and explain mathematical relationships
- generate equivalent forms for algebraic expressions and solve equations and inequalities
- judge the meaning, utility, and reasonableness of the results of symbol manipulations, including those carried out by technology

Use mathematical models to represent and understand quantitative relationships

- model and solve contextualized problems using various representations, such as graphs, tables, and equations
- draw reasonable conclusions about a situation being modeled

Analyze change in various contexts

- use graphs to analyze the nature of changes in quantities

Data Analysis, Statistics and Probability

Students will be able to:

Students engage in problem solving, communicating, reasoning, connecting, and representing as they:

Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them

- select, create, and use appropriate graphical representations of data

Select and use appropriate statistical methods to analyze data

- discuss and understand the correspondence between data sets and their graphical representations

Develop and evaluate inferences and predictions that are based on data

- make conjectures about possible relationships between two characteristics of a sample

- use conjectures to formulate new questions and plan new studies to answer them

Understand and apply basic concepts of probability

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- understand and use appropriate terminology to describe events

- use probability to make and test conjectures about the results of experiments and simulations

- compute probabilities for simple compound events
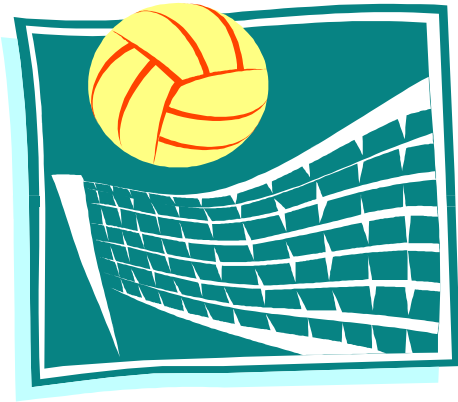
Middle School
Physical Education Program

Overview The physical education program provides the child with an educational experience which uses movement as a medium of learning and expression. A correlation exists between the development of a sound body, which is one product of the physical education process, and the ability to experience a fuller, more satisfying life. The Health Education Program closely reinforces this educational experience.

The purpose of the Lexington Middle School Physical Education Program is to develop a physically educated person. According to the National Association for Sports and Physical Education, a physically educated person exhibits the following competencies:

- *demonstrates competency in many movement forms and proficiency in a few movement forms*
- *applies movement concepts and principles to the learning and development of motor skills*
- *exhibits a physically active lifestyle, achieves and maintains a health enhancing level of physical fitness*
- *demonstrates responsible personal and social behavior in physical activity settings*
- *demonstrates understanding and respect for differences among people in physical activity settings*
- *understands that physical activity provides opportunities for enjoyment, challenge, self-expression, and social interaction*

Topics in Grades 6, 7, 8

The middle school program develops the following topics for grades 6, 7, and 8. Below is a list of those activities covered under these topics and reinforced throughout the program.

Fitness
- physical best fitness assessment
- proper warm up/stretching instruction
- proper cool down/stretching instruction
- understand how body changes affect movement

Healthy Life Styles
- understand how body changes affect movement
- understand the importance of physical activity and how it applies to long term fitness
- develop knowledge of healthy fitness activities

Motor Skill Development
- develop basic skills in individual, dual team sports, and leisure activities
- develop knowledge of rules, terminologies, strategies and etiquette of individual, dual team sports, and leisure activities
- improve upon your knowledge

Personal and Social Competency
- learn to accept different abilities of classmates
- learn good sportsmanship
- learn the importance of team work
- develop leadership skills

Fitness

Students will be able to:

- assess personal fitness through participation in the Physical Best Fitness Program

- apply basic principles of training and appropriate guidelines of exercise to improve immediate and long-term physical fitness

- demonstrate a knowledge of health related components of fitness such as: cardiorespiratory endurance, muscular strength, muscular endurance, flexibility, and body composition

- participate in activities that promote physical fitness, decrease sedentary lifestyle, and relieve mental and emotional tension

- demonstrate a knowledge of the skill related components of physical fitness such as: agility, balance, coordination, power, reaction time, and speed

Healthy Life Style

Students will be able to:

- obtain a level of fitness appropriate to their own capabilities

- show mental, social, and emotional growth through physical activities

- attain a basic workable knowledge and understanding of various sports and activities

- participate in carry over activities as well as to appreciate sports and activities

Motor Skill Development

Students will be able to:

- use combinations of manipulative, locomotor, and non-locomotor skills to develop movement sequences and patterns, both individually and with others

- demonstrate developmentally appropriate basic manipulative and advanced specialized physical skills, including throwing and catching, batting, striking, kicking, redirecting, and tracking objects in space

- perform rhythm routines that combine traveling, rolling, balancing, change of direction, and transfers of weight

- develop and apply competency in activities that may include but are not limited to the following: basketball, field hockey, floor hockey, football, lacrosse, racquet skills, rhythmic, soccer, team handball, track & field, strength training, volleyball

Personal and Social Competency

Students will be able to:

- demonstrate the value of physical activity and its contributions to a healthy lifestyle

- explain the physical benefits as well as the psychological and social benefits of regular exercise

- enhance self confidence and interpersonal skills through the group process in movement, games, and sport and in cooperative games, physical challenges, and rhythmics

- learn safety issues in movement, games and sport

- demonstrate strategies for inclusion of all students in physical activity settings related to strength and speed

- tolerate individual differences

- discover an element of fun and enjoyment in movement, games, and sport
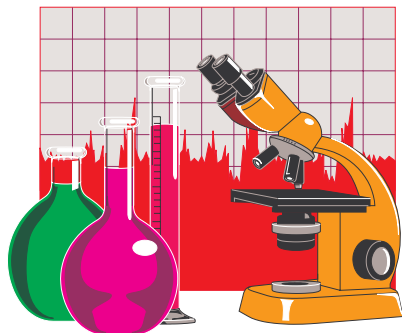
Middle School
Science Program

Overview   Inquiring minds are scientific minds. They ask questions relating to experi-
ence with the surrounding world. Whether the questions are phrased as
"why?", "when?", "which one?", "how much?", "where?" or "what is the
pattern?" there is a method used by scientists to go about determining
appropriate answers. This method requires the skills to observe, organize,
classify, speculate, make and test hypotheses, and analyze the resulting data.
Often one question leads to many more. When the results are meaningful and
verifiable they will be reviewed and shared within a community of peers.

Our students arrive inquisitive and they are already natural scientists as a
consequence of their elementary science experiences. Our primary middle
school goal is to nurture these incoming budding scientists with experiences
appropriate to their level of development. At the same time they actively
model the methods of professional scientists. We aim to send our students to
the high school with the same inquisitiveness and a solid conceptual basis for
continuing higher level scientific explorations.

The curriculum for each grade contains common topics of study which provide
unity in the program. The continuing theme of inquiry allows students and
teachers to follow their interest and personalize their work within the common
framework of the curriculum. Individual and group laboratory reports,
construction projects, model building, oral presentations, and posters incorpo-
rating written expression, numerical analysis, and graphic visualization aim to
develop proficiency in the important area of communication.

At the completion of middle school, the hope and goal of the science program is for
students to, in the words of a former student "See the world in a different way."

Inquiry Skills

Students will be able to:

- identify, make and record observations needed to carry out their research

- use appropriate references to form independent questions for research

- design charts, tables, graphs and other tools or devices which will assist in conducting and expanding their research

- use existing techniques or design unique ones to obtain additional information required to extend or refine their explanations

- analyze and interpret the data collected to answer the research question

- represent, present and defend their explanations

- work cooperatively and collaboratively

Process Skills

Students will be able to:

- follow safety procedures during laboratory and classroom activities

- accurately and appropriately use: metric rulers, balances, stopwatches, graduated cylinders, thermometers, spring scales and Bunsen burners

- use appropriate units for measured or calculated values

- recognize and analyze patterns and trends

- identify cause and effect relationships

- read, interpret and follow written laboratory instructions

- recognize, select and use tools and materials appropriate to the task

- use indicators and interpret results

- classify objects and organisms according to appropriate standards

- collect data using electronic and non-electronic devices

- use computers and appropriate software to analyze data

- extract meaning from expository text

- present scientific information in multiple formats consistent with acceptable scientific practices

- build and interpret models, charts and graphs

- use a compound microscope to observe living and nonliving organisms

- prepare a wet mount slide for examination

- use electronic probes with computer based data analysis

Content

Earth in Space *Students will be able to:*
- explain daily, monthly, and seasonal changes on earth

Earth *Students will be able to:*
- explain how the atmosphere (air), hydrosphere (water), and lithosphere (land) interact, evolve, and change
- describe volcano and earthquake patterns, the rock cycle, and weather and climate changes

Matter *Students will be able to:*
- observe and describe properties of materials
- develop their own mental models to explain common chemical reactions and changes in states of matter

Energy *Students will be able to:*
- observe and describe heating and cooling events

Force and Motion *Students will be able to:*
- describe different patterns of motion of objects
- observe, describe and compare effects of forces on the motion of objects

Content

Structure and Function

Students will be able to:

- compare and contrast the parts of representative members of accepted kingdoms
- explain the functioning of the major human organ systems and their interactions

Reproduction and Development

Students will be able to:

- observe and describe the variations in reproductive patterns of organisms, including asexual and sexual reproduction
- explain the role of sperm and egg cells in sexual reproduction
- observe and describe developmental patterns in selected plants and animals (e.g., insects, frogs, humans, seed-bearing plants)
- observe and describe cell division at the microscopic level and its macroscopic effects

Genetics

Students will be able to:

- describe sexual and asexual mechanisms for passing genetic materials from generation to generation
- describe simple mechanisms related to the inheritance of some physical traits in offspring

Evolution

Students will be able to:

- describe sources of variation in organisms and their structures and relate the variations to survival
- describe factors responsible for competition within species and the significance of that competition

Ecology

Students will be able to:

- compare the way a variety of living specimens carry out basic life functions and maintain dynamic equilibrium
- explain the need for a constant input of energy for living organisms
- describe the flow of energy and matter through food chains and food webs
- provide evidence that green plants make food and explain the significance of this process to other organisms
- describe how living things, including humans, depend upon the living and nonliving environment for their survival
- describe the effects of environmental changes on humans and other populations

Content

Matter

Students will be able to:

- distinguish between chemical and physical changes
- explain the properties of materials in terms of the arrangement and properties of the atoms that compose them
- use atomic and molecular models to explain common chemical reactions
- apply the principle of conservation of mass to chemical reactions
- explain chemical bonding in terms of the behavior of electrons

Energy

Students will be able to:

- describe forms of energy and transformations of energy
- observe and describe energy changes as related to chemical reactions
- observe and describe the properties of sound, light, magnetism, and electricity
- describe situations that support the principle of conservation of energy
- explain heat in terms of kinetic molecular theory

Forces and Motion

Students will be able to:

- observe and describe the effects of forces (gravitational, electrical magnetic, and mechanical) on the motion of objects
- describe how forces can operate across distances
- explain and predict different patterns of motion of objects
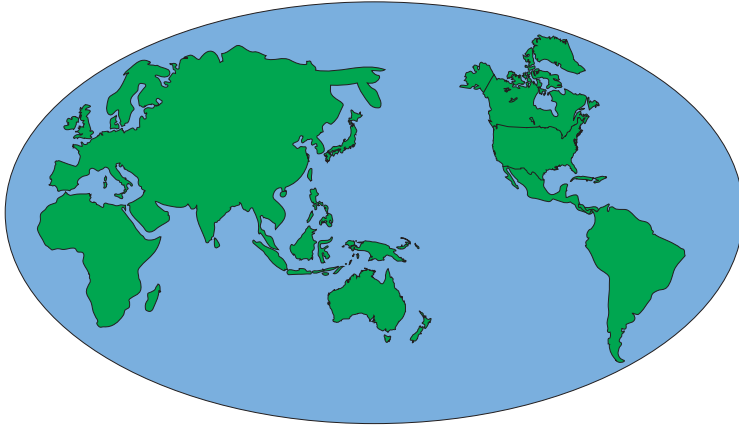
Middle School
Social Studies Program

Overview   **An Interconnected/Inclusive Approach to Social Studies**

According to the National Social Studies Standards, *Expectations of Excellence,*

> *Social Studies is the integrated study of the social sciences and humanities to promote civic competence. Within the school program, social studies provides coordinated, systematic study drawing upon such disciplines as anthropology, archaeology, economics, geography, history, law philosophy, political science, psychology, religion, and sociology, as well as appropriate content from the humanities, mathematics, and natural sciences. The primary purpose of social studies is to help young people develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world.*

The goal of the Lexington Public Schools Social Studies Program is to educate students to become active, informed participants in a democratic society. At all levels, the key objectives of social studies education are the development of the students' understanding of themselves and their immediate environment as a microcosm of the larger world, the development of historical habits of mind and the development of a body of historical and geographic knowledge.

The Lexington Public Schools Social Studies curriculum reflects the reality of our lives, that everything we learn and know is interconnected. The study includes both the common characteristics and relations among people, places, and environments, as well as their unique features. This inclusive curriculum promotes a deeper understanding of social studies by examining a variety of perspectives. Its multi-cultural approach also fosters personal connectedness. The goal is to engender in students empathy, understanding, cooperation, and an honoring of diversity.

Middle School Courses

Grade 6 - Units of Study
- Archaeology
- Early Humans
- Ancient River Civilizations
- Sumer
- Greece
- Rome
- Research Paper

Grade 7 - Units of Study
- Cartography
- Physical Geography
- World Regions
- North Africa and the Middle East
- Sub-Saharan Africa
- East Asia, South Asia, Southeast Asia
- Latin America
- Europe

Grade 8 - Units of Study
- The Rationale for Studying History
- Colonization and Settlement (1585 - 1763)
- Revolution (1763 - 1783)
- The New Nation (1783 - 1815)
- Expansion and Reform (1815 - 1850)
- Civil War and Reconstruction (1850 - 1877)

Civics and Government

Students will learn how ancient civilizations were organized and governed.

Students will be able to:

- examine recurring issues involving the rights, roles, and status of the individual

- describe the purpose of government and how its powers are acquired, used, and justified

- define and use correctly words and terms relating to government such as city-state, dynasty, kingdom, empire, republic, civic duty, and rule of law

- identify characteristics of civilizations such as the presence of political institutions and systems of record keeping

- describe important contributions to the development of law explain why the government of ancient Athens is considered the beginning of democracy and explain the democratic political concepts developed in ancient Greece

- describe the contribution of Roman civilization to law

Economics

Students will learn about the growth and development of economic systems common to ancient civilizations.

Students will be able to:

- define and apply economic concepts such as producers, consumers, goods, services, buyers, sellers, natural resources, taxes, specialization of labor, savings, prices, markets, scarcity, trade, barter, money, medium of exchange, supply, and demand

- identify economic characteristics of civilizations such as the production of goods and food surpluses

- describe the role of specialization of labor and supply and demand in the economic process

Geography

Students will learn absolute and relative location.

> *Students will be able to:*
>
> • locate the Ancient River Civilizations (Nile, Indus/Ganges, China, and Mesopotamia), Sumer, Greece, and the Roman Empire on appropriate historical maps
>
> • identify the geographic characteristics of civilizations (geographic boundaries and population distribution and density)

Students will understand the culture and contributions of ancient civilizations.

> *Students will be able to:*
>
> • identify polytheism as a religious belief of people in ancient civilizations
>
> • describe the myths and stories of ancient civilizations and give examples of gods, goddesses, heroes, and events
>
> • describe the contributions of Greek and Roman civilization
>
> • identify and describe ways regional, ethnic, and national cultures influence individuals' daily lives
>
> • compare similarities and differences in the ways societies and cultures meet human needs
>
> • explain and give examples of how language, literature, the arts, architecture, other artifacts, traditions, beliefs, values, and behaviors contribute to the growth of culture
>
> • identify cultural characteristics of civilizations such as the existence of social classes and the development of religion, learning, art, and architecture

Students will learn the process of Geographic Inquiry (Research, Analysis, and Interpretation).

> *Students will be able to:*
>
> • identify information shown on historical maps
>
> • explain how the geographic location of ancient civilizations contributed to their growth and development

History

Students will understand time, chronology, and cause/effect relationships

Students will be able to:
- construct and interpret timelines of events and civilizations studied
- identify multiple causes and effects when explaining historical events
- demonstrate an understanding of chronology, causality and conflict to explain connections among patterns of historical change and continuity
- describe the great climate and environmental changes that shaped the earth and eventually permitted the growth of human life
- explain the importance of the invention of metallurgy and agriculture.
- describe how the invention of agriculture and domestication of animals related to settlement, population growth, and the emergence of civilization
- describe how irrigation, metalsmithing, slavery, and inventions and technology contributed to the growth of the ancient civilizations studied
- analyze the causes, and consequences of seminal ancient conflicts

Students will learn the process of Historical Inquiry

Students will be able to:
- identify and use processes important to reconstructing and reinterpreting the past
- distinguish between primary and secondary sources and describe how each kind of source is used in interpreting history
- describe ways of interpreting archaeological evidence from societies leaving no written record
- describe the kinds of evidence that have been used by archaeologists and historians to draw conclusions about the social and economic characteristics of the ancient civilizations studied
- compare and contrast life in the different ancient civilizations studied

Students will understand important cultural and historical periods or dates of ancient civilizations.

Students will be able to:
- use correctly the words or abbreviations for identifying time periods or dates in historical narratives (decade, age, era, century, millennium, AD/CE, BC/BCE, and circa)
- identify in BC/BCE dates that the higher number indicates the older year (that is, 3000 BC/BCE is earlier than 2000 BC/BCE)
- identify the characteristics of early human societies and their successor civilizations
- describe and summarize the achievements of Ancient River Civilizations (Nile, Indus/Ganges, China, and Mesopotamia), Sumer, Greece, and Rome.
- describe the status of women and slaves in the civilizations studied
- describe and be able to cite examples of cultural diffusion in ancient societies and civilizations

Geography

Cartography

Students will learn the function of maps and globes in studying about the world.

Students will be able to:
- use and create map keys, scales, symbols, and a compass rose
- locate places using latitude and longitude and other grid systems
- make inferences and draw conclusions using a variety of maps including physical and political maps
- explain map projections: why maps and globes are different and why all maps are inaccurate

Physical Geography

Students will learn about the influence of the physical environment on human habitation and the influence of humans on the environment.

Students will be able to:
- describe the conditions which create earthquakes and volcanos and locate the Ring of Fire
- define crust, mantle, core
- define terms that describe physical features (gulf, bay, mountain range, etc.)
- explain how river systems function
- describe how elevation, wind and ocean currents, landforms, and latitude create climatic regions
- explain the connection between climate and agriculture and its effect on culture
- describe the relationship between natural resources and the economy
- explain the factors that determine the location of cities
- explain how the interaction among climate, agriculture, natural resources, industry impact a region's culture

World Regions

Students will learn about the culture, contributions, and life of people in various world regions.

Students will be able to:
- locate important countries, cities, and physical features including mountain ranges, rivers, oceans etc.
- describe important events taking place in the region today
- compare and contrast life in the region studied to life in the United States
- define and give examples of manufacturing, extraction, and service industries
- describe types of government--democracy, monarchy, dictatorship
- describe the origins and beliefs of the following belief systems: Islam, Christianity, Judaism, Buddhism, Confucianism, Taoism, and Hinduism
- identify important texts, events and people in the history of the religion
- analyze the development and effect of religion on the culture of each region

Civics and Government

Students will learn how the United States was organized and the understand the workings of the United States Constitution.

Students will be able to:

- define and use appropriate vocabulary which pertains to the history and function of United States government

- practice forms of civic discussion consistent with the ideals of citizenship

- demonstrate an understanding of race, gender, and social class in describing the interactions of individuals and social groups

- analyze the weaknesses of the Articles of Confederation and describe the crucial events leading up to the Constitutional Convention

- explain the intellectual and historical influences on the formation and framework of the American government.

- describe the major debates at the Constitutional Convention and explain their resolution

- trace the influence and ideas of Supreme Court Chief Justice John Marshall and the importance of the doctrine of judicial review

- describe the purpose and functions of the United States government under the Constitution

- explain the concepts of popular sovereignty and constitutional government such as representative government, federalism, separation of powers, shared powers, checks and balances, and individual rights

- explain the varying roles and responsibilities of federal, state and local governments in the United States

- explain the rights and responsibilities of citizenship

- explain the evolution and function of political parties

- describe how decisions are made in a democracy, including the role of legislatures, courts, executives, and the public

Economics

Students will learn about the growth and development of the economic system in the United States.

Students will be able to:

- describe a range of examples of the various institutions that make up economic systems such as business firms, banks, and government agencies

- describe the role of specialization and supply and demand in the economic process

- explain the basic economic functions of the government in the economy of the United States

- explain the stimulus the transportation revolution of the 19th century provided to the growth of a market economy

- describe the rapid growth of slavery in the South after 1800 and analyze the impact of the cotton gin on the economics of Southern slavery and agriculture

- describe the impact of the Industrial Revolution on the economy of the North

Geography

Students will learn the connections between geography and United States History.

Students will be able to:

- locate and describe varying landforms and geographic features of the United States

- use a map of North America to trace America's territorial expansion to the Civil War

- on a map of North America, locate and identify the Union and Confederate states at the outbreak of the Civil War

History

Students will understand time, chronology, and cause/effect relationships

Students will be able to:
- interpret and construct timelines that show how events and eras are related to one another
- explain how a cause and effect relationship is different from a sequence or correlation of events
- distinguish between long-term and short-term cause and effect relationships
- identify and use key concepts such as chronology, causality and conflict to explain connections among patterns of historical change and continuity
- distinguish intended from unintended consequences
- explain the economic and political factors that contributed to the American Revolution
- describe the causes, course, and consequences of America's westward expansion
- provide examples of the various causes and effects of the Civil War

Students will learn the process of Historical Inquiry (research, analysis, and interpretation).

Students will be able to:
- interpret and construct charts and graphs that show quantitative information
- interpret the past within its own historical context rather than in terms of present day norms and values
- distinguish historical fact from opinion
- identify and use processes of historical inquiry to reconstruct and reinterpret the past.
- identify and explain the roles of political activists and organizations in influencing and shaping public policy and decision making
- locate, access, and organize information recognizing and explaining multiple points of view
- show through specific examples how science and technology have changed people's relationships in society
- explain how information and experiences may be interpreted by people from diverse cultural perspectives and frames of reference
- identify examples of stereotyping
- analyze slave life and resistance on plantations and farms across the South

History

Students will understand important cultural and historical aspects of United States History

Students will be able to:

- explain the role of Massachusetts in the American Revolution.explain the intellectual and historical influences on the American Revolution

- summarize the major policies and political developments that took place through 1877

- explain the emergence, growth, and importance of the Industrial Revolution

- describe emergence of American ideas as evidenced by the reform movements of the first half of the 19th century

- explain the importance of the transportation revolution of the 19th century

- describe the different economies and cultures of the North and South

- summarize the political developments leading to the Civil War

- describe the roles and leadership policies of various Civil War leaders

- describe the social, cultural, technological, and economic changes resulting from the Civil War

- explain the policies and consequences of Reconstruction