

Health Dynamics

- Demonstrate activities for warming up and cooling down before and after aerobic exercise.
- Identify the components of physical fitness and the factors involved in planning and evaluating fitness programs for individuals at different stages of the life cycle.
- Identify life management skills and protective factors that contribute to achieving personal wellness goals.
- Promote positive physiological changes in the cardiovascular system via high intensity aerobic activities.
- Recognize the effects of substance use and abuse on the cardiovascular system and the rest of the body.

Electives

In addition to art, music, and health dynamics, the following unified arts are part of the 10th grade curriculum:

- Technology
- Drama
- Stage Craft
- Chorus
- Industrial Arts
- Forensic Investigations
- Financial Literacy
- Community Service
- Consumer Law
- History of Lynn
- Street Law
- Sociology/ Psychology
- Microeconomics
- ROTC (at LEHS only)

Placement

All students should be in a program that is realistically challenging. Students who have ability but have failed to demonstrate that ability should be placed at a level at which they will be significantly challenged.

Curriculum Team Vision

All teachers will plan for all instruction using the Massachusetts Curriculum Frameworks, aligned to the Common Core, and craft powerful learning experiences for students.

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The Lynn Public Schools



*Excellence and Innovation
in Education*



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**LYNN PUBLIC
SCHOOLS**

*Tenth Grade
Curriculum
Guide*

English Language Arts

Reading Literature & Informational texts

- Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
- Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text.
- Analyze how complex characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.
- Determine the meaning of words and phrases as they are used in the text.
- Analyze how an author's choices concerning how to structure a text, order events within it (e.g., parallel plots), and manipulate time (e.g., pacing, flashbacks) create such effects as mystery, tension, or surprise.
- Analyze a particular point of view or cultural experience reflected in a work of literature from outside the United States, drawing on a wide reading of world literature.
- Determine author's point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view.
- Analyze the representation of a subject or a key scene in two different artistic mediums, including what is emphasized or absent in each treatment.
- Relate a work of fiction, poetry, or drama to the seminal ideas of its time.
- Analyze how an author draws on and transforms source material in a specific work.
- Delineate and evaluate the argument and specific claims in a text.
- Analyze seminal US documents of historical and literary significance.
- By the end of grade 10, read and comprehend literary nonfiction at the high end of the grades 9–10 text complexity band independently and proficiently.

Writing

- Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

English Language Arts

- Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.
- Demonstrate understanding of the concept of point of view by writing short narratives, poems, essays, speeches, or reflections from one's own or a particular character's point of view.
- Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
- Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
- Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
- Draw evidence from literary or informational texts to support analysis, reflection, and research.
- Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

Speaking and Listening

- Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grades 9–10 topics, texts, and issues*, building on others' ideas and expressing his or her own clearly and persuasively.
- Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
- Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric, identifying any fallacious reasoning or exaggerated or distorted evidence.

English Language Arts

- Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.
- Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.
- Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate

Language

- Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
- Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.
- Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 9–10 reading and content*, choosing flexibly from a range of strategies.
- Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
- Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

Mathematics

Geometry:

Congruence

- Experiment with transformations in the plane.
- Understand congruence in terms of rigid motions.
- Prove geometric theorems.
- Make geometric constructions.
- Similarity, Right Triangles, and Trigonometry
- Understand similarity in terms of similarity in terms of similarity transformations.
- Prove theorems involving similarity.
- Define trigonometric ratios and solve problems involving right triangles.
- Apply trigonometry to general triangles.

Circles

- Understand and apply theorems about circles.
- Find arc lengths and area of sectors of circles.
- Expressing Geometric Properties with Equations
- Translate between the geometric description and the equation for a conic section.
- Use coordinates to prove simple geometric theorems algebraically.
- Geometric Measurement and Dimension
- Explain volume formulas and use them to solve problems.
- Visualize relationships between two-dimensional and three-dimensional objects.

Modeling with Geometry

- Apply geometric concepts in modeling situations.

Statistics and Probability

Conditional Probability and the Rules of Probability

- Understand independence and conditional probability and use them to interpret data.
- Use the rules of probability to compute probabilities of compound events in a uniform probability model.

Using Probability to Make Decisions

- Use probability to evaluate outcomes of decisions.

Mathematics

Algebra II:

Number and Quantity

The Complex Number System

- Perform arithmetic operations with complex numbers.
- Use complex numbers in polynomial identities and equations.

Vector and Matrix Quantities

- Represent and model with vector quantities.
- Perform operations on matrices and use matrices in applications.

Algebra

Seeing Structure in Expressions

- Interpret the structure of expressions.
- Write expressions in equivalent forms to solve problems.

Arithmetic with Polynomials and Rational Expressions

- Perform arithmetic operations on polynomials.
- Understand the relationship between zeros and factors of polynomials.
- Use polynomial identities to solve problems.
- Rewrite rational expressions.

Creating Equations

- Create equations that describe numbers or relationships.

Reasoning with Equations and Inequalities

- Understand solving equations as a process of reasoning and explain the reasoning.
- Represent and solve equations and inequalities graphically.

Functions

Interpreting Functions

- Interpret functions that arise in applications in terms of the context.
- Analyze functions using different representations.

Building Functions

- Build a function that models a relationship between two quantities.
- Build new functions from existing functions.

**It is important to note that students may take different math courses in a given year depending on previous courses taken, grades received, college/career plans, and/or interest.*

Science

Chemistry I:

This is the study of the fundamental concepts of matter, energy and chemical changes. The major areas studied are atomic theory, chemical bonding, chemical reactivity, writing and balancing equations, stoichiometry, acids and bases, gas laws, electrochemistry, redox reactions and nuclear chemistry. Most of these topics will be covered in laboratory investigations or experiments allowing the student to supply many ideas of chemistry.

Applied Chem:

This course is designed for the student who does not intend to study science after high school. The intent of this course is to provide students with fundamental chemistry concepts assisting them in developing into responsible citizens capable of making educated decisions. Such topics may include: Acid Rain, Greenhouse Effect, Fossil Fuels, Ozone Depletion, Food Chemistry, Nutrition, Pharmaceutical, Forensics and Medical Issues, Greater emphasis will be placed on collaborative, hands-on laboratory activities. Exploring the role of chemistry in various fields will allow the student to better understand the principles of chemistry, their applications and the relevance of chemistry in our daily lives.

Engineering the Future:

Engineering the Future is a full-year, introductory engineering course, suitable for students in grade 9-12. The course provides a strong foundation in physics and offers students an opportunity to explore the social, historical, and environmental contexts of emerging technologies. A central goal of the course is to build technology literacy for every student. Throughout the course, students develop a practical understanding of how we are influenced by technology, and how we all influence future technological development by the choices we make as workers, consumers, and citizens.

Biology II:

This course includes an in-depth exploration of following:

- Chemistry of life: Chemical Elements form organic molecules that interact to perform the basic life functions
- Cell Biology: Cells have specific structures and functions that make them distinctive
- Genetics: Genes allow for the storage and transmission of genetic information
- Anatomy and physiology: There is a relationship between the organization of cells into tissues and the organization of tissues into organs.
- Evolution and Biodiversity: Evolution is the result of genetic changes that occur in constantly changing environments
- Ecology: Ecology is the interaction among organisms and between organisms and their environment

Literacy in Science, Social Studies, and Technical Subjects

Reading Standards

- Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.
- Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.
- Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.
- Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 9–10 texts and topics*.
- Analyze the structure of the relationships among concepts in a text, including relationships among key terms.
- Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, defining the question the author seeks to address.
- Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
- Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.
- Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.
- By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.

Literacy in Science, Social Studies and Technical Subjects

Writing Standards

- Write arguments focused on *discipline-specific content*.
- Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.
- Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
- Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
- Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.
- Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.
- Draw evidence from informational texts to support analysis, reflection, and research.
- Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Foreign Language

The Foreign Language Department offers from grades 7 through 12, five years of Spanish and French, in both regular, honors and advanced level classes, and 4 years of Latin. By using a coordinated program of books, tapes, visuals, and tests, modern language students learn the four skills of reading, writing, speaking, and listening, and also become acquainted with the culture and civilization of the countries that use the language. Oral skills are supplemented with tapes. Latin students learn to read the language so that they may appreciate ancient literature and language. By studying mythology, classical civilization, and the relationship of Latin to English and many other modern languages, Latin serves as a background subject for many different areas.

Social Studies

U.S. History I:

The Revolution through Reconstruction, 1763-1877

Students examine the historical and intellectual origins of the United States during the Revolutionary and Constitutional eras. They learn about the important political and economic factors that contributed to the outbreak of the Revolution as well as the consequences of the Revolution, including the writing and key ideas of the U.S. Constitution. Students also study the basic framework of American democracy and the basic concepts of America government such as popular sovereignty, federalism, separation of powers, and individual rights. Students study America's westward expansion, the establishment of political parties, and economic and social change. Finally, students will learn about the growth of sectional conflict, how sectional conflict led to the Civil War, and the consequences of the Civil War, including Reconstruction.