

Seventh Grade Curriculum

The middle school years mark a transformative period in a child's development, second only to the rapid growth experienced from birth to age two. These years are filled with significant milestones, including the introduction of multiple teachers, navigating class transitions, and taking on greater responsibility for learning and homework.

To ensure a smooth transition and meaningful growth during this critical time, our dedicated teachers, administrators, and support staff work together to create a safe, supportive, and stimulating school environment. Our middle school educators are specialists in teaching young adolescents, employing research-based instructional strategies to meet the unique needs of this age group. They provide rigorous and engaging learning opportunities and utilize diverse assessment methods to empower students to demonstrate their understanding and skills in varied ways.

In partnership with students and their families, we strive to provide rich, meaningful educational experiences that foster academic achievement, personal growth, and the core values of the Newington Public Schools Mission Statement.

This document outlines the journey students take through the middle school years, spanning grades 5 through 8. Grounded in State and National Standards, the curriculum offers a comprehensive, diverse, and challenging program that addresses the learning needs of all students. It articulates, by content area and grade level, the key concepts students will understand and the skills they will develop as a result of their learning.

As you explore this curriculum overview, we invite you to approach it "through the eyes of the learner," envisioning how high expectations and dynamic learning experiences come together to support the growth and success of every student.

Language Arts

In seventh grade, students continue to grow as critical readers and thoughtful writers through a workshop model that emphasizes analysis, discussion, and reflection. They examine how authors develop themes, craft complex characters, and convey meaning through deliberate choices in structure, word selection, and tone. Students read fiction and nonfiction with a critical lens, examining how claims are supported and how multiple perspectives are represented. Writing instruction centers on crafting arguments, research-based essays, and narratives that demonstrate voice, clarity, and purpose. With the support of mentor texts, students learn to refine their style, address counterclaims, and integrate textual evidence effectively. The workshop model provides time for independent work, peer collaboration, and meaningful revision, helping students build confidence and control in their reading and writing.

CONCEPTS

Students will know and understand that:

- Themes are developed over the course of a text.
- Authors' decisions in word choice, structure, and tone affect meaning.
- Complex characters have conflicting motivations.
- Nonfiction texts present claims supported by evidence that can be critiqued.
- Arguments are stronger when they address counterclaims and multiple perspectives.
- Mentor texts can guide the development of style and craft.
- Voice is tailored to audience and purpose.

SKILLS

As a result of what students know and understand, they will be able to:

- Analyze theme development, word choice, structure, and tone.
- Compare and contrast texts based on authors' purposes and perspectives.
- Annotate to track ideas and make connections.
- Assess claims and evidence in nonfiction.
- Analyze nuanced characters.
- Write arguments, research-based essays, and narratives with engaging details.
- Develop voice and refine style using mentor texts.
- Revise for clarity, structure, and audience impact.
- Integrate quotes and citations effectively.

Math

The CCSS (Common Core State Standards) are organized into clusters of standards that are categorized as 'Major', 'Supporting', and 'Additional' in order to represent the emphasis on the content and to demonstrate the prioritization of some standards over others, resulting in greater focus in mathematics. Rather than racing to cover topics in a mile-wide, inch-deep curriculum, CCSS standards require us to significantly narrow and deepen the way time and energy are spent in the math classroom.

We focus deeply on the Major Work (Major Areas) of each grade so that students can gain strong foundations: solid conceptual understanding, a high degree of procedural skill and fluency, and the ability to apply the math they know to solve problems inside and outside the math classroom. Students should spend the large majority of their time on the major work of the grade. Supporting work, and, where appropriate, additional work, can engage students in the major work of the grade.

Major Work of Grade 7:

- Apply and extend previous understanding of operations with fractions to add, subtract, multiply, and divide rational numbers
- Analyze proportional relationships and use them to solve real-world and mathematical problems
- Use properties of operations to generate equivalent expressions

- Solve real-life and mathematical problems using numerical and algebraic expressions and equations

Supporting Work of Grade 7:

- Use random sampling to draw inferences about a population.
- Investigate chance processes and develop, use and evaluate probability models

Additional Work of Grade 7:

- Draw, construct and describe geometrical figures and describe the relationships between them.
- Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.
- Draw informal comparative inferences about two populations.

Accelerated Mathematics, Grade 7

In addition to the content noted above, students participating in 'Accelerated Grade 7 Math' will also engage in learning around the following Grade 8 areas:

- Understand congruence and similarity using physical models, transparencies, or geometry software.
- Understand and apply the Pythagorean Theorem.
- Work with radicals and integer exponents.
- Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.
- Investigate patterns of association in bivariate data.

Science

CONCEPTS

Students will know and understand that:

- Atomic level reactions are crucial to learning physical, life, earth and space science (chemical reactions & matter)
- The engineering design process consists of defining stakeholders, and refining the criteria and constraints for the design solution (chemical reaction & energy)
- The processing of food is a chemical change and effects the different systems in our bodies (metabolic reactions)
- Matter gets from living things that have died back into the system through various processes (matter cycling and photosynthesis)
- Changing an ecosystem effects what lives there (ecosystem dynamics)
- Changes in Earth's systems impacts our communities (Earth's resources & human impact)

SKILLS

As a result of what students know and understand, they will:

- Ask Questions and Define Problems
 - Develop and Use Models
 - Construct Explanations and Design Solutions
 - Use System and System Models to analyze phenomena
 - Plan and carry out investigations
 - Analyze and interpret data
 - Engage in argumentation
 - Obtain, evaluate, and communicate information
 - Use mathematics and computational thinking
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Social Studies

In grade 7, students explore different regions of the world through a geographic lens, examining their history, economies, and civics structures. Students explore both physical and human geography, including the impact of culture, population, and the environment on societies, particularly in Southwest Asia, Africa, South Asia and East Asia. Students learn to use maps and other geographic tools to analyze information and understand how different regions have been shaped by various factors. The program focus is based on the Connecticut Social Studies Frameworks, with special emphasis on the development of inquiry skills.

CONCEPTS

Students will know and understand that:

- The physical world shapes cultures
- Learning about others' cultures helps promote appreciation for the differences in our world
- Southwest Asia is geographically and ethnically diverse; but the identities of the people of this region are strongly connected to their culture and specifically to religion; the regions' natural resources have been a source of economic prosperity and political influence around the globe
- Southwest Asia is the birthplace of three major world religions, and Islam is the predominant religion practiced in this region
- Different cultures and governments define human rights in different ways, and some rights are defined by religious beliefs
- Cultural patterns are present in all societies and groups can sometimes change these patterns to ensure a region's overall progress or lessen the impact on the daily lives of people
- Political developments reflect change and continuity throughout the history of a region
- Laws impact our daily lives in different ways, sometimes effectively producing solutions and sometimes creating new problems

SKILLS

As a result of what students know and understand, they will be able to:

- Determine the kinds of sources helpful in answering questions, taking into consideration multiple points of view
- Evaluate the credibility of sources
- Develop claims and counterclaims while pointing out the strengths and limitations of both
- Construct arguments using claims and evidence from multiple sources
- Construct maps to represent and explain the pattern of cultural and environmental characteristics of our world
- Use maps, satellite images, photographs, and other representations to explain relationships between the locations of places and regions, and changes in their environmental characteristics
- Analyze the ways in which cultural and environmental characteristics vary among various regions of the world
- Use questions about historically significant people or events to explain the impact on a region
- Engage effectively in a range of collaborative discussions with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly

ENCORE CLASSES

CONCEPTS:

Students will know and understand that:

In order to be well rounded, it is essential to engage in learning experiences in the areas of art, STEM, health/wellness, library/media, music, wellness, and instructional technology.

Skills:

As a result of what students know and understand, they will be able to:

- Demonstrate their learning through projects, activities, discussions and performances in the Essentials classes.

STEM

S.T.E.M. education is an interdisciplinary approach to learning where rigorous academic concepts are coupled with real-world lessons as students apply science, technology, engineering, and mathematics in contexts that make connections between school, community, work, and the global enterprise enabling the development of STEM literacy and with it the ability to compete in the new economy.

In seventh grade, students will study Green Energy and understand how these technologies have less minimal impact on the environment and are far more beneficial to the environment than fossil fuels that produce harmful side effects as a byproduct of their usage. Students will use the LEGO MINDSTORMS NXT building & programming materials to focus on constructing green energy structures and measuring their efficiencies.

Art

The sixth-eighth grade art curriculum provides opportunities for students to broaden special art interests and continue the process of transforming personal experiences into art forms.

Seventh grade activities include:

- Drawing/Perspective
- Subtractive Sculpture
- Crafts/enamel design
- Study of significant arts and art style
- Computer aided-design

The opening of the Town-wide Art Show is held the last week of April. The NPS Featured Artist Gallery collection showcases one selection of student work from each of Newington's seven schools. A copy of this artwork is hung for one year on the third floor of the Town Hall.

Wellness

A healthy body and mind maximize children's ability to learn. The Wellness experience centers on the development and wellness of the child. During all four years, students prepare for and participate in the State Physical Fitness tests. Throwing and catching, kicking, striking, movement, and team building concepts are taught through team sports. These include volleyball, badminton, basketball, hockey, and team handball.

Additional activities are educational gymnastics, archery, dance, lifetime activities and cooperative games. The Wellness program also empowers students with knowledge to make responsible decisions about their behaviors. This is done through the discussion of a variety of issues facing adolescents including substance abuse and sexually transmitted diseases. Students will learn how to maintain a strong mind and healthy body through disease prevention and stress and anger management.

Music

All students participate in General Music each year. All students in grades 5-8 have the opportunity to participate in performing groups including chorus, band, and orchestra. Students in grade 7, who choose to participate in chorus, band, or orchestra meet one or two times per week during activity period. Small group instrumental lessons are available to students for ½ hour per week. Concerts throughout the year showcase the accomplishments of each ensemble.

The General Music curriculum seeks to develop within students a medium for self-expression and a life-long love of music.

Areas of study in seventh grade include:

- Performance skills in guitar and keyboard
- Music theory and sight reading skills

Instructional Technology

Seventh graders will have one 52-day cycle of educational technology. Students will explore the many tools associated with the planning and editing process in video production with a focus on understanding the primary components of an informational video. A variety of web tools, apps, and editing programs may be used to help collaborate on developing a public service announcement as their final project.

Library Media

The library media program provides instruction, resources and services to assist students in becoming critical thinkers and problem solvers in the pursuit and use of ideas and information. The library media program strives to ensure that all students have the skills and opportunity to access, evaluate and use information effectively and responsibly. Direct instruction in the steps and process to conduct research is provided in grades 5, 6, and 7 during the twenty-five-day Encore cycle rotation.

Students learn how to use critical thinking and research skills to identify, locate, evaluate, use, apply and communicate ideas effectively and responsibly. Students also learn Internet safety, note taking techniques, citation guidelines, and presentation skills integrating the use of technology.

The library program also supports academic and recreational reading for students in grades 5-8.