Stafford Public Schools

Curriculum At A Glance

Grades 6-8

Mrs. Susan Mike, Principal

Mrs. Kathryn Derosiers, Assistant Principal

It is the vision of Stafford Middle School to create a safe, welcoming, and inclusive learning environment for all students, faculty and families within the Town of Stafford. We will inspire, encourage, and support students and their families as we deliver high quality instruction through our rigorous, 21st century, State of Connecticut, curriculum. It is our vision to support the whole child: academically, socially and emotionally. Working in collaboration with families and the community, we will educate students in a way that better prepares them for our ever-changing global society. Together we will develop safe, open-minded, accountable and respectful children!

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Steven M. Autieri
Director of Curriculum and Instruction

Dear Families of the Stafford Public Schools,

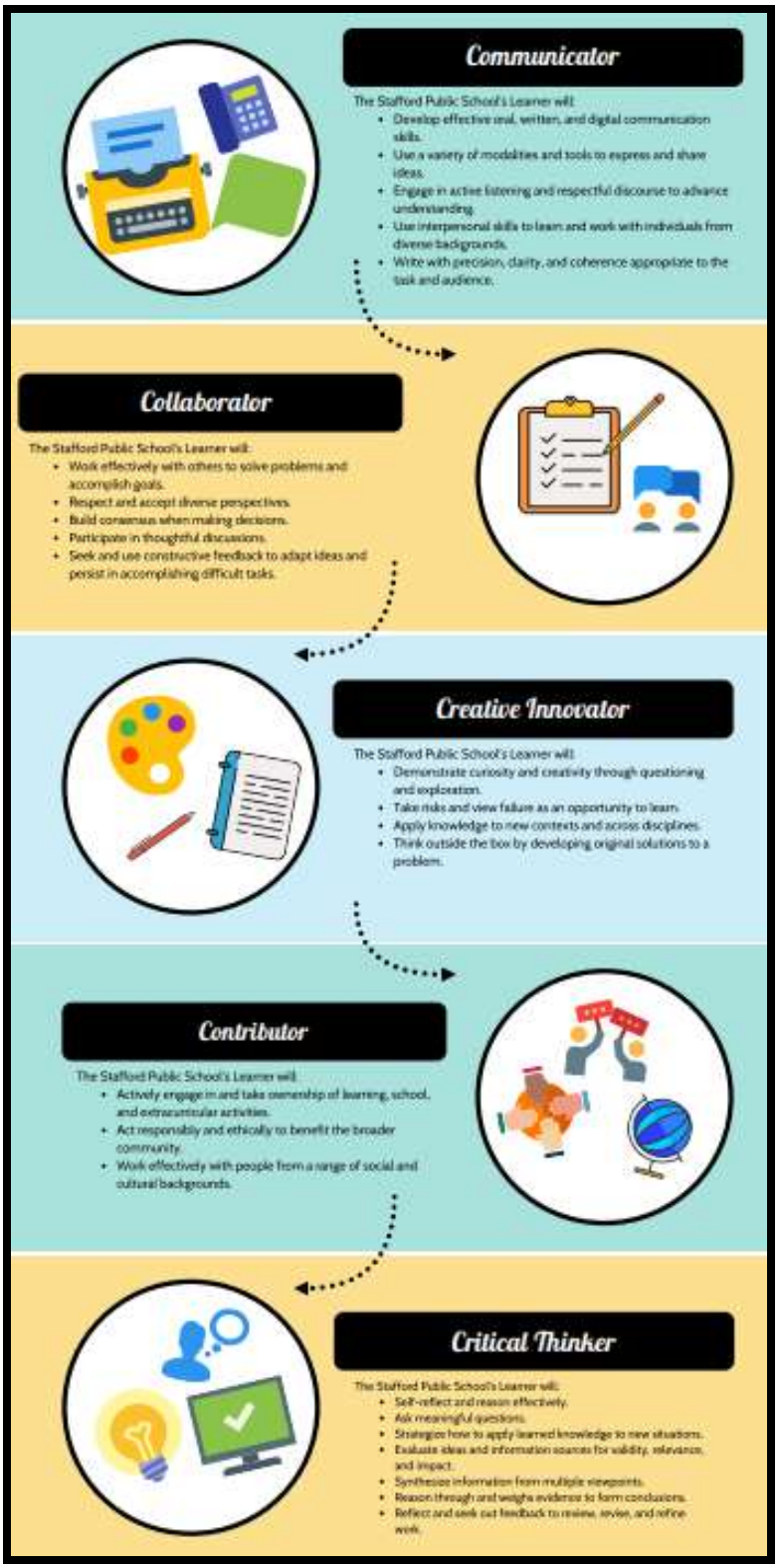
The Stafford Public Schools is committed to providing students with rich and rigorous learning opportunities that closely match content to skills that build lifelong learners. Learners need to be presented with opportunities that promote collaboration, critical thinking, and problem solving that celebrates perseverance.

The curriculum guide seeks to familiarize families with the grade level expectations aligned to state and national standards for each specific content discipline. The pages that follow below should not be seen as all encompassing. Please continue to view your student's teachers as the most beneficial resource to understand the core content and progress your student is making toward mastery. Do not hesitate to reach out to our instructional staff at any time to gain additional insight and perspective for our instructional programs.

We continue to be grateful for the strong partnership between our families and the school communities. Thank you for continuing to partner with the district to support learning. If I can be of any assistance to help you to unpack our district , please do not hesitate to contact my office at (860) 684-4213.

Steven M. Autieri
Director of Curriculum & Instruction

STAFFORD PUBLIC SCHOOLS
PORTRAIT OF THE GRADUATE



English Language Arts

The Stafford Public Schools follows a Balanced Literacy Model for instruction that promotes opportunities for students to strengthen oral and written literacy schools through the integration of speaking, listening, reading, writing, and vocabulary acquisition. The core reading and writing program features opportunities for teacher modeling of instructional strategies through mini-lessons, with opportunities for small-group work and conferring that emphasizes personalized learning and support.

The Common Core Standards denote the capacities that students should exhibit on the way to becoming college and career ready in literacy. These capacities include:

1. Demonstrating independence
2. Building strong content knowledge
3. Responding to the varying demands of audience, task, purpose, and discipline
4. Comprehending as well as critiquing
5. Valuing evidence
6. Using technology and digital media strategically and capably
7. Understanding other perspectives and cultures

Grade 6 Instructional Scope & Sequence

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6 Core Reading & Writing Instruction

Students will engage in a balanced literacy model that provides rich opportunities for students to engage in the reading and analysis of text sources and strengthening vocabulary through word work. Students will learn to read closely and gather evidence as they analyze the text. Students will evaluate multiple theories about their characters. Students will learn how to synthesize information across a longer nonfiction text as well as look across multiple nonfiction texts. Students will learn to generate central ideas from the text they are reading, and they will learn to evaluate by reading both primary and secondary sources closely.

Unit Name	Essential Questions
Reading Unit: Reading Launch (2 weeks)	• What characteristics does a person need in order to be considered a strong reader? • What strategies does a reader use to analyze a deeper understanding of the text? • How can a reader use the author's craft techniques to interpret text? • How can readers communicate their interpretation and theories of a text?
Reading Unit: Deep Study of Character (6 weeks)	• What methods does the author use to develop a character and to allow for deep analysis? • What makes characters complicated? • How can we learn about our own lives and solve real-life problems, through the deep study of characters? • How do decisions, actions, and consequences vary depending on the different perspectives within the story? • How does the study of a character bring us to universal themes about life?
Reading Unit: Tapping into the Power of Nonfiction (6 weeks)	• How can I read in a way that helps me to understand the central idea of longer nonfiction texts? • How do I grow ideas from nonfiction texts and form my own opinions? • Why is it important for nonfiction readers to explore the author's craft? • How does understanding the author's purpose helps us learn new information? • How can reading nonfiction help me to explore and understand our world?
Reading Unit: Social Issues Book Club (6 weeks)	• How are social issues developed and dealt with in texts? • How can readers deepen my interpretation of texts by considering social issues, themes, and perspective? • How can readers notice power, perspective, and stereotyping in texts that I read? • In what ways can readers take action to make the world a better and safer place for others?
Writing Unit: Personal Narratives (6 weeks)	• How do I draw from my experiences to create meaningful texts? • What makes my writing effective in conveying the greater meaning? • How does tension affect the reader's understanding? • How will I create a voice in my writing? • How do I hook the reader into my story? • How do writers construct an effective narrative? • How do writers plan and develop writing pieces that hold meaning for themselves and the reader? • How does a writer create voice in his/her writing? • How does a writer build stamina to write faster, longer, and stronger in a variety of situations?
Writing Unit: Research Information Writing (6 weeks)	• How do writers acquire ideas to write about? • What are the different informational structures writers use? • How do writers convey information that allows positive changes in the world?

Writing Unit: Ethical Research & Argument Writing (3 weeks)	• How do writers construct an effective argumentative piece? • How do students use the writing process to convey their position with world issues? • How can writers use literary language to better express their opinions of real issues? • How can writers be ethical in how they research a debatable issue?
Writing Unit: Literary Essay (6 weeks)	• How do writers construct an effective argumentative piece? • How do students use the writing process to better understand the world? • How can writers use literary language to better express their opinions of literature? • How can writers think more critically about the text?

Grade 7 Instructional Scope & Sequence

	Aug	*Sept*	*Oct*	*Nov*	*Dec*	*Jan*	*Feb*	*March*	*April*	*May*	*June*
Word Study/ Vocabulary	**Beginning of Year Test Unit 1-3 Review 1-3 Cumulative Review**			**Unit 4- 6 Review 4-6 Cumulative Review II**		**Unit 7-9 Review 7-9 Cumulative Review III**			**Unit 10- 12 Review 10-12 Cumulative Review IV**		
English	**Writing Realistic Fiction:**		**Writing About Reading Bootcamp**	**Dystopian Book Club**		**Essential Research Skills for Teens Researched Based Argument**		**Historical Fiction Book Clubs**		**Companion Book**	
Genre Studies	**Launching: Reading About Writing**		**Real World Themes: How Do I Fit?**		**Discovering the World Through Literature**	**Poetry: As Study of Author's Craft**					

Core Reading & Writing Instruction

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Students will engage in a balanced literacy model that provides rich opportunities for students to engage in the reading and analysis of text sources and strengthening vocabulary through word work. The literacy program integrates the readers and writers workshop model which promotes opportunities for students to build independence in use of reading and writing skills. Students will collect evidence in the process of developing claims for an argument drawing on sources through paraphrasing and/or quoting. Students will connect their selected reading to communicate information about topics through the writing process.

English Language Arts

Unit Name	Essential Questions
Writing Unit: Realistic Fiction (6 weeks)	• How do writers create and develop meaningful stories and characters using their imagination? • How writers use valuable small moments from their own lives to create realistic fiction? • How do readers make characters that are believable and carry the true meaning of the story? • What makes a writer's character dynamic or static? • How do writers use literary tools and resources to shape a story?
Writing Unit: Writing About Reading Bootcamp (2 weeks)	• How can reading impact readers' lives? • How do readers grow agency for their learning? • How can writing about your reading help develop critical reading skills?
Reading Unit: Dystopian Book Clubs (7 weeks)	• How important is it for people to have choices? • What is the role of an individual in his/her society? • How do we, as a culture, begin to address issues of social inequity? • What are our ethical obligations to our communities? • Do current societies learn from the mistakes of the past?
Writing Unit: The Art of Argument: Research-Based Essays (6 weeks)	• How can we build our understanding of a topic in order to weigh and evaluate sides in order to build an argument? • How does the structure of an argument contribute to the effectiveness of communicating one's position? • How does the audience impact the style and organization of an argument? • Why is it important to understand how to deliver an argument both in writing and verbally?
Writing Unit: Personal Narratives (6 weeks)	• How do I draw from my experiences to create meaningful texts? • What makes my writing effective in conveying the greater meaning? • How does tension affect the reader's understanding? • How will I create a voice in my writing? • How do I hook the reader into my story? • How do writers construct an effective narrative? • How do writers plan and develop writing pieces that hold meaning for themselves and the reader? • How does a writer create voice in his/her writing? • How does a writer build stamina to write faster, longer, and stronger in a variety of situations?

Reading Unit: Historical Fiction Book Clubs (7 weeks)	• What are the underlying universal themes that are revealed through the characters and events? • What are the result of prejudice? • How can synthesizing both fiction and nonfiction better help us to understand what we read? • How do our views and beliefs about events and people change through reading fictional accounts of history?
Writing Unit: Ethical Research & Argument Writing (3 weeks)	• How do writers construct an effective argumentative piece? • How do students use the writing process to convey their position with world issues? • How can writers use literary language to better express their opinions of real issues? • How can writers be ethical in how they research a debatable issue?

Genre Studies

Unit Name	Essential Questions
Unit 1: Launching Into Reading (2 weeks)	• How can reading impact readers' lives? • How do readers grow agency for their learning? • How can writing about your reading help develop critical reading skills?
Unit 2:Real World Themes: How Do I Fit In? (13 weeks)	• How can literature be a mirror or window into my life or the lives of others? • How can we evaluate the author's use of plot development in the stories we read? • What can we learn from the characters we study? • How do important challenges or decisions impact our life?
Unit 3: Discovering the World Through Literature (12 weeks)	• What are the benefits of reading nonfiction text through a narrative lens? • What can readers learn about today's world by studying people from various cultures and social groups? • What is the power in perspective?
Unit 4: Poetry: A Study of Author's Craft (12 weeks)	• How do poets use craft and style to create meaning through prose? • How do poets create messages about society and human conditions? • How does poetry affect us emotionally? • What tools do poets use to elicit emotions in the readers?

Grade 8 Instructional Scope & Sequence

	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
Word Study/ Vocabulary	**Beginning of Year Test Unit 1* Unit 2 Unit 3 Review 1-3 Cumulative Review**				**Unit 4 Unit 5 Unit 6 Review 4-6 Cumulative Review II**			**Unit 7 Unit 8 Unit 9 Review 7-9 Cumulative Review III**		**Unit 10 Unit 11 Unit 12 Review 10-12 Cumulative Review IV**	
English	**Memoir**		**Investigating Characterization**		**Literary Essay/SBAC Prep**		**Literary Nonfiction/SBAC Prep**		**Position Paper**	**Critical Literacy**	
Genre Studies	**Launch/Getting Ready for Workshop**		**Imaginary Worlds: Dive into Fantasy Literature**				**Identifying with Characters We Study**		**Own Voice Books: Studying Others' Stories**		

Core Reading & Writing Instruction

Students will engage in a balanced literacy model that provides rich opportunities for students to engage in the reading and analysis of text sources and strengthening vocabulary through word work. The literacy program integrates the readers and writers workshop model which promotes opportunities for students to build independence in use of reading and writing skills. Students will focus their reading skill development on the deep investigation of character and the use of narrative and informational reading strategies to deepen their understanding of literary nonfiction. Students will prepare for higher level high school writing skills through the development of various genres of writing such as essays, memoirs, and position papers.

English Language Arts

Unit Name	Essential Questions
Writing Unit: Memoirs (6 weeks)	• How can writers research their lives, writing about both the big ideas and small moment experiences? • How can writers use writing to explore, reflect and ask questions about what is important in life? • How can the moments in our lives become compelling stories and how can we learn from them? • How can writers explore a variety of structures that will make for a powerful memoir that elicits a theme?
Reading Unit: Investigating Characterization	• How can I deepen my understanding of perspective to study how characters' and readers' perspectives are shaped by authors? • How can I analyze an author's craft in a way that helps me imagine how authors create characters and develop themes?

(6 weeks)	• How can I expand what I already know about narrative structure to include more challenging narrative trajectories and how they affect readers?
Writing Unit: Literary Essay (6 weeks)	• How important is it for people to have choices? • How do I develop a claim to best represent my analysis of literature? • How can I use relevant reasons to write an argument to support a claim? • What forms of evidence will best support my thesis? • How can I provide the best proof or evidence to support my analysis of the text?
Reading Unit: Literary Nonfiction (7 weeks)	• How do readers fall in love with nonfiction reading? • What can we learn about ourselves as nonfiction readers? • How do our experiences reading literary nonfiction provoke thinking and responses? • How do readers create meaning and tackle the complexity of literary nonfiction? • How do readers transfer literary nonfiction skills to digital and hybrid media? • What can readers do to track their connections in their books?
Writing Unit: Position Paper (6 weeks)	• How do I write a research paper in a way to get others to care about the topic? • Why is it important to research both sides of an argument? • How do writers of position papers structure and craft their papers?
Reading Unit: Unlocking Contemporary Fiction (7 weeks)	• How can reading help us to understand our own identity as well as the perspectives of others? • How can reading shape our thinking about others that identify differently from us? • What techniques do author's use to help readers deepen their understanding of the text? • How can readers use these same techniques to transfuse their own passions about literature? • Why is it important to record learning and thoughts as a reader?

Genre Studies

Unit Name	Essential Questions
Unit 1: Getting Ready for Workshop (2 weeks)	• How can reading impact readers' lives? • How do readers grow agency for their learning? • How can writing about your reading help develop critical reading skills? • What techniques do authors use in order to imply deeper meanings in their stories?
Unit 2: Imaginary Worlds: Dive into Fantasy Literature (12 weeks)	• How do readers study fantasy? • How does the author's message connect to today's society? • How do we understand craft through multimedia versions? • How does the medium impact the director's/writer's choices? • What is the relationship between fantasy, truth, and warnings about the real world?
Unit 3: Identifying with Characters We Study (13 weeks)	• How can a study of graphic novels represent cultural and historical significance? • Why explore adolescent issues through visual representations and text? • How can the simple layout of a graphic novel be the foundation to a deeper meaning? • How are literary devices used to enhance the graphic novel experience?
Unit 4: Own Voice Books: Studying Others' Stories (12 weeks)	• What does it mean to look for diversity in literature? • Why is it important to look for the voices that are missing in our stories? • How does the mood and tone affect the reader's empathy towards characters? • What techniques does an author use to develop perspective and voice?

Instructional Materials/Ancillary Textbooks

Mathematics

The Stafford Public Schools mathematics curriculum emphasizes opportunities for students to draw upon computational and procedural fluency to apply their learning to novel problem solving situations. The course curriculum meets the expectations of the state and national standards to promote rich collaboration and meaningful application of new learning.

The mathematics program in Grades 6-8 promotes clear connections to the eight mathematical practices aligned to the Common Core Standards:

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

Mathematics Instructional Scope & Sequence

Grade Level	Fall	Winter	Spring
6	Area & Surface Area Introducing Ratios Unit Rates & Percentages	Dividing Fractions Arithmetic in Base Ten Expressions & Equations	Rational Numbers Data Sets & Distributions
7	Scale Drawings Proportional Relationships Measuring Circles	Proportional Relationships & Percentages Expressions, Equations, & Inequalities	Angles, Triangles, & Prisms Probability & Sampling
8	Rigid Transformations & Congruence Dilations Similarity & Slope Linear Relationships	Linear Equations & Systems Exponents & Scientific Notation Pythagorean Theorem & Irrational Numbers	Functions & Volume Associations in Data
Algebra I	Solving Equations & Inequalities Linear Equations Linear Functions	Systems of Linear Equations & Inequalities Exponents & Exponential Functions Polynomials & Factoring	Quadratic Functions Solving Quadratic Functions

Core Mathematics Curriculum

Unit Name	Learning Outcomes
Unit 1: Area & Surface Area	• Reason to calculate the area of a region by decomposing it and rearranging the pieces, and explain (orally and in writing) the solution method. • Find the area of a polygon, parallelogram, and triangle by decomposing, rearranging, subtracting or enclosing shapes, and explain (orally and in writing) the solution method. • Determine the surface area and volume of shapes made out of cubes. • Apply understanding of surface area to estimate the amount of fabric in a tent, and explain (orally and in writing) the estimation strategy. Performance Task: Designing a Tent
Unit 2: Introducing Ratios	• Coordinate discrete diagrams and multiple written sentences describing the same ratios. • Generate equivalent ratios and justify that they are equivalent. • Calculate equivalent ratios between prices and quantities and present the solution method (using words and other representations). • Draw and label a table of equivalent ratios from scratch to solve problems about constant speed. Performance Task: A Fermi Problem
Unit 3: Unit Rates & Percentages	• Recognize that when we measure things in two different units, the pairs of measurements are equivalent ratios. • Apply reasoning about unit rates to complete a table of equivalent ratios, and explain (orally and in writing) the solution method. • Choose and create a tape diagram, double number line diagram, or table to solve problems involving percentages and explain (orally) the solution method. Performance Task: Painting a Room
Unit 4: Dividing Fractions	• Interpret a verbal description of a multiplication situation (in spoken or written language), and identify which quantity is unknown, i.e., the number of groups, the amount in one group, or the total amount. • Explain (orally) how to create a tape diagram to represent and solve a problem asking “How many groups?” • Generalize a process for dividing a number by a fraction, and justify (orally). • Apply dividing by fractions to solve a problem about comparing lengths or measuring with non-standard units, and explain (orally and in writing) the solution method. Performance Task: Fitting Into Boxes
Unit 5: Arithmetic in Base Ten	• Add or subtract decimals with non-zero digits, and explain (orally) the solution method. • Interpret different methods for computing the product of decimals, and evaluate (orally) their usefulness. • Interpret different methods for computing a quotient that is not a whole number, and express it (orally and in writing) in terms of “unbundling.” Performance Task: Making & Measuring Boxes
	• Interpret and coordinate sentences, equations, and diagrams that represent the same addition or multiplication situation. • Explain (in writing) that some pairs of expressions are equal for one

Unit 6: Expressions & Equations	value of their variable but not for other values. • Evaluate numerical expressions that have an exponent and one other operation, and justify (orally) the process.
Unit 7: Rational Numbers	• Critique (orally and in writing) statements comparing rational numbers, including claims about relative position and claims about distance from zero. • Interpret rational numbers and their absolute values in the context of elevation or temperature. • Write and interpret inequality statements that include more than one variable. • Determine the total length of multiple horizontal and vertical segments in the coordinate plane that are connected end-to-end.
Unit 8: Data Sets	• Examine strategies for representing data graphically. • Calculating and interpreting the mean and deviation from the mean. • Generating box plots.

Core Mathematics Curriculum

Unit Name	Learning Outcomes
Unit 1: Scaled Drawings	• Describe characteristics of scaled copies and scale factor. • Identification of corresponding points, segments, and angles in a pair of figures. • Utilize actual distances and scales to determine scaled distances. • Utilize scaled drawings to find actual areas. Performance Task: Draw a Floor Plan
Unit 2: Introducing Proportional Relationships	• Represent proportional relationships through tables and equations. • Compare proportional and nonproportional relationships. • Represent proportional relationships through graphical models. Performance Task: Using Water Efficiently
Unit 3: Measuring Circles	• Examine quotients and use graphs to decide where two quantities are proportional. • Describe the relationship between circumference and diameter of a circle. • Determine the area of a circle and relate it to circumference. Performance Task: Stained-Glass Windows
Unit 4: Proportional Relationships and Percentages	• Investigate proportional relationships to solve problems with fractional ratios, percents, and decimals. • Calculation of amounts based upon percent increase or decrease. • Integrate the concepts of sales tax, tips, markups, and discounts to calculate dollar amounts. Performance Task: Posing Percentage Problems
Unit 5: Rational Number	• Interpret the meaning of negative numbers.

Arithmetic	• Add, subtract, multiply, or divide rational numbers. • Solve equations utilizing negative numbers. Performance Task: The Stock Market
Unit 6: Expressions, Equations, & Inequalities	• Recognize and represent proportional relationships between quantities using real-life and mathematical models. • Interpret inequalities that represent various situations while providing justification as to whether the values that make inequalities are true or false. • Write equivalent expressions.
Unit 7: Angles, Triangles, & Prisms	• Reason about adjacent angles to determine measurements. • Draw polygons with given conditions. • Applying volume and surface area for prisms. Performance Task: Building Prisms
Unit 8: Probability & Sampling	• Calculate probabilities of single step and multi-step events. • Calculate the mean or median of various populations to determine properties of a sample. Performance Task: Memory Test

Core Mathematics Curriculum

Unit Name	Learning Outcomes
Unit 1: Rigid Transformations & Congruence	• Utilize the terms reflection, rotation, and translation to determine types of transformations. • Draw images of figures under rigid transformations on and off square grids and coordinate planes. • Justify claims of congruence or non-congruence. Performance Task: Rotate and Tessellate
Unit 2: Dilations, Similarity, & Introduction to Slope	• Apply the term dilation to diagram figures under dilations incorporating the terms corresponding sides and angles. • Justify claims of similarity for similar figures. • Utilize the terms slope and slope triangle. Performance Task: The Shadow Knows
Unit 3: Linear Relationships	• Apply the concept of slope to recognize connections among rate of changes, slope, and constant of proportionality. • Represent linear equations with tables, equations, and graphs. Performance Task: Using Linear Equations to Solve Problems
Unit 4: Linear Equations & Linear Systems	• Write and solve linear equations in one variable. • Interpret solutions in the contexts from which the equations arose. • Write and solve systems of linear equations in two variables. Performance Task: Solving Problems with Systems of Equations
Unit 5: Functions and	• Describe functions as increasing or decreasing between numerical inputs.

Volume	• Perceive similarities in structure between pairs of known and new volumes Performance Task: Volume as a Function of...
Unit 6: Associations in Data	• Work with bivariate data sets that have variability. • Utilize scatter plots to assess their accuracy of data points. Performance Task: Gone in 30 Seconds
Unit 7: Exponents and Scientific Notation	• Extend the definition of exponents to include integers. • Apply concepts to the base-ten system and learn about magnitude and scientific notation. Performance Task: Is a Smartphone Smart Enough to Go to the Moon?
Unit 8: Pythagorean Theorem & Irrational Numbers	• Engage with geometric and symbolic representations of square and cube roots. • Plot rational numbers on the number line and approximate locations on the number line for irrational numbers. • Analyze the two proofs of the Pythagorean Theorem. Performance Task: When is the Same Size Not the Same Size?

Instructional Materials/Ancillary Textbooks

IXL

Illustrative Mathematics

Science

The Stafford Public Schools science curriculum emphasizes a rigorous, high-quality approach that embeds opportunities for students to solve problems, design solutions to complex issues, and

communicate data orally and in written formats. Knowledge and skills build from one grade level to the next throughout a student's career in the Stafford Public Schools. Instruction is approached as interdisciplinary–students will intertwine earth, physical, and life sciences to make sense of the world around them.

The science program in Grades 6-8 promotes the eight practices of science and engineering that the are essential for all students to be able to engage and interact with scientific principles in the classroom.

1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information

Science Instructional Scope & Sequence

<table>
<tr><th></th><th>Aug-Sept</th><th>Oct</th><th>Nov</th><th>Dec</th><th>Jan</th><th>Feb</th><th>March</th><th>April</th><th>May</th><th>June++</th></tr>
<tr><td>Grade 6</td><td>Light and Matter
(18 days)</td><td colspan="3">Thermal Energy
(37 days)</td><td colspan="2">Weather, Climate, & Water Cycling
(41 days)</td><td>Plate Tectonics & Rock Cycling
(26 days)</td><td>Natural Hazard
(20 days)</td><td colspan="2">Cells & Development
Winter 2022</td></tr>
<tr><td>Grade 7</td><td colspan="2">Chemical Reactions & Matter Transformations
(25 days)</td><td colspan="2">Chemical Reactions
(21 days)</td><td colspan="2">Metabolic Reactions
(29 days)</td><td>Matter Cycling & Photosynthesis
(29 days)</td><td colspan="2">Ecosystem Dynamics
(33 days)</td><td>Natural Resources & Human Impact
Winter 2022</td></tr>
<tr><td>Grade 8</td><td colspan="2">Contact Forces
(33 Days)</td><td>Sound Waves
(24 Days)</td><td colspan="2">Forces at a Distance
(30 Days)</td><td colspan="2">Earth in Space
Fall 2021</td><td colspan="2">Genetics
Fall 2021</td><td>Natural Selection & Common Ancestry
Winter 2022</td></tr>
</table>

Grade Level:	Unit Name:	Learning Outcomes:
	Unit 1: Light & Matter	• Ask questions about the one-way mirror phenomenon that they

6		investigate in the classroom by (1) manipulating light in the scaled box model, (2) measuring transmitted and reflected light off different materials, and (3) obtaining information from readings and videos. • Agree upon and develop models to explain how light interacts with the one-way mirror, glass, regular mirrors, the eye, and the brain. • Use a model to explain how the one-way mirror acts like a mirror on the light side of the system and acts like a window on the dark side of the system.
	Unit 2: Thermal Energy	• Plan and carry out investigations to systematically test the different parts of the cup system, tracking the flow of matter and energy into or out of the cup system. • Develop a model of temperature as the average kinetic energy of a group of particles. • Model the transfer of energy from light to kinetic energy of particles when light is absorbed. • Model thermal energy transfer between substances through particle collisions, or conduction, to change the average particle motion in a substance. • Revise their models to include factors that minimize energy transfer by reducing the absorption of light and decreasing the opportunities for particle collisions. • Apply what they have learned about features that can slow energy transfer to design, build, test, and revise a cup system to keep a drink cold.
	Unit 3: Weather & Climate	• Investigate weather data specific to these events and the temperature profile of the atmosphere above the Earth's surface. • Conduct investigations into how sunlight affects the temperature of different surfaces and the air above them, and how this contributes to cloud formation and growth. • Figure out how molecules in different phases change states under different conditions and they conduct investigations into why air moves the way it does as it is heated and cooled. • Explore how the interactions of air masses, prevailing winds, proximity to the ocean, ocean currents, and surface elevation profiles work together to influence how much precipitation different regions receive
	Unit 4: Rock Cycling & Plate Tectonics	• Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history. • Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales. • Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions. • Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.
	Unit 5: Natural Hazards	• Data about where hazards have occurred in the past can determine where hazards may happen in the future and which communities are at risk. • Impacts of natural hazards can be mitigated by knowing how quickly a hazard develops and moves, and how large and intense it can become. • Engineering design solutions include structural solutions and technologies to detect hazards, warn people, and reduce damage. • Design solutions and technologies can be evaluated using a systematic process that accounts for an understanding of the

		science of the hazard and the needs of the people at risk. • Communication strategies include educating the community before a natural hazard happens and alerting people when the hazard is happening. • Knowledge about hazards (the causes of the hazard, locations at risk, how to design solutions, and how to respond when it happens) can empower us and others to design safer communities and save lives.
	Unit 6: Cells and Systems	Under Development

Grade Level:	Unit Name:	Learning Outcomes:
	**Unit 1: Chemical Reactions & Matter**	• Plan and carryout investigations and analyze data to determine whether the matter that was in the gas bubbles produced was already part of the matter that was there beforehand. • Analyze data to determine the properties (density, melting point, boiling point, solubility, flammability) of substances and use these properties to argue from evidence which candidate substances the gas in the bubbles from the bath bomb could be made of. • Develop and use models to describe the atomic composition of simple molecules and extended structures. • Analyze and interpret data on the properties of a substance (water) before and after energy is added to the substance and use these to argue from evidence for whether a chemical reaction has occurred. • Construct an explanation to describe why the total number of atoms does not change in a chemical reaction and thus mass is conserved. • Construct an explanation to describe possible products in a chemical reaction from a set of known reactants by considering that the type of atoms in the chemical reactions should not change.
	Unit 2: Chemical Reactions & Energy	• Analyze data to determine patterns in the relationship between the total amount of food they can heat and the amount of energy that is transferred from the chemical reaction to the food system; • Undertake a design project to construct and test a solution that meets specific design criteria and constraints, including the transfer of energy; • Respectfully provide and receive critiques about design solutions with respect to how they meet criteria and constraints and consider patterns across multiple designs to determine which design characteristics cause more effective outcomes in performance; and • Optimize performance of a design that transfers energy through a system by prioritizing criteria, making trade-offs, testing, revising, and re-testing.
	Unit 3: Metabolic Reactions	• Develop and use a model to explain how food is rearranged through chemical reactions, forming new molecules that support growth and/or release energy as this matter moves through the human body. • Develop and use a model to explain how different subsystems of the body work together to provide cells what they need to function. • Construct and defend a scientific explanation of how celiac disease leads to weight loss and lack of energy. • Construct a scientific explanation based on evidence for how environmental factors, such as food intake, influence the growth of

		animals.
	Unit 4: Matter Cycling & Photosynthesis	• Develop a model to track the inputs and outputs of plants • Carry out experiments to figure out how leaves and seeds interact with the gases in the air around them in the light and the dark • Develop and evaluate arguments from their evidence to figure out where plants are getting the energy and matter they need to live • Construct an explanation for the central role of photosynthesis in all food production, including synthetic foods • Obtain and communicate information to explain how matter gets from living things that have died back into the system through processes done by decomposers • Develop and use a model to explain that the major atoms that make up food (carbon, hydrogen, and oxygen) are continually recycled between living and nonliving parts of a system.
	Unit 5: Ecosystem Dynamics & Biodiversity	• Plan and carry out simulated computer model investigations to examine what orangutans need to support healthy populations, • Engage in mathematical reasoning and computational thinking to determine the area of forest required by orangutans and how resource availability impacts orangutan populations, • Model competition for available resources within and between populations, and model other interactions (e.g., predation, mutually-beneficial interactions, etc.) between populations, • Use models to predict and test how various disruptions would impact more or less biodiverse systems, • Construct arguments that more biodiverse plant communities support other living things, particularly when there is a disruption, and • Obtain information about alternative farming approaches and ecosystem services in comparison to monocrop farming and apply these ideas to the design of an oil palm farm system that supports both orangutans and farmers.
	Unit 6: Natural Resources & Human Impact	Under Development

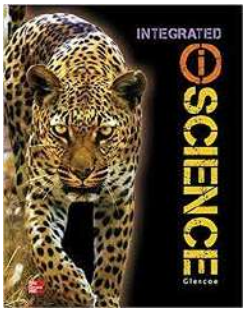
Grade Level:	**Unit Name:**	**Learning Outcomes:**
	Unit 1: Contact Forces	• Plan and carry out investigations and analyze and interpret data to figure out that all solid objects behave elastically up to a point and that the forces between objects in a collision are always equal in size and opposite in direction. • Develop and use free body diagram models to represent the changes in the relative strength of forces on different objects in a collision. • Create and use mathematical models to determine how changes in the mass and speed of an object affect the amount of kinetic energy that object has.

		• Develop and use system models to support explanations for how contact forces, including friction and air resistance, cause energy to be transferred from one part of the system to another before, during, and after a collision. • Plan and carry out investigations to determine which cushioning materials reduce peak forces the most in a collision. • Develop macroscopic models of small and microscopic structures of these materials and use these to generate data about how space to deform, contact time in a collision, and peak forces in a collision are related. • Carry out investigations and analyze data about how the shape and size of cushioning materials affect force distribution in a cushioning structure. • Identify trade-offs, analyze and critique design solutions, and optimize designs solutions using evidence from these investigations to solve different design problems for different stakeholders and different contexts
	Unit 2: Sound Waves	• By investigating factors including loudness and pitch, students develop a model of vibration that captures important ideas about how changes in the frequency and amplitude of the vibrations that can explain these different characteristics of sounds. • Students use this model of vibration to answer their initial questions about what causes different sounds. By testing various types of materials and using interactive computer models, Students figure out how sound travels from one location to another by causing sequences of vibrations through matter. What they figure out helps students answer their initial questions about how sound is traveling from a sound source to our ears. • By reasoning with the models they have developed, students also figure out how sounds can be absorbed and transmitted. In particular, they figure out how the energy transferred by the sound wave depends on both frequency and amplitude of a sound wave, and is more affected by its amplitude than the frequency. What students figure out helps them answer their initial questions about how objects that are not touching a sound source can shake in response to sound.
	Unit 3: Forces at a Distance	• Develop and refine a model about forces (pushes and pulls) that includes magnetic forces interacting at a distance via fields that extend through space, • Revise a model for explaining magnetic forces to include electromagnets that act as permanent magnets in many ways but can be manipulated by changing the electric current, • Consider the transfer of energy in their model, and the connections between forces, energy and magnetic fields, • Plan and carry out a series of investigations to test how changes in one part of a magnetic system (e.g., number of coils, diameter of coils, strength of magnet) affect the magnetic forces in the system, and • Construct an explanation based on evidence to explain that magnetic fields extend through space and predict the strength and direction of magnetic forces
	Unit 4: Earth in Space	• Develop and use both physical and conceptual models of objects in space to explain seasonal temperature variation across the globe, lunar phases, lunar eclipses, solar eclipses, and transits of Venus and Mercury. • Attend explicitly to the perspective taken by the observer in their systems models and eventually include multiple perspectives at various scales, beginning here on Earth and expanding out to include the solar system and galactic scales.

		• Use simulations to look for patterns of objects over time, including carrying out experiments on how the part of the Moon that is visible at a particular part of a lunar month is related to the position of the Moon related to the Earth and a person on Earth and the factors that influence the orbits of one object around another. • Analyze, interpret, and collect data about objects in the solar system in order to gather evidence to explain the patterns we see in the sky and space with both our unaided eyes and from telescopes and spacecraft, as well as results from a computer simulation of the formation of the solar system • Investigate phenomena and develop a model of light that can account for changes in color and brightness when it interacts with matter, and then revise a lunar eclipse model to represent the Earth-Sun-Moon system and that the matter in Earth's atmosphere selectively absorbs and bends light from the Sun to color the Moon red. • Obtain information about objects in the sky and space that connect to observations made by other cultures and people throughout history.
	Unit 5: Genetics	Under Development
	Unit 6: Natural Selection & Common Ancestry	Under Development

Instructional Materials/Ancillary Textbooks

OpenSciEd



EDUCATION

Social Studies

The Stafford Public Schools social studies curriculum promotes an interdisciplinary approach which integrates the domains of geography, economics, history, and civics within the instruction. Utilizing the inquiry framework, students dissect historical events through the analysis of primary source documents while generating evidence-based claims. The framework is based on the national C3 standards (College, Career, and Civic Life). Students utilize skills embracing speaking, listening, reading, and writing throughout their coursework.

C3 Curriculum Framework can be accessed here.

Connecticut Elementary & Secondary Social Studies Standards can be accessed here.

Social Studies Instructional Scope & Sequence

	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
Grade 6	Global Problem Solving: North America & the World Start Western Europe (Oct)			Western Europe Eastern Europe		South America *Research Skills for Teens*		Central America and Caribbean *Research Based Information		Australia and New Zealand	
Grade 7	Asia		Southwest Asia		Subcontinental Asia			Eastern Asia		Eastern Africa	
Grade 8	European Contact in North America		Colonial America		Revolution to Early Republic	The Constitution and Bill of Rights	Industrialization	Antebellum South	Civil War	Reconstruction	

Instructional Materials/Ancillary Textbooks

World Languages

The Stafford Public Schools world language program seeks to promote opportunities for learners to develop proficiency in written and oral language skills for a second language and gain perspectives in

diverse cultures. These experiences will ensure that our graduates are able to engage with other citizens in a growing society.

World Language Readiness Standards

COMMUNICATION
Communicate effectively in more than one language in order to function in a variety of situations and for multiple purposes.

CULTURES
Interact with cultural competence and understanding.

CONNECTIONS
Connect with other disciplines and acquire information and diverse perspectives in order to use the language to function in academic and career-related situations.

COMPARISONS
Develop insight into the nature of language and culture in order to interact with cultural competence.

COMMUNITIES
Communicate and interact with cultural competence in order to participate in multilingual communities at home and around the world.

Connecticut Seal of Biliteracy

The Seal of Biliteracy recognizes students that graduate demonstrating proficiency in more than one language. Students have the ability to earn the credential upon entering into their senior year of high school.

World Language Instructional Scope & Sequence

Grade Level	Subject	Instructional Topics

6	**World Language Explorations**	• **Preliminary Lessons in French:**
		  ◦ Greeting people
		  ◦ Saying good-bye
		  ◦ Finding out a person's name
		  ◦ Ordering food
		  ◦ The calendar
		  ◦ Telling time
		• **Preliminary Lessons in Spanish:**
		  ◦ Greet people
		  ◦ Say farewell to people
		  ◦ Express oneself politely
		  ◦ Count to 100
		  ◦ Identify days of the week
		  ◦ Identify months of the year
		  ◦ Find out and give the date
		  ◦ Ask and tell the time
		  ◦ Discuss seasons and weather
		  ◦ Use cognates as a means of elaboration

7 8	**French**	• Unit 1: Une amie et un ami (My friend is a friend) • Unit 2: Les cours et les profs (Classes & Teachers) • Unit 3: Pendant et après les cours (During & After Classes) • Unit 4: La famille et la maison (Family & Home) • Unit 5: Au café et au restaurant (In the cafe and in the restaurant) • Unit 6: La nourriture et les courses (Food & Shopping) • Unit 7: Les vêtements (Clothes) • Unit 8: L'aéroport et l'avion (Airport & Plane) • Unit 9: La gare et le train (The Station & The Train)
	Spanish	• Unit 1: Lecciones Preliminares • Unit 2: Como Somos (As We Are) • Unit 3: Familia y La Casa (Family & House) • Unit 4: En Clase y Después (In Class & After) • Unit 5: Que Comemos y Dónde? (What Do We Eat and Where?) • Unit 6: Los Deportes (Sports) • Unit 7: El Bienestar (Public Services) • Unit 8: De Vacaciones (Vacation)

Instructional Materials/Ancillary Textbooks

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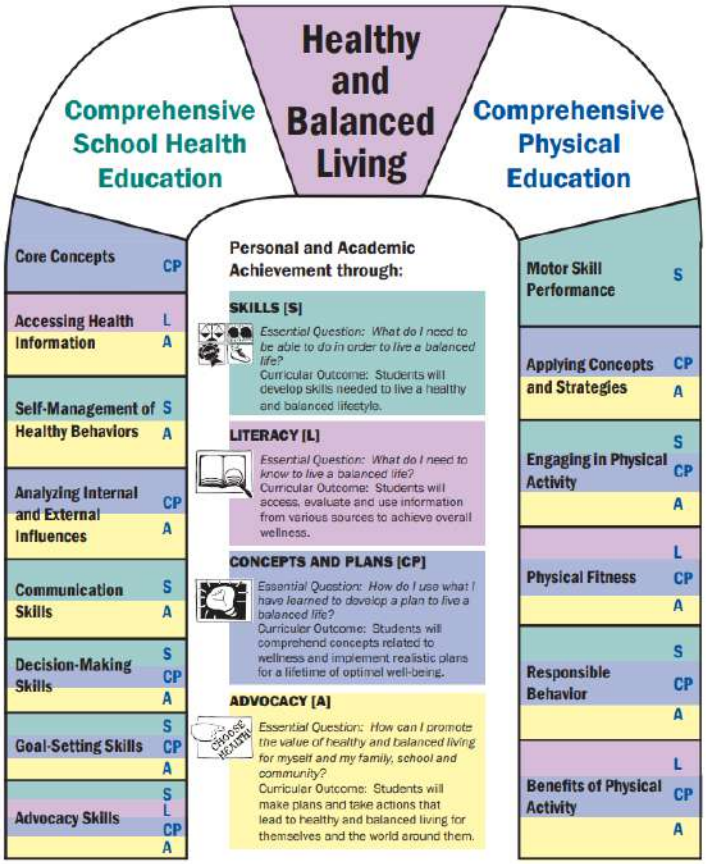
IXL

Physical Education & Wellness

The Stafford Public Schools emphasizes a hybrid physical fitness and wellness model that connects the importance of physical activity and healthy choices to overall human health. Courses provide opportunities for students to develop and reinforce skills that will carry them forward for future life decisions. Wellness courses meet for 48 minutes per session over 60 meetings each year.

Connecticut Health & Balanced Living Curriculum Framework	
Physical Education	**Health**
1. Motor Skill Performance 2. Applying Concepts and Strategies 3. Engaging in Physical Activity 4. Physical Fitness 5. Responsible Behavior 6. Benefits of Physical Activity	1. Core Concepts 2. Accessing Health Information 3. Self-Management of Healthy Behaviors 4. Analyzing Internal & External Influences 5. Communication Skills 6. Decision-Making Skills 7. Goal-Setting Skills 8. Advocacy



Middle School Physical Education/Health Curriculum		
Grade 6	**Grade 7**	**Grade 8**
30-Day Rotation #1: **Unit 1: Fitness and Dynamic Movement (10 days)** • Expectations and course information • Pre-Fitness Testing and setting SMART Fitness goals for CPFA • Cardiovascular fitness importance • Knowledge of static stretches and links to muscle groups • Analyzes eating and drinking habits on overall health **Health Connections: Nutrition** • Students need to explain the health benefits of physical activity, healthy eating, hydration, and sleep. • Calculate BMI • Students need to set goals for healthy changes based on individual needs. • Develop a positive body image	**30-Day Rotation #1:** **Unit 1: Fitness and Dynamic Movement (10 days)** • Expectations and course information • Pre-Fitness Testing and setting SMART Fitness goals for CPFA • Uses heart rate to monitor fitness • Participates in a variety of aerobic activities • Performs dynamic warm-ups specific to activities. **Health Connections: Nutrition** • Understands basic nutritional information and terms • Reads and interprets food labels • Make healthy eating choices	**30-Day Rotation #1:** **Unit 1: Fitness and Dynamic Movement (10 days)** • Expectations and course information • Pre-Fitness Testing and setting SMART Fitness goals for CPFA • Apply target heart rate to cardiovascular activities. • Uses heart rate to monitor fitness • Use sound hydration principles during exercise. • Performs dynamic warm-ups specific to activities. • Understand dangers of performance-enhancing drugs. **Health Connections: Nutrition** • Understands basic nutritional information and terms • Reads and interprets food labels • Make healthy eating choices

Unit 2: Cooperative/Team Sports (10 days)--(Two, 5-day Units) Possible Options: • **Outdoor:** Flag Football, Archery, Ultimate Frisbee, Golf or Disk Gold. • **Indoor:** Volleyball: Set, pass, bump, underhand serve (Skills: ready position, use of space, communication), Strength Training, Yoga/meditation, overhand throwing.	**Unit 2: Cooperative/Team Sports (10 days)--(Two, 5-day Units)** Possible Options: • **Outdoor:** Flag Football, Archery, Ultimate Frisbee, Golf or Disk Gold. • **Indoor:** Volleyball: Set, pass, bump, underhand serve (Skills: ready position, use of space, communication), Strength Training, Yoga/meditation, overhand throwing.	**Unit 2: Cooperative/Team Sports (10 days)--(Two, 5-day Units)** Possible Options: • **Outdoor:** Flag Football, Archery, Ultimate Frisbee, Golf or Disk Gold. • **Indoor:** Volleyball: Set, pass, bump, underhand serve (Skills: ready position, use of space, communication), Strength Training, Yoga/meditation, overhand throwing.
Unit 3: Substance Abuse Prevention (5 days) • Know the long and short term effects of tobacco and inhalant use. • Analyze commercials to encourage or discourage tobacco/vaping use. • Analyze internal/external factors that affect substance use.	**Unit 3: Violence Prevention (5 days)** • Bullying and harassment--what do I do if someone is being picked on or harassed? • Know how to access school and community resources to assist when bullying or harassment take place.	**Unit 3: Stress Management/Suicide Prevention (5 days)** • Evaluate personal stressors. • Know effective strategies to manage stress. • Identify the warning signs of suicide. • Articulate how to access school and community resources.
Common Assessments: • Goal Setting Checklist • Team Sport Skill Assessment Checklist	**Common Assessments:** • Goal Setting Checklist • Team Sport Skill Assessment Checklist	**Common Assessments:** • Goal Setting Checklist • Team Sport Skill Assessment Checklist

30 Day Rotation #2: **Unit #1: Healthy Relationships--Growth & Development (5 days)** • Physical, mental, and emotional changes during puberty including good hygiene practices. • Male and female reproductive anatomy • Explain the basics of HIV infection including a description of cause, modes of transmission and ways in which it is not transmitted.	**30 Day Rotation #2:** **Unit #1: Substance Abuse Prevention (5 days)** • Know the effects of alcohol or marijuana use. • Debate the influence of culture, media, and technology on substance use. • Know the locations of resources to stay drug free.	**30 Day Rotation #2:** **Unit #1: Growth and Development--Relationships and Sexuality (5 days)** • Understand healthy vs. unhealthy relationships. • Know the symptoms and causes of sexually transmitted infections. • Discuss short and long term effects of teenage sexual behavior.
Unit #2: Cooperative/Team Sports/Adventure Ed. (10 days) Possible Options: • Invasion Sports: basketball, flag football, soccer, handball. • Volleyball: Set, pass, bump, underhand serve (Skills: ready position, use of space, communication). • Track and Field: Long jump, long distance run, relay, etc.	**Unit #2: Cooperative/Team Sports/Adventure Ed. (10 days)** Possible Options: • Invasion Sports: basketball, flag football, soccer, handball. • Volleyball: Set, pass, bump, underhand serve (Skills: ready position, use of space, communication). • Track and Field: Long jump, long distance run, relay, etc.	**Unit #2: Cooperative/Team Sports/Adventure Ed. (10 days)** Possible Options: • Invasion Sports: basketball, flag football, soccer, handball. • Volleyball: Set, pass, bump, underhand serve (Skills: ready position, use of space, communication). • Track and Field: Long jump, long distance run, relay, etc.
Unit 3: Adventure Education (10 days) • Cooperative games emphasizing skills of active listening, effective communication, and problem solving when working in a group.	**Unit 3: Adventure Education (10 days)** • Cooperative games emphasizing skills of active listening, effective communication, and problem solving when working in a group.	**Unit 3: Adventure Education (10 days)** • Cooperative games emphasizing skills of active listening, effective communication, and problem solving when working in a group.

Performing Arts

The Stafford Public Schools music program is designed to engage students in a comprehensive program that combines music theory with application through performance. Students can diversify their music experience participating in courses such as band or chorus throughout their time at Stafford Middle School. Through these experiences, students will develop a value of the arts in supporting connections to culture and society.

National Core Arts Standards

A. CREATING: Conceiving and developing new artistic ideas and work.
- a. Generate and conceptualize artistic ideas and work.
- b. Organize and develop artistic ideas and work.
- c. Refine and complete artistic work.

B. PERFORMING: Interpreting and sharing artistic work.
- a. Analyze, interpret and select artistic work for presentation.
- b. Develop and refine artistic work for presentation.
- c. Convey meaning through the presentation of artistic work.

C. RESPONDING: Understanding and evaluating how the arts convey meaning.
- a. Perceive and analyze artistic work.
- b. Interpret intent and meaning in artistic work.
- c. Apply criteria to evaluate artistic work.

D. CONNECTING: Relating artistic ideas and work with personal meaning and external context.
- a. Synthesize and relate knowledge and personal experiences to make art.
- b. Relate artistic ideas and works with societal, cultural, and historical context to deepen understanding.

Performing Arts Course Offerings

Grade Levels	Course	Major Programmatic Outcomes
6 7 8	**Band** (Full Year)	• Explain and perform articulations with musical notations. • Understand tonality and translation of patterns of notes on instruments. • Develop effective instrumental technique including posturing and finger placement.
6 7 8	**Chorus** Full Year Course (2 days in 6 day rotation)	• Demonstrate fundamental vocal technique including breathing, posture, vocal production technique,and diction. • Performance of select music pieces with connections to interpretation and creativity in

		performance.
6 7 8	**General Music** (30 day rotation)	• Utilize music to connect to personality traits. • Students will be able to create a body percussion composition in ABACA form and using three different body percussion actions (Clapping, Snapping, Patting, Stomping). • Students will play six basic rhythmic patterns on the drums and guitar.

Curriculum Resources for Families

	[C3 Social Studies Framework]
CONNECTICUT CORE STANDARDS	[Connecticut Core Literacy and Numeracy Standards]
CONNECTICUT NEXT GENERATION SCIENCE ASSESSMENT	[Next Generation Science Standards]