Middle School Curriculum Overview
2022-2023
## Sixth Grade Curriculum

<table>
<thead>
<tr>
<th>Language Arts</th>
<th>Mathematics</th>
<th>Social Studies</th>
<th>Science</th>
<th>World Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>Foundations of Algebra 6</td>
<td>Ancient and Medieval World History</td>
<td>Earth Science</td>
<td>Spanish or French</td>
</tr>
<tr>
<td>• Using prior knowledge</td>
<td>• Operations with integers, fractions, mixed numbers, decimals, order of operations</td>
<td>• Five Themes of Geography project</td>
<td>• Maps as Models of Earth</td>
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<tr>
<td>• Figurative language</td>
<td>• Ratios, rates, percents, proportions, simple interest, percent of change</td>
<td>• Ancient Mesopotamia</td>
<td>• Continental Drift</td>
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<tr>
<td>• Annotations</td>
<td>• Graphing points on a coordinate plane, various charts &amp; graphs</td>
<td>• Ancient Egypt and Egypt Museum Project</td>
<td>• Plate Boundaries</td>
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<tr>
<td>• Author’s style</td>
<td>• Absolute value</td>
<td>• Ancient India</td>
<td>• Layers of the Earth</td>
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<tr>
<td>• Parts of a story</td>
<td>• Roots and exponents</td>
<td>• Ancient China</td>
<td>• Properties of the Earth</td>
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<tr>
<td>• Fact/Opinion/Bias</td>
<td>• Multi-step equations &amp; inequalities</td>
<td>• Ancient Greece</td>
<td>• Rock Cycle</td>
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<tr>
<td>Writing</td>
<td>• Elements of Euclidean geometry and measurement</td>
<td>• Ancient Rome</td>
<td>• Erosion &amp; Deposition</td>
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<tr>
<td>• Compare/contrast paragraphs</td>
<td>• Measures of Central Tendency</td>
<td>• Ancestry Project</td>
<td>• Ocean</td>
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<tr>
<td>• Persuasive paragraphs</td>
<td>• Probability</td>
<td>• Egypt Museum project</td>
<td>• March Mammal Madness</td>
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<td>• Expressive writing</td>
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<td>• Field trip to Smithsonian Natural History Museum Egypt wing.</td>
<td>• Fossils</td>
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<td>• 5-paragraph essays</td>
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<td>• National Geographic Geography Bee</td>
<td>• Earth Day</td>
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<tr>
<td>Research</td>
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<td>• Digital and library research skills</td>
<td>• Geologic Time Scale</td>
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<td>• MLA citations</td>
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<td>• Earthquake-proof structure design &amp; test project</td>
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<td>• Plagiarism</td>
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<td>• Volcano construction and eruption</td>
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<td>• Thesis statement</td>
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<td>• Garden &amp; Compost</td>
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<td>• Introductory and closing paragraphs</td>
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<td>Oral</td>
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<td>Presentation</td>
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<tr>
<td>• Compare/Contrast</td>
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<td>• Socratic Seminars</td>
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<td>• Book Talks</td>
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<td>• Literature Circles</td>
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<tr>
<td>Word &amp; Syntax</td>
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<tr>
<td>• Vocabulary for Achievement</td>
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<tr>
<td>• Grammar Focus: run-ons, fragments, types of sentences, clauses, phrases, punctuation, revising &amp; editing</td>
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<td>Literature Studies</td>
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<tr>
<td>• Fiction</td>
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<td>• The Egypt Game</td>
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<tr>
<td>• Where the Mountain Meets the Moon</td>
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<td>• Short Stories</td>
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<tr>
<td>• The D’Aulaires Book of Greek Myths</td>
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</tbody>
</table>

### Special Programs

- Emphasis on transition to middle school
- Student Council
- Blue and Green Spirit teams and year-round competitions
- Service Learning

### STEM

- Digital Citizenship
- Computer Game Design
- Circuits
- SeaPerch underwater robotics project
- Reinforcing research skills with NoodleTools
- Cross curricular engineering projects

### Performing Arts

- String orchestra and band programs
- Vocal music program
- Voluntary Show Choir performs at school and community events
- Winter and Spring Concerts, Veterans Day and Grandparents Day performances
- Learn major scales up to three sharps and three flats

### Visual Arts

- Elements of Art: Color, Line, Texture, Value, Proportion
- Sketching, painting, collage, printmaking
- Sculpture, ceramics, weaving, modeling, assemblage, and carving
- Art History, styles, movements, historical artists.
- Cultural art styles, movements, and traditions.
- Compare/Contrast
- Analysis, critique, value, craftsmanship, opinion

### Physical Education

- Interscholastic team sports across three seasons
- Emphases on sportsmanship, leadership, and team play.
- Physical conditioning is prioritized in all activities.
- Soccer, Field Hockey, Cross Country, Lacrosse, Tennis, Volleyball, Basketball, Swimming, Track
### Seventh Grade Curriculum

<table>
<thead>
<tr>
<th>Language Arts</th>
<th>Mathematics</th>
<th>Social Studies</th>
<th>Science</th>
<th>French/Spanish I</th>
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</thead>
<tbody>
<tr>
<td><strong>Reading</strong></td>
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<tr>
<td>- Character Analysis</td>
<td>- Pre-Algebra</td>
<td>- Modern World History</td>
<td>- Life Science</td>
<td>- Class conducted in target language</td>
</tr>
<tr>
<td>- Annotation</td>
<td>- Operations with integers, fractions, decimals, absolute value, order of operations</td>
<td>- Renaissance through Exploration</td>
<td>- Cell Structure and Processes</td>
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<tr>
<td>- Theme</td>
<td>- Exponents &amp; Square roots</td>
<td>- Enlightenment and Revolution</td>
<td>- DNA</td>
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<tr>
<td>- Inference</td>
<td>- Multi-step equations &amp; inequalities</td>
<td>- Industrial Age and Imperialism</td>
<td>- Genetics and Heredity</td>
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</tr>
<tr>
<td>- Author’s purpose</td>
<td>- Ratios, rates, proportions, percents, simple interest, percent of change</td>
<td>- World Wars through the Cold War</td>
<td>- Evolution</td>
<td></td>
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<tr>
<td>- Fact/Opinion/Bias</td>
<td>- Linear Functions</td>
<td>- Critical thinking and decision making</td>
<td>- Six Kingdoms of Living Things</td>
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<tr>
<td><strong>Writing</strong></td>
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<tr>
<td>- Narrative</td>
<td>- Pythagorean Theorem</td>
<td>- Time Travel Historical Interview Project</td>
<td>- Ecology</td>
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<tr>
<td>- Vignette</td>
<td>- Elements of geometry &amp; measurement</td>
<td>- National History Day website design project and competition</td>
<td>- Labs and extensive use of microscopes</td>
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<tr>
<td>- Persuasive Essay</td>
<td>- Probability &amp; Statistics</td>
<td>- Field trip to Holocaust Museum</td>
<td>- Integrated use of technology</td>
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<tr>
<td>- Literary Analysis paragraphs</td>
<td>- Algebra I</td>
<td>- National Geographic Geography Bee</td>
<td>- Inquiry and critical thinking</td>
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<tr>
<td>- MLA format</td>
<td>- Solving equations &amp; inequalities including absolute value</td>
<td>- Science Process Skills</td>
<td>- Science Process Skills</td>
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<tr>
<td><strong>Research</strong></td>
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<tr>
<td>- Topics for Persuasive Essay</td>
<td>- Literal Equations</td>
<td>- Data collection and analysis</td>
<td>- Four-day fieldwork at MarineLab in Key Largo, FL</td>
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<tr>
<td>- Propaganda project with MWH unit</td>
<td>- Relations &amp; Functions</td>
<td>- Reading, listening, and viewing of authentic texts &amp; video clips</td>
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<tr>
<td><strong>Oral Presentation</strong></td>
<td>- Linear Equations &amp; Direct/Inverse Variation</td>
<td>- World War I, II, and Holocaust</td>
<td>- Rehearsed and non-rehearsed speaking and writing tasks</td>
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<tr>
<td>- Body Biography presentation</td>
<td>- Systems of equations &amp; linear inequalities</td>
<td>- National History Day Interview Project</td>
<td>- Present tense &amp; introduction of past tense communication</td>
<td></td>
</tr>
<tr>
<td>- Literature Circles</td>
<td>- Exponents &amp; Exponential functions</td>
<td>- Field trip to Holocaust Museum</td>
<td>- Reading and interpretation of a short novels in present tense</td>
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</tr>
<tr>
<td>- Socratic Seminar</td>
<td>- Polynomials &amp; Factoring</td>
<td>- National Geographic Geography Bee</td>
<td>- Hispanic and Francophone culture/holidays</td>
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</tr>
<tr>
<td>- Persuasive Debates</td>
<td>- Quadratic Functions &amp; applications</td>
<td>- Science Process Skills</td>
<td>- Field trip</td>
<td></td>
</tr>
<tr>
<td><strong>Word &amp; Syntax</strong></td>
<td>- Radical Function</td>
<td>- Data collection and analysis</td>
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</tr>
<tr>
<td>- Vocabulary for Achievement - First Course - word study</td>
<td>- Rational Functions</td>
<td>- Reading, listening, and viewing of authentic texts &amp; video clips</td>
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</tr>
<tr>
<td>- Continued Grammar Focus: run-ons, fragments, types of sentence, clauses, phrases, punctuation, revising &amp; editing</td>
<td>- Eligible for high school credit</td>
<td>- Rehearsed and non-rehearsed speaking and writing tasks</td>
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<tr>
<td><strong>Literature studies</strong></td>
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<tr>
<td>- Short Stories</td>
<td>- Pre-Algebra</td>
<td>- Life Science</td>
<td>- Science Process Skills</td>
<td>- Present tense &amp; introduction of past tense communication</td>
</tr>
<tr>
<td>- Essays: “This I Believe” excerpts</td>
<td>- Operations with integers, fractions, decimals, absolute value</td>
<td>- Cell Structure and Processes</td>
<td>- Science Process Skills</td>
<td></td>
</tr>
<tr>
<td>- Fiction: Harbor Me Prisoner B-3087 A Long Walk to Water</td>
<td>- Exponents &amp; Square roots</td>
<td>- DNA</td>
<td>- Reading and interpretation of a short novels in present tense</td>
<td></td>
</tr>
<tr>
<td><strong>Special Programs</strong></td>
<td>- Ratios, rates, proportions, percents, simple interest, percent of change</td>
<td>- Evolution</td>
<td>- Field trip</td>
<td></td>
</tr>
<tr>
<td>- Student Council</td>
<td>- Linear Functions</td>
<td>- Six Kingdoms of Living Things</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 7th grade buddies with Kindergarten for book writing</td>
<td>- Pythagorean Theorem</td>
<td>- Ecology</td>
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</tr>
</tbody>
</table>

### STEM
- Digital Citizenship
- HTML Web Design
- Biomedical Engineering
- Microcontrollers and programming projects
- 3D Printing
- Renewable Energy
- Cybersecurity and Network Infrastructure

### Performing Arts
- String orchestra and band programs
- Vocal music program
- Voluntary Show Choir performs at school and community events
- Winter and Spring Concerts, Veterans Day and Grandparents Day performances
- Learn and perform all twelve major scales

### Visual Arts
- Elements of Art: Color, Line, Space, Emphasis, Proportion
- Sketching, painting, collage, printmaking
- Sculpture, ceramics, weaving, modeling, assemblage, and carving
- Art History, styles, movements, historical artists
- Cultural art styles, movements, and traditions
- Compare and Contrast
- Analysis, critique, value, craftsmanship, opinion

### Physical Education
- Interscholastic team sports across three seasons
- Emphasizes on sportsmanship, leadership, and team play.
- Physical conditioning is prioritized in all activities.
- Soccer, Field Hockey, Cross Country, Lacrosse, Tennis, Volleyball, Basketball, Swimming,
# Eighth Grade Curriculum

## Language Arts
- **Reading**
  - Annotation
  - Tone/Mood
  - Poetic Devices
  - Shakespearean Language
  - Figurative Language
  - Theme
  - Inference
  - Author’s Purpose
- **Writing**
  - Literary Analysis
  - Personal Narrative
  - Poetry
  - Reflective/Capstone
  - MLA Format
- **Research**
  - Shakespeare Background Project
  - *The Lord of the Flies*
  - History and Current Events
- **Oral Presentation**
  - Poetry Coffee House
  - Shakespeare performance
  - Capstone presentation
- **Word & Syntax**
  - Vocabulary for Achievement - Second Course - word study
  - Grammar Focus: run-ons, fragments, types of sentence, clauses, phrases, punctuation, revising & editing

## Mathematics
- **Algebra I**
  - Solving equations & inequalities - including absolute value
  - Literal Equations
  - Relations & Functions
  - Linear Equations & Direct/Inverse Variation
  - Systems of equations & linear inequalities
  - Exponents & Exponential functions
  - Polynomials & Factoring
  - Quadratic Functions & applications
  - Radical Function
  - Rational Functions
  - Eligible for high school credit
- **Geometry**
  - Points, Lines, Planes, Angles
  - Deductive Reasoning & Proofs
  - Parallel Lines & Planes
  - Congruent & Similar Triangles
  - Properties of Parallelograms & Quadrilaterals
  - Similar & Right Triangles
  - Trigonometry Ratios & Applications
  - Circles
  - Area & Volume of plane figures, solids
  - Transformations & Constructions
  - Eligible for high school credit
  - Meets admissions for the Academies of Loudoun and TJ HS for Science & Technology

## Social Studies
- **Civics & Economics**
  - Economics, including stock market game
  - Constitution, Federal, State, and Local govt
  - Debate unit, evening debate program
  - Guest speakers inc. private/public figures
  - 40+ current event presentations and discussions
  - National History Day documentary production and competition
  - Field trips to hear a Supreme Court oral argument and tour Capitol, White House, National Law Enforcement Museum
  - National Geographic Geography Bee

## Science
- **Physical Science**
  - Physical and chemical properties of matter
  - Mixtures and compounds
  - Elements and the Periodic Table
  - Chemical Reactions
  - Forces in Motion
  - Forces in Fluids
  - Energy and Energy Transformations
  - Integrated use of technology
  - Inquiry and critical thinking
  - Science Process Skills
  - Mousetrap Car design, build & race project

## French/Spanish II
- **Class conducted in target language**
- **Introductions and descriptions of self and others**
- **Interpersonal speaking, reading, and writing tasks**
- **Reading, listening, and viewing of authentic texts & video clips**
- **Rehearsed and non-rehearsed speaking and writing tasks**
- **Present & past tense communication**
- **Reading and interpretation of a short novels in present & past tenses**
- **Hispanic and Francophone culture/holidays**
- **Field trip**

## STEM
- Digital Citizenship
- Video Editing with Premiere Pro
- Python coding
- Photoshop Magazine Covers
- "Make the World a Better Place" Engineering Challenge
- Vex Robotics build/program Challenge
- 8th Grade Celebration Videos
- Technology Ethics and Current Events

## Performing Arts
- String orchestra and band programs
- Vocal music program
- Voluntary Show Choir performs at school and community events
- Winter and Spring Concerts, Veterans Day and Grandparents Day performances
- Memorize and perform all twelve major scales

## Visual Arts
- Elements of Art : Color, Value, Proportion, Unity, Variety
- Sketching, painting, collage, printmaking
- Sculpture, ceramics, weaving, modeling, assemblage, and carving
- Art History, styles, movements, historical artists
- Cultural art styles, movements, and traditions
- Compare and Contrast
- Analysis, critique, value, craftsmanship, opinion

## Physical Education
- Interscholastic team sports across three seasons
- Sportmanship, leadership, and team play.
- Soccer, Field Hockey, Cross Country, Lacrosse, Tennis, Volleyball, Basketball, Swimming, Track
- Physical conditioning is prioritized in all activities.