

# Math

	6 <sup>th</sup> grade – Integrated Pre-Algebra/Geometry  <i>Adaptation</i>	7 <sup>th</sup> grade – Integrated Algebra/Geometry I <i>Cultivation</i>	8 <sup>th</sup> grade – Integrated Algebra/Geometry II <i>Responsibility</i>	8 <sup>th</sup> grade - Integrated Algebra/Trigonometry III (accelerated option) <i>Responsibility</i>
<b>Units of Study</b>	<p>Slope intercept equations Linear functions Single variable equations Pattern representation and analysis of tables and graphs Probability</p> <p>Perimeter and area of polygons Three dimensional measurement Surface area and volume Expected value Rate, ratio, and proportion</p>	<p>Linear functions and graphs Pythagorean theorem Exponential growth</p> <p>Symmetries Polynomials Quadratic equations Samples and population statistics</p>	<p>Linear equations Quadratic functions Exponential equations Logarithms</p> <p>Conic sections Polynomial functions Binomial distribution Normal distribution Radical equations</p>	<p>Matrices Polynomial functions Binomial theorem Permutation and combinations Logarithms</p> <p>Conic sections Binomial and normal distribution</p> <p>Trigonometry</p> <ul style="list-style-type: none"> <li>Application of a variety of trigonometric identities, such as Pythagorean, sum and difference, and triangle (Laws of sines, cosines, and tangents.)</li> </ul>
<b>Essential Questions</b>	<p>How are patterns represented analyzed, and generalized?</p> <p>What are the basic concepts of probability and how are they applied?</p> <p>How is coordinate geometry used to represent and examine the properties of geometric shapes?</p> <p>How do you draw geometric objects with specified properties, such as side lengths or angle measures?</p>	<p>How are functions identified and contrasted?</p> <p>What are the relationships among the angles, side lengths, perimeters, areas, and volumes of similar objects?</p> <p>Describe the sizes, positions, and orientations of shapes under informal transformations such as flips, turns, slides, and scaling.</p>	<p>How are mathematical models used to represent and understand quantitative relationships?</p> <p>How do you analyze and interpret one and two variable functions?</p> <p>How and in what ways do you use symbolic algebra to represent and explain mathematical relationships?</p>	<p>Describe the properties of classes of functions, including exponential, polynomial, rational, logarithmic, and periodic functions.</p> <p>What are the equivalent forms of expressions, equations, inequalities, and relations?</p> <p>How are trigonometric functions calculated?</p>

	<b>6<sup>th</sup> grade – Development of the Natural World Adaptation</b>	<b>7<sup>th</sup> grade – The Diverse Garden of Life Cultivation</b>	<b>8<sup>th</sup> grade – Humans, Technology, and the Environment Responsibility</b>
<b>Units of Study</b>	<p><b>Puget Sound Geology</b></p> <ul style="list-style-type: none"> <li>- plate tectonics</li> <li>- mountain range formation and earthquakes</li> <li>- rock cycle</li> <li>- minerals/soil types</li> </ul> <p><b>Climatic Zones and Adaptations</b></p> <ul style="list-style-type: none"> <li>- lowland/subalpine/alpine ecosystems</li> <li>-oxygen concentration</li> <li>-requirements for life</li> <li>-plant adaptations</li> </ul> <p><b>Puget Sound Weather</b></p> <ul style="list-style-type: none"> <li>- air pressure/density</li> <li>- cloud types</li> <li>- convergence zone</li> <li>- rain shadow</li> </ul> <p><b>Planetary Motion</b></p> <ul style="list-style-type: none"> <li>- seasons and tides</li> <li>- planetary motion</li> <li>- projectiles</li> </ul>	<p><b>Solar System Formation</b></p> <ul style="list-style-type: none"> <li>- Big Bang</li> <li>- history of stars and planets</li> <li>- formation of elements</li> </ul> <p><b>Atomic Theory/Chemical Reactions</b></p> <ul style="list-style-type: none"> <li>- the atom</li> <li>- the periodic table</li> <li>- elements, molecules, and compounds</li> <li>- chemical reactions</li> </ul> <p><b>Cell Biology/Genetics</b></p> <ul style="list-style-type: none"> <li>- origin of life</li> <li>- bacteria, animal, and plant cells</li> <li>- genetics and evolution</li> <li>- the Vista Garden</li> </ul> <p><b>Oceanography/Marine and Freshwater Life</b></p> <ul style="list-style-type: none"> <li>- salinity and ocean currents</li> <li>- unicellular/multicellular life</li> <li>- water pollution/stream monitoring</li> <li>- salmon and marine mammals</li> </ul>	<p><b>The Human Body/Comparative Animal Anatomy</b></p> <ul style="list-style-type: none"> <li>- organ systems</li> <li>- health, disease, and medical treatment</li> <li>- comparative anatomy</li> <li>- genetics</li> </ul> <p><b>Newtonian Forces</b></p> <ul style="list-style-type: none"> <li>- Newton’s 3 Laws of Motion</li> <li>- rollercoasters and rockets</li> <li>- towers and bridges</li> </ul> <p><b>Electricity/Magnetism/Machines</b></p> <ul style="list-style-type: none"> <li>- electric charge and field</li> <li>- current, resistance, circuits</li> <li>- magnets and magnetic field</li> <li>-LEGO Mindstorms</li> </ul> <p><b>Technology and the Environment</b></p> <ul style="list-style-type: none"> <li>- urban planning</li> <li>- fisheries</li> <li>- forestry</li> <li>- Vista Wetland Restoration</li> </ul>
<b>Essential Questions</b>	<p>How do plate tectonics explain the formation of mountains in the Puget Sound?</p> <p>How are plants specifically adapted to thrive in their climatic zone?</p> <p>How do differences in air pressure create weather systems?</p> <p>Why is it colder in the Northern Hemisphere when the Earth is actually closer to the sun?</p>	<p>What is the difference between a physical change and a chemical change?</p> <p>How does the periodic table of elements show patterns in the properties of elements?</p> <p>From a biological perspective, why is a cell alive, but a virus is not?</p> <p>How does the theory of evolution explain fossils and modern living organisms?</p> <p>How do toxic pollutants affect marine and freshwater life?</p>	<p>How do the organ systems of humans perform the essential functions?</p> <p>How does the theory of evolution explain comparative anatomical structures between species?</p> <p>How do Newton’s Three Laws of Motion explain the movement of objects (billard balls, automobiles, the Moon, etc.)</p> <p>Why do electrons want to move through a circuit?</p> <p>How are humans attempting to be stewards of the environment in Western Washington?</p>
<b>Possible Experiences</b>	<p>Mt. St. Helens, Mt. Rainier, Snoqualmie Pass, Port Townsend Marine Science Center, Burke Museum, KING5 Weather Center, Univ. of Washington Depts. of Earth and Space Sciences, Astronomy, and School of Oceanography</p>	<p>Pacific Science Center Planetarium, UW Astronomy Dept., UW Biochemistry Dept., Pacific Science Center Radical Reactions Show, Pond Microscopic Study, Seattle Toxicology Lab, Seattle Water Quality Lab, Bellevue Stream Monitoring, Herring’s House Habitat Restoration, Whale Watching/Tall Ship Field Study, Vista Garden Creation</p>	<p>Harborview Medical Center, Seattle Aquarium, Northwest Trek, Guest Lectures from Physicians/Researchers, Museum of Flight, Boeing, Rock Climbing Gym, UW College of Architecture and Urban Planning, UW Dept. of Civil and Env. Engineering, Tacoma Narrows Bridge, Wild Waves, LEGO Mindstorms, US Fish and Wildlife Service, WA Dept. of Ecology, EPA Region 10, Simpson Tacoma Kraft Paper Mill, Vista Wetland Restoration</p>

# Language Arts

	<b>6<sup>th</sup> grade – The Ancient World <i>Adaptation</i></b>	<b>7<sup>th</sup> grade – The Medieval World <i>Cultivation</i></b>	<b>8<sup>th</sup> grade – The United States through Industrialism <i>Responsibility</i></b>
<b>Vocabulary</b>	Vocabulary Workshop Series <i>Sadlier</i> (students start work at appropriate level)  Latin and Greek roots (etymology)	Vocabulary Workshop Series <i>Sadlier</i>  Latin and Greek roots (etymology)	Vocabulary Workshop Series <i>Sadlier</i>  Latin and Greek roots (etymology)
<b>Reading</b>	Stories from the Junior Great Books Series  Students read at least 6 books during the course of the year.  Topics include – Mythologies, legends, classical literature, biographies, fables, plays, poetry, and primary and secondary sources  Readings may include- <i>The Odyssey</i> <i>The Ramayana</i> <i>The Epic of Gilgamesh</i> <i>Aesop’s Fables</i> <i>The Poetry of Sappho</i> <i>Aeneid</i>  Biography studies may include – <i>Plato</i> <i>Pericles</i> <i>Tiberius</i> <i>Gaius Gracchus</i>  Independent reading program throughout the year; students are responsible for maintaining an annotated bibliography of their reading	Stories from the Junior Great Books Series  Readings may include – <i>The Canterbury Tales</i> <i>Epic of Kings</i> <i>The Rubaiyat</i> <i>Don Quixote</i> <i>Robinson Crusoe</i> <i>The Travels of Marco Polo</i>  Biography studies may include- <i>Empress Theodora</i> <i>Suleyman I</i> <i>Askia Muhammad Toure</i> <i>Empress Wu Chao</i> <i>Lady Murasaki Shikibu</i> <i>Pachacuti Inca Yupanqui</i>  Independent reading program throughout the year; students are responsible for maintaining an annotated bibliography of their reading	Stories from the Junior Great Books Series  Readings may include – <i>To Kill a Mockingbird</i> <i>The Giver</i> <i>The Outsiders</i> <i>Children of the River</i> <i>Broken Bridge</i> <i>The House on Mango Street</i> <i>The Adventures of Tom Sawyer</i> <i>The Glory Field</i> <i>Animal Farm</i>  Independent reading program throughout the year; students are responsible for maintaining an annotated bibliography of their reading
<b>Writing</b>	Genres include -  Expository, persuasive, poetry, narratives, multi-paragraph essays (memoirs, reviews, compare and contrast), descriptions, letters, and a comprehensive, but short research report  Students publish a class poetry collection  Writing conventions (mechanics, grammar, spelling), including editing, revising, and rewriting instruction	Genres include -  Expository, creative, and persuasive writing, speeches, the epic poem, plays, autobiographies, journal entries  Full research paper  Writing conventions (mechanics, grammar, spelling), including editing, revising, and rewriting instruction	Genres include -  Expository, creative, and persuasive writing, short story, nonfiction, poetry, drama, responses to literature, personal narratives  Mini thesis  Writing conventions (mechanics, grammar, spelling), including editing, revising, and rewriting instruction
<b>Grammar</b>	Integrated throughout	Integrated throughout	Integrated throughout
<b>Resources</b>	Junior Great Books Series, Touchstones for Middle Schools, 6 +1 Traits of Writing, Write Source, Various Periodicals	Junior Great Books Series, Touchstones for Middle Schools, 6 +1 Traits of Writing, Write Source, Various Periodicals	Junior Great Books Series, Touchstones for Middle Schools, 6 +1 Traits of Writing, Write Source, Various Periodicals
<b>Integration</b>	Strongly tied to social studies, as well as other subject areas as much as possible	Strongly tied to social studies, as well as other subject areas as much as possible	Strongly tied to social studies, as well as other subject areas as much as possible
<b>Other components</b>	Oral presentations	Oral presentations, including memorizing and performing poetry and dramatic dialogue and debate	Oral presentations and debate Practice interview skills

## Social Studies

	<p><b>6<sup>th</sup> grade – World History and Geography – The Ancient World</b></p> <p><b>Adaptation</b></p>	<p><b>7<sup>th</sup> grade – World History and Geography – The Medieval World; Washington State History and Geography</b></p> <p><b>Cultivation</b></p>	<p><b>8<sup>th</sup> grade – United States History, Government, and Civics</b></p> <p><b>Responsibility</b></p>
<b>Units of Study</b>	<p><b>World History/The Ancient World</b></p> <ul style="list-style-type: none"> <li>- Early Humans and the Rise of Civilization</li> <li>- River Civilizations (Mesopotamia, Egypt, Kush)</li> <li>- Ancient India</li> <li>- Ancient China</li> <li>- Ancient Greece</li> <li>- Ancient Rome</li> </ul> <p><b>World Geography</b></p> <ul style="list-style-type: none"> <li>- cartography</li> <li>- spatial patterns and regions,</li> <li>- interactions among people, environment and culture</li> </ul>	<p><b>The Medieval World and Beyond</b></p> <ul style="list-style-type: none"> <li>- Islamic Civilizations</li> <li>- Europe</li> <li>- African Kingdoms,</li> <li>- Meso America,</li> <li>- Japan</li> <li>- Imperial China</li> <li>- Civilizations of the Americas</li> <li>- Europe’s Renaissance and Reformation</li> </ul> <p><b>Washington State History and Geography</b></p> <ul style="list-style-type: none"> <li>- Emergence of Washington State</li> <li>- The Great Depression and World War II</li> <li>- Post World War II</li> <li>- Contemporary Washington State</li> </ul>	<p><b>United States History and Civics</b></p> <ul style="list-style-type: none"> <li>- Founding a Government</li> <li>- Structure of a Government</li> <li>- Rights and Responsibilities</li> <li>- Differing Political Systems and Foreign Policy</li> <li>- Revolution, Constitution, and New Nation</li> <li>- Expansion and Reform</li> <li>- Civil War and Reconstruction</li> <li>- Industrialization, Immigration, and Urbanization</li> </ul>
<b>Resources</b>	<p><i>History Alive – The Ancient World</i></p> <p><i>Touchstones, Vol. A</i></p> <p><i>Facing the Future: People and the Planet</i></p> <p><i>Current Events</i></p>	<p><i>History Alive – The Medieval World and Beyond</i></p> <p><i>Touchstones, Vol. B</i></p> <p><i>Facing the Future: People and the Planet</i></p> <p><i>Current Events</i></p>	<p><i>History Alive – The United States through Industrialism</i></p> <p><i>Touchstones, Vol. C</i></p> <p><i>Facing the Future: People and the Planet</i></p> <p><i>Current Events</i></p>
<b>Essential Questions</b>	<p>What makes us human?</p> <p>What does it mean to be civilized?</p> <p>What is the best set of rules for people to live by?</p> <p>How did early humans live and establish civilizations?</p> <p>What were the major characteristics of Ancient India, China, Greece, and Rome?</p> <p>Why do geographers create and use regions as organizing concepts?</p> <p>What impact do elements of the physical environment, such as major bodies of water and mountains, have on countries and regions?</p> <p>How do maps reflect changes over time?</p>	<p>Describe whether imperial China was really more advanced than feudal Japan and Europe.</p> <p>How did contact with non-African civilizations help or hurt the kingdoms and empires of sub-Saharan Africa?</p> <p>What changes in European life led to the birth of the Renaissance?</p> <p>What was the Age of Exploration?</p> <p>What are Washington’s major industries and issues of social and economic concern?</p>	<p>Can people be trusted to govern themselves?</p> <p>Was manifest destiny just?</p> <p>In what ways did the Civil War create a more perfect union?</p> <p>Is immigration a benefit or a detriment to the United States? Explain.</p> <p>How and in what ways were the 1920s “roaring” and the 1930s “depressing”?</p>