# Middle School Course Catalog

## 2011-2012 Academic Year



ACADEMY WISCONSIN

Where Education Clicks

## *6th Grade Core Courses*

### Language Arts 6

Language Arts 6 is designed to introduce students to the various genres of literature and modes of writing. First semester focuses on different types of fiction, from short stories, to dramas, to poetry. Students independently read on fictional novel. Second semester focuses on different types of nonfiction, from biographies/autobiographies, to persuasive writing, to informative writing. Students independently read one nonfiction book. Throughout the year students practice writing in each genre of writing that they learn about and also are introduced to public speaking by recording two short speeches. There is also an interdisciplinary project with Social Studies 6 each semester so students can make connections between literature and history.

### Math 6

Students will learn 6th grade math topics drawing from a variety of sources, including hands-on activities, interactive lessons, and practical math applications. Topics covered in 1st semester include: performing operations with whole numbers, decimals, and fractions (including mixed numbers), finding factors of whole numbers, estimating using whole numbers and decimals, exploring number patterns and properties, using fractions and decimals in real-world applications, generating and explaining equivalencies among fractions and decimals.
Topics covered in 2nd semester include: applying proportional thinking to problem situations that include ratios and proportions and percents, identifying, labeling, and classifying geometric shapes that include angles, lines, segments, rays, circles, and polygons, finding equivalencies between metric and US Customary measures of length, finding perimeters and areas of polygons, making calculations with measures of time, defining and using basic concepts of probability which include finding probabilities of simple events and their complements and using tree diagrams, defining and using basic concepts of statistics which include using and creating appropriate representations that display data, including tally charts, frequency charts, line plots, stem and leaf diagrams, line graphs, bar graphs, and circle graphs and calculating the mean, median, mode, and range of data sets.

### Science 6

During the first semester the student will be exposed to introductory material in the areas of the scientific process, chemistry, physics, and the use of energy in society. Specifically, the topics encountered are the scientific method, designing scientific experiments, analyzing experimental data, states of matter, chemical and physical properties, structure of matter, organization of the elements, force, motion, acceleration, Newton's Laws of motion, sources of energy in our society, renewable and nonrenewable resources, energy problems. The students encounter the information through various print, audio, and video online sources, real time instruction, discussion board exchanges, and research for projects. Their achievement is assessed according to their displays of knowledge of the concepts and their ability to apply those concepts to real world situations. These assessments take the form of objective quizzes, journal writing, discussion board posts, project work, and written papers.

During the second semester the student will be exposed to introductory material in the areas of the ecology, Biology, earth and space science. Specifically, the topics encountered are the energy flow in the environment, environmental interactions, cycles of matter, basic cell theory, structure and function in cells, stimulus and response, genetics, biological classification, internal structure of the earth, rock cycle, the atmosphere, solar system, and space exploration. The students encounter the information through various print, audio, and video online sources, real time instruction, discussion board exchanges, and research for projects. Their achievement is assessed according to their displays of knowledge of the concepts and their ability to apply those concepts to real world situations. These assessments take the form of objective quizzes, journal writing, discussion board posts, project work, and written papers.

### Social Studies 6

Students in grade six expand their understanding of History, Civics and Government, Geography, Economics, and Individuals, Society, and Culture by studying the people and events that ushered in the dawn of the major Western and non-Western ancient civilizations. Geography is of special significance in the development of the human story. Students will have the opportunity to explore civilizations by learning about the history, culture, citizenship, economy, religions, and, government of the different cultures present at that time. In so doing, the students will learn utilize math, science, technology, and critical thinking skills in daily learning. Students analyze the interactions among the various cultures, emphasizing their enduring contributions and the link between or World today and these ancient worlds.

## *7th Grade Core Courses*

### Language Arts 7

Students will engage in a variety of reading and writing activities designed to enhance and integrate literacy. Students will develop effective communication skills through listening, speaking and writing via activities designed to strengthen vocabulary, improve grammar, and reinforce reading comprehension. Students will gain a greater appreciation for literature while recognizing the application of new life-skills through reading and writing activities designed to teach and incorporate fun at the same time and facilitate better reading and writing skills.

### Math 7

Students will learn 7th grade math topics outlined in this course drawing from a variety of sources, including hands on activities, interactive lessons, and practical math applications.
Semester 1 topics include: Integers, Exponents, Squares and Square Roots, Order of Operations, Comparing and Ordering Fractions, Addition and Subtraction of Fractions, Multiplication and Division of Fractions, Mixed Numbers, Solving Equations with Fractions, Place Value, Rounding, Comparing and Ordering Decimals, Conversion between Fractions and Decimals, Addition and Subtraction of Decimals, Multiplication and Division of Decimals, Solving Equations with Decimals, Connecting Fractions, Decimals, and Percents, Percent of a Number, Percent of Change, Simple Interest and Solving Equations with Percents.
Semester 2 topics include: Mean, Median, Mode and Range, Probability, Combinations and Permutations, Lines and Angles, Triangles, Quadrilaterals and other Polygons, Perimeter and Area, Circles, Volume and Surface Areas, Transformations, Measurement, Graphs and Data Analysis, Ratios and Proportions, Number Concepts, Properties of Numbers and Variable Expressions, Patterns, Functions, Graphs, and Linear Equations and Inequalities.

## Science 7

This survey course will provide students an opportunity for study in both physical and biological sciences. The course starts with a strong foundation of instruction on the nature of science, using a discovery process to teach the scientific method, and the use of metric measurements in scientific investigations. The rest of the first semester then covers basic concepts of force, motion and equilibrium. Concepts of human biology are also uncovered, with emphasis on body systems and those amazing functions that contribute to our wellness.
The second semester transitions to a more macro focus on ecosystems and conservation. Agricultural science and its impact on biotechnology are introduced, along with its affect on human interaction with the earth. Finally, the basics of environmental science are covered, and through the use of stunning photography and lively animation, students will interact with endangered species, learn about natural resource use, environmental health, pollution, and biodiversity.

## Social Studies 7

Students will be taken through the disciplines of word history, landform and geography, money and economics, the powers and parallels of political science, sociology, and anthropology. Through hands-on tutorials and interaction with animation that brings this history to life, students will acquire the skills necessary to study and understand world cultures, while examining their unique physical features using state-of-the-art electronic geographic tools. Beginning with the mysteries of the ancient empires of the Americas, students will discover and understand the fall of the Roman Empire, the rise of the Franks in Europe, and uncover the enchanting Kingdom of Ghana. Students will be taken through Revolutionary Europe, then to the Industrial Revolution, Nationalism and Imperialism, and on to World Wars I and II. They'll discover the wonders of Colonial India, become informed about the United Nations as a peacekeeping and political force, the politics of the war in Vietnam, and past and current issues in the Middle East. Finally, they'll discover modern Africa and understand its history, to end with a broad but compelling introduction to the Information and Space Ages.

# *8th Grade Core Courses*

## Language Arts 8

Students will learn to read critically with full comprehension across genres and be able to communicate through effective writing. As students develop critical reading and writing skills, they will make important life connections through the variety of material they study. Additionally, students will practice vocabulary, grammar, and listening skills with each weekly lesson. As students encounter a variety of text structures and multi-media, they will be able to see how these different things connect to one large idea and see how these large ideas connect across other content areas being studied. Each student will be required to engage in activities and assessments that require critical thinking skills and that meet rigorous academic expectations. As students complete this course, hopefully they will see the relevance that this course has in their daily life and future academic and career goals.

## Math 8

This course provides a rigorous and comprehensive foundation for the 8th-grade student to enter high school Algebra. It introduces algebraic concepts and builds on prior mathematical knowledge. Students will review the basics of fractions, decimals, percents, and the order of operations. Students will be introduced to the set of Integers and how to calculate with positive and negative numbers, number sets and properties, variables, and solving equations and inequalities. Students will learn some basic statistic concepts including data collection, analysis and graphing. Students will begin Coordinate Plane graphing, linear graphing and learn about functions. Students will move from Rational numbers into Irrational numbers while studying square roots and the Pythagorean Theorem for right triangles. The basic geometric concepts of triangles, polygons, perimeter, area, surface area and volume will also be introduced.

## Science 8

This course provides a rigorous and comprehensive foundation for the 8th-grade student about to enter high school science. It covers the relevant topics in all the major scientific disciplines, building on prior knowledge and expanding on subjects introduced earlier in middle school. Students begin with a review of the scientific process and get more into depth with the idea of critical analysis of theories and experimental research. They will move on to discuss principles of physical science and energy. In the life science portion of the course, students will cover structure and function of organisms, genetics and evolution, and tenets of ecology. This will flow into the environmental science topics including earth's cycles and environmental problems. A brief discussion of the solar system will also be covered. Students will learn about the assigned topics through interactive activities, experimentation, discussion, and engaging text and animations. Graded assignments will be stimulating and thought-provoking, hopefully paving the way for future interest in the scientific disciplines.

## Social Studies 8

Students will build on their concepts of geography, civics, and political societies beginning with the world as it was in the 1500"s followed by the natural unfolding of events from the explorations, the establishment the colonies, the colonial era leading up to the causes of and including the French and Indian War and The Revolutionary War. The development of American government from a confederation to a constitutional one, the launching of the Republic, through the War of 1812, the growth and development of the nation through the Louisiana Purchase and the Lewis and Clark exploration on through Manifest Destiny and the Mexican War will follow. Students will explore the changes in the nation from immigration and abolition issues to the Civil War and Reconstruction, westward expansion, to the development of the U.S. as a world power and into World War One. They will explore the 1920's, the Great Depression and World War Two.

## *Middle School Electives*

### Art

Journey through time and place while examining some of the greatest masterpieces created. In this course, students will explore world regions and study the unique art and architecture that defines the Medieval and Renaissance periods. From Leonardo da Vinci to the Taj Mahal, participants will learn the fundamental concepts of art, how to look at and evaluate art, and the intended function of art museums through hands-on activities, discussions, written assignments, and objective assessments.

### Music

This semester long course allows the middle school student to explore many different aspects of the musical world. Units such as Rhythm, Pitch, Key Signatures, Musical Vocabulary, Composer Research, Music Technology, Musical Careers, and Music History are examples of areas we will explore as a class. Each student is responsible for completing all of the work and listening to the weekly lecture.

### Health

This course is designed to equip students with the knowledge and skills necessary to make healthy choices throughout one's lifetime. Students will gain valuable health information and learn healthy, proactive practices. Students will have an opportunity to demonstrate their skills in healthy decision-making, problem solving, goal setting, and effective communication and refusal negotiation. Students will acquire the skills necessary to recognize unhealthy and risky behaviors, manage peer pressure, and develop strategies for improving personal and community health. Students will gain an understanding of the many different influences on one's health and the interrelationships that occur between mental, physical, social, spiritual and environmental health.
The course will consist of vocabulary quizzes, discussion sessions amongst peers, multimedia interactive tutorials, lab activities and teacher interactions. Students will be assessed weekly to determine content understanding. After completion of this course, students will understand and be able to begin implementing positive, lifelong, health skills for optimum health and wellness

### Physical Education

Through this online Physical Education course students will be exposed to many diverse activities and will learn a wide variety of fitness concepts that they will be able to use in their everyday lives. Students will learn lifelong skills such as rock climbing, orienteering, and ping-pong along with stress management concepts through Yoga and Pilates. Students will develop a sense of self-esteem and accomplishment through completion of fitness tests, attaining personal goals set, and learning to care for their body. Integrated assignments will show students that content areas of science, social studies, math, and English are littered throughout physical education and apply in our everyday activities. Quizzes, discussion boards, projects, and physical activity will be assessed weekly to gauge content understanding. After completion of this course students will have the knowledge to stay fit and stay active well beyond middle school.

## World Language and Culture

In the World Language and Culture course students will be introduced to 6 different languages within the 18 week semester. The languages in this course include Spanish, French, German, Latin, Chinese and Japanese. Each language will be taught for a period of 3 weeks. This multilingual course is designed to give students an opportunity to gain understanding of a language that they might want to study in the future. The course takes a multi-perspective approach for teaching the culture of the people that speak the language along with fundamental communication skills in the target language. Activities that engage students and make language learning exciting and fun will be incorporated to build acquisition. The languages will be taught using the communicative method which combines listening, speaking, reading and writing in the target language with the use of multimedia resources.

## Career Exploration

In this course, students will learn about themselves and the possibilities for their future. This includes examining strengths and weaknesses, identifying interests and skills, and applying this knowledge to possible future careers. Students will research the 6 career clusters and be exposed to many new careers that exist in today's world. Students will learn how to get and keep a job, as well as how to make a personal career plan.

## Keyboarding/Word Processing

Prepare yourself for the computerized workplace. This course is intended for students who need to learn or improve their keyboarding technique and skills. Students will master touch keyboarding and improve their proofreading, editing, and writing skills while formatting letters, reports, tables, and other documents. Master the skill you can't do without in today's world where the keyboard is the primary means of communication and technology input.