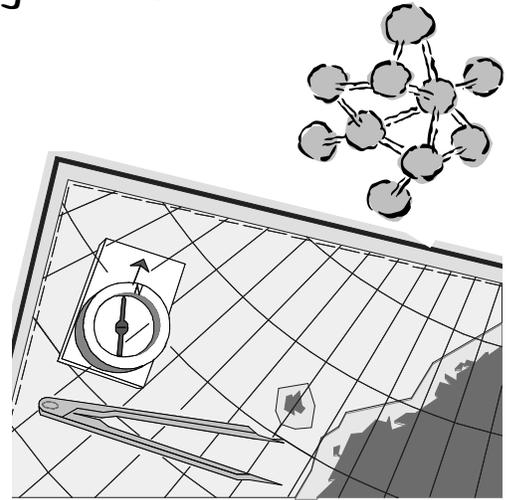


8th Grade Curriculum Parent Guide

Raymond School



Welcome to Eighth Grade

Curriculum performance standards were developed for each grade level that will lead students to specific eighth grade academic goals. By the end of grade eight, students will read and respond to a wide range of writing to build an understanding of written materials, of themselves, and of others.

In the language arts, students will learn to read, interpret, and critically analyze literature; read and discuss literary and nonliterary texts to understand human experiences; read to acquire information; and create or produce writing to communicate with different audiences for a variety of purposes. Students will plan, revise, edit, and publish clear and effective writing; understand the function of various forms, structures, and punctuation marks of standard improving communication in American English and use them appropriately in communications. Students will learn to orally communicate information, opinions, and ideas effectively to different audiences for a variety of purposes. They will participate effectively in discussions and develop their vocabulary and ability to use words, phrases, idioms, and various grammatical structures as a means of improving communication. They will recognize and interpret various uses and adaptations of language in social, cultural, regional, and professional situations, and learn to be flexible and responsive in their use of English.

Students will also use computers to acquire, organize, analyze, and communicate information; make informed judgments about media and products; create media products appropriate to audience and purpose; demonstrate a working knowledge of media production and distribution; and analyze and edit media work as appropriate to audience and purpose. Students will conduct research and inquiry on self-selected or assigned topics, issues, or problems and use an appropriate form to communicate their findings.

In social studies, students gain geographical perspectives on the world by studying the earth and the interactions of people with places where they live, work and play. Knowledge of geography helps students to address the various cultural, economic, social and civic implications of life in earth's many environments. In Wisconsin schools, the content, concepts and skills related to geography may be taught in units and courses that deal with geography, history, global studies, anthropology, sociology, psychology, current events and world religions.

Students will learn about the history of Wisconsin, the United States and the world, examining change and continuity over time in order to develop historical perspective, explain historical relationships and analyze issues that affect the present and the future. Reconstructing and interpreting historical events provides a needed perspective in addressing the past, the present and the future. Students will learn about political science and acquire the knowledge of political systems necessary for developing individual civic responsibility by studying the history and contemporary uses of power, authority and governance. Students will learn about production, distribution, exchange and consumption so that they can make informed economic decisions.

Students in Wisconsin will learn about the behavioral sciences by exploring concepts from the discipline of sociology, the study of the interactions among individuals, groups and institutions; the discipline of psychology, the study of factors that influence individual identity and learning; and the discipline of anthropology, the study of cultures in various times

and settings. Learning about the behavioral sciences helps students to understand people in various times and places. By examining cultures, students are able to compare our ways of life and those of other groups of people in the past and present.

Students in Wisconsin will draw upon a broad body of mathematical knowledge and apply a variety of mathematical skills and strategies, including reasoning, oral and written communication and the use of appropriate technology, when solving mathematical, real-world and non-routine problems. In order to participate fully as a citizen and a worker in our contemporary world, a person should be mathematically powerful. Mathematical power is the ability to explore, to conjecture, to reason logically and to apply a wide repertoire of methods to solve problems. People use numbers to quantify, describe and label things in the world around them. It is important to know the many uses of numbers and various ways of representing them. Number sense is a matter of necessity, not only in one's occupation but also in the conduct of daily life, such as shopping, cooking, planning a budget or analyzing information provided by the media.

Students will be able to use geometric concepts, relationships and procedures to interpret, represent and solve problems. Geometry and its study of shapes and relationships is an effort to understand the nature and beauty of the world.

Students will also select and use appropriate tools (including technology) and techniques to measure things to a specified degree of accuracy. They will use measurements in problem-solving situations. Measurement is the foundation upon which much technological, scientific, economic and social inquiry rests. Dramatic advances in technology have launched the world into the Information Age, where data are used to describe past events or predict future events. Whether in the business place or in the home, as producers or consumers of information, citizens need to be well versed in the concepts and procedures of data analysis in order to make informed decisions.

Students discover, describe and generalize simple and complex patterns and relationships. In the context of real-world problem situations, the student will use algebraic techniques to define and describe the problem to determine and justify appropriate solutions.

Language Arts

Reading/Literature

- ♦ Use effective reading strategies to achieve their purposes in reading.
- ♦ Use sentence and word structure, word origins, visual images, and context clues to understand unfamiliar words and clarify text
- ♦ Use visual features of texts such as headings and bold print, and structures of texts such as chronology and cause-and-effect, to improve comprehension
- ♦ Establish reading and writing habits by using texts to find information, gain understanding of diverse viewpoints, make decisions, and enjoy reading
- ♦ Select, summarize, paraphrase, analyze, and evaluate, orally and in writing, passages of texts chosen for specific purposes
- ♦ Identify the defining features and structure of literary texts such as conflict, representation of character, and point of view
- ♦ Analyze the effect of character, plot, setting, language, topic style, purpose, and point of view on the overall impact of literature
- ♦ Draw on a broad base of knowledge about the genres of literature, such as the structure and conventions of essays, epics, fables, myths, plays, poems, short stories, and novels, when interpreting the meaning of a literary work
- ♦ Develop criteria to evaluate literary merit and explain critical opinions about a text, informally in conversation or formally in a well-organized speech or essay conflict, representation of character, and point of view
- ♦ Analyze the effect of character, plot, setting, language, topic, style, purpose, and point of view on the overall impact of literature
- ♦ Provide interpretive responses, orally and in writing, to literary and nonliterary texts representing the diversity of American cultural heritage and cultures of the world
- ♦ Identify common historical, social, and cultural themes and issues in literary works and selected passages
- ♦ Draw on a broad base of knowledge about the themes, ideas, and insights found in classical literature while reading, interpreting, and reflecting on contemporary texts
- ♦ Evaluate the themes and main ideas of a world considering its audience and purpose
- ♦ Provide interpretive responses, orally and in writing, to literary and nonliterary texts representing the diversity of American and world cultures (Anne Frank)

- ♦ Identify common historical, social, and cultural themes and issues in literary works and selected passages.
- ♦ Draw on knowledge about the themes, ideas, and insights in classical literature while reading, interpreting, and reflecting on contemporary texts
- ♦ Evaluate the themes and main ideas of a world considering its audience and purpose
- ♦ Compare and contrast historical, social, and cultural themes and issues (Greek mythology)
- ♦ Evaluate the themes and main ideas considering audience and author's purpose
- ♦ Identify and explain information and main ideas in a variety of human experiences
- ♦ Interpret and use resources such as charts, tables, schedules, timelines, and manuals in paper and electronic form
- ♦ Analyze and evaluate the accuracy and usefulness of information from different sources
- ♦ Explain information and main ideas in informational passages
- ♦ Distinguish facts found in documents, narratives, charts, maps, and other sources
- ♦ Generalize and interpret information acquired for one's purposes
- ♦ Identify and explain information, main ideas, and organization in informational passages
- ♦ Distinguish facts in documents, narratives, charts, maps, tables and other sources and the generalizations and interpretations drawn from them
- ♦ Interpret and use resources such as charts, tables, schedules, timelines, and manuals in paper and electronic form
- ♦ Analyze and evaluate the accuracy and usefulness of information from different sources
- ♦ Explain information and main ideas in informational passages
- ♦ Distinguish facts found in documents, narratives, charts, maps and other sources
- ♦ Generalize and interpret information acquired for one's purposes
- ♦ Identify and explain information, main ideas, and organization in informational passages
- ♦ Apply all of the above skills when writing a research paper

Writing

- ♦ Create or produce writing to communicate with different audiences for a variety of purposes.
- ♦ Write a coherent and complete expository piece, with sufficient detail to fulfill its purpose, sufficient evidence to support its assertions, language appropriate for its intended audience, and organization achieved through clear coordination and subordination of ideas
- ♦ Write a well-organized persuasive piece that includes a clear position, a discernible tone, and a coherent argument with reliable evidence
- ♦ Write a well-organized narrative based on experience that uses descriptive language and detail, presents a sequence of events, and reveals a theme
- ♦ Write clear and pertinent responses to verbal or visual material that communicate, explain, and interpret the reading or viewing experience to a specific audience
- ♦ Write creative fiction that includes major and minor characters, a coherent plot, effective imagery, descriptive language, and concrete detail
- ♦ Write in a variety of situations and adapt strategies, such as revision, technology, and the use of reference materials, to the situation
- ♦ Use a variety of writing technologies including pen and paper as well as computers
- ♦ Write for a variety of readers, including peers, teachers, and other adults, adapting content, style, and structure to audience and situation
- ♦ Write an expository piece with sufficient detail to fulfill its purpose and support its assertions, language appropriate for its audience, and organization through clear coordination and subordination of ideas
- ♦ Write a persuasive piece that includes a clear position, a discernible tone, and a coherent argument with reliable evidence
- ♦ Write a narrative piece with descriptive language and detail, accurate sequence of events, and reveals a theme
- ♦ Write clear and pertinent responses to verbal or visual material that communicate, explain, and interpret the reading or viewing experience
- ♦ Write creative fiction that includes major and minor characters, a coherent plot, effective imagery, descriptive language, and concrete detail
- ♦ Write in a variety of situations and adapt strategies such as revision, technology, and reference materials well as computers
- ♦ Write for different readers adapting content, style, and structure to audience and situation
- ♦ Select a controversial issue and write a researched persuasive essay in response to it

- ♦ Produce multiple drafts, including finished pieces, that demonstrate the capacity to generate, focus, and organize ideas and to revise the language, organization, content, and tone of successive drafts in order to fulfill a specific purpose for communicating with a specific audience
- ♦ Identify questions and strategies for improving drafts in writing conferences with a teacher
- ♦ Given a writing assignment to be completed in a limited amount of time, produce a well developed, well organized, and effective response in correct English and an appropriate voice.
- ♦ Produce multiple drafts, including finished pieces, that demonstrate the capacity to generate, focus, and organize ideas and to revise the language, organization, content, and tone of successive drafts in order to fulfill a specific purpose for communicating with a specific audience
- ♦ Identify questions and strategies for improving drafts in writing conferences with a teacher
- ♦ Produce a well developed, well organized, and effective response in correct English and appropriate voice to be completed in a limited amount of time
- ♦ Understand the function of various forms, structures, and punctuation marks of standard American English and use them appropriately in communications.
- ♦ Understand the function of words, phrases, and clauses in a sentence and use them effectively, including coordinate and subordinate conjunctions, relative pronouns, and comparative adjectives
- ♦ Use correct tenses to indicate the relative order of events
- ♦ Understand and employ principles of agreement, including subject-verb, pronoun-noun, and preposition-pronoun
- ♦ Punctuate compound, complex, and compound-complex sentences correctly
- ♦ Employ the conventions of capitalization
- ♦ Spell frequently used words correctly and use effective strategies for spelling unfamiliar words
- ♦ Understand the function of words, phrases, and clauses in a sentence and use them effectively, including coordinate and subordinate conjunctions, relative pronouns, and comparative adjectives
- ♦ Use correct tenses to indicate the relative order of events
- ♦ Understand and employ principles of agreement, including subject-verb, pronoun-noun, and preposition-pronoun
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- ♦ Spell frequently used words correctly and use effective strategies for spelling unfamiliar words

Oral Language

- ♦ Orally communicate information, opinions, and ideas effectively to different audiences for a variety of purposes.
- ♦ Share impromptu remarks about topics of interest to oneself and others
- ♦ Speaking from notes or an outline, relate an experience in descriptive detail, with an appropriate sense of timing and decorum for the occasion
- ♦ Perform expressive oral readings of prose, poetry, and drama
- ♦ Organize and present a comprehensive report on differing viewpoints, evaluating the content of the material appropriate to the audience
- ♦ Differentiate formal and informal contexts and employ an appropriate style of speaking, adjusting language, gestures, rate, and volume to audience and purpose
- ♦ Observe appropriate etiquette when expressing thanks and receiving praise
- ♦ Share impromptu remarks about topics of interest to oneself and others
- ♦ Prepare and conduct interviews (mock job/career interviews, phase biographies)
- ♦ Critique presentations of differing viewpoints, evaluating content, organization, appropriateness, and effectiveness
- ♦ Summarize and explain the information conveyed in an oral communication, accounting for the key ideas, structure, and relationship of parts to the whole
- ♦ Distinguish among purposes for listening, such as gaining information or being entertained, and take notes as appropriate
- ♦ Recall significant details and sequence accurately
- ♦ Follow a speaker's argument and represent it in notes
- ♦ Evaluate the reliability of information in a communication, using criteria based on prior knowledge of the speaker, the topic, and the context and on analysis of logic, evidence, propaganda devices, and language
- ♦ Participate in discussion by listening attentively, respecting the opinions of others, and responding responsibly and courteously to the remarks of others
- ♦ Explain and advance opinions by citing evidence and referring to sources

- ♦ Evaluate the stated ideas and opinions of others, seeking clarification through questions
- ♦ Invite ideas and opinions of others into the discussion, responding clearly and tactfully to questions and comments
- ♦ Accept and use helpful criticism
- ♦ Establish and maintain an open mind when listening to others' ideas and opinions
- ♦ Summarize the main points of a discussion, orally and in writing, specifying areas of agreement and disagreement and paraphrasing contributions
- ♦ Display and maintain facial expressions, body language, and other response cues that indicate respect for the speaker and attention to the discussion
- ♦ Attend to the content of discussion rather than the speaker
- ♦ Participate in discussion without dominating
- ♦ Distinguish between supported and unsupported statements
- ♦ Participate in discussion by listening attentively, demonstrating respect for the opinions of others, and responding courteously to the remarks of others
- ♦ Explain and advance opinions by citing evidence and referring to sources
- ♦ Evaluate the ideas and opinions of others seeking clarification through questions
- ♦ Invite ideas and opinions of others into the discussion, responding clearly and tactfully to questions and comments
- ♦ Accept and use helpful criticism
- ♦ Establish and maintain an open mind when listening to others' ideas and opinions
- ♦ Summarize the main points of a discussion, orally and in writing, specifying areas of agreement and disagreement and paraphrasing contributions
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- ♦ Attend to the content of discussion rather than the speaker
- ♦ Participate in discussion without dominating
- ♦ Distinguish between supported and unsupported statements

Language

- ♦ Develop their vocabulary and ability to use words, phrases, idioms, and various grammatical structures as a means of improving communication.
- ♦ Consult dictionaries, thesauruses, handbooks, and grammar texts when choosing words, phrases, and expressions for use in oral and written presentations.
- ♦ Explain how writers and speakers choose words and use figurative language such as similes, metaphors, personification, hyperbole, and allusion to achieve specific effects.
- ♦ Choose words purposefully and evaluate the use of words in communications designed to inform, explain, and persuade.
- ♦ Consult dictionaries, thesauruses, handbooks, and grammar texts when choosing words, phrases and expressions for use in oral and written presentations
- ♦ Explain how writers and speakers choose words and use figurative language to achieve specific effects
- ♦ Recognize and interpret various uses and adaptations of language in social, cultural, regional, and professional situations, and learn to be flexible and responsive in their use of English.
- ♦ Describe how American English is used in various public and private contexts, such as school, home, and work.
- ♦ Make appropriate choices when speaking and writing, such as formal or informal language, considering the purpose and context of the communication.
- ♦ Evaluate how audience and context affect the selection and use of words and phrases, including technical terms, slang, and jargon.
- ♦ Describe how the English language is used in various public and private contexts, such as school, home, and work

Media and Technology

- ♦ Use computers to acquire, organize, analyze, and communicate information.
- ♦ Demonstrate efficient word-processing skills.
- ♦ Construct and use simple databases.
- ♦ Use manuals and on-screen help in connection with computer applications.
- ♦ Perform basic computer operations on various platforms (as available).
- ♦ Collect information from various on-line sources, such as web pages, news groups, and listservs.
- ♦ Demonstrate efficient word processing skills
- ♦ Construct and use simple databases

- ♦ Use manuals and on-screen help in connection with computer applications
- ♦ Make informed judgments about media and products.
- ♦ Recognize common structural features found in print and broadcast advertising.
- ♦ Identify and explain the use of stereotypes and biases evident in various media.
- ♦ Compare the effect of particular symbols and images seen in various media.
- ♦ Develop criteria for selecting or avoiding specific broadcast programs and periodicals.
- ♦ Recognize common structural features found in print and broadcast advertising
- ♦ Create media products appropriate to audience and purpose.
- ♦ Write informational articles that target audiences of a variety of publications.
- ♦ Use desktop publishing to produce products such as brochures and newsletters designed for particular organizations and audiences.
- ♦ Create video and audio tapes designed for particular audiences.
- ♦ Demonstrate a working knowledge of media production and distribution.
- ♦ Plan a promotion or campaign that involves broadcast and print media production and distribution.
- ♦ Analyze how messages may be affected by financial factors such as sponsorship.
- ♦ Identify advertising strategies and techniques aimed at teenagers.
- ♦ Analyze and edit media work as appropriate to audience and purpose.
- ♦ Revise media productions by adding, deleting, and adjusting the sequence and arrangement of information, images, or other content as necessary to improve focus, clarity, or effect.
- ♦ Develop criteria for comprehensive feedback on the quality of media work and use it during production.
- ♦ Enhance media products with digital video, scanners or other graphic input devices

Research & Inquiry

- ♦ Students will locate, use, and communicate information from a variety of print and nonprint materials.
- ♦ Conduct research and inquiry on self-selected or assigned topics, issues, or problems and use an appropriate form to communicate their findings.
- ♦ Formulate research questions and focus investigation on relevant and accessible sources of information.
- ♦ Use multiple sources to identify and locate information pertinent to research including encyclopedias, almanacs, dictionaries, library catalogs, indexes to periodicals, and various electronic search engines.
- ♦ Conduct interviews, field studies, and experiments and use specialized resources (such as almanacs, fact books, pamphlets, and technical manuals) when appropriate to an investigation.
- ♦ Compile, organize, and evaluate information, taking notes that record and summarize what has been learned and extending the investigation to other sources.
- ♦ Review and evaluate the usefulness of information gathered in an investigation.
- ♦ Produce an organized written and oral report that presents and reflects on findings, draws sound conclusions, adheres to the conventions for preparing a manuscript, and gives proper credit to sources.
- ♦ Gather, organize, and evaluate information, taking notes that record and summarize what has been learned and extending the investigation to other sources
- ♦ Review and evaluate the usefulness of information gathered in an investigation

Social Studies

Geography

- ♦ Use a variety of geographic representations, such as political, physical, and topographic maps, a globe, aerial photographs, and satellite images, to gather and compare information about a place
Interpret historical maps and photographs in comparing information about a place or event.
- ♦ Construct mental maps of selected locales, regions, states, and countries and draw maps from memory, representing relative location, direction, size, and shape
- ♦ Use mental maps to locate a specific historical regions.
- ♦ Use an atlas to estimate distance, calculate scale, identify dominant patterns of climate and land use, and compute population density
- ♦ Use data to develop maps and flow charts showing major patterns of movement of people and commodities in the southern United States before the outbreak of the Civil War.
- ♦ Conduct a historical study to analyze the use of the local environment in a Wisconsin community and to explain the effect of this use on the environment

- ♦ Identify and compare the natural resource bases of different states and regions in the United States and elsewhere in the world, using a statistical atlas, aerial photographs, satellite images, and computer databases
- ♦ Examine the relationship between our country's natural resource base and the growth of industry up to 1865.
- ♦ Describe and distinguish between the environmental effects on the earth of short-term physical changes, such as those caused by floods, droughts, and snowstorms, and long-term physical changes, such as those caused by plate tectonics, erosion, and glaciation
- ♦ Describe the movement of people, ideas, diseases, and products throughout the world
- ♦ Map the triangular trade routes of the sixteenth and seventeenth centuries that linked North America, Africa and Europe and explain how the trades influenced the history of these continents.
- ♦ Describe and analyze the ways in which people in different regions of the world interact with their physical environments through vocational and recreational activities
- ♦ Compare and contrast how the English colonists interacted with their physical environment through vocational and recreational activities with that of the people in their homeland.
- ♦ Describe how buildings and their decoration reflect cultural values and ideas, providing examples such as cave paintings, pyramids, sacred cities, castles, and cathedrals
- ♦ Identify buildings and structures that have come to represent or symbolize a city in the 18th or 19th century.
- ♦ Identify major discoveries in science and technology and describe their social and economic effects on the physical and human environment
- ♦ Describe the role of technology in changing the physical environment of agricultural activities, for example the steel-tipped plow, mechanical reaper, and the cotton gin.
- ♦ Associate rates of resource consumption with levels of technological development.
- ♦ Discuss how technology affects the definitions of access to and use of resources.
- ♦ Give examples of the causes and consequences of current global issues, such as the expansion of global markets, the urbanization of the developing world, the consumption of natural resources, and the extinction of species, and suggest possible responses by various individuals, groups, and nations

History: Time, Continuity and Change

- ♦ Interpret the past using a variety of sources, such as biographies, diaries, journals, artifacts, eyewitness interviews, and other primary source materials, and evaluate the credibility of sources used
- ♦ Analyze the purpose, meaning and significance of documents such as the Gettysburg Address, Bill of Rights, Constitution, and the Emancipation Proclamation.
- ♦ Employ cause-and-effect arguments to demonstrate how significant events have influenced the past and the present in United States and world history
- ♦ Assess the impact of John Brown's raid at Harper's Ferry and his trial and hanging on the outbreak of hostility that began the Civil War.
- ♦ Describe the relationships between and among significant events, such as the causes and consequences of wars in United States and world history
- ♦ Assess how the Louisiana Purchase influenced economic development and the concept of Manifest Destiny.
- ♦ Identify the causes and consequences of wars in the United States prior to 1865.
- ♦ Explain how and why events may be interpreted differently depending upon the perspectives of participants, witnesses, reporters, and historians
- ♦ Demonstrate an understanding that different people may describe the same event or situation in different ways but must provide reasons or evidence for their viewpoint.
- ♦ Use historical evidence to determine and support a position about important political values, such as freedom, democracy, equality, or justice, and express the position coherently
- ♦ Reconstruct the arguments among patriots and loyalists about independence and explain how colonists won the Revolutionary War against superior British resources.
- ♦ Analyze important political values such as freedom, democracy, equality, and justice embodied in documents such as the Declaration of Independence, the United States Constitution, and the Bill of Rights
- ♦ Explain the major ideas expressed in the Constitution and the Declaration of Independence.
- ♦ Analyze the fundamental ideas behind the separation of power and checks and balances system established in a constitution.
- ♦ Explain how the values of the Magna Carta inspired the American Constitution.
- ♦ Identify significant events and people in the major eras of United States and through 1865.

- ♦ Analyze military and political leadership in conducting wars in America. For example, George Washington in the Revolutionary War.
- ♦ Identify major scientific discoveries and technological innovations and describe their social and economic effects on society.
- ♦ Identify the impact of scientific innovation on military technology used during the Civil War and the resulting influences it had on the final outcome.
- ♦ Explain the need for laws and policies to regulate science and technology
- ♦ Analyze examples of conflict, cooperation, and interdependence among groups, societies, or nations
- ♦ Look at the causes, objectives, characters and outcome of the Mexican War & Indian tribes, and the Filipino insurrection.
- ♦ Summarize major issues associated with the history, culture, tribal sovereignty, and current status of the American Indian tribes and bands in Wisconsin
- ♦ Describe how history can be organized and analyzed using various criteria to group people and events chronologically, geographically, thematically, topically, and by issues
- ♦ Identify and compare the organizing principles of different periodizations (e.g. Era of Good Feeling and Westward Expansion).

Political Science and Citizenship: Power, Authority, Governance and Responsibility

- ♦ Identify and explain democracy's basic principles, including individual rights, responsibility for the common good, equal opportunity, equal protection of the laws, freedom of speech, justice, and majority rule with protection for minority rights
- ♦ Discuss the origins of basic principles of justice including equal protection, under law, "reasonable doubt" and innocent until proven guilty.
- ♦ Explain the meaning and importance of the other following fundamental values
 - ♦ self-government
 - ♦ life, liberty, property and the pursuit of happiness
 - ♦ patriotism
- ♦ Identify, cite, and discuss important political documents, such as the Constitution, the Bill of Rights, and landmark decisions of the Supreme Court, and explain their function in the American political system
- ♦ Identify, cite and discuss the importance of the Dred Scott decision.
- ♦ Answer the question "What made slaves free and a citizen of the United States?"
- ♦ Identify fundamental values and principles expressed in significant political speeches and writings, e.g., The Federalist Papers, Washington's Farewell Address.
- ♦ Explain how laws are developed, how the purposes of government are established, and how the powers of government are acquired, maintained, justified, and sometimes abused
- ♦ Describe and explain how the federal system separates the powers of federal, state, and local governments in the United States, and how legislative, executive, and judicial powers are balanced at the federal level
- ♦ Explain how the federal system and the separation of powers in the Constitution work to sustain both majority rule and minority rights
- ♦ Describe historical and contemporary examples of how the Constitution has been used to protect individual rights and promote the common good such as "Congress shall make no law respecting an establishment of religion, or the right of citizens of the United States to vote should not be denied ... on account of gender."
- ♦ Explain the role of political parties and interest groups in American politics
- ♦ Explain the reasons for the development of political parties in our system of government
- ♦ Locate, organize, and use relevant information to understand an issue of public concern, take a position, and advocate the position in a debate
- ♦ Locate and use information to understand an issue of public concern and be able to articulate major arguments on both sides of the questions.
- ♦ Research, take a position and defend the conclusions of an issue in early American history (such as the Pullman Strike).
- ♦ Identify ways in which advocates participate in public policy debates
- ♦ Explain why differences in values, beliefs and interests may make agreement difficult or impossible on certain issues of public policy (e.g. taxation without representation, slavery, or states' rights).
- ♦ Describe the role of international organizations such as military alliances and trade associations

Economics: Production, Distribution, Exchange, Consumption

- ♦ Describe and explain how money makes it easier to trade, borrow, save, invest, and compare the value of goods and services
- ♦ Identify and explain basic economic concepts and bartering: supply, demand, production, exchange, and consumption; labor, wages, and capital; inflation and deflation; market economy and command economy; public and private goods and services
- ♦ Discuss the economic impact of slavery in the United States prior to the Civil War.
- ♦ Interpret economic data from historical and current database, charts, graphs, and census tables in order to make generalizations about changes within a community, region or the United States.
- ♦ Interpret cartoons by describing the economic concept they illustrate or suggest.
- ♦ Describe Wisconsin's role in national and global economies and give examples of local economic activity in national and global markets.
- ♦ Describe how investments in human and physical capital, including new technology, affect standard of living and quality of life
- ♦ Identify and describe technological inventions and developments that evolved during the 19th century and the influence of these innovations on the lives of workers.
- ♦ Give examples to show how government provides for national defense; health, safety, and environmental protection; defense of property rights; and the maintenance of free and fair market activity
- ♦ Identify and explain various points of view concerning economic issues, such as taxation, unemployment, inflation, the national debt, and distribution of income.
- ♦ Analyze how the Louisiana Purchase influenced economic development and the concept of Manifest Destiny.
- ♦ Evaluate how the growth of industry in the 19th century affected gender roles and changed the lives of men, women and children.
- ♦ Identify the location of concentrations of selected natural resources and describe how their acquisition and distribution generates trade and shapes economic patterns
- ♦ Explain how environmental and human factors accounted for differences in the economies that developed in the colonies of New England, mid-Atlantic and lower south.
- ♦ Explain how and why people who start new businesses take risks to provide goods and services, considering profits as an incentive
- ♦ Explain why the earning power of workers depends on their productivity and the market value of what they produce
- ♦ Identify the economic roles of institutions such as corporations and businesses, banks, labor unions, and the Federal Reserve System.
- ♦ Explain how the lack of diversified economy affected the South during the Civil War.
- ♦ Describe how personal decisions can have a global impact on issues such as trade agreements, recycling, and conserving the environment.

The Behavioral Sciences: Individuals, Institutions and Society

- ♦ Give examples to explain and illustrate the influence of prior knowledge, motivation, capabilities, personal interests, and other factors on individual learning
- ♦ Discuss reasons why it was easier for immigrants from Western Europe to assimilate into American society than it was freed Afro-Americans after the Civil War.
- ♦ Give examples to explain and illustrate how factors such as family, gender, and socioeconomic status contribute to individual identity and development
- ♦ List and describe social and economic factors in the 18th and 19th century that limited the participatory role of women in American society.
- ♦ Analyze the appropriateness of metaphors that compare the United States to a "melting pot" and a "salad bowl."
- ♦ Describe the ways in which local, regional, and ethnic cultures may influence the everyday lives of people
- ♦ Describe and explain the means by which individuals, groups, and institutions may contribute to social continuity and change within a community
- ♦ Describe and explain the means by which groups and institutions meet the needs of individuals and societies
- ♦ Describe and explain the influence of status, ethnic origin, race, gender, and age on the interactions of individuals
- ♦ Compare women's home front and battlefield roles in the Union and Confederacy.
- ♦ Identify and explain examples of bias, prejudice, and stereotyping, and how they contribute to conflict in a society
- ♦ Examine the Federal government's and Native American attitudes toward assimilation, accommodation, resettlement.

ment and resistance in 19th century history.

- ♦ Give examples to show how the media may influence the behavior and decision-making of individual groups.
- ♦ Analyze and evaluate the influence of media in supporting or criticizing Abraham Lincoln during the Civil War period.
- ♦ Give examples of the cultural contributions of racial and ethnic groups in Wisconsin, the United States, and the world
- ♦ Identify and defend a position on several of the most influential minority personalities in 18th and 19th century America.
- ♦ Explain how language, art, music, beliefs, and other components of culture can further global understanding or cause misunderstanding
- ♦ Explain how beliefs and practices, such as ownership of property or status at birth, may lead to conflict among people of different regions or cultures and give examples of such conflicts that have and have not been resolved
- ♦ Examine and explain how the Native American concept of land ownership contributed to misunderstandings and conflict with the United States government and settlers.
- ♦ Describe conflict resolution and peer mediation strategies used in resolving differences and disputes
- ♦ Select examples of artistic expressions from several different cultures for the purpose of comparing and contrasting the beliefs expressed
- ♦ Describe cooperation and interdependence among individuals, groups, and nations, such as helping others in times of crisis
- ♦ Identify and discuss the importance of adhering to Constitutional principles and values in managing conflicts.

Science Connections

Science Systems and the Themes: Describe limitations of science systems and give reasons why specific science themes are included in or excluded from those systems.

- ♦ Describe limitations of science systems and give reasons why specific science themes are included in or excluded from those systems (i.e., collecting data at ocean depths may be limited by cost, time, technology and knowledge.)

Defending and Critiquing Explanations: Defend explanations and models by collecting and organizing evidence that supports them and critique explanations and models by collecting and organizing evidence that conflicts with them.

- ♦ Explain the characteristics of a good explanation (use supporting evidence) and why models are used (i.e., economical and practical, less dangerous).
- ♦ Give examples of when using a model is a disadvantage.

Evidence: Collect evidence to show that models developed as explanations for events were (and are) based on the evidence available to scientists at the time.

- ♦ Collect evidence to show that models developed as explanations for events were (and are) based on the evidence available to scientists at the time (i.e., atomic structure, continental drift).
- ♦ **New Evidence:** Show [include the following themes when showing] how models and explanations, based on systems, were changed as new evidence accumulated (the effects of constancy, evolution, change, and measurement should all be part of these explanations).
- ♦ Understand that models will change over time as new evidence is collected.

Predicting with Models and Explanations: Use models and explanations to predict actions and events in the natural world.

- ♦ Use models and/or explanations to predict actions and events in the natural world, (i.e., stream table, glacial deposits, and weather patterns on society).

Models: Design real or thought investigations to test the usefulness and limitations of a model.

- ♦ Work as a group to identify the usefulness and limitations of a model (i.e., discuss limitations of solar system model, groundwater model, stream table and earthquake waves (slinky)).

Predicting with Themes: Use the themes of evolution, equilibrium, and energy to predict future events or changes in the natural world.

- ♦ Use the themes of evolution, equilibrium, and energy to predict future events or changes in the natural world (i.e. global warming and effects on coastlines, effects of weathering/erosion on landforms.)

Nature of Science

Science Knowledge and Concepts: Describe how scientific knowledge and concepts have changed over time in the earth and space, life and environmental and physical sciences.

Change Over Time: Identify and describe major changes that have occurred over time in conceptual models and explanations in the earth and space, life and environmental, and physical sciences and identify the people, cultures, and conditions that led to these developments.

Rules of Science: Explain how the general rules of science apply to the development and use of evidence in science investigations, model-making, and applications.

- ♦ Understand that the rules of science require us to use data without changing data to meet expected outcomes.

Reasoning: Describe types of reasoning and evidence used outside of science to draw conclusions about the natural world.

- ♦ Provide examples of non-scientific reasoning used to draw conclusions about the natural world (i.e., mythology, astrology).

Application of Science Knowledge: Explain ways in which scientific knowledge is shared, checked, and extended, and show how these processes change over time.

- ♦ Know that much of today's scientific knowledge is based on previous scientific ideas that have changed over time (i.e., plate tectonics).

Uses and Limitations of Science: Explain the ways in which scientific knowledge is useful and also limited when applied to social issues.

Science Inquiry

Questioning: Identify questions they can investigate using resources and equipment they have available.

- ♦ Before and after conducting an experiment in class, the students will identify questions that they have about the topic.

Data and Information Sources: Identify data and locate sources of information including their own records to answer the questions being investigated.

- ♦ Use the data collected during investigations to develop conclusions and report findings.

Conducting Investigations: Design and safely conduct investigations that provide reliable quantitative or qualitative data, as appropriate, to answer their questions.

Inferences: Use inferences to help decide possible results of their investigations, [and] use observations to check their inferences.

- ♦ Hypothesize and then use data to determine the validity of an hypothesis.

Explaining Results: Use accepted scientific knowledge, models, and theories to explain their results and to raise further questions about their investigations.

Relating Inferences from Investigations: State what they have learned from investigations, relating their inferences to scientific knowledge and to data they have collected.

- ♦ The students will respond back to the purpose statements of the investigation and explain how purposes were met and knowledge gained.

Explaining Conclusions: Explain their data and conclusions in ways that allow an audience to understand the questions they selected for investigation and the answers they have developed.

- ♦ Use charts, graphs, spreadsheets, models, display boards to explain data and conclusions in a way that will allow an audience to understand the questions that were selected for investigation and the answers that were developed.

Using Technology: Use computer software and other technologies to organize, process, and present their data.

- ♦ Use computer software and other technologies to organize, process, and present their data (Power Point, Inspiration, Excel, internet, etc.).

Defending Validity: Evaluate, explain, and defend the validity of questions, hypotheses, and conclusions to their investigations.

- ♦ Evaluate, share, explain, and defend data from an investigation with peers and teacher.

Realizing the Importance of Implications: Discuss the importance of their results and implications of their work with peers, teachers, and other adults.

- ♦ Discuss the importance of data collected from investigations and its implications in real life situations.

Further Questioning: Raise further questions which still need to be answered.

- ♦ Raise further questions about investigations which still need to be answered.

Earth and Space Science

Changes in Earth Features: Using the science themes, explain and predict changes in major features of land, water, and atmospheric systems.

Underlying Structures of the Earth: Describe underlying structures of the earth that cause changes in the earth's surface.

Forces Acting on the Earth: Using the science themes during the process of investigation, describe climate, weather, ocean currents, soil movements and changes in the forces acting on the earth.

Influence of Living Organisms: Using the science themes, analyze the influence living organisms have had on the earth's systems, including their impact on the composition of the atmosphere and the weathering of rocks.

Earth's History

Evidence of Earth History: analyze the geologic and life history of the earth, including change over time, using various forms of scientific evidence.

Use of Resources: Describe through investigations the use of the earth's resources by humans in both past and current cultures, particularly how changes in the resources used for the past 100 years are the basis for efforts to conserve and recycle renewable and non-renewable resources.

Earth in the Solar System

Celestial Models: Describe the general structure of the solar system, galaxies, and the universe, explaining the nature of the evidence used to develop current models of the universe.

Cycles of the Earth: Using past and current models of the structure of the solar system, explain the daily, monthly, yearly, and long-term cycles of the earth, citing evidence gained from personal observation as well as evidence used by scientists.

Life and Environmental Science

Structure and Function of Living Things: Understand the structure and function of cells, organs, tissues, organ systems, and whole organisms.

Adaptation Structures: Show how organisms have adapted structures to match their functions, providing means of encouraging individual and group survival within specific environments.

Single and Multi Celled Organisms: Differentiate between single-celled and multiple-celled organisms (humans) through investigation, comparing the cell functions of specialized cells for each type of organism.

Reproduction and Heredity

Characteristic Traits: Investigate and explain that heredity is comprised of the characteristic traits found in genes within the cell of an organism.

Passing on Characteristics: Show how different structures both reproduce and pass on characteristics of their group.

Regulation and Behavior

Internal and External Regulation: Understand that an organism is regulated both internally and externally.

Behavior Adaptations: Understand that an organism's behavior evolves through adaptation to its environment.

Populations and Ecosystems

Population Balance: Show through investigations how organisms both depend on and contribute to the balance or imbalance of populations and/or ecosystems, which in turn contribute to the total system of life on the planet.

Diversity and Adaptations of Organisms

Changes that Impact on the Survival and Growth of Certain Species: Explain how some of the changes on the earth are contributing to changes in the balance of life and affecting the survival or population growth of certain species.

- ♦ Identify local and global changes on the earth which have affected various species.

Human Influence on the Environment: Project how current trends in human resource use and population growth will influence the natural environment, and show how current policies affect those trends.

- ♦ This standard is not addressed at this grade level.
- ♦ Study the living and non-living characteristics of the local environments.

Science Application

Careers: Identify and investigate the skills people need for a career in science or technology and identify the academic courses that a person pursuing such a career would need.

- ♦ Identify course work at the high school and college level required for specific careers in science.

Influence of Discoveries: Explain how current scientific and technological discoveries have an influence on the work people do and how some of these discoveries also lead to new careers.

♦ Explain how scientific and technological discoveries have influenced careers (i.e., environmental science, space research, forensics, research, computer programming, transplant technology, gene therapy, water treatment, sanitation, bridge construction).

♦ Discuss and analyze ethical issues related to scientific and technological discoveries as they relate to new and evolving careers.

Impact of Science and Technology: Illustrate the impact that science and technology have had, both good and bad, on careers, systems, society, environment, and quality of life.

- ♦ Identify and explain positive and negative effects science and technology have had on society (i.e., faster pace,

longer life expectancy, accessibility, invasion of privacy, loss/increase of jobs, organization, opportunities, internet usage, impact on environment, energy sources, energy consumption and costs).

Science Models/Machines: Propose a design (or re-design) of an applied science model or a machine that will have an impact in the community or elsewhere in the world and show* how the design (or re-design) might work, including potential side effects.

Science or Technology Solutions: Investigate a specific local problem to which there has been a scientific or technological solution, including proposals for alternative courses of action, the choices that were made, reasons for the choices, any new problems created, and subsequent community satisfaction.

- ♦ Identify local scientific or technological problems and their solutions and explain processes (methods) by which problems were solved.
- ♦ Analyze solutions and problems associated with the solutions. (i.e., agriculture, commercial, residential, recreation, landfill, reclamation.)

Discoveries Result in New Technology: Use current texts, encyclopedias, source books, computers, experts, the popular press, or other relevant sources to Identify* examples of how scientific discoveries have resulted in new technology.

- ♦ Gather information, using a variety of current and reliable resources, to identify scientific discoveries which have resulted in new technologies (Science in the News activity). (i.e., genetics and cloning, Global Positioning System, pacemakers, velcro, genetic engineering, laser eye surgery.)

Science and Technology Interdependence: Show evidence of how science and technology are interdependent, using some examples drawn from personally conducted investigations.

- ♦ Describe how science and technology are interdependent by citing examples and explaining the link between technology and science.

Understanding the Scientific Enterprise

- ♦ Knows that people of all backgrounds and with diverse interests, talents, qualities and motivations engage in fields of science and engineering; some of these people work in teams and others work alone, but all communicate extensively with others.
- ♦ Knows that the work of science requires a variety of human abilities, qualities and habits of mind (e.g., reasoning, insight, energy, skill, creativity, intellectual honesty, tolerance of ambiguity, skepticism, openness to new ideas).
- ♦ Knows various settings in which scientists and engineers may work (e.g., colleges and universities, businesses and industries, research institutes, government agencies).
- ♦ Understands ethics associated with scientific study (e.g., potential subjects must be fully informed of the risks and benefits associated with the research and their right to refuse to participate; potential subjects must be fully informed of possible risks to community and property).
- ♦ Knows that throughout history, many scientific innovators have had difficulty breaking through accepted ideas of their time to reach conclusions that are now considered to be common knowledge.
- ♦ Knows ways in which science and society influence one another (e.g., scientific knowledge and the procedures used by scientists influence the way many individuals think about themselves, others and the environment; societal challenges often inspire questions for scientific research; social and economic forces strongly influence which science research programs are pursued and funded).

Science in Social and Personal Perspectives

Evidence in Media: Evaluate the scientific evidence used in various media (for example, television, radio, Internet, popular press, and scientific journals) to address a social issue, using criteria of accuracy, logic, bias, relevance of data, and credibility of sources.

- ♦ Analyze, and discuss scientific evidence from various media sources, for accuracy, logic, bias, relevance of data, and credibility of sources.
- ♦ Identify scientific and technological discoveries through discussion of current events.
- ♦ Understand and identify what makes a source reliable.

Scientific Solution: Present a scientific solution to a problem involving the earth and space, life and environmental, or physical sciences and participate in a consensus-building discussion to arrive at a group decision.

- ♦ Identify scientific problems and possible solutions.
- ♦ Participate in group discussions regarding problems and solutions of an environmental issue.
- ♦ Debate or discuss in small group or as a class the pros and cons of an environmental solution, backing up opinions with research and data, and reaching group consensus (i.e., watershed, development and construction).

Consequences of Decisions on Health and Safety: Understand the consequences of decisions affecting personal health and safety.

- ♦ Participate in the Science Safety Unit.
- ♦ Identify safety issues associated with various careers.
- ♦ Use reasoning abilities to:
 - ♦ perceive patterns (congruent, similar, divisibility, L.C.M., G.C.F., prime factorization, comparing and ordering, sequence, Pascal's Triangle, Fibonacci Sequence, probability)
 - ♦ identify relationships (congruent, arithmetic, geometric, ratio, proportion)
 - ♦ evaluate information (too much, not enough, what do you need to use)
- ♦ Use reasoning abilities to:
 - ♦ design questions that will help with further research
 - ♦ justify a statement using logical reasoning by explaining processes used to arrive at the answer
 - ♦ test reasonableness of results through estimation, sampling and substitution
 - ♦ to defend work by using the four-step process (explore, plan, solve, examine)
- ♦ Apply the following problem-solving strategies:
 - ♦ choose an operation
 - ♦ use manipulatives
 - ♦ make a chart/table/list
 - ♦ work backwards
 - ♦ use a calculator
 - ♦ find a pattern
 - ♦ use an equation
 - ♦ solve a simpler problem
 - ♦ classify
 - ♦ Venn diagrams
 - ♦ draw a diagram
 - ♦ guess and check
 - ♦ use estimation
 - ♦ note important information
 - ♦ identify needed/extra information
 - ♦ use a graph
 - ♦ use a formula
 - ♦ make a model
 - ♦ eliminate possibilities
- ♦ Justify strategies and solutions through oral and written explanations.
- ♦ Communicate logical arguments clearly to show why a result makes sense using words, numbers, pictures, symbols, charts, graphs, tables, diagrams, models.
- ♦ Know when to use the appropriate resource/strategy.
- ♦ Justify logical arguments through oral and written explanation.
- ♦ Analyze non-routine problems by illustrating, guessing, simplifying, relating to everyday life, modeling, acting it out, generalizing, shifting to another point of view, process of elimination.
- ♦ Use mathematics as a way to understand other areas of the curriculum (e.g. measurement in science, geography skills in social studies, and Venn diagrams in language arts).
- ♦ See relationships between various kinds of problems and actual events.
- ♦ appropriate use of technology
- ♦ the conventions of mathematical discourse (e.g., symbols, definitions, labeled drawings)
- ♦ mathematical language
- ♦ clear organization of ideas and procedures
- ♦ understanding of purpose and audience
- ♦ Exercise and apply what they know in written form by using a journal.
- ♦ Calculators – a learner will utilize.
- ♦ A learner will apply the following: spreadsheet tool; graphing tool; geometry tool; internet access.
- ♦ The learner will determine when technology is appropriate and when other approaches are more appropriate or efficient.
- ♦ Present results of a project, written and oral, to an audience.
- ♦ Communications – The learner will explain and demonstrate mathematical concepts, procedures and ideas to others by reading, talking about it, sharing and assisting others.
 - ♦ think/pair/share
 - ♦ study buddies
 - ♦ peer tutoring
 - ♦ cooperative groups
- ♦ Curriculum connections: social studies/history/geography; health/physical education; science; music; language arts; art; and electives.
- ♦ Real-world connections: the learner will use real-world connections as they apply in daily life, careers, as consumers and in multi-cultural situations.

Number Operations and Relationships

- ♦ Reinforce the use of integers, decimals, fractions, and percents.
- ♦ Express numbers in scientific notation.
- ♦ Use powers and exponents in expressions.
- ♦ Identify and simplify rational expressions.
- ♦ Evaluate numerical and algebraic expressions using order of operations.
- ♦ Solve equations using the subtraction, addition, multiplication and division properties of equality.
- ♦ Solve two-step equations.
- ♦ Graph integers on a number line and use absolute value.
- ♦ Add, subtract, multiply and divide one or more integers.
- ♦ Add, subtract, multiply and divide fractions.
- ♦ Add, subtract, multiply and divide repeating and/or terminating decimals.
- ♦ Find square roots.
- ♦ Recall of multiplication and division facts 0-12.
- ♦ Identify and solve equations.
- ♦ Formulate algebraic expressions and equations from verbal phrases and sentences.
- ♦ Express rational numbers as decimals and terminating decimals as fractions.
- ♦ Express repeating decimals as fractions.
- ♦ Compare and order decimals integers using $<$, $>$, $=$.
- ♦ Compare and order rational numbers expressed as fractions and/or decimals $<$, $>$, $=$.
- ♦ Identify and solve inequalities. $<$, $>$, $=$.
- ♦ Express ratios as fractions in simplest form and determine unit rates.
- ♦ Determine if a pair of ratios form a proportion and solve proportions.
- ♦ Solve problems involving scale drawings.
- ♦ Express fractions as percents. Solve problems using the percent proportion.
- ♦ Express decimals and fractions as percents. Express percents as fractions and decimals.
- ♦ Express percents greater than 100 or less than 1 as decimals and fractions.
- ♦ Estimate by using fractions, decimals and percents interchangeably.
- ♦ Find the percent of increase or decrease.
- ♦ Solve problems involving discounts and simple interest.
- ♦ Model and solve problems involving number-theory concepts such as:
 - ♦ prime and composite numbers
 - ♦ divisibility and remainders
 - ♦ greatest common factors
 - ♦ least common multiples
- ♦ Find the prime factorization of a composite number.
- ♦ Use divisibility rules for 2, 3, 4, 5, 6, 8, 9, and 10.
- ♦ Find the greatest common factor of two or more integers.
- ♦ Find the least common multiple of two or more integers.
- ♦ Reinforce dividing whole numbers and repeating and terminating rational decimals.
- ♦ In problem-solving situations, select and use appropriate computational procedures with rational numbers such as:
 - ♦ calculating mentally
 - ♦ estimating
 - ♦ using technology (e.g., scientific calculators, spreadsheets)
- ♦ Solve problems using the four-step plan.
- ♦ Compute mentally using compensation and properties of numbers.
- ♦ Estimate answers by using different strategies.
- ♦ Determine whether answers to problems are reasonable.
- ♦ Problem solving strategies:
 - ♦ Classify information, guess and check, use a graph, make a table, determine reasonable answers, use a formula, solve a simpler problem, choose the method of computation, make a list, eliminate possibilities, find a pattern, use logical reasoning, draw a diagram, make a model, work backward, use an equation and not enough information is present.

- ♦ Estimate square roots.
- ♦ Estimate by using fractions, decimals and percents interchangeably.

Geometry

- ♦ Identify and draw points, line segments, line rays, transversal lines, perpendicular lines, parallel lines, and intersecting lines.
- ♦ Draw and construct physical models to specifications by using a compass, protractor, and straight edge.
- ♦ Describe and classify angles (alternate interior, alternate exterior, corresponding, vertical, complementary and supplementary, right, obtuse, acute, straight) and triangles (equilateral, isosceles, scalene, acute, obtuse and right).
- ♦ Construct angles and triangles (congruent and bisected).
- ♦ Calculate the sum of the angles of a polygon.
- ♦ Identify, classify, and construct regular and irregular polygons (three-sided through n-sided, convex and concave).
- ♦ Identify and construct congruent, similar and symmetrical figures.
- ♦ Construct and identify the parts of a circle including diameter and radius.
- ♦ Identify and use relationships among the component parts of special and complex 2-and 3-dimensional figures (e.g., parallel sides, congruent faces).
- ♦ Predict and construct a pattern for the number of diagonals in a polygon.
- ♦ Illustrate perpendicular and parallel lines; congruent and similar figures.
- ♦ Construct a triangle congruent to a given triangle, demonstrating Angle/Side/Angle (ASA), Side/Angle/Side (SAS) and Side/Side/Side (SSS) tests for congruency.
- ♦ Identify 3-dimensional shapes from 2-dimensional perspectives and draw 2-dimensional sketches of 3-dimensional objects preserving their significant features.
- ♦ Plan and construct physical models to specifications.
- ♦ Perform transformations on 2-dimensional figures and describe and analyze the effects of the transformations on the figures.
- ♦ Draw rotations, reflections, transformations, and translations of figures on a coordinate plane.
- ♦ Design tessellations.
- ♦ Locate objects using the rectangular coordinate system.
 - ♦ Employ technology to demonstrate the rectangular coordinate system when grade appropriate.
- ♦ Identify ordered pairs using the rectangular coordinate system.
- ♦ Identify and graph the transformations or movements of geometric figures shown on a coordinate grid.
- ♦ Translate, rotate, and reflect figures on the coordinate plane.

Measurement

- ♦ Find irregular figures in community and estimate area of each.
- ♦ Determine appropriate tools to measure length, mass and volume.
- ♦ Use procedures for basic indirect measurement to find area of irregular figures.
- ♦ Investigate and summarize who designed the figures and why they were designed.
- ♦ Construct a model to scale using technology by incorporating steps 2, 3 and 4 and present it to the class.
- ♦ Demonstrate understanding of basic measurement facts, principles and techniques including the following:
 - ♦ approximate comparisons between metric and US customary units (e.g., a liter and a quart are about the same; a kilometer is about six-tenths of a mile.)
 - ♦ knowledge that direct measurement produces approximate, not exact, measures.
 - ♦ the use of smaller units to produce more precise measures.
 - ♦ employment of appropriate grade level technology.
- ♦ Demonstrate that each unit of measurement is part of another either smaller or larger unit.
- ♦ Identify additional precision measurements and the use of significant digits (i.e. tenths, hundredths, thousandths, etc.).
- ♦ Research and site clear examples of careers in which precise measurement is utilized.
- ♦ Determine measurement directly using standard units (metric and US customary) with these suggested degrees of accuracy:
 - ♦ lengths to the nearest mm or 1/16 of an inch
 - ♦ weight (mass) to the nearest 0.1 g or 0.5 ounce
 - ♦ liquid capacity to the nearest ml
 - ♦ angles to the nearest degree
 - ♦ temperature to the nearest Centigrade and Fahrenheit degree

- ♦ elapsed time to the nearest second
- ♦ Determine measurements to the following degrees of accuracy:
 - ♦ length to the nearest sixteenth, eighth, quarter, half-inch, foot, yard, millimeter, centimeter, meter
 - ♦ weight to the nearest ounce, pound, gram, and kilogram
 - ♦ temperature to the nearest degree in Celsius and Fahrenheit
 - ♦ time to the nearest second
 - ♦ liquid capacity to the nearest ounce, cup, pint, quart, half-gallon, gallon, milliliter, liter, and fluid ounce
 - ♦ angles to the nearest degree.
 - ♦ Determine appropriate units to measure length, mass, temperature, capacity and time.
- ♦ Apply measurement skills to real life problems.
- ♦ Determine measurements indirectly using:
 - ♦ estimation
 - ♦ conversion of units within a system (e.g., quarts to cups, millimeters to centimeters)
 - ♦ ratio and proportion (e.g., similarity, scale drawings)
 - ♦ geometric formulas to derive lengths, areas, volumes of common figures (e.g., perimeter, circumference, surface area)
 - ♦ the Pythagorean relationship
 - ♦ geometric relationships and properties for angle size (e.g., parallel lines and transversals; sum of angles of a triangle, vertical angles)
- ♦ Convert units within metric/customary systems.
- ♦ Estimate measurement indirectly by using non-standard units.
- ♦ Create ratio and proportion/scale drawings.
- ♦ Apply geometric formulas to calculate:
 - ♦ perimeter and circumference.
 - ♦ area of triangles, quadrilaterals, and circles.
 - ♦ surface area and volume of prisms, cylinders, cones, spheres, and pyramids.
- ♦ Distinguish geometric relationships and properties for angle size (parallel lines and transversal; vertical, supplementary, corresponding, alternate interior and alternate exterior angles; sum of the angles of triangle.)
- ♦ Solve basic rate problems (unit price, distance per unit of time).
- ♦ Apply the Pythagorean Theorem ($a + b = c$).
- ♦ Apply measurement skills to real life problems.

Statistics and Probability

- ♦ Work with data in the context of real-world situations by:
 - ♦ formulating questions that lead to data collection and analysis
 - ♦ designing and conducting a statistical investigation
 - ♦ using technology to generate displays, summary statistics and presentations
- ♦ Collect, organize and record real-world data.
- ♦ Conduct surveys, experiments or simulations and display results.
- ♦ Formulate questions and determine the appropriate data to collect and how to collect data.
- ♦ Draw reasonable conclusions about real-world data.
- ♦ Reinforce the use of technology to produce a simple database and be able to present it.
- ♦ Reinforce the use of technology to produce a simple spreadsheet and present it.
- ♦ Organize and display data from statistical investigations using:
 - ♦ appropriate tables, graphs and/or charts (e.g., circle, bar, or line, for multiple sets of data)
 - ♦ appropriate plots (e.g., line, stem-and-leaf, box, scatter)
- ♦ Gather and organize data into a table.
- ♦ Construct circle graphs.
- ♦ Construct bar graphs and line graphs with multiple sets of data.
- ♦ Construct line plots, back-to-back stem and leaf plots, box and whisker plots and scatter plots.
- ♦ Assess the most effective way of displaying data.
- ♦ Create story problems based on collected data for classmates to solve.
- ♦ Extract, interpret and analyze information from organized and displayed data by using:
 - ♦ frequency and distribution, including mode and range

- ♦ central tendencies of data (mean and median)
- ♦ indicators of dispersion (e.g., outliers)
- ♦ Predict and calculate the mean, median, mode and range from a set of data.
- ♦ Analyze information based on frequency and distribution.
- ♦ Assess and select the appropriate scale and interval for graphs or frequency tables.
- ♦ Examine the effect of extreme values on measures of central tendency.
- ♦ Assess and select the best measure of central tendency to represent data.
- ♦ Determine and understand the function of an outlier.
- ♦ Interpret and analyze upper and lower quartile in a box and whisker plot.
- ♦ Solve data problems by extracting, interpreting, and analyzing data.
- ♦ Use the results of data analysis to:
 - ♦ make predictions
 - ♦ develop convincing arguments
 - ♦ draw conclusions
- ♦ Predict and draw conclusions from data.
- ♦ Analyze data from line, bar, circle graphs, and scatter plots.
- ♦ Apply results of the data analysis to solve problems.
- ♦ Determine if the conclusion drawn is valid for the data presented.
- ♦ Construct and present arguments to support analysis and display of data.
- ♦ Compare several sets of data to generate, test, and, as the data dictate, confirm or deny hypotheses.
- ♦ Formulate a hypothesis from multiple sets of actual data.
- ♦ Evaluate the data for reliability and credibility.
- ♦ Construct a database on the computer using charts or graphs.
- ♦ Prepare a presentation using technology and present it to the class.
- ♦ Evaluate presentations and statistical analyses from a variety of sources for:
 - ♦ credibility of the source
 - ♦ techniques of collection, organization and presentation of data
 - ♦ missing or incorrect data
 - ♦ inferences
 - ♦ possible sources of bias
- ♦ Determine if a source is credible and why.
- ♦ Evaluate techniques of collection, organization and presentation of data.
- ♦ Determine if data is missing or incorrect and why.
- ♦ Identify sources of bias in data.
- ♦ Determine the likelihood of occurrence of simple events by:
 - ♦ using a variety of strategies to identify possible outcomes (e.g., lists, tables, tree diagrams)
 - ♦ conducting an experiment
 - ♦ designing and conducting simulations
 - ♦ applying theoretical notions of probability (e.g., that four equally likely events have a 25% chance of happening)
 - ♦ employing appropriate grade level technology for presentations
- ♦ Use a variety of strategies to identify possible outcomes (lists, tables, tree diagrams.)
- ♦ Design and conduct an experiment.
- ♦ Design and conduct simulations.
- ♦ Apply theoretical notions of probability:
 - ♦ permutations
 - ♦ independent/dependent events
 - ♦ sampling

Algebraic Relationships

- ♦ Work with algebraic expressions in a variety of ways, including:
 - ♦ using appropriate symbolism, including exponents and variables
 - ♦ evaluating expressions through numerical substitution
 - ♦ generating equivalent expressions
 - ♦ adding and subtracting expressions

- ♦ Use vocabulary symbols and notation of algebra correctly ($n, n, =, <, >$).
- ♦ Evaluate numerical and algebraic expressions by using the order of operations.
- ♦ Demonstrate the use of exponents in algebraic expressions.
- ♦ Solve real-life problems involving algebraic expressions.
- ♦ Write algebraic expressions from verbal phrases.
- ♦ Simplify polynomials using area models.
- ♦ Demonstrate the use of addition, subtraction and multiplication in polynomials.
- ♦ Work with linear and nonlinear patterns and relationships in a variety of ways, including:
 - ♦ representing them with tables, with graphs and with algebraic expressions, equations and inequalities
 - ♦ describing and interpreting their graphical representations (e.g., slope, rate of change, intercepts)
 - ♦ using them as models of real-world phenomena
 - ♦ describing a real-world phenomenon that a given graph might represent
- ♦ Identify and solve inequalities.
- ♦ Find distance between points in the coordinate plane.
- ♦ Find missing measures in special right triangles.
- ♦ Solve problems by using proportions.
- ♦ Find the percent of increase or decrease.
- ♦ Solve problems involving discounts and simple interest.
- ♦ Graph functions by using function tables.
- ♦ Graph linear functions by plotting points.
- ♦ Solve systems of linear equations by graphing.
- ♦ Graph quadratic functions.
- ♦ Recognize and use generalized properties and relations, including:
 - ♦ additive and multiplicative property of equations and inequalities
 - ♦ commutativity and associativity of addition and multiplication
 - ♦ distributive property
 - ♦ inverses and identities for addition and multiplication
 - ♦ transitive property
- ♦ Recognize a function and find the input and output values of a function.
- ♦ Represent linear, quadratic and exponential functions using tables, graphs, and equations.
- ♦ Recognize, describe, and analyze functional relationships by generalizing a rule that characterizes the pattern of change among variables. These functional relationships include exponential growth and decay (e.g., cell division, depreciation)
- ♦ Identify, solve and graph linear equations by using mental math, the guess & check strategy (use of a replacement set) and inverse operations.
- ♦ Solve problems by using a formula.
- ♦ Solve equations:
 - ♦ proportions
 - ♦ linear equations using models
 - ♦ two-step equations using models
 - ♦ involving percents
- ♦ Solve and graph equations:
 - ♦ using rational numbers
 - ♦ with two variables
- ♦ Identify, solve and graph inequalities.
- ♦ Use a calculator to solve equations.
- ♦ Write algebraic equations from verbal sentences.
- ♦ Solve for a specified variable.
- ♦ Solve more complex problems by writing and solving an equation.
- ♦ Solve systems of linear equations by graphing.
- ♦ Graph quadratic functions.
- ♦ Use linear equations and inequalities in a variety of ways, including:
 - ♦ writing them to represent problem situations and to express generalizations.
 - ♦ solving them by different methods (e.g., informally, graphically, with formal properties, with technology).

- ♦ writing and evaluating formulas (including solving for a specified variable).
- ♦ using them to record and describe solution strategies.
- ♦ Recognize, use, and differentiate between the basic properties of arithmetic:
 - ♦ Order/Commutative property for $+/x$.
 - ♦ Zero property for $+/x$.
 - ♦ One/Identity Property for x/\div .
 - ♦ Inverse property for $+/-$ and x/\div ($12-3=9/9+3=12$).
 - ♦ Property of one for x and \div .
 - ♦ Associative property for $+$ and x [$5x(3x2)=(5x3)x2$].
 - ♦ Distributive property.
- ♦ Identify and use addition, subtraction, multiplication and division properties of equality.
 - ♦ Identify and use the transitive property for equality and inequality.

Health

Mental Emotional Health

Explain the difference between healthy behaviors and risk behaviors. Demonstrate the ability to use goal-setting and decision-making skills to enhance health. Demonstrate communication skills to build and maintain healthy relationships. Predict how decisions regarding health behaviors have consequences for self and others. Demonstrate ways to communicate care, consideration, and respect of self and others. Identify stress management strategies. Identify six suicide prevention skills to use when a person shows signs of suicide.

Family Living

Analyze the possible causes of conflict of youth in schools and communities. Generate way to avoid and get assistance in threatening situations. Describe characteristics needed to be a responsible friend and family member. Describe how the behavior of family and peers contributes to ones physical, mental, emotional, and social health. Discuss ways family members deal with death of a family member, separation and divorce of parents, dating and remarriage, formation of a step-family, and new siblings. Weigh the balance of giving and taking in a healthful relationship. Distinguish between safe, risky, and harmful behaviors in relationships. Identify topics to include when discussing dating with parents.

Growth and Development

List the physical changes that occur during puberty. State the function and care for the endocrine system. Explain what happens during a 28-day menstrual cycle. State the function and care of the reproductive system. Explain the process of conception. Describe the the development of the baby of the 1st, 2nd, and 3rd trimester of pregnancy. Discuss the problems that can occur during pregnancy Explain why abstinence is the best choice for teens.

Nutrition

Identify the functions of each of the six basic classes of nutrients. Illustrate The Food Guide Pyramid showing the 5 basic food groups, examples of foods in each, and the number of servings each day. Comprehend concepts related to health promotion and disease related to health promotion and disease prevention. Explain why teens need to eat a variety of food combined with physical activity. Evaluate the information that is found on a food label. Analyze the validity of health information, products, and services. Recommend suggestions how to choose healthful foods. Recognize the importance of a safe food handling/cooking and kitchen. Identify steps to use to maintain a desirable weight. Recognize the causes, symptoms, and treatment for anorexia nervosa, bulimia, and obesity. Recognize the warning signs that indicate the negative body image.

Personal Health

Recognize the importance of assuming responsibility for personal health behaviors. Demonstrate ways to care for the body. Explain why regular physical activity can help with weight managements and body composition. Identify the importance of why a person needs rest and sleep. Sketch out a physical fitness plan. Illustrate types of exercise to develop physical fitness. Identify the 5 areas of Phy. Fitness Identify the components of a complete workout. Demonstrate the steps of RICE for injuries. Design a physical fitness plan using the activity pyramid. Students role-play

Alcohol, Tobacco, and Other Drugs

Explain why drugs have different effects on different body actions. Analyze the information on the labels of OTC drugs and prescription drugs. Summarize the effects of alcohol on the mind including decision-making, violence, depression, and suicide. Analyze the effects of alcohol on the body. Explain how smoking affects the cardiovascular and respiratory

system. Discuss smoking-related conditions and diseases. Analyze how smoking affects appearance, relationships, and spending habits. Identify ways in which tobacco ads try to encourage teens to use tobacco products. Discuss the effects of controlled drugs and illegal drug use. Explain how drug misuse and abuse progresses to drug dependence. List support programs for drug dependent, family members, and friends. Demonstrate the ability to resist drug use and abuse.

Communicable and Chronic Diseases

Understand the difference between communicable and non-communicable diseases. List behaviors that reduce the risk of being infected with a communicable disease. Discuss the cause, symptoms, and treatment for sexually transmitted diseases. Distinguish between safe, risky, and harmful behaviors in relationships. Outline how you can and cannot become infected with HIV/AIDS. Explain how HIV destroys the immune system.

Injury Prevention and Safety

List the protective factors that reduce the risk of violence. Discuss the kinds of violent behavior and why it is important recognize them. List anger management skills and conflict resolution skills. Explain the first aid procedures for emergency situations. Demonstrate how to perform life saving techniques. Examples are choking, rescue breathing, and CPR.

Consumer and Community Health

Explain how technology/media influences the consumer. Discuss tempting appeals used in advertisements. Explain how to make a budget and why it is important. Explain why it is important to be cautious when charging products and services.

Environmental Health

Analyze how environment and personal health are interrelated. Name products that can be sorted and recycled.