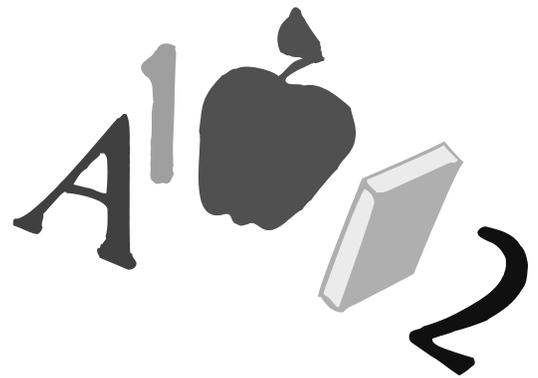


Raymond School District



Welcome to Kindergarten

This parent guide was developed to provide you with an overview of kindergarten curriculum expectations for students. It is organized by subject area including reading, math, science, and social studies. We hope you will gain a general understanding of the learning your child will experience throughout the academic year. We encourage you to reinforce and enrich your child's learning by working with your child's classroom teacher. Involvement in your child's education will help your child achieve success. Together we can work together to ensure the richest learning environment possible for our children.

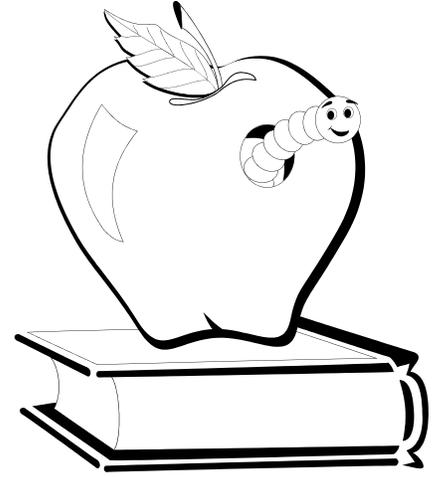
Reading and Language Arts

As reading is the basis for all learning, learning strategies will be employed that will give Kindergarten students a good foundation for reading and preparation for learning on all levels.

Reading and Literature

Students will:

- ◆ Match and name upper and lowercase letters.
- ◆ Associate the consonant and short vowel sounds with the letters.
- ◆ Identify consonant sounds in the initial position.
- ◆ Choose a word that makes sense in the context of a sentence or story.
- ◆ Choose a word that makes sense and matches the initial sound in a dictated sentence.
- ◆ Read grade-appropriate sight words.
- ◆ Choose a word that makes sense in the context of a sentence or story.
- ◆ Know the consonant and short vowel sounds.
- ◆ Demonstrate phonemic awareness of rhyming words.
- ◆ Clap syllables.
- ◆ Be able to classify words by initial sounds.
- ◆ Use picture context to make predictions and retell stories read to them.
- ◆ Recognize that pictures complement the written text.
- ◆ Understand the purpose for reading.
- ◆ Re-tell simple stories in the correct sequence.
- ◆ Draw upon a reservoir of reading materials to make predictions and relate reading to prior knowledge and experience at an age-appropriate level.
- ◆ Relate a story to real-life experiences.
- ◆ Use background knowledge and personal experiences to help understand the reality of a text.
- ◆ Demonstrate the ability to integrate general knowledge about the world and familiarity with literary and nonliterary texts when reflecting upon life's experiences.
- ◆ Distinguish between realistic fiction and fantasy.
- ◆ Identify text that rhymes.
- ◆ Select a variety of materials to read for discovery, appreciation, and enjoyment and connect them to prior knowledge and experience.
- ◆ Re-tell key details of informational texts.
- ◆ Connect new information to prior knowledge.
- ◆ Identify a topic of interest and make a book selection.



Writing

Students will:

- ◆ Write on the paper from left to right and from top to bottom.
- ◆ Write simple messages using one complete thought.
- ◆ Write and illustrate in response to teacher-prompted and self-selected topics.
- ◆ Write or dictate personal stories in their journals.
- ◆ Write letters, cards, notes, captions, labels, etc.
- ◆ Write or dictate creative pieces.
- ◆ Use pictures, respond to creative pieces.
- ◆ Write constructed response type answers for questions in all subjects.



- ◆ Write for one minute.
- ◆ Write using reference materials provided by the teacher.
- ◆ Use a variety of writing technologies, including pen and paper as well as computers.
- ◆ Write for a variety of readers.
- ◆ Brainstorm ideas
- ◆ Understand first, next, and last when dictating stories.
- ◆ Participate in group story writing.
- ◆ Understand that writings can be improved through changes.
- ◆ Use teacher suggestions to improve writing.
- ◆ Complete written assignments in a limited amount of time.
- ◆ Dictate stories using nouns and adjectives.
- ◆ Dictate stories using nouns and verbs to make complete sentences.
- ◆ Understand the difference between singular and plural, girl and boy, he and she.
- ◆ Begin to use capital letters at the beginning of names and at the beginning of sentences.
- ◆ Understand that punctuation ends sentences and helps us read.
- ◆ Begin to understand the purposes of a comma.
- ◆ Spell some 2-3 letter words correctly.
- ◆ Spell some word wall words correctly.
- ◆ Identify periods, question marks, and exclamation points.

Oral Language

Students will:

- ◆ Share personal experiences using correct volume, articulation, and rate.
- ◆ Have eye contact with the audience.
- ◆ Participate in choral reading of previously read materials.
- ◆ Stay on topic when presenting a thought.
- ◆ Re-tell a simple story to classmates.
- ◆ Participate in group readings, such as choral, echo, and shadow reading.
- ◆ Dramatize nursery rhymes or a personal experience.
- ◆ Share an opinion.
- ◆ Listen to and perform one and two step oral directions.
- ◆ Listen to and retell a story in their own words.
- ◆ Listen to and retell a simple story.
- ◆ Predict what will happen next and identify characters in a simple story.
- ◆ Listen to a story, relate it to prior knowledge and answer questions appropriately.
- ◆ Listen to and decide if a story is real or make-believe.
- ◆ Understand increasingly complex sentence structures.
- ◆ Understand opposites and plurals.
- ◆ Volunteer relevant information, ask relevant questions, and answer questions directly.
- ◆ Use appropriate eye contact and other non-verbal cues.
- ◆ Take their turn during discussions.
- ◆ Raise their hand to participate in discussions.
- ◆ Listen politely to peer's ideas, think about those ideas, and respond courteously.
- ◆ Ask for help to understand new words and ideas.
- ◆ Tell what they learned from a discussion.

Performance standards for Language

Students will:

- ◆ Use word walls to spell words correctly.
- ◆ Use their knowledge of the suffixes -s, to interpret simple plurals.
- ◆ Use language appropriate to the school setting.

Performance Standards for Media and Technology

Students will

- ◆ Identify basic hardware components (i.e. keyboard, mouse, monitor)
- ◆ Produce simple word processing document with assistance.
- ◆ Identify the computer as a source of information.
- ◆ Identify common environmental print.
- ◆ Write daily news articles using shared writing.
- ◆ Participate in classroom dramatizations.
- ◆ Participate in group plays and/or role-playing situations.
- ◆ Compare books and movies.
- ◆ Identify the targeted audience of various messages in a large group setting.
- ◆ Cooperatively re-tell events in proper sequence using photos and/or picture prompts.
- ◆ Provide feedback to peers about the content and overall effect during group writing.

Performance Standards for Research and Inquiry

Students will:

- ◆ Participate in group discussions about topics, issues, and problems.
- ◆ Understand that information is available through various sources.
- ◆ Record information, such as a group, from observations and experiences, using charts, graphs, and text using their own words.
- ◆ Demonstrate what they learned by presenting information orally, through drawings, and/or using developmental spelling.

Social Studies

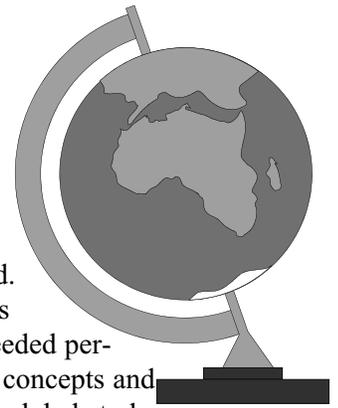
Geography

Students gain geographical perspective 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 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:

- ◆ Describe home, school, and neighborhood environments by using descriptive words that reflect an emerging idea of geographic location (i.e., large, small, near, far, up, down.)
- ◆ Differentiate between land and water masses using color.
- ◆ Recite their street, city, state address and phone number.
- ◆ Draw pictures of his/her home and school environment.
- ◆ Describe personal travel experiences to different geographical locations such as family visits, vacations, or outings with friends.
- ◆ Compare and contrast the various types of past Native American homes.
- ◆ Give examples of how Native Americans used the land.
- ◆ Gather information to make graphs about the classroom community.

- ◆ Identify climactic patterns associated with the four seasons in our community.
- ◆ Explain why they have a local and state designation as part of their home address.
- ◆ Differentiate between change made by humans and nature over time.
- ◆ Cite examples of practices they and their classmates can do to help preserve our environment.



History, Time, Continuity, and Change

Students need to understand their historical roots and how past events have shaped their world. In developing these insights, students must know what life was like in the past and how things change and develop over time. Reconstructing and interpreting historical events provides a needed perspective in addressing the past, the present, and the future. In Wisconsin schools, the content, concepts and skills related to history may be taught in units and courses in United States and world history, global studies, geography, economics, anthropology, sociology, psychology, current events, and humanities.

Students will:

- ◆ Describe and compare things that are old and new.
- ◆ Recognize ways that they and their classmates have changed over time.
- ◆ Listen, read, and examine biographies and stories about famous historical people, for example, Squanto, Martin Luther King, Jr., or presidents.
- ◆ Compare and contrast present and past lifestyles of Native Americans or family members, i.e., energy, transportation, and environment.
- ◆ Explain the importance of personal responsibility, considering the interest of others and following classroom rules.
- ◆ Match holidays and celebrations with their corresponding seasons and calendar months.
- ◆ Identify George Washington, Abraham Lincoln and the current president and simply explain what makes them significant.
- ◆ Identify ways people communicate with each other now and long ago.
- ◆ Recognize the need to cooperate with others to accomplish a task.
- ◆ Explore various aspects of Native American life in the past and present, i.e., food, clothing, transportation, and shelter.

Political Science and Citizenship

Knowledge about the structures of power, authority, and governance and their evolving functions in the contemporary society is essential if young citizens are to develop civic responsibility. Young people become more effective citizens and problem solvers when they know how local, state, and national governments and international organizations function and interact. In Wisconsin schools, the content, concepts, and skills related to political science may be taught in units and courses dealing with government, history, law, political science, global studies, civics, and current events.

Students will:

- ◆ Tell what is expected of them in the classroom, playground, and different places within the school building.
- ◆ Participate as a student helper.
- ◆ Understand that rules exist in our family, school, and community.
- ◆ Identify, discuss, and explain classroom and school rules.
- ◆ Participate in the basic democratic process by voting in the classroom.
- ◆ Discuss how voting may influence classroom activities.
- ◆ Show three ways to settle a dispute.

Economics

Individuals, families, businesses, and government must make complex economic choices as they decide what goods and services to provide and how to allocate limited resources for distribution and consumption. In a global economy marked by rapid technological change, students must learn how to be better producers, consumers, and economic citizens. In Wisconsin schools, the content, concepts and skill related to economics may be taught in units and courses including economics, history, government, global studies, and current events.

Students will:

- ◆ Recognize that a shortage of resources means not being able to have everything we want.
- ◆ Visit or explore goods and services on farms or businesses.
- ◆ Discuss the difference between private and public property (school-owned supplies and transportation provided by the school compared to their own school supplies and family transportation to school).
- ◆ Explore the flow of mail through the postal system with the use of a classroom post office and understand that the United States Postal Service is a public service.
- ◆ Discuss the purpose of recycling.

Behavioral Sciences

Learning about the behavioral sciences helps students 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. As citizens, students need to know how institutions are maintained or changed and how they influence individuals, cultures, and societies. Knowledge of the factors that contribute to an individual's uniqueness is essential to understanding the influences on self and on others. In Wisconsin schools, the content, concepts, and skills related to the study of psychology, sociology, and anthropology may be taught in units and courses dealing with anthropology, sociology, psychology, government, history, geography, civics, global studies, current events, and the humanities.

Students will:

- ◆ Explain the influence of prior knowledge, motivation, capabilities, personal interests, and other factors on individual learning
- ◆ Share a personal interest.
- ◆ Explain the influence of factors such as family, neighborhood, personal interests, languages, likes and dislikes, and accomplishments on individual identity and development.
- ◆ Share classmates' likes and dislikes.
- ◆ Describe how families are alike and different, comparing characteristics such as size, hobbies, celebrations, where families live, and how they make a living.
- ◆ Describe similarities and differences of children in the classroom.
- ◆ Describe different kinds of families.
- ◆ Describe the ways in which ethnic cultures influence the daily lives of people.
- ◆ Discuss different ethnic customs.
- ◆ Identify and describe institutions such as school, church, police, and family, and describe their contributions to the well being of the community, state, nation, and global society.
- ◆ Discuss the purpose and function of a local institution (for example, visit the local Burlington Wellness Center, fire department or public library).
- ◆ Give examples of group and institutional influences such as laws, rules, and peer pressure on people, events, and culture
- ◆ Explain the reasons why individuals respond in different ways to a particular event and the ways in which interactions among individuals influence behavior
- ◆ Recognize and explain why some people can be happy while others are sad when participating in the same event.
- ◆ Describe and distinguish among the values and beliefs of different groups and institutions
- ◆ Discuss and participate in activities associated with seasonal and ethnic holidays and celebrations.
- ◆ Explain how people learn about others who are different from themselves
- ◆ Recognize similarities and differences in their classmate's physical appearances and interests.
- ◆ Give examples and explain how the media may influence opinions, choices, and decisions
- ◆ Discuss newspaper and magazine articles related to current events.
- ◆ Give examples and explain how language, stories, folk tales, music, and other artistic creations are expressions of culture and how they convey knowledge of other peoples and cultures
- ◆ Introduce the concept of multi-culturalism through stories, music, games or art activities.

- ◆ Give examples of important contributions made by Wisconsin citizens, United States citizens, and world citizens
- ◆ Identify a person they feel is important and tell why.
- ◆ Investigate and explain similarities and differences in ways that cultures meet human needs
- ◆ Describe how differences in cultures may lead to understanding or misunderstanding among people
- ◆ Discover similarities and differences between various cultures.
- ◆ Describe instances of cooperation and interdependence among individuals, groups, and nations, such as helping others in famines and disasters
- ◆ Discuss why cooperation is needed in the classroom.
- ◆ Work independently and cooperatively to accomplish objectives.

Science Connections

Students in Kindergarten will understand that there are unifying themes: systems, order, organization, and interactions; evidence, models and explanations; constancy, change, and measurement; evolution, equilibrium, and energy; form and function among scientific disciplines.

These unifying themes are ways of thinking rather than theories or discoveries. Students should know about these themes and realize that the more they learn about science the better they will understand how the themes organize and enlarge their knowledge. Science is a system and should be seen as a single discipline rather than a set of separate disciplines. Students will also understand science better when they connect and integrate these unifying themes into what they know about themselves and the world around them.

Science Themes

Students will:

- ◆ Understand how the following science themes can be applied to the natural world: measurement (classroom objects), change (life cycles), order (patterning), and organization (sorting and sequencing) with teacher guidance.
- ◆ Decide what evidence, observations, or previous experiences can be used to better understand what is happening now. (i.e. how weather and seasons affect our daily lives).
- ◆ Learn to collect information (data). (i.e. type of transportation to/from school, food choices, clothing color, weather conditions, fruit preference).
- ◆ Recognize when the measurement (classroom objects), change (life cycles), order (patterning), and organization (sorting and sequencing) themes apply.
- ◆ Identify things that change over time. (i.e. butterflies, frogs, plants).

Nature of Science

Students will realize that scientific knowledge is developed from the activities of scientists and others who work to find the best possible explanations of the natural world. Researchers and those who are involved in science follow a generally accepted set of rules to produce scientific knowledge that others can confirm with experimental evidence. This knowledge is public, replicable, and undergoing revision and refinement based on new experiments and data.

Students will:

- ◆ Use encyclopedias, source books, texts, computers, teachers, parents, other adults, journals, popular press, and various other sources, to help answer science-related questions and plan investigations.
- ◆ Participate in teacher guided use of resources to answer science related questions (examples of resources include books, web sites, videos, periodicals and adults with information.)
- ◆ Acquire information about people who have contributed to the development of major ideas in the sciences and learn about the cultures in which these people lived and worked.
- ◆ Learn about scientific contributors by sharing science-related current events from magazines, newspapers, television and hearing others talking about events.

- ◆ Show how the major developments of scientific knowledge in the earth and space, life and environmental, and physical sciences have changed over time.
- ◆ Recognize that there have been changes in scientific knowledge through teacher guided discussions. (i.e., changes in the technology available to us.)

Science Inquiry

Students should experience science in a form that engages them in actively constructing ideas and explanations and enhances their opportunities to develop the skills of doing science. Such inquiry (problem solving) should include questioning, forming hypotheses, collecting and analyzing data, reaching conclusions and evaluating results, and communicating procedures and findings to others.

Students will:

- ◆ Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
- ◆ Work as a group to identify examples of measurement, change, order and organization within science topics being studied (change observed in growth of plants and animals).
- ◆ Use the science content being learned to ask questions, plan investigations, make observations, make predictions, and offer explanations.
- ◆ Work as a group to plan, make predictions, collect data and develop explanations.
- ◆ Select multiple sources of information to help answer questions selected for classroom investigations.
- ◆ Use printed materials, audio-visual materials and observations to answer questions related to science topics.
- ◆ Use simple science equipment safely and effectively, including rulers, balances, graduated cylinders, hand lenses, thermometers, and computers, to collect data relevant to questions and investigations.
- ◆ Use simple science equipment (balance, hand lens, and thermometers) to collect data.
- ◆ Use data they have collected to Develop explanations and answer questions generated by investigations.
- ◆ Use a survey to determine classroom preferences. (i.e. favorite colors).
 - Graph data as a group.
 - Discuss graphs and develop explanations as a group.
- ◆ Communicate the results of their investigations in ways their audiences will understand by using charts, graphs, drawings, written descriptions, and various other means, to display their answers.
 - Communicate the results of their investigations by using age appropriate charts, graphs, drawings, verbal descriptions, and various other means, to display their answers.
- ◆ Support their conclusions with logical arguments
 - Receive practice in verbally supporting their conclusions with logical arguments.
- ◆ Ask additional questions that might help focus or further an investigation.
 - Following an investigation, students will work as a group to develop additional questions that could be investigated further.

Physical Science

Knowledge of the physical and chemical properties of matter and energy is basic to an understanding of the earth and space, life and environmental, and physical sciences. The properties of matter can be explained in terms of the atomic structure of matter. Natural events are the result of interactions of matter and energy. When students understand how matter and energy interact, they can explain and predict chemical and physical changes that occur around them.

- ◆ Understand that objects are made of more than one substance, by observing, describing and measuring the properties of earth materials, including properties of size, weight, shape, color, temperature, and the ability to react with other substances.
 - Compare size, weight, shape, color, and temperature of objects.
- ◆ Group and/or classify objects and substances based on the properties of earth materials.
 - Classify objects according to properties (i.e. texture, shape, or color).
- ◆ Understand that substances can exist in different states-solid, liquid, gas.
 - Identify solids and liquids and give examples of each.

- ◆ Observe and describe changes in form, temperature, color, speed, and direction of objects and construct explanations for the changes.
 - Identify the four seasons (summer, winter, fall/autumn, spring).
 - Observe and describe changes associated with seasons (temperature, plant response).
- ◆ Construct simple models of what is happening to materials and substances undergoing change, using simple instruments or tools to aid observations and collect data.
 - Draw picture models of earth materials undergoing change (i.e. tree in four seasons).
- ◆ Observe and describe physical events in objects at rest or in motion.
 - Identify whether an object is moving or not moving and what caused it to move.
- ◆ Observe and describe physical events involving objects and develop record-keeping systems to follow these events by measuring and describing changes in their properties, including position relative to another object, motion over time, and position due to forces.
 - Observe two objects in motion and be able to indicate which one moves the fastest and farthest.
- ◆ Ask questions and make observations to discover the differences between substances that can be touched (matter) and substances that cannot be touched (forms of energy, light, heat, electricity, sound, and magnetism)
 - Describe an object that can be touched using the terms hard, soft, smooth, rough, hot or cold, (five senses unit).

Earth and Space Science

By studying the earth, its composition, history and the processes that shape it, students gain a better understanding of the planet on which they live. In addition, all bodies in space, including the earth, are influenced by forces acting throughout the solar system and the universe. Studying the universe enhances students' understanding of the earth's origins, its place in the universe, and its future. Understanding these geologic, meteorological, astronomical and oceanographic processes allows students to make responsible choices and to evaluate the consequences of their choices.

- ◆ Investigate rocks, minerals, and soils and use the scientific vocabulary for rocks, minerals and soils during these investigations.
- ◆ Investigate that earth materials are composed of rocks and soils and correctly use the vocabulary for rocks, minerals, and soils during these investigations.
 - Describe the differences between rock and soil.
- ◆ Show that earth materials have different physical and chemical properties, including the properties of soils found in Wisconsin.
 - Describe the difference between two earth materials (soil and water).
- ◆ Develop descriptions of the land and water masses of the earth and of Wisconsin's rocks and minerals, using the common vocabulary of earth and space science.
 - Describe differences between land and bodies of water (mountains and valleys, oceans and lakes, rivers and ponds).
 - Recognize humans have a responsibility to protect and care for Earth.
- ◆ Identify celestial objects (stars, sun, moon, planets) in the sky, noting changes in patterns of those objects over time.
 - Identify pictures of the sun, moon, and stars.
 - Describe differences between day and night.
- ◆ Describe the weather commonly found in Wisconsin in terms of clouds, temperature, humidity, and forms of precipitation, and the changes that occur over time, including seasonal changes.
 - Describe local daily weather changes (snow, rain, wind, cloudy, sunny, temperature, thermometer, hot, cold).
 - Describe how weather changes from season to season.
 - Describe short term weather conditions (e.g., temperature, rain, snow) that can change daily and weather patterns that change over the seasons.
- ◆ Using the science themes, Find patterns and cycles in the earth's daily, yearly, and long-term changes.
 - Identify daily changes (light and dark, day and night) weather and seasonal changes (spring, summer, winter, fall) in Wisconsin.
- ◆ Using the science themes, describe resources used in the home, community, and nation as a whole.

- Identify the resources plants and animals need to live.
- ◆ Illustrate resources humans use in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.
 - Give examples of resources used for farming (plants using soil).

Life and Environmental Sciences

Students will enhance their natural curiosity about living things and their environment through study of the structure and function of living things, ecosystems, life cycles, energy movement (transfer), energy change (transformation), and changes in populations of organisms through time. Knowledge of these concepts and processes of life and environmental science will assist students in making informed choices regarding their lifestyles and the impact they have on communities of living things in their environment.

- ◆ Discover how each organism meets its basic needs for water, nutrients, protection, and energy in order to survive.
 - Know whether or not an object is alive.
 - Give examples of how plants and animals adapt to their environment.
 - Know that animals and plants have basic needs for water, food, protection and shelter.
 - Understand that plants are living things that require soil, sun and water.
- ◆ Investigate how organisms, especially plants, respond to both internal cues (need for water) and external cues (changes in the environment)
 - Describe differences in appearance between plants with and without water, light, and soil.
- ◆ Illustrate the different ways that organisms grow through life stages and survive to produce new members of their type.
 - Know life cycle (stages) that plants (seed to plant) and animals go through (butterflies and tadpoles).
 - Name the parts of a plant (seed, stem, root, leaves, flower)
 - Describe the life stages of a frog and caterpillar (tadpoles to frogs and caterpillar to butterfly).
 - Know that seeds produce plants.
 - Recognize that animals closely resemble their parents.
- ◆ Using the science themes, Develop explanations for the connections among living and non-living things in various environments.
 - Identify an object as living and non-living.

Science Application

Science and technology compliment each other. Science helps drive technology and technology provides science with tools for investigation, inquiry and analysis. Together, science and technology applications provide solutions to human problems, needs and aspirations. Students should understand that advances in science and technology affect the earth's systems.

- ◆ Identify the technology used by someone employed in a job or position in Wisconsin and explain how the technology helps.
 - Identify what tools people use to do their jobs (doctor/stethoscope, firefighter/fire equipment and postal worker/postal equipment).
- ◆ Discover what changes in technology have occurred in a career chosen by a parent, grandparent, or an adult friend over a long period of time.
 - Name different types of jobs that adults have.
- ◆ Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
 - Name science discoveries that affect daily life (vaccines for preventing diseases).
- ◆ Identify the combinations of simple machines in a device used in the home, the workplace, or elsewhere in the community, to make or repair things, or to move goods or people.
- ◆ Ask questions to find answers about how devices and machines were invented and produced.

Science in Social and Personal Perspectives

An important purpose of science education is to give students a means to understand and act on personal, economic, social, political and international issues. Knowledge and methodology of the earth and space, life and environment, and physical sciences facilitate analysis of topics related to personal health, environment, and management of resources, and help evaluate the merits of alternative courses of action.

- ◆ Describe how science and technology have helped, and in some cases hindered, progress in providing better food, more rapid information, quicker and safer transportation, and more effective health care.
 - Give examples of how people get food, use transportation and receive health care (dental health and food groups).
- ◆ Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.
 - Identify how science and technology helps daily life (forecasting bad weather, getting shots to prevent diseases).
- ◆ Show how science has contributed to meeting personal needs, including hygiene, nutrition, exercise, safety, and health care.
 - Know that personal needs include hygiene, nutrition, exercise, safety, and health care.
- ◆ Develop a list of issues that citizens must make decisions about and describe a strategy for becoming informed about the science behind these issues.

Math Connections

Students in Wisconsin will draw on 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. Because no one lives and works in isolation, it is also important to have the ability to communicate mathematical ideas clearly and effectively.

Mathematical Processes

Students will use reasoning abilities to:

- ◆ perceive patterns
- ◆ identify relationships
- ◆ formulate questions for further exploration
- ◆ justify strategies
- ◆ test reasonableness of results

Students will :

- ◆ Create and extend two and three part patterns.
- ◆ Use comparative vocabulary to express relationships of size, amount and position.
- ◆ Communicate mathematical ideas in a variety of ways including: words, numbers and pictures. and personal interests.
- ◆ See relationships between various kinds of problems and actual events
- ◆ Use mathematics as a way to understand other areas of the curriculum (e.g., measurement in science, map skills in social studies)
- ◆ Use and apply appropriate mathematical vocabulary.

Number Operations and Relationships

Whole Numbers

Students will represent and explain whole numbers, decimals and fractions with:

- ◆ physical materials
- ◆ number lines and other pictorial models
- ◆ verbal descriptions

- ◆ place-value concepts and notation
- ◆ symbolic renaming (e.g., $43=40+3=30+13$)

Students will:

- ◆ Represent and explain whole numbers 0-20 with physical materials and verbal descriptions.
- ◆ Read, write and order whole numbers 0-20.
- ◆ In problem-solving situations involving money, add and subtract decimals.

Number Operations and Relationships

Fractions

Students will:

- ◆ Compare and contrast equal and unequal parts.
- ◆ Manipulate real-life objects to show equal parts.
- ◆ Be introduced to the process of addition and subtraction.
- ◆ Be able to solve simple mental math problems.
- ◆ Be introduced to a calculator and its function.
- ◆ Determine the number of items in a set.
- ◆ Group objects by 10s.
- ◆ Count by 1s to 31 and 10s to 100.
- ◆ Introduce counting by 2s and 5s.
- ◆ Identify penny, nickel, dime and introduce quarter.
- ◆ Identify the cent and dollar symbols.
- ◆ Demonstrate the appropriate use of ordinal numbers (first, second, third).

Geometry

Students will:

- ◆ Identify shapes (circles, rectangles, squares, triangles, ovals, diamonds, stars and hearts).
- ◆ Sort objects according to size and shape.
- ◆ Construct “buildings” using three dimensional solids.
- ◆ Locate shapes in their environment.
- ◆ Identify congruent same shapes.
- ◆ Identify line of symmetry equal parts in basic shapes.
- ◆ Locate and identify relationships among figures (e.g., above, below, on, off, front, back).
- ◆ Demonstrate locations using concrete materials. (e.g., The red square is above the blue square...).
- ◆ Apply appropriate vocabulary in real-life situations.

Measurement

Students will:

- ◆ Measure length with non-standard units (cubes, beans).
- ◆ Compare and contrast non-standard units.
- ◆ Identify and explain the use of measurement tools including clock, ruler, scale calendar.
- ◆ Identify and sequence the days of the week.
- ◆ Identify pennies, nickels, dimes introduce quarters.
- ◆ Express time to the hour.
- ◆ Express time intervals (yesterday, today and tomorrow).
- ◆ Choose concrete examples to show size relationships (big, bigger, biggest).
- ◆ Compare and contrast:
 - weights of objects (lighter, heavier)
 - capacities (more than, less than)
 - lengths (longer, shorter)
 - temperature (hotter, colder)

Statistics and Probability

- ◆ Collect, organize and record real-world data.
- ◆ Describe orally and in a graphic a set of data using:
 - most frequent value
 - problem solving with graphs
- ◆ Identify and explain information using:
 - bar graphs
 - pictographs
 - tables
 - charts
- ◆ Experience the likelihood of future events by observation of simple activities.
 - predictability
- ◆ Predict simple outcomes using a variety of sources.

Algebraic Relationships

Students will

- ◆ Be introduced to the correct use of the symbols: +, -, =.
- ◆ Read, write and solve basic number sentences for +/- (e.g., $3+2=5$).
- ◆ Represent a pattern in multiple ways (objects, shapes, colors).
- ◆ Recognize and extend a basic number pattern.
- ◆ Verbally describe a pattern.
- ◆ Interpret pictures and pictographs.
- ◆ Use pictures or objects to show changing relationships and quantities.
- ◆ Interpret simple charts.
- ◆ Use simple equations and inequalities in a variety of ways, including:
 - using them to represent problem situations
 - solving them by different methods (e.g., use of manipulatives, guess and check strategies, recall number facts).
 - recording and describing solution strategies
- ◆ Use simple equations to represent basic math problems.
- ◆ Use manipulatives to act out problem situations.
- ◆ Become familiar with solving problems using a chosen operation of + or - (verbal or with manipulatives).