



Welcome to Second Grade

Curriculum performance standards were developed for each grade level that will lead students to specific fourth grade academic goals. In first grade, students will a variety of strategies and word recognition skills, including rereading, finding on text clues, applying their knowledge of letter-sound relationships, and analyzing word structure.

Students will create or produce writing to communicate with different audiences for a variety of purposes and write nonfiction and technical pieces (summaries, messages, informational essays, basic directions, instructions, simple reports) that convey essential details and facts and provide accurate representations of events and sequences. They will develop their vocabulary of words, phrases, and idioms as a means of improving communication.

Students will learn about geography through the study of the relationships among people, places and environments. Students gain geographical perspective on the world by studying the earth and the interactions of people with places where they live, work and play.

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.

They will also 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. Knowledge about the structures of power, authority and governance and their evolving functions in contemporary society is essential if young citizens are to develop civic responsibility. They will study the economy and production, distribution, exchange and consumption so that they can make informed economic decisions.

Students 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.

Science is a system and should be seen as a single discipline rather than a set of separate disciplines. Students will understand science better when they connect and integrate these unifying themes into what they know about themselves and the world around them. Students will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.

Students 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. 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 reported in the media. Students will be able to use geometric concepts, relationships and procedures to interpret, represent and solve problems. Through algebra and the use of variables and functions, mathematical models can be built which are essential to personal, scientific, economic, social, medical, artistic and civic fields of inquiry.

Language Arts

Reading and Literature

Students will

- Reread text to clarify/verify what is read, read an unknown word, make corrections, increase fluency.
- Use context clues to read an unknown word.
- Use letter/sound relationship to read words.
- Use grade appropriate sight vocabulary when reading.
- Use some vowel pairs and some phonograms to read words.
- Use long and short vowels.
- Use endings to read/understand words.
- Read and understand simple contractions.
- Infer the meaning of unfamiliar words in the context of a passage by examining known words, phrases and structures.
- Choose a word that makes sense in the context of a sentence or story.
- Choose a word that makes sense and matches the sounds when reading.
- Use language context to determine the meaning of an unknown word and the meaning of multi-meaning words
- Use context to determine pronunciation of words (wind/wind)
- Demonstrate phonemic awareness by using letter/sound relationships as aids to pronouncing and understanding unfamiliar words and text.
- Know grade appropriate vowel pairs.
- Read and understand comparative, plural, present and past tense endings.
- Read and understand grade appropriate prefixes and suffixes
- Hear and identify syllables in a word.
- Read grade appropriate phonograms.
- Apply knowledge of letter-sound relationships to identify the sounds “y” makes as a vowel
- Identify rhyming words by sound and like spelling patterns.
- Hear all sounds in sequential order in a grade appropriate word.
- Use prior knowledge to understand text.
- Self-correct and self-monitor when reading text.
- Re-read text to clarify/verify what is read
- Make predictions by using the story title and picture clues.
- Adjust reading rate to difficulty of reading level.
- Develop visual images in response to text.
- Use sequencing signal words such as: first, next, then, finally.
- Read aloud with age-appropriate fluency, accuracy, and expression.
- Discern how written texts and accompanying illustrations connect to convey meaning.
- Use graphs and maps to understand text
- Recognize that pictures enhance the written text.
- Identify and use organizational features of texts, such as headings, paragraphs, and format, to improve understanding.
- Use the table of contents to locate information in a text.
- Recognize where a paragraph begins and ends based on appearance.
- Understand that a dictionary/glossary is organized in alphabetical order.
- Identify the purpose for reading, such as gaining information, appreciating literature or reading for enjoyment.
- Read, interpret, and critically analyze literature.
- Recognize and recall elements and details of story structure, such as sequence of events, character, plot, and setting, in order to reflect on meaning.
- Understand the use of a heading in text.
- Identify story elements – character, setting, problem and solution.
- Draw upon a reservoir of reading materials, including fairy tales, fables, and narratives from the United States and cultures worldwide, to understand plots, make predictions and relate reading to prior knowledge and experience.
- Summarize ideas drawn from stories, identifying cause-and-effect relationships, interpreting events and ideas, and connecting different works to each other and to real-life experiences.
- Relate different works to each other and to real-life experiences.
- Summarize events in simple stories.

- Extend the literal meaning of a text by making inferences, and evaluate the significance and validity of texts in light of prior knowledge and experience.
- Recognize and recall elements and details of story structure, such as sequence of events, character, plot, and setting, in order to reflect on meaning.
- Identify story elements – character, setting, problem, events and solution.
- Distinguish between the main characters and the supporting characters in a story.
- Summarize events in stories.
- Identify a simple cause and effect relationship in a selected story.
- Extend the literal meaning of a text by making inferences, and evaluate the significance and validity of texts in light of prior knowledge and experience.
- Make simple inferences by using the details in a story.
- Distinguish fiction from nonfiction.
- Use background knowledge and personal experience 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.
- Identify and summarize key details of informational texts, connecting new information to prior knowledge.
- Express main ideas from simple literature/informational text selections.
- Distinguish fiction from non-fiction
- Select a variety of materials to read for discovery, appreciation, and enjoyment, summarize the readings, and connect them to prior knowledge and experience.
- Retell key details of informational texts, connecting new information to prior knowledge.
- Identify a topic of interest then seek information by investigating available text resources.
- Use teacher provided sources to gain information on a topic of interest.
- Summarize key details of informational texts, connecting new information to prior knowledge.

Writing

Students will:

- Write a summary of a nonfiction piece with details and/or facts.
- Write three complete sentences in paragraph form in response to teacher stories in their journal/response log selected topics.
- Write a four-five sentence non-fiction piece using correct sequence.
- Write and follow two-step directions.
- Compare and contrast facts using venn diagrams or other graphic organizers.
- Write expressive pieces in response to reading, viewing, and life experiences (narratives, reflections, and letters) employing descriptive detail and a personal voice.
- Write five sentence personal stories in their journal/response log.
- Write a narrative piece with details and/or facts.
- Write three complete sentences in paragraph form in response to teacher selected topics.
- Write a four-five sentence narrative piece using descriptive details.
- Write creative pieces (poetry, fiction, and plays employing basic aesthetic principles appropriate to each genre.
- Write friendly letters, cards, notes, captions, labels, invitations, etc.
- Use writing process to write a fictional story.
- Write in a variety of situations (timed and untimed, at school and at home) and adapt strategies, such as revision and the use of reference materials, to the situation.
- Write original poems using modeled patterns.
- Write constructed response type answers for questions in all subjects.
- Write in timed and untimed situations in a variety of settings.
- Write using teacher directed and/or home reference materials.
- Write revisions using self, peer and/or adult guidance.
- Use a variety of writing technologies, including pen and paper as well as computers.
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- Write for a variety of readers, including peers, teachers, and other adults, adapting content, style and structure to audience and situation.
- Plan, revise, edit, and publish clear and effective writing.

- Produce multiple drafts, including finished pieces, that demonstrate the capacity to generate, focus, and organize ideas and to revise the language, organization, and content of successive drafts in order to fulfill a specific purpose for communicating with a specific audience.
- Generate ideas through a variety of graphic organizers.
- Use proper sequencing with appropriate terms when writing stories.
- Produce first draft and an edited final copy.
- Participate in group writing.
- 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.
- Complete writing assignments to be completed in a limited amount of time.
- Develop sequenced writing assignments using correct English.
- Understand and use parts of speech effectively, including nouns, pronouns, and adjectives.
- Understand and use proper and common nouns and pronouns
- Understand and use adjectives.
- Use adverbials effectively, including words and phrases.
- Understand and use verbs.
- Use past and present verbs.
- Recognize irregular verbs and helping words.
- Understand and use contractions.
- Employ principles of agreement related to number, gender, and case.
- Understand and use plural and singular nouns correctly.
- Recognize noun/verb agreement related to number, is/are, and was/were.
- Capitalize proper nouns, titles, and initial words of sentences.
- Use capital letters at the beginning of names and at the beginning of sentences.
- Capitalize titles correctly
- Use punctuation marks and conjunctions, as appropriate, to separate sentences and connect independent clauses.
- Use punctuation marks to separate sentences.
- Use commas correctly to punctuate appositives and lists.
- Use commas to punctuate lists.
- Introduce commas to punctuate appositives.
- Spell frequently used words correctly.
- Spell grade level high frequency words correctly.
- Use word walls as a reference when spelling words.
- Spell phonetically regular grade level words correctly.
- Use word order and punctuation marks to distinguish statements, questions, exclamations and commands.
- Understand that word order distinguishes statements, questions, and exclamations.

Oral Language

- Orally communicate information, opinions, and ideas effectively to different audiences for a variety of purposes.
- Identify and discuss criteria for effective oral presentations including such factors as eye contact, projection, tone, volume, rate, and articulation.
- Use the criteria for effective oral presentations, including factors such as: eye contact, voice projection, tone, volume, rate and articulation.
- Read aloud effectively from previously-read material.
- Practice reading aloud using appropriate expression interpreted from a story, play, or personal writings.
- Speaking from notes or a brief outline, communicate precise information and accurate instructions in clearly organized and sequenced detail.
- Communicate precise information in correct sequence.
- Present autobiographical or fictional stories that recount events effectively to large and small audiences.
- Participate in group readings, such as choral, echo, and shadow reading.
- Perform dramatic readings and presentations.
- Perform fictional plays or stories.
- Distinguish between fact and opinion and provide evidence to support opinions.
- Listen to and comprehend oral communications.
- Follow basic directions.

- Listen to and perform three step oral directions.
- Identify and summarize key points of a story or discussion.
- Listen to and identify the key points of a story or discussion.
- Retell stories and reports of events in proper sequence.
- Follow sequence in plot and character development, predict outcomes, and draw conclusions.
- Predict outcomes, draw conclusions, determine sequence and discuss characters' feelings.
- Recall the content of stories after hearing them, relate the content to prior knowledge, and answer various types of factual and interpretive questions about the stories.
- Listen to a story, relate story ideas to prior knowledge and answer questions appropriately.
- Distinguish fact from fantasy and fact from opinion.
- Understand increasingly complex sentence structures.
- Understand a variety of word structures and forms, such as affixes, roots, homonyms, antonyms, synonyms, and word analogies.
- Participate effectively in discussion
- Volunteer relevant information, ask relevant questions, and answer questions directly.
- Use appropriate eye contact and other nonverbal cues.
- Use appropriate strategies to keep a discussion going.
- Take their turn during discussions.
- Raise their hand to participate in discussions.
- Ask relevant questions to keep a discussion going.
- Reflect on the ideas and opinions of others and respond thoughtfully.
- Ask for clarification and explanation of unfamiliar words and ideas.
- Summarize information conveyed through discussion.
- Tell what they learned from a discussion.

Language

Students will:

- Consult dictionaries, thesauruses, and other resources to find and compare definitions, choose among synonyms, and spell words correctly.
- Consult dictionaries or other resources to spell words correctly.
- Use their knowledge of roots, prefixes, and suffixes to interpret and convey the meaning of words.
- Use prefixes un- and re- to make new words.
- Use their knowledge of the suffixes, -s, -es, -ed, -ing, to interpret the meaning of words.
- Identify common figures of speech and use them appropriately.
- Identify similes and use them appropriately.
- Identify idioms and understand their meaning.
- Communicate appropriately with adults and peers.
- Use language appropriate to the school setting.
- Describe and give examples of variations in American English that appear in different social, cultural regional, and professional environments.
- Understand the need for recognizing and using variations in American English in different social and cultural situations.

Media & Technology

Students will:

- Operate common computer hardware and software.
- Identify and use correct terminology (i.e. cursor, save, file, disk, font, delete, select).
- Use basic word-processing, graphics, and drawing programs.
- Open and complete a previously prepared word processing document.
- Create, store, and retrieve electronic files.
- Use a draw program to create a sign, poster or chart.
- Access information using electronic reference resources, such as library catalog, encyclopedias, almanacs, and indexes.
- Search for information using electronic resources.
- Generate, send, and retrieve electronic messages
- Identify the intent or appeal behind products and messages promoted via media.
- Recognize basic propaganda techniques.

- Understand that the purpose behind the messages promoted via media is to sell.
- Identify images and symbols central to particular messages.
- Identify common environmental print.
- Create products appropriate to audience and purpose.
- Write news articles appropriate for familiar media.
- Write classroom news independently.
- Create simple advertising messages and graphics appropriate for familiar media.
- Prepare a simple advertising poster.
- Prepare, perform, and tape simple radio and television scripts.
- Participate in classroom dramatizations.
- Prepare and perform school announcements and programs scripts.
- Participate in class plays and choral reading.
- Demonstrate a working knowledge of media production and distribution.
- Make distinctions between messages presented on radio, television, and in print.
- Compare books and movies.
- Recognize how messages are adjusted for different audiences.
- Identify the targeted audience of various messages.
- Identify when a sales approach is targeted at children.
- Analyze and edit media work as appropriate to audience and purpose.
- Generate and edit media work as appropriate to audience and purpose, sequencing the presentation effectively and adding or deleting information as necessary to achieve desired effects.
- Generate media work as appropriate to audience and purpose, sequencing the presentation effectively.
- Provide feedback to (and receive it from) peers about the content, organization, and overall effect of media work.
- Provide feedback to peers about the content and overall effect during group writing.

Research and Inquiry

- Conduct research and inquiry on self-selected or assigned topics, issues, or problems and use an appropriate form to communicate their findings.
- Participate in discussions to determine what they need to know about an assigned topic.
- Brainstorm a basic plan for gathering information.
- Conduct research by identifying, locating, exploring, and effectively using multiple sources of information appropriate to the inquiry, including print, non-print, and electronic sources.
- Become familiar with various reference, print and non-print resources.
- Do basic searches to answer specific questions.
- Identify the computer as a source of information (CDs, electronic encyclopedia, websites).
- Recognize, record, organize, and acknowledge information pertinent to a project, accurately blending discoveries into answers.
- Record and organize simple notes in their own words from a source.
- Present the results of inquiry, reporting and commenting on the substance and process of learning orally and in writing, using appropriate visual aids.
- Demonstrate what they learned by presenting information in an oral or written format.
- Demonstrate what they learned by presenting information orally, through drawings, and/or using developmental spelling.

Social Studies

Geography: People, Places and Environments

Students will:

- Use reference points, latitude and longitude, direction, size, shape and scale to locate positions on various representations of the earth's surface
- Interpret size and shape to locate continents and other physical features on a map and globe.
- Use geographic terms in identifying the location of Waterford within the state of Wisconsin and Wisconsin within the context of the United States.
- Locate on a map or globe physical features such as continents, oceans, mountain ranges, and landforms; natural

- features such as resources, flora, and fauna; and human features such as cities, states, and national borders
- Summarize the different types of information found on a map or globe.
- List and locate the states and Great Lakes that border Wisconsin.
- Use directions to locate on a map or globe, continents, oceans, deserts and mountain ranges.
- Construct a map of the world from memory, showing the location of major landmasses, bodies of water, and mountain ranges
- Name and locate on a map and globe the world's oceans and continents.
- Describe the impact the physical environment had on the different types of shelters constructed by Native American communities.
- Describe and give examples of ways in which people interact with the physical environment, including use of land, location of communities, methods of construction and design of shelters
- Describe and give examples of ways the different Native American communities use the land.
- Compare and contrast rural, suburban and city environments.
- Build a rural, suburb or city community.
- Use maps to make geographic inferences about a place or location.
- Use atlases, charts, graphs and maps to collect information and data about the size, shape and population of different parts of the world.
- Describe the characteristics of climate in different regions of the world and how they affect the lives of people who live there.
- Identify and distinguish between predictable environmental changes, such as weather patterns and seasons, and unpredictable changes, such as floods and droughts, and describe the social and economic effects of these changes
- Explain why they have a local and state designation as part of their home address.
- Identify major changes in the local community that have been caused by human beings. (construction, highways, removal of buildings.)
- Identify major changes in the local community that have been caused by human beings, such as a construction project, a new highway, a building torn down, or a fire; discuss reasons for these changes; and explain their probable effects on the community and the environment
- Differentiate between change made by humans and nature over time.
- Identify and describe examples in which science and technology have changed the way we live, such as homemaking, childcare, recreation, work, transportation, energy consumption and communication.
- Give examples of one way science and technology have changed the lives of people they know.

History: Time, Continuity and Change

Students will:

- Identify and examine various sources of information that are used for constructing an understanding of the past, such as artifacts, documents, letters, diaries, maps, textbooks, photos, paintings, architecture, oral presentations, graphs, and charts
- Locate and discuss Native American artifacts, maps or photos depicting true historical information.
- Work cooperatively in groups to collect data from various sources.
- Use a timeline to select, organize, and sequence information describing eras in history.
- Re-tell the main ideas in folklores, legends, myths, and stories of heroism and traditions of various cultures.
- Listen, read, and examine biographies, stories, and narratives as an introduction to the life of Martin Luther King, Jr., Rosa Parks, Ruby Bridges, George Washington or Abraham Lincoln.
- Compare and contrast changes in contemporary life with life in the past by looking at social, economic, political, and cultural roles played by individuals and groups
- Discuss the ways that families long ago expressed and transmitted their different beliefs and values through oral traditions, literature, songs, art, religion, community celebrations, mementos, food and language.
- Identify a law that was created due to some injustice in society.
- Research the historical background of Abraham Lincoln as it influenced the freedom of the slaves.
- Describe the importance of holidays, such as the birthday of Martin Luther King, Jr., Presidents' Day, Memorial Day or the Fourth of July that celebrates the core democratic values and principles of this nation.
- Identify American symbols such as the eagle, the Statue of Liberty, the nation's flag or George Washington as the "father of our country."
- Identify and describe important events and famous people in Wisconsin and United States history

- Know the names of some prominent men, women or events from history and simple facts about each.
- Explain how changes in communication or transportation have influenced the needs and wants in the local community.
- Compare and contrast how past and present energy sources have changed and the effect it has had on people and the environment.
- Define the term Native American and identify Native American regions.
- Identify several Native American tribes and compare and contrast ... clothing, art, music and oral traditions.
- Describe ways Native American people have adapted to specific environments.
- Compare past and present technologies related to energy, transportation, and communications, and describe the effects of technological change, either beneficial or harmful, on people and the environment.

Political Science and Citizenship

Power, Authority, Governance and Responsibility

Students will:

- Identify and explain the individual's responsibilities to family, peers, and the community, including the need for civility and respect for diversity.
- Describe ways Native American people have adapted to specific environments.
- Discuss what makes people and groups similar and different.
- Describe the community in which they live and identify their responsibilities within that community.
- Identify the documents, such as the Declaration of Independence, the Constitution, and the Bill of Rights, in which the rights of citizens in our country are guaranteed.
- Introduce that the Declaration of Independence, the Constitution, and the Bill of Rights were written to guarantee rights.
- Explain how families, schools, and other groups develop, enforce, and change rules of behavior and explain how various behaviors promote or hinder cooperation
- Recognize consequences of breaking community rules.
- Identify our nation's president and their role within our government's structure.
- Help formulate rules within the classroom and school and explain how rules help us cooperate.
- Define what a citizen is and what they are expected to do.
- Recognize that individual voting contributes to the well being of the community (running for office).
- Recognize a difference of opinion in the classroom or school and list reasons they are important to different groups.

Economics

Production, Distribution, Exchange, Consumption

Students will:

- Describe and explain the role of money, banking, and savings in everyday life
- Explain that money can be used to buy goods and services.
- Identify how needs and wants impact our spending.
- Identify goods and services within our community and tell how they are used.
- Give examples of how businesses depend upon skilled workers to provide efficient goods and services.
- Explain the difference between public goods and services.
- Identify and give examples of the various institutions that make up the economic systems within a local community such as families, workers, banks, and businesses.
- Describe how needs and wants in our local community can affect other people in Wisconsin.

Behavioral Sciences

Individuals, Institutions and Society

Students will:

- Explain the influence of prior knowledge, motivation, capabilities, personal interests, and other factors on individual learning

- Explain several ways to promote learning within a classroom environment.
- Identify and describe ways family, groups and community influence the individual's daily life and personal choice.
- Compare and contrast family life today and over time by focusing on such topics as recreation, school and traditions.
- Identify and describe community services and their contributions (church, school, police, family).
- Explain why government rules and laws are necessary.
- Define and cite examples of cultural diversity.
- Give examples and explain how the media may influence opinions, choices, and decisions
- 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
- Identify the use of cultural language used in different stories, folk tales, music or art.
- Give examples of important contributions made by Wisconsin citizens, United States citizens, and world citizens
- Explain a contribution made by an individual.
- Investigate and explain similarities and differences in ways that cultures meet human needs
- Investigate and explain how people in different parts of the world meet human needs associated with food, clothing and shelter.
- Describe how differences in cultures may lead to understanding or misunderstanding among people
- Describe how differences in cultures may lead to understanding or misunderstanding among people.
- Describe instances of cooperation and interdependence among individuals, groups, and nations, such as helping others in famines and disasters
- Participate in a local community project such as a book, food, toy or clothing drive.

Science Connections

Students will:

- When conducting science investigations, ask and answer questions that will help decide the general areas of science being addressed.
- Understand how the following science themes can be applied to the natural world: measurement, change (plant cycle, states of matter), order (patterning), energy (push and pull), organization (animal families/types, properties of rocks, sequencing), constancy (day and night), model (globe), evidence (observations), and explanation with more independence
- When faced with a science-related problem, decide what evidence, models, or explanations previously studied can be used to better understand what is happening now.
- Decide what evidence, observations, or previous experiences can be used to better understand what is happening now. (i.e. how simple machines help us improve our daily lives or make work easier).
- When investigating a science-related problem, decide what data can be collected to determine the most useful explanations.
- Work as a group to determine what data is needed before a science investigation takes place (i.e. plant growth, sound and the M&M activity).
- When studying science-related problems, decide which of the science themes are important.
- Recognize when measurement, change (plant cycle, states of matter), order (patterning), energy (push and pull), organization (animal families/types , properties of rocks, sequencing), constancy (day follows night), model (globe), evidence (observations) and explanation themes apply.
- When studying a science-related problem, decide what changes over time are occurring or have occurred.
- Identify things that change over time. (i.e. caterpillars to butterflies, seeds to plants, baby to adult, formation and weathering of rocks).

Nature of Science

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.
- Continue to become more independent in their use of resources. (i.e. web sites, encyclopedias, periodicals, videos).
- Work as a group to plan investigations.
- Independently use resources to answer science related questions. (i.e. books).
- Recognize that learning can come from careful observations and simple experiments.

- 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. (George Washington Carver)
- 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. new discoveries of dinosaurs).

Science Inquiry

Students will:

- Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
- Give examples of evidence, systems and explanations related to science topics being studied.
- Use the science content being learned to Ask questions, plan investigations, make observations, make predictions, and offer explanations.
- Practice making predictions, recording observations and developing explanations (the growth of a bean plant).
- 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 technology to search (internet, CD-ROMs, etc.) for answers to questions.
- 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 scale, hand lens, thermometer, standard and metric rulers, and computers) to collect data.
- Work as a group to determine what science equipment is necessary for an activity.
- Collect data on plant growth to determine if the plant's needs are being met and develop explanations as a group.
- Use data they have collected to develop explanations and answer questions generated by investigations.
- 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 investigations by using age appropriate charts, graphs, drawings, verbal and written descriptions, and various other means, to display their answers.
- Support their conclusions with logical arguments
- Verbally support and begin to write 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

Students will:

- 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.
- Describe properties of an object based on observations and measurements.
- Know that things can be done to materials to change some of their properties (i.e., freezing water to become ice).
- Group and/or classify objects and substances based on the properties of earth materials.
- Understand* that substances can exist in different states-solid, liquid, gas.
- Observe, describe and explain changes related to heat, light and sound. (conduction).
- Know that heat can be produced in many ways (i.e., burning, rubbing, mixing substances together).
- Know that water can be changed from a solid to a liquid and a gas and the amount of material remains the same.
- Know that sound is produced by vibrating objects.
- Know that light travels in a straight line until it strikes an object.
- Know that heat can move from one object to another by conduction and that some materials conduct heat better than others.
- Collect data and work as a group to develop a model which illustrates and display the information (i.e. measure and graph temperature changes of water).
- Know that magnets can be used to make some things move without being touched.

- Know that magnets attract and repel each other.
- When given examples of matter and energy, indicate whether the item listed can be touched or not.

Earth and Space Science

Rocks and Soils

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 characteristics of rocks and soil.
- Describe the physical properties of a rock using the terms color, size, shape, texture, hardness, shiny, dull.
- Know that rocks come in many different shapes and sizes.

Physical and Chemical Properties of Earth Materials

Show that earth materials have different physical and chemical properties, including the properties of soils found in Wisconsin.

- Identify the properties of soil that is good for raising plants .
- Understand the physical and chemical changes that take place when a fossil is created.

Describing the Earth

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.

- Illustrate land and water areas in a drawing.

Celestial Objects

Identify celestial objects (stars, sun, moon, planets) in the sky, noting changes in patterns of those objects over time.

- Illustrate how the earth and planets move around the sun.
- Know that the sun is a star which produces energy (light and heat).

Wisconsin Weather

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.

- Collect data related to daily temperature, precipitation (snow, rain, stormy), and degree of cloudiness (cloudy, sunny, partly cloudy) and graph the data.

Earth Patterns and Cycles

Using the science themes, find patterns and cycles in the earth's daily, yearly, and long-term changes.

Use of Resources

Using the science themes, describe resources used in the home, community, and nation as a whole.

- Describe what a natural resource is and give examples.

Human Resources

Illustrate resources humans use in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.

- Give examples of resources humans use in home and community (food, paper, shelter).

Life and Environmental Sciences

Survival Needs

Discover how each organism meets its basic needs for water, nutrients, protection, and energy in order to survive.

- Know that plants and animals and the human body have different structures (i.e., stem, leaves, systems of the human body).
- Know that plants and animals have features that help them live in different environments.
- Identify how animals and plants meet their needs for water, food, and protection.
- Understand that carnivores and herbivores have special characteristics to help them survive (i.e. dinosaur unit).
- Know that living organisms have distinct structures and body systems that serve specific functions in growth, survival and reproduction.

Internal and External Cues

Investigate how organisms, especially plants, respond to both internal cues (the need for water) and external cues (changes in the environment)

- Describe differences in plants that live in different environments (desert, rain forest, forest, tundra, plains, oceans/ponds).

- Recognize that humans grow and change as they mature.

Life Cycles of Organisms

Illustrate the different ways that organisms grow through life stages and survive to produce new members of their type.

- Observe and describe the changes that take place during the life cycle of a bean plant.
- Observe and describe the changes that take place during the life cycle of a bean plant..
- Know that some kinds of organisms that once lived on Earth have completely disappeared (i.e., dinosaurs, trilobites, mammoths, giant tree ferns, horsetail trees).
- Describe life stages/life cycles that animals go through (i.e. caterpillar to butterfly, tadpole to frog).

Living and Non-living Things

Using the science themes, develop explanations for the connections among living and non-living things in various environments.

- Give examples of ways living things use nonliving things to survive (plants use soil, animals use water).

Categorization of Living Things

- Identify the characteristics of the six major animal groups (mammals, birds, fish, amphibians, reptiles and insects).

Science Applications

Technology

- Give examples of jobs in communities and tools needed to perform them.

Technology and Careers

- Describe how tools we use to do a job have changed over time.

Workplace Technology

- Give examples of how science discoveries have affected the work place and jobs we do.

Simple Machines

- 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.

Invention and Production

Ask questions to find answers about how devices and machines were invented and produced.

Science in Social and Personal Perspectives

Progress Through Science and Technology

- 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.

Science and Issues/Problems

- 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.
- Give examples of how science and technology have affected local and state issues (i.e. pollution, discoveries, environmental issues, etc.).

Science and Personal Needs

- Show how science has contributed to meeting personal needs, including hygiene, nutrition, exercise, safety, and health care.
- Describe changes that have taken place in meeting our personal needs in hygiene and health care (medicines, tooth paste, exercise, etc.).

Science and Decision Making

- Develop a list of issues that citizens must make decisions about and describe a strategy for becoming informed about the science behind these issues.
- List science-related issues citizens must make decisions about.

MATH

Mathematical Processes

- Students will use reasoning abilities to:

- perceive patterns
- identify relationships
- formulate questions for further exploration
- justify strategies
- test reasonableness of results
- Explain solutions to problems clearly and logically in oral and written work and support solutions with evidence.
 - Create and extend patterns.
 - Use comparative vocabulary to express relationships of size, amount and position.
 - Use the problem solving process (understand, plan, solve, check).
- Apply the following problem-solving strategies:
 - choose an operation
 - use manipulatives
 - use a calculator
 - draw a picture
 - guess and check
 - identify needed/extra information
 - make a chart/table
- Justify strategies and solution through oral and written explanation.
- Communicate mathematical ideas in a variety of ways, including words, numbers, symbols, pictures, charts, graphs, tables, diagrams and models.
- Connect mathematical learning with other subjects, personal experiences, current events, 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 appropriate mathematical vocabulary, symbols and notation with understanding based on prior conceptual work.
- Use and apply appropriate mathematical vocabulary, numerals, notation (number sentences) and symbols.

Number Operations and Relationships

- Whole Numbers: 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:

- Use and interpret number lines and pictorial models.
- Identify 1s, 10s, 100s place value.
- Represent and explain whole numbers 0-1000 with physical materials and verbal descriptions.
- Symbolically rename numbers (5 hundreds + 2 tens + 3 ones =523).
- Read, write and order whole numbers to 1000.
- Analyze the use of numbers in real-life situations (newspaper articles, cereal box, catalogs...)

Decimals

- 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., $43=40+3=30+13$)
- In problem-solving situations involving money, add and subtract decimals.

Number Operations and Relationships

- Represent decimals in dollar amounts with physical materials and in written form to \$2.00.
- Calculate monetary decimals up to \$9.99 utilizing addition and subtraction.
- Identify real-life examples with a monetary value less than \$10.00.

- Represent and explain fractions.
- Read, write and order simple fractions and commonly used decimals.
- Identify and represent equivalent fractions for halves, thirds, fourths, fifths, sixths, eighths, tenths, sixteenths.
- Add and subtract fractions with like denominators.

Students will:

- Compare and contrast equal and unequal parts.
- Represent and identify fractions ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{6}$, $\frac{1}{8}$, $\frac{1}{10}$, $\frac{1}{16}$).
- Introduce equivalent fractions for $\frac{1}{2}$ ($\frac{2}{4}=\frac{1}{2}$, $\frac{8}{16}=\frac{1}{2}$)
- Compare and contrast fractions ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{16}$, $\frac{1}{8}$).
- Manipulate real-life objects and patterns blocks to show fractional parts.
- In problem-solving situations involving whole numbers, select and efficiently use appropriate computational procedures such as:
 - recalling the basic facts of addition, subtraction, multiplication and division
 - using mental math (e.g., $37+25$, 40×7)
 - estimation
 - selecting and applying algorithms for addition, subtraction, multiplication and division
 - using a calculator
 - Recall basic facts of addition and subtraction through 18.
 - Solve basic mental math problems.
 - Use a calculator for problem-solving activities.
 - Solve two- and three-step story problems.
 - Write a number sentence to show a solution.
 - Be introduced to the process of multiplication
 - Solve two- and three-digit addition and subtraction problems; regrouping when necessary.

Number Operations and Relationships

- Determine the number of things in a set by:
 - grouping and counting (e.g., by threes, fives, hundreds)
 - combining and arranging (e.g., all possible coin combinations amounting to thirty cents)
 - estimation, including rounding
- Determine the number of items in a set by counting and estimating
- Round to the nearest 10.
- Apply estimation and rounding skills to solve real-life problems.
- Count by 2s, 5s, 10s.
- Combine and arrange coin combinations to \$1.00.
- Employ the proper use of the decimal point, cent and dollar symbols.
- Recognize and extend number patterns.
- Demonstrate the appropriate use of ordinal numbers (first, second, third...tenth).

Geometry

- Describe two- and three-dimensional figures (e.g., circles, polygons, trapezoids, prisms, spheres) by:
 - naming them
 - comparing, sorting and classifying them
 - drawing and constructing physical models to specifications
 - identifying their properties (e.g., number of sides or faces, two- or three-dimensionality, equal sides, number of right angles)
 - predicting the results of combining or subdividing two-dimensional figures
 - explaining how these figures are related to objects in the environment
 - employing appropriate grade level technology
- Identify and differentiate two- and three-dimensional figures (circle, square, triangle, rectangle, trapezoid, hexagon, diamond, cone, pyramid, cube, sphere and prism.)
- Compare, sort and classify two- and three-dimensional figures.

- Identify the properties of two- and three-dimensional figures.
- Predict the result of combining or subdividing two-dimensional figures.
- Analyze how shapes are related to objects in the environment.
- Use physical materials and motion geometry (such as slides, flips and turns) to identify properties and relationships, including but not limited to:
 - symmetry
 - congruence
 - similarity
- Identify similar and congruent shapes and/or segments.
- Determine if lines of symmetry exist in basic shapes and figures.
- Demonstrate properties and relationships using motion geometry (slides, flips and turns).
- Apply knowledge of geometric properties and relations to solve problems.
- Identify and use relationships among figures, including, but not limited to:
 - location (e.g., between, adjacent to, interior of)
 - position (e.g., parallel, perpendicular)
 - intersection (of two-dimensional figures)
- Locate and identify relationships among figures (e.g., above, below, on, off, front, back, adjacent to, between, interior of, exterior of, parallel).
- Describe the outcome when two-dimensional figures intersect.
- Apply appropriate vocabulary in real-life situations.
- Use simple two-dimensional coordinate systems to find locations on maps and to represent points and simple figures.
- Employ technology to place and locate points on a two-dimensional grid where grade appropriate.
- State the coordinates of locations or objects on simple maps and grids.
- Apply knowledge of coordinate systems to read maps and solve real-life problems.

Measurement

- Recognize and describe measurable attributes, such as length, liquid capacity, time, weight (mass), temperature, volume, monetary value and angle size, and identify the appropriate units to measure them.
- Develop language skills to compare and contrast liquid capacity, weight, temperature, time, length and monetary values (more, less, greater, bigger, smaller, long, short, warm, cool).
- Predict solutions and solve classroom problems using length, time, weight, monetary value, temperature and liquid capacity.
- Demonstrate understanding of basic facts, principles and techniques of measurement, including:
 - appropriate use of arbitrary and standard units (metric and US customary)
 - appropriate use and conversion of units within a system (such as yards, feet and inches; kilograms and grams; gallons, quarts, pints and cups)
 - judging the reasonableness of an obtained measurement as it relates to prior experience and familiar benchmarks
 - employment of appropriate grade level technology
- Use standard and non-standard units to compare, contrast, and estimate lengths, weights and capacity.
- Apply logical reasoning to solve length, weight, and capacity problems.
- Read and interpret measuring instruments (e.g., rulers, clocks, thermometers).
- Determine measurements directly by using standard tools to these suggested degrees of accuracy
 - length to the nearest half-inch or nearest centimeter
 - weight (mass) to the nearest ounce or nearest 5 grams
 - temperature to the nearest 5 degrees
 - time to the nearest minute
 - monetary value to dollars and cents
 - liquid capacity to the nearest fluid ounce
- Identify and explain the use of measurement tools including ruler, scale, thermometer, clock, calendar and coins.
- Determine measurements to the following degrees of accuracy:
 - length to the nearest half-inch and centimeter
 - weight to the nearest pound and kilogram
 - temperature to the nearest 2 degrees
 - time to the nearest 5 minutes

- monetary value to \$1.00
- liquid capacity to the nearest cup, liter, and gallon
- Name and order the days of the week and months of the year.
- Apply measurement skills to real-life problems.\
- Determine measurements by using basic relationships (such as perimeter and area) and approximate measurements by using estimation techniques.
- In problem-solving situations, read, extract and use information presented in graphs, tables or charts.
- Predict which activities are more than on minute, about one minute and less than one minute.
- Estimate, measure, compare, and contrast:
 - weights and liquid capacities
 - capacity of containers to cups and liters
 - lengths to the nearest inch, foot, centimeter, and meter
 - perimeter of a shape to the nearest inch
 - area of shapes in square units
- Apply estimation skills to solving 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
 - determining what data to collect and when and how to collect them
 - collecting, organizing and record real-world data
 - drawing reasonable conclusions based on data
- Collect, organize and record real-world data.
- Conduct a survey and display results.
- Conduct an experiment and display results.
- Predict simple outcomes using a variety of sources.
- Describe a set of a data using
 - high and low values and range
 - most frequent value (mode)
 - middle value of a set of ordered data (median)
- Describe orally and in a graphic a set of data using:
 - most frequent value
 - high and low values
- Identify, explain and analyze information in problem-solving situations using:
 - bar graphs
 - pictographs
 - tables
 - charts
- Experience the likelihood of future events by
 - observation of activities
 - using manipulatives
- Predict simple outcomes using a variety of sources.
- Test predictions of simple outcomes.

Algebraic Relationships

- Use letters, boxes or other symbols to stand for any number, measured quantity or object in simple situations
- Use the vocabulary, symbols and notation of algebra accurately (e.g., correct use of the symbol “=”; effective use of the associative property of multiplication.
- Recognize and use generalized properties and relationships of arithmetic (e.g., commutativity, addition, inverse relationships of multiplication and division).
- Use vocabulary, symbols and connotation of algebra correctly

- Read, write and solve number sentences.
- Recognize and use basic properties of arithmetic:
 - Order
 - Zero property for $+/-$ $11+0=11/11-0=11$.
 - Associative property for $+$ $[5+(3+2)$ or $(5+3)+2]$.
- Provide the missing number in an addition or subtraction sentence
- Show the relationship between $+/-$ functions by completing “fact family” equations.
- Work with simple linear patterns and relationships in a variety of ways, including:
- Represent a pattern in multiple ways (objects, shapes, colors).
- Recognize and extend a basic number pattern.
- Verbally describe a pattern.
- Make and interpret pictures, pictographs, bar graphs, tables, charts and note patterns/relationships of the data.
- Compare the same set of data shown on different models (pictures, graphs, charts).
- Recognize variability in simple functional relationships by describing how a change in one quantity can produce a change in another
- Use pictures or objects to show changing relationships and quantities.
- Interpret simple charts.
- Recognize variability in simple functional relationships by describing how a change in one quantity can produce a change in another (e.g., number of bicycles and the total number of wheels).
- Use pictographs where picture represents more than one.
- Determine the rule for addition and subtraction tables.
- Understand number patterns – counting by 2, 3, 4, 5, 6 etc. and relating that to items that come in groups of that size (ex. number of eyes, sides on a triangle, wheels on a cart, etc.).
- Predict and explain how a change in one variable impacts the final count.
- Use number line to count up or down.
- Use simple equations and inequalities in a variety of ways, including:
 - using them to represent problem situations
 - solving them by different methods
 - recording and describing solution strategies
- Use simple equations to represent basic math problems.
- Use manipulatives to act out problem situations.
- Use simple equations to represent solutions to addition and subtraction story problems including multi-step problems,
- 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
- Understand how to set up simple problems to find an answer in story problems.
- Understand and recognize key words like “in all,” “left,” and “difference” in order to apply appropriate algebraic operation.
- Explain strategies used to solve a problem.

Health

Mental and Emotional Health

- Explain the difference between health behaviors and risk behaviors
- Demonstrate the ability to make responsible decisions and use the proper refusal skills
- Identify responsible health behaviors
- Identify stress management and suicide prevention skills

Family Living

- Describe characteristics needed to be a responsible friend and family member
- Demonstrate ways to communicate care, consideration, and respect of self and others
- Identify causes of conflict within family, school, and community environments

Growth and Development

- Develop awareness of personal health needs
- Demonstrate strategies to improve or maintain personal health

- Describe and analyze all human body systems
- Demonstrate needs, wants, and feelings appropriately
- Identify and accept physical uniqueness

Nutrition

- Recognize the six types of nutrients
- Analyze food selections that reduce the risk of illness and disease
- Identify the dietary guidelines
- Recognize how culture influences personal food choices and eating habits

Personal Growth

- Demonstrate a desirable level of physical fitness and personal health
- Recognize injuries and illnesses that can be prevented and treated
- Identify personal health goals and make progress toward achieving those goals

Alcohol, Tobacco, and Other Drugs

- Recognize how to use over-the-counter and prescription drugs in a responsible way
- Demonstrate how to cooperate with health and safety officials
- Identify behaviors that are safe, risky, or harmful to self and others
- Demonstrate proper use of refusal skills
- Identify factors that determine the reliability of health information, products, and services
- Identify a variety of resources from the home, school, and community that provide reliable health information
- Recommend the importance of avoiding the misuse or abuse of controlled substances

Communicable and Chronic Diseases

- Identify behaviors that reduce the risk of infection related to communicable diseases
- Recognize that many injuries and illnesses can be prevented and treated
- Analyze the most common health problems with children
- Differentiate between communicable and non-communicable diseases
- Analyze family history of disease

Injury Prevention and Safety

- Demonstrate techniques to avoid threatening situations
- Explain how to get assistance in threatening situations
- Recognize techniques involved in self-protection
- Distinguish between threatening and non-threatening circumstances
- Demonstrate the ability to follow safety rules at home
- Demonstrate the ability to follow safety guidelines for different weather conditions and natural disasters

Consumer and Community Health

- Demonstrate the ability to locate school and community health helpers.
- Identify agencies that advocate community health.
- Describe ways that technology can influence health.
- Identify factors that determine the reliability of health sources.
- Describe media influences on health behaviors.
- Explain the impact of advertising on the selection of health products and services.

Environmental Health

- Identify the impact of the environment on personal health.
- Identify methods of health promotion.
- Identify agencies that advocate for a healthy community.
- Express ideas and opinions on health issues.
- Demonstrate the ability to influence and support others in making positive health choices.