

FIRST GRADE



Pennsylvania Learning Standards for Early Childhood



PENNSYLVANIA DEPARTMENT OF EDUCATION AND
DEPARTMENT OF PUBLIC WELFARE 2008

PROOF EDITION

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Pennsylvania's Primary Standards for grade 1 were developed by the Department of Education and Welfare in support of Governor Rendell's commitment to early childhood education. The Primary Standards for grade 1 are meant to guide the development of primary age programs throughout the state. A Task Force consisting of early childhood practitioners, primary teachers, school administrators, policy analysts, researchers and university faculty developed the standards.

INTRODUCTION

The Commonwealth of Pennsylvania has established high academic standards for all students pre-K through grade 12. Research-based standards are the key to laying a strong academic foundation that will provide children with skills necessary to succeed in every phase of their lives.

Standards-based practices maximize student learning by aligning standards for both instruction and assessment in the following ways:

- Guiding teachers' deliberate and intentional instructional practice
- Supporting effective classroom environments
- Framing teachers' age-appropriate expectations for their students

The transition from kindergarten to first grade is critical for successfully entering the primary grades. Research has shown the value of active learning for both cognitive and social development in these grades. Children learn key skills of literacy, number sense, science and social problem solving both through shared explorations and direct instruction. They best develop their understanding of the world around them and how it relates to them by interacting with materials, other children, their teacher and the community.

Primary classrooms, supported by the use of standards, facilitate children's learning across key curricular areas, emphasizing a variety of rigorous literacy, science (inquiry-based), number sense and social experiences. They provide primary children with opportunities to construct knowledge and meaning through active, hands-on/minds-on exploration in a variety of indoor and outdoor experiences that include large and small group, individual and partner-based instructional practices.

The most effective methods utilized by primary teachers should include explicit instructional language, active engagement with children and differentiated instruction that meets the needs of all learners while supporting high quality expectations.

The learning behaviors that assure school success include:

- listening
- participation
- task persistence
- self-regulation
- making choices
- exhibiting self-control
- organization
- cooperation
- collaboration
- respecting the rights, feelings and property of others



Teachers can support children's individualized learning opportunities by providing them with meaningful experiences that engage their interests, abilities and cultures. Teachers who have clear, age-appropriate expectations for children's behavior provide a balance of independence and guidance.

Approaches to Learning

The goal of the primary standards for grades 1 and 2 is to promote the development of a child who has the attributes of: inventiveness, curiosity, persistence, engagement, reasoning, problem solving, responsibility, imagination and creativity. To assist the child in obtaining these attributes, the adult should approach the child's learning through actions that encourage the child to:

Invent	Fantasize	Conceive	Deliberate
Apply	Start	Encounter	Visualize
Adapt	Evaluate	Plan	Confront
Envision	Adjust	Generalize	Lead
Persist	Commit	Inquire	Conclude
Endure	Create	Think	Question
Compare	Analyze	Deduce	Deduct
Predict	Discriminate	Describe	Debate





Classroom environments should stimulate the primary child's curiosity, initiative and inquiry and foster opportunities for adult-student interaction. Classrooms should be organized and structured to support all areas of development through a range of instructional techniques and strategies, be rich in literacy and integrate literacy and numeracy throughout the day.

They should provide children with a safe, comfortable atmosphere where they can practice newly acquired skills and build on them to learn new information. The classroom environment should accommodate active and quiet activities. It should offer opportunities for solitary, parallel and group interaction observable by an adult.

In addition to a robust set of standards to guide practice, primary programs should utilize a system of assessment that is valid and reliable, comprehensive, developmentally appropriate and linguistically responsive in order to document a child's growth and development, including the language proficiency of second language learners, in relation to a defined set of standards. The assessment then becomes the mechanism to inform and support instruction.

RATIONALE FOR PERSONAL/SOCIAL LEARNING AND DEVELOPMENT

As a child participates in the ongoing classroom routine, the social curriculum supports the academic curriculum. The child who can negotiate interactions with a variety of adults and peers is better equipped to take advantage of the new knowledge base. By following classroom routines and rules, the child moves from whole group to small group to independent work with confidence and efficiency. This provides maximum opportunities for growth and development. By learning to negotiate conflicts and modify his/her behaviors, the child is better served in all environments. These standards provide direction for teachers to enhance this important aspect of learning.

RATIONALE FOR PARTNERSHIPS

The definition of partnership according to Webster is: "one or more persons owning jointly a business and who shares the risks and profits of the company or firm." All citizens in the Commonwealth are stakeholders in how effectively we are educating our youth. The results impact families, communities, law enforcement agencies, social and health agencies, the job market and both local and state government. The obvious responsibility of a formal education has been assigned to the local schools. Children, however, are exposed to many other personal and cultural influences that impact learning. It is crucial to develop a system of communication and contact with the various participants who occupy a role in the development of a child.

Teachers must be trained specifically to understand early childhood development, which is the responsibility of the institutions of higher learning. There should be a strong bond between the colleges and school districts in providing opportunities for student teaching experiences, being cognizant through ongoing dialogue and feedback of what the specific curricular requirements/standards are and how to achieve those standards in a classroom setting. Teachers with a strong background in early childhood education and child development can best provide what children need to grow emotionally, physically and intellectually.

Community leaders and policymakers need to be aware of the importance of early childhood education and the standards for learning. The success of the local education system begins in the early years prior to a child entering the public school system. Local leaders need to understand the diversity of children, yet realize the sense of urgency in assisting and supporting the education of young children.



GUIDING PRINCIPLES



High quality primary programs offer learning opportunities that have a significant impact on the success of all children. A warm, responsive relationship with a highly trained teaching staff is foundational. It is expected that teachers will intentionally integrate developmental knowledge with the attitudes, skills and concepts that children need to make steady progress socially, emotionally, physically and cognitively. Outstanding primary programs maintain high expectations for all children using clear performance standards. A continuous cycle of assessment, which is understood by the professional staff and families, must be utilized to track progress and success.



All children can learn and deserve the establishment of high expectations that are appropriate for their age and are culturally and technologically appropriate for meeting individual differences.



Children learn best through intentionally planned instruction and activities that enable them to construct knowledge through real life connections, peer interactions, meaningful and imaginative experiences and active engagement with the environment.



The learning environment for young children stimulates and engages their curiosity about the world around them and meets their physical, emotional and creative needs whereby the children feel safe and secure.



Language and literacy (both reading and writing) development is supported and integrated throughout the day in all content areas in the primary grades. Conceptual understandings in content areas and in early literacy are interdependent and have sets of skills that mutually support each other.



Children's development and learning is enhanced and supported when their teachers are knowledgeable about early childhood development, educational pedagogy and content. When teachers participate in ongoing opportunities for quality professional development, work with children, families and communities and are intentional in their relationships children benefit.

High quality primary programs recognize and provide for a broad spectrum of individual needs in diverse populations of children, which include, but are not limited to: English language learners, children with special needs, and children from diverse cultural backgrounds and socio-economic groups.

High quality primary programs are defined by a set of comprehensive standards that maximize children's growth and development that increase their problem-solving abilities across domains.

High quality primary programs use an appropriate system of assessment that documents children's growth and development in relationship to a defined set of state-mandated standards to guide teaching and learning.

Children's development, learning, knowledge and health are enhanced when a strong partnership exists between families, schools and communities.

High quality primary programs have a collaborative relationship and ongoing communication to provide smooth transitions (between early care programs and Kindergarten or first and then between first and second grades) for children and families to assure continuity of learning.



**Footnote: Young children with disabilities will meet standards consistent with their individualized education program (IEPs) goals developed by IEP teams in accordance with the federal Individuals with Disabilities Improvement Act (IDEIA) and Pennsylvania's Early Intervention Services System Act (Act 212 of 1990). English language learners will use the Pennsylvania ELF Standards to gain access to and meet the PA Academic Standards.



APPROACHES TO LEARNING

EARLY LEARNING STANDARDS FOR 1ST GRADE



Children must demonstrate proficiency in both academics and their approach to their learning environment. These approaches are most effectively learned in the context of an integrated effort involving parents, educators and members of the community. The acquisition of these approaches is a developmental process that encompasses an individual's entire lifetime. Teachers must help children feel successful by supporting and understanding their individual differences, allowing them to explore the world in a safe and caring environment and enhancing their curiosity and knowledge about the world in which they live.



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STANDARD AL 1: DEMONSTRATE INITIATIVE AND CURIOSITY

CONTENT FOR 1ST GRADE

- AL 1.1 Participate in various experiences
- AL 1.2 Express choices/preferences during concrete, immediate and familiar activities
- AL 1.3 Demonstrate growing eagerness and satisfaction to discover and discuss a growing range of topics, ideas and tasks
- AL 1.4 Use multiple strategies and all available senses to explore and learn from the environment
- AL 1.5 Comment, predict and connect on events or aspects of the environment
- AL 1.6 Ask questions and seek meaningful information
- AL 1.7 Initiate social greetings and carry conversations

EXAMPLES

The learner will:

- Independently choose to participate in at least 80% of the available learning centers including some new experiences.
- Independently choose new and different materials to represent different thoughts or feelings.
- Express preferences, wants and needs in a manner that is appropriate and consistent.
- Choose to engage in preferred activities that match one's developmental strengths, talents and interests.
- Initiate group and individual activities of choice within familiar environment.
- Join and leave group with ease as a leader or a follower as the situation demands.

SUPPORTIVE PRACTICE

The teacher will:

- Enhance learning centers and group activities to attract child participation and enhance learning.
- Provide a classroom with clearly defined interest areas and materials that invite children to explore, discover and create.
- Provide a variety of materials, art work, music, drama and photographs to stimulate experiences, knowledge, participation and interests.
- Provide genre of reading materials.
- Provide varied subject integrated activities in the learning centers.
- Provide materials/activities appealing to a variety of senses, learning styles, technology and multiple intelligences for individuals, small groups and larger group experiences.
- Ask open-ended and higher level questions to facilitate sharing, engage the listener, seek meaningful information and extend learning.

STANDARD AL 2: DEMONSTRATE ENGAGEMENT AND PERSISTENCE

CONTENT FOR 1ST GRADE

- AL 2.1 Show persistence in ability to complete a variety of tasks, activities, projects and experiences
- AL 2.2 Demonstrate increasing ability to set goals and develop and follow through on plans
- AL 2.3 Demonstrate ability to maintain focus on a task, question, set of directions or interactions, despite distractions and interruptions
- AL 2.4 Accept environmental conditions and maintain task orientation in a constructive active environment
- AL 2.5 Acquire the skills necessary for participating in a group or independently
- AL 2.6 Accept redirection and feedback on performance

EXAMPLES

The learner will:

- Express choices, initiate, follow through and complete activities and projects.
- Find, choose and participate in appropriate, constructive and enjoyable ways to occupy leisure time.
- Attend to cues and prompts to adapt behaviors to changing situations.
- Initiate requests for factual information, stories, games and other learning activities.
 - Learner will begin to reflect on his/her performances.
 - Demonstrate how to work cooperatively.

SUPPORTIVE PRACTICE

The teacher will:

- Encourage and praise efforts and facilitate planning and completion.
- Encourage and document sequential progress and effort.
- Anticipate needs and acknowledge progress both process and product.
- Discuss and demonstrate how to work cooperatively.
- Acknowledge and fulfill requests of stories, games and other learning activities.
- Encourage reflection on progress of performance.

STANDARD AL 3: DEMONSTRATE REASONING AND PROBLEM SOLVING

CONTENT FOR 1ST GRADE

- AL 3.1 Demonstrate a growth pattern in predicting possible outcomes related to cause and effect
- AL 3.2 Discover more than one solution to a question, task or problem
- AL 3.3 Seek and/or accept assistance from others when encountering a problem
- AL 3.4 Recognize and solve problems through observation, active exploration, trial and error, interactions and discussions with peers and adults
- AL 3.5 Identify other's social cues during group activities
- AL 3.6 Accept assistance and/or cooperate to accomplish a joint task
- AL 3.7 Classify, compare and contrast objects, events and experiences
- AL 3.8 Recognize ones own point of view as well as others

EXAMPLES

The learner will:

- Predict outcomes in stories and in real life situations.
- Respond to "what if" questions.
- Explain and apply multiple strategies to solve problems.
- Talk through a problem using steps to resolution.
- Use steps or problem solving when involved in role play and real life situations.
- Try to solve problems in conflict situations or seek assistance with conflict resolution when needed.
- Begin to negotiate and compromise in order to resolve conflict.
- Begin to empathize with those in stressful situations.
- Begin to respond in a variety of social situation.
- Feel comfortable enough to collaborate with others in problem solving situation.
- Use an increasing number of details and more realistic representations in a developmentally appropriate strengths, talents and interests.

SUPPORTIVE PRACTICE

The teacher will:

- Help children learn how to function in a group situation demonstrating how to work cooperatively through sharing and taking turns, working toward a specific goal, dividing responsibilities within a group and solving problems in an acceptable manner.
- Provide a variety of materials and situations to support experience with cause and effect and problem solving (ex. Second Step Program).
- Recognize children who support others in problem solving.
- Teach and use vocabulary related to reasoning and problem solving (ex. If, when, after, before, next, what if, then).
- Read stories and utilize role play which include problem solving, helping others and multiple problem solving skills.
- Allow children to solve problems independently when possible, but encourage seeking assistance when all avenues have been exhausted and the conflict cannot be resolved peacefully.
 - Provide role playing situations and/or various technology based resources.
- Strategically place learners according to their needs.
- Offer praise and reinforcement for positive behavior.
- Provide opportunities for learners to share concerns or role play real life situations.
- Use open-ended questions and hands-on practice to encourage classification, sorting, comparisons and problem solving.
- Ask open-ended questions, higher level questions and quality feedback to stimulate and extend representations.



STANDARD AL 4: DEMONSTRATE FLEXIBILITY, RISK-TAKING AND RESPONSIBILITY

CONTENT FOR 1ST GRADE

- AL 4.1 Grow in the ability to differentiate between appropriate and inappropriate risk-taking
- AL 4.2 Express choices/preferences during concrete, immediate, familiar and unfamiliar activities
- AL 4.3 Demonstrate growing eagerness and satisfaction to discover and discuss a growing range of topics, ideas and tasks
- AL 4.4 Use multiple strategies and all available senses to explore and learn from the environment
- AL 4.5 Comment, predict and connect on events or aspects of the environment
- AL 4.6 Ask questions and seek meaningful information
- AL 4.7 Initiate social greetings and carry conversations

EXAMPLES

The learner will:

- Identify and explain dangerous and inappropriate risk taking.
- Demonstrate a willingness to try an increasing number of new experiences.
- Volunteer and/or participate in discussions and other new learning activities.
- Initiate own learning and play experiences.
- Offer constructive suggestions to other learners and adults.
- Deal with success in a positive way and view challenges as a growing experience.
- Accept responsibility for the care of the classroom and school environment.
- Accept consequences for choices and decisions when appropriate.

SUPPORTIVE PRACTICE

The teacher will:

- Ask higher level questions in play situations and while reading stories.
- Ask “When”, “How”, “Why” questions about potentially dangerous situations.
- Be accepting of children’s willingness or unwillingness to try new experiences.
- Pair learners to scaffold skills and experiences.
- Assign or designate through learner’s volunteerism who is responsible for specific classroom tasks.
- Demonstrate an awareness of learner’s needs during group activities (role play, discussions).
- Allow learners to express their suggestions regarding topics of discussion or material related to course of study.
- Offer appropriate feedback for responsible choices.
- Assist in guiding learner’s choices.

STANDARD AL 5: DEMONSTRATE IMAGINATION, CREATIVITY AND INVENTION

CONTENT FOR 1ST GRADE

- AL 5.1 Initiate tasks and experiences as active leaders when selecting topics of self interest with increased flexibility, imagination and ingenuity
- AL 5.2 Use and connect materials/strategies in uncommon ways to investigate and solve problems



EXAMPLES

The learner will:

- Use a variety of materials to explore and express ideas and emotions.
- Create and utilize props during role play activities.
- Describe creative projects including written stories or poems.
- Dramatize a variety of roles by reflecting real life situations.
- Recognize imagination and creativity in others.

SUPPORTIVE PRACTICE

The teacher will:

- Provide sufficient amounts of time for creative play and learning center opportunities and environments.
- Read or relate stories about real people who display their use of imagination, creativity and design.
- Provide a diversity of materials and props in all learning centers and aspects of the environment to stimulate and promote learning, exploration, imagination and creativity.
- Allow for diversity, differences and abilities of learners.
 - Introduce “the arts and humanities” people, places by means of technology and field trips and involving the community.
 - Teachers will use community resources to demonstrate initiative, creativity and invention.



ARTS & HUMANITIES

EARLY LEARNING STANDARDS FOR 1ST GRADE



Arts and humanities are an important component of children's early learning experiences. Children who are given opportunities to develop their imagination through a variety of media are learning to express their individual interests, abilities and knowledge. Children develop their understanding of the world around them and how it relates to them by interacting with materials, other children, their teacher and their community. When they view others' work, children are also learning to appreciate and respect differences in culture and viewpoint.

Arts and humanities influence children's growing competence as creative problem solvers and learners. Primary classrooms, supported by the use of the arts and humanities standards, facilitate children's learning across key curricular areas, emphasizing a variety of rigorous literacy, science (inquiry-based), number sense and social experiences. Instruction in the arts and humanities provide primary children with opportunities to construct knowledge and meaning through active, hands-on/minds-on exploration in a variety of environments using large and small group, individual and partner-based instructional practices.

The Production, Performance and Exhibition standard (9.1) has been separated into disciplines for the purpose of clarity only. The arts educator should continue cross-curricular integration within the scope of the arts.



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STANDARD 9.1: PRODUCTION, PERFORMANCE AND EXHIBITION OF DANCE, MUSIC, THEATRE & VISUAL ARTS**THIRD GRADE STANDARDS:**

- Know the elements and principles of each art form to create works in the arts and humanities
- Recognize, know, use and demonstrate a variety of appropriate arts elements and principles to produce, review and revise original works in the arts
- Recognize and use fundamental vocabulary within each of the arts forms
- Use knowledge of varied styles within each art form through a production, performance or exhibition of unique work
- Demonstrate the ability to define objects, express emotions, illustrate an action or relate an experience through creation of works in the arts
- Identify works of others through a performance or exhibition
- Recognize the functions of rehearsals and practice sessions
- Handle materials, equipment and tools safely at work and performance spaces
- Identify arts events that take place in schools and in communities
- Know and use traditional and contemporary technologies for producing, performing and exhibiting works in the arts or the works of others
- Know and use traditional and contemporary technologies for furthering knowledge and understanding in the humanities

CONTENT FOR 1ST GRADE

- A. Use nonlocomotor/locomotor movement, tempo, levels, pathways and movement size in dance
- B. Create and perform dance

**EXAMPLES****The learner will:**

- Perform movement with kinesthetic awareness (i.e., how the body moves) and concentration at high, middle and low levels in space.
- Move to various sounds, including rhythmic accompaniment and respond to changes in tempo.
- Perform basic nonlocomotor/axial, locomotor and compound locomotor movements.
- Move following straight and curved pathways.
- Make decisions about gestures and movement to create a phrase that communicates feelings.
- Create a series of movements with a beginning, middle and end.
- Use improvisation to explore and create movement ideas.
- Create and perform a dance by self or with a partner based on a theme or idea.

SUPPORTIVE PRACTICE**The teacher will:**

- Demonstrate movement at different levels.
- Demonstrate locomotor and nonlocomotor movements.
- Provide opportunities for learners to watch and discuss presentations or videos of dance.
- Provide different types of music at different tempos to which learners can perform.
- Provide props to use when dancing, such as ribbons, hoops and sticks.
- Provide numerous examples of different types of pathways (curved, linear, zigzag, combinations).
- Provide a dedicated place and time to rehearse for performances, record rehearsals and practices and allow students to view the recordings.
- Provide opportunities for students to create, rehearse and perform simple improvised and structured dance movements.
- Provide a playing space for performing improvised dance to be watched by other students.
- Discuss and model appropriate audience behavior.

CONTINUED...

STANDARD 9.1: PRODUCTION, PERFORMANCE AND EXHIBITION OF DANCE, MUSIC, THEATRE & VISUAL ARTS**CONTENT FOR 1ST GRADE**

- C. Use the musical elements of timbre, rhythm, tempo, intensity, pitch, dynamics and texture
- D. Understand melody as it pertains to form
- E. Create and perform music
- F. Participate individually or in groups in the development of simple improvised scenarios with a clear plot structure of beginning, middle and end
- G. Use choices of voice and movement to create original improvised characters or bring to life story characters
- H. Recognize and imitate appropriate emotion to communicate a character's feelings
- I. Participate in organized dramatic play to identify and recreate themes and emotions
- J. Understand that actors warm up their voices and bodies to strengthen and protect them

**EXAMPLES****The learner will:**

- Use vocal sounds and musical instruments to accompany songs, poems and stories.
- Create simple melodic and rhythmic patterns to accompany songs, poems or stories.
- Identify voices and selected musical instruments from various families.
- Make decisions to manipulate musical elements and discuss how the changes affected the music.
- Use basic music terminology in describing musical sounds.
- Identify repetition and contrast in music examples.
- Use repetition and contrast to create and improvise simple pieces of music.
- Perform a variety of songs and pieces from many different countries and cultures.
- Use vocal sounds and musical instruments to accompany songs, poems and stories.
- Create simple melodic and rhythmic patterns to accompany songs, poems or stories.
- Read basic rhythmic and melodic notation while singing and playing instruments.
- Arrange simple melodic and rhythmic patterns to create new compositions.
- Create improvised dramas both individually and in groups, including imagined characters, relationships and environments, using basic acting skills.
- Create, individually and in groups, animate and inanimate objects through the movement of the human body.
- Combine appropriate sound and motion to create animate and inanimate objects or express abstract moods and themes.
- Analyze plot structure in literature for beginning, middle and end.
- Identify and imitate character's emotions from literature or storytelling.
- Participate in simple warm up routines for voice and body.

SUPPORTIVE PRACTICE**The teacher will:**

- Demonstrate various vocal and instrumental techniques.
- Provide a variety of instruments for students to use, such as rhythm sticks, woodblocks, maracas, bells, Boomwhackers and cymbals.
- Provide opportunities to experiment with loud/soft, high/low, short/long and fast/slow sounds.
- Provide opportunities for students to experience live and recorded performances of various instrumental and vocal ensembles.
- Demonstrate improvisation using voices and instruments.
- Provide aural examples of music in different forms.
- Provide aural examples of music from different parts of the world in different styles.
- Provide a variety of musical instruments with which students can experiment.
- Read books and stories that can be used to improvise musical sounds.
- Provide notation for students to read (e.g. Kodaly or stick notation).
- Teach a variety of simple, traditional and multicultural songs.
- Read aloud simple plays or stories and identify beginning, middle, end, characters and the central conflict or problem.
- Lead students in recreating the events of a story as a series of frozen tableaux or images in sequence.
- Discuss paintings or story illustrations and predict characters feelings, intentions and actions using simple prompts.
- Provide simple props that suggest a character, environment or particular story and encourage improvised dramas as a particular character.
- In role as narrator, lead students through improvised dramatic play to recreate the events of a story with an emphasis on character relationships, actions, feelings and intentions.
- Identify themes or emotions in stories and from life and encourage students to respond as animate or inanimate objects.
- Lead the students in practicing simple warm up exercises for body and voice.

CONTINUED...

STANDARD 9.1: PRODUCTION, PERFORMANCE AND EXHIBITION OF DANCE, MUSIC, THEATRE & VISUAL ARTS**CONTENT FOR 1ST GRADE**

- K. Create and perform plays and productions
- L. Recognize color, shape, line, texture, size/relationship (proportion/ scale) and pattern (repetition) in visual art
- M. Create and exhibit visual art
- N. Identify school and community performances and exhibitions relating to the visual and performing arts
- O. Understand possible uses of contemporary and traditional technologies in the production and performance of the visual and performing arts

**EXAMPLES****The learner will:**

- Participate in rehearsals and practice sessions to prepare for performances.
- View and discuss recordings of rehearsals and practice sessions.
- Participate in structured improvised dramas which are rehearsed and refined.
- Take turns being audience and performer to both watch and perform works.
- Use two-dimensional and three-dimensional media, techniques, tools, and processes to depict works of art from personal experiences, observation, or imagination.
- Identify differences within and among art materials, techniques, processes and organizational structures such as elements and principles of design.
- Identify similarities, differences and variations among subjects, using the senses.
- Identify color, texture, form, line, size and pattern in nature and in the human-made environment.
- Produce a body of work and select artwork for display.
- Identify works of their own and of others.
- Use a variety of media to express ideas and opinions.
- Participate as an audience member for school assemblies, performances and exhibits.
- Explore traditional technologies used to create visual art: paper folding, painting, sculpting, etc.
- Explore appropriate vocal and instrumental techniques in music.
- Use contemporary technologies (MIDI, music-writing programs) to create original pieces of music.
- Explore the effects different types of dance shoes have on the sound or movement of a dance (ie. tap shoe vs. ballet shoe).

SUPPORTIVE PRACTICE**The teacher will:**

- Provide a dedicated place and time to rehearse for performances, record rehearsals and practices and allow students to view the recordings.
- Provide opportunities for students to create, rehearse and perform simple improvised dramas.
- Provide a playing space for performing improvised dramas to be watched by other students.
- Discuss and model appropriate audience behavior.
- Show students reproductions of artwork by adults and children as exemplars for concepts.
- Allow students time to explore and experiment with various materials and techniques.
- Use technology, such as computers or interactive SmartBoards, to allow students to explore concepts.
- Provide graphic organizers for students to clarify thinking and organize concepts.
- Take students to different environments, i.e. outside or in the community, to explore environments and textures.
- Provide opportunities for students to display and view their own work and the works of others.
- Mat or mount artwork for display.
- Provide opportunities for students to attend school performances, exhibitions and assemblies.
- Discuss and demonstrate appropriate audience behavior.
- Use newspaper clippings, posters or other media to identify and discuss performances and exhibitions available to the student in the community.
- Create and display digital files of student work.
- Demonstrate the use of traditional and contemporary technologies in dance, music, theatre and the visual arts.
- Provide opportunities for students to experiment with traditional and contemporary technologies in dance, music, theatre and the visual arts.
- Demonstrate the use of keyboards, CDs, MP3 players, recording equipment and other technology in music.

STANDARD 9.2: HISTORICAL AND CULTURAL CONTEXTS

THIRD GRADE STANDARDS:

- Explain the historical, cultural and social context of an individual work in the arts
- Relate works in the arts chronologically to historical events (e.g., 10,000 B.C. to present)
- Relate works in the arts to varying styles and genre and to the periods in which they were created
- Analyze a work of art from its historical and cultural perspective.
- Analyze how historical events and culture impact forms, techniques and purposes of works in the arts (e.g., Gilbert and Sullivan operettas)
- Know and apply appropriate vocabulary used between social studies and the arts and humanities
- Relate works in the arts to geographic regions
- Identify, describe and analyze the work of Pennsylvania Artists in dance, music, theatre and visual arts
- Identify, explain and analyze philosophical beliefs as they relate to works in the arts
- Identify, explain and analyze historical and cultural differences as they relate to works in the arts
- Identify, explain and analyze traditions as they relate to works in the arts
- Identify, explain and analyze common themes, forms and techniques from works in the arts

CONTENT FOR 1ST GRADE

- Identify the historical and cultural context of an individual work in the arts
- Know the historical and cultural perspective of a work of art
- Recognize appropriate vocabulary used between social studies and the arts and humanities
- Identify common themes and patterns in works in the arts

EXAMPLES

The learner will:

- Read or listen to a variety of stories and plays from many different cultures.
- Identify songs and pieces of music by type, e.g. traditional song, folk song, program music.
- Recognize differences in cultures as represented in works in the arts.
- Begin to understand how dances from different cultures and historical periods were made and performed for different reasons.
- Identify the time period or culture of origin of a story or play.
- Identify differences and similarities between a character's experiences and their own.
- Begin to understand that music and art are indicators of culture that change with the times.
- Recognize that cultural perspectives are represented by works in the arts.
- Identify how dress or social manners/customs can impact the movement or structure of a dance.
- Describe the historical and cultural context of a story, play, piece of music, work of art or dance performance using appropriate social studies vocabulary.
- Begin to use vocabulary appropriate to the time period and culture being discussed in works in the arts.
- Use thematic information from contemporary and traditional resources and apply to create new works in the arts.
- Identify forms and patterns in music, i.e. rondo, ABA.

SUPPORTIVE PRACTICE

The teacher will:

- Provide a variety of stories, plays, pieces of music, works of visual art and dance performances for students to review and respond to.
- Facilitate and guide discussions about the places and times represented by works in the arts.
- Discuss the characters in stories, plays and improvised dramas and link them with a particular culture or historic time period using maps, time lines and artifacts.
- Identify differences and similarities between the characters' experiences and the children's.
- Lead students to examine age-appropriate pieces of music in different styles.
- Use cross-curricular resources to assist students in learning about cultural perspectives in the arts.
- Provide age-appropriate examples of how rules of society impacted the social dances of the time.
- Lead a discussion of the historical and cultural context of a work in the arts using appropriate social studies vocabulary.
- Provide social studies and art vocabulary lists for use during discussions about works in the arts.
- Provide resources that help students make connections between artwork discussed and artwork created.
- Provide opportunities for students to listen to and explore music from different time periods and different cultures that have common themes and patterns.

STANDARD 9.3: CRITICAL RESPONSE**THIRD GRADE STANDARDS:**

- Recognize critical processes used in the examination of works in the arts and humanities
- Know that works in the arts can be described by using the arts elements, principles and concepts
- Know classification skills with materials and processes used to create works in the arts
- Explain meanings in the arts and humanities through individual works and the works of others using a fundamental vocabulary of critical response
- Recognize and identify types of critical analysis in the arts and humanities
- Know how to recognize and identify similar and different characteristics among works in the arts
- Know and demonstrate what a critic's position or opinion is related to works in the arts and humanities

CONTENT FOR 1ST GRADE

- Recognize critical processes (compare and contrast, interpret) used to examine works of art
- Describe works of art using arts elements
- Categorize and classify works in the arts based on the materials and processes used in their creation

EXAMPLES**The learner will:**

- Use teacher- and self-created criteria for evaluating compositions, exhibitions and performances.
- Evaluate one's own and others' compositions, exhibitions and performances and describe what was successful.
- Compare and contrast or interpret works in the arts.
- Describe specific characteristics of a dramatic performance using appropriate vocabulary.
- Identify simple ways in which the elements of a theatrical performance including scenery, props, costumes and acting contribute to the story and theme.
- Describe a work in the visual arts using the elements of color, line and shape.
- Identify basic ways in which the elements of dance contribute to the meaning or idea of the dance.
- Identify different materials used to create works in the visual arts, i.e. clay, canvas, paint.
- Identify and know the difference between vocal and instrumental music.
- Identify and know the difference between live and recorded performances.

SUPPORTIVE PRACTICE**The teacher will:**

- Provide students the opportunity to perform for each other and respond to the performance.
- Allow students to create simple improvised performances and critique each other using teacher or student created criteria.
- Encourage students to self critique using simple prompts and suggestions for success.
- Lead students in discussions about and use graphic organizers to compare and contrast works in the arts.
- Lead the class in watching each other's performances and describing the specific characteristics using appropriate vocabulary.
- Watch a performance with the class and identify a simple feeling of theme expressed by each of the elements (ex. the scenery looked happy).
- Choose works with strong elements of color, line and shape for class discussion.
- Encourage student exploration by providing resource materials and a variety of art materials.
- Provide numerous opportunities for students to hear and distinguish between vocal, orchestral and chamber music.
- Allow students to experience both live and recorded musical, dance and theatrical performances and discuss how the performances are different.

**CONTINUED...**

STANDARD 9.3: CRITICAL RESPONSE continued**CONTENT FOR 1ST GRADE**

- D. Compare and contrast the characteristics of works in the arts

EXAMPLES

The learner will:

- Identify and know the differences between a play, a film and a television commercial.
- Identify and know the characteristics and purpose of folk songs.
- Understand that there are differences between two- and three-dimensional artworks.
- Identify basic differences between popular social dances, concert dances and folk dances.

SUPPORTIVE PRACTICE

The teacher will:

- View and discuss examples of a play performance, a movie and a television commercial.
- Sing and discuss a variety of folk songs.
- Show examples of and lead discussions about paintings, drawings, sculptures and multi-media artworks.
- View and discuss examples of social dances, concert dance forms and folk dances.

STANDARD 9.4: AESTHETIC RESPONSE**THIRD GRADE STANDARDS:**

- Know how to respond to a philosophical statement about works in the arts and humanities
- Know how to communicate an informed individual opinion about the meaning of works in the arts
- Recognize that the environment of the observer influences individual aesthetic responses to works in the arts
- Recognize that choices made by artists regarding subject matter and themes communicate ideas through works in the arts and humanities

CONTENT FOR 1ST GRADE

- A. Understand that there are different opinions about works in the arts
- B. Communicate an individual opinion about the meaning of works in the arts

EXAMPLES

The learner will:

- Examine and discuss his/her own feelings about beauty.
- Actively listen to others' opinions about works in the arts.
- Watch a performance or view an exhibition and articulate an opinion of its meaning and intent.

SUPPORTIVE PRACTICE

The teacher will:

- Examine illustrations from stories, film clips and/or images of performances and facilitate discussions about what each student finds beautiful or pleasing.
- Give personal opinions about the beauty and worth of a work of art.
- Allow students to listen to and perform a variety of music and discuss personal feelings about the piece.
- Provide a time for students to give personal opinions about beauty and worth of works in the arts.
- Provide opportunities for students to participate in a discussion of the meaning and intention of the artists who created specific works in the arts.
- Allow students to watch a performance or view an exhibition and share their reactions.



CONTINUED...

STANDARD 9.4: AESTHETIC RESPONSE continued

CONTENT FOR 1ST GRADE

- C. Recognize that artists make choices in all areas of the arts

EXAMPLES

The learner will:

- Describe specific musical characteristics using appropriate vocabulary (tempo, dynamics, melodic) and describes feelings and images communicated through music.
- Respond to selected characteristics of music, including tempo, dynamics, melodic contour and same and different patterns, through purposeful movement.
- Describe own choices of voice and movement when creating a specific character to illustrate an emotion or theme.
- Recognize that he/she is an artist because of the artistic choices he/she makes while creating works in the arts.
- Discuss how an idea or feeling can be expressed in different ways in movement.

SUPPORTIVE PRACTICE

The teacher will:

- Listen to and perform varying pieces of music, taking time to discuss the choices that the composer or performer made in the creation of that music.
- Create and perform a character from a story or an abstract representation of an emotion or theme and describe the choices of voice and movement and the intended theme or emotion behind the performance.
- Lead the students in creative movement to music based on an emotion or theme and allow them to discuss their choices and intentions.
- Make resource materials available which reinforce the importance of artistic choice.
- Show dances that are choreographed from the same idea or feeling. Allow students to create and share short dance phrases that are created to express a specific idea or feeling.





FAMILY-SCHOOL-COMMUNITY PARTNERSHIPS

EARLY LEARNING STANDARDS FOR 1ST GRADE



P rimary classrooms that foster home-school-community connections assure students' school success. Partnerships that create seamless experiences support children's learning. The link is established when parents and school staff share information about the child, family, home and school culture. The link is extended when community members also support the educational process by sharing resources and supporting ongoing and open communication.

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STANDARD P1: PARENTING

Quality primary programs support families.

SCHOOL

To support children, families and communities the school will:

- A. Assist families in accessing community resources (housing, health, nutrition, clothing and safety)
- B. Assist families in understanding child development
- C. Assist families in establishing home conditions that support children as learners
- D. Develop relationships with children and families that are based on trust and respect
- E. Demonstrate an understanding of the diversity of family structures, styles and cultural traditions

FAMILY

To support children, families and communities the family can:

- Acquire knowledge and understanding of how to access community resources.
- Acquire knowledge of child development.
- Establish home conditions that support children as learners.
- Engage in school activities to gain a better understanding of school culture.
- Engage in school activities to provide schools with a better understanding of their home culture.

COMMUNITY

To support children, families and communities the community can:

- Provide a variety of information on community resources for families.
- Provide a variety of resources concerning child development.
- Provide a variety of resources concerning the establishment of home conditions that support children as learners.
- Foster relationships that support education among schools, families and community members.
- Offer resources that help schools understand the diversities that exist among children and families.

STANDARD P2: COMMUNICATION

Quality primary programs effectively communicate with families.

SCHOOL

To support children, families and communities the school will:

- A. Create an inviting school environment that fosters trust and mutual respect through open dialogue
- B. Communicate with families about school goals, programs, assessments, children's progress, curriculum, activities, etc.
- C. Promote and provide for communication through a variety of tools and opportunities
- D. Provide print and non-print communications that are clear and understandable to all families, including home language translations
- E. Obtain ideas from families to improve the design and content of communications

FAMILY

To support children the family can:

- Engage in open dialogue that fosters trust and mutual respect.
- Engage in communications about school goals, programs, assessments, children's progress, curriculum, activities, etc.
- Promote and provide for communication through a variety of tools and opportunities.
- Offer suggestions to improve the design and content of communications between school and home.

COMMUNITY

To support children, families and schools the community can:

- Participate in frequent communication with families and schools.
- Provide a variety of resources to enhance communication between and among home, school and community partners.

STANDARD P3: VOLUNTEERING

Quality primary programs recruit, train, work and involve families as volunteers.

SCHOOL

To support children, families and communities the school will:

- A. Expand recruitment, training and involvement of families as volunteers and audience members at the school or in other community locations
- B. Invite parents to assist in classroom and school projects, programs and events

FAMILY

To support children the family can:

- Assist administrators, teachers, parents and students as aides, chaperones, lecturers and tutors when possible.
- Assist with classroom and school projects and programs.
- Attend assemblies, award presentations, celebrations, performances, sports events and other events.
- Support school goals and children’s learning through volunteering and participating in school activities.

COMMUNITY

To support children, families and schools the community can:

- Offer a variety of resources to encourage parents to serve as volunteers.

STANDARD P4: LEARNING AT HOME

Quality primary programs support in at-home interactive learning activities for children’s skill and concept development.

SCHOOL

To support children, families and communities the school will:

- A. Emphasize that help at home is to support, encourage and guide children
- B. Provide families with a variety of activities for learning in the home to extend skill and concept development
- C. Provide information about what children will be learning and doing in primary classrooms
- D. Create interactive activities that students share and discuss with others at home

FAMILY

To support children the family can:

- Establish routines for learning in the home.
- Participate with children in interactive learning activities at home to support, encourage and guide their children’s development.



COMMUNITY

To support children, families and schools the community can:

- Provide a variety of resources to support schools and families in their role as guides and co-learners of student learning at home.
- Use local community, state and federal printed resources to assist families.

STANDARD P5: DECISION MAKING

Quality primary programs include families as participants in school decisions, governance and advocacy.

SCHOOL

To support children, families and communities the school will:

- A. Encourage involvement through school advisory groups
- B. Include parent leaders who reflect the diversity of the school population (e.g., ethnic, racial, socio-economic and other groups) in school advisory groups
- C. Offer training for parents to develop leadership skills
- D. Promote shared decision making

FAMILY

To support children the family can:

- Become involved through school advisory groups.
- Participate in leadership training.
- View decision making as a shared process.

COMMUNITY

To support children, families and schools the community can:

- Provide a variety of resources for families and schools to both encourage and participate as shared decision makers.
- Keep families informed of opportunities to be participants in school decisions.

STANDARD P6: COLLABORATING WITH THE COMMUNITY

Quality primary programs help children and families collaborate in their community.

SCHOOL

To support children, families and communities the school will:

- A. Contribute to the community through service projects
- B. Build on community strengths and work collaboratively to address issues that impact the community's educational climate
- C. Inform all families and learners about community programs and services
- D. Use community resources for improving curriculum and instruction
- E. Employ strategies that enable students and families to learn about and contribute to the community

FAMILY

To support children the family can:

- Contribute to the community through service projects.
- Work collaboratively to build on community strengths that address issues that impact the community's educational climate.
- Use knowledge of local resources to increase personal skills and talents or to obtain needed services.

COMMUNITY

To support children, families and schools the community can:

- Contribute to students, families and schools through partnerships involving businesses, community agencies, cultural groups, health services, recreation and other groups and programs.
- Work collaboratively to build on community strengths that address issues that impact the community's educational climate.
- Provide multiple avenues for informing families and students about community programs and services.



HEALTH, SAFETY & PHYSICAL HEALTH

EARLY LEARNING STANDARDS FOR 1ST GRADE



Healthy, active children are better prepared to learn. Their learning is impacted by their health and well-being. First grade students need to learn about their bodies, how their bodies move and the behaviors and skills necessary to protect them and keep them healthy. Instruction for first grade students is focused on developing foundational skills in health, safety and physical education.

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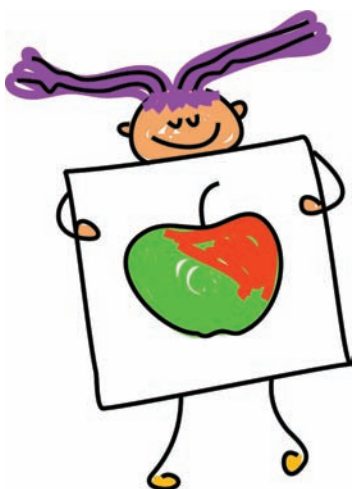
STANDARD 10.1: CONCEPTS OF HEALTH

THIRD GRADE STANDARDS:

- Identify and describe the stages of growth and development
- Identify and know the location and function of the major body organs and systems
- Explain the role of the food guide pyramid in helping people eat a healthy diet
- Know age appropriate drug information
- Identify types and causes of common health problems of children

CONTENT FOR 1ST GRADE

- Explain what it means to be healthy
- Choose appropriate ways to handle basic emotions
- Identify and describe ways individuals grow (e.g., physically and emotionally)
- Understand and accept how we are similar and different
- Define family and explain how they are alike and different
- Identify and locate the brain, heart and major bones
- Begin to develop an understanding of the basic function of the brain, heart and major bones



EXAMPLES

The learner will:

- Distinguish between healthy and unhealthy behaviors.
- Participate in interactive activities that show how people grow and change in body and mind.
- Participate in interactive activities that highlight unique ways people grow and change physically and emotionally.
- Describe ways in which people are the same and different.
- Identify the four basic emotions: happy, sad, angry and afraid.
- Demonstrate healthy ways to express feelings.
- Be able to identify adults in the home, school and community who can help them handle their basic emotions.
- Identify how they are unique.
- Define family.
- Describe how families are alike and different.
- Correctly identify the location of the brain, heart and major bones.
- Describe the basic function of the brain, heart and major bones.

SUPPORTIVE PRACTICE

The teacher will:

- Read fiction and non-fiction that describes how individuals grow and develop.
- Provide interactive activities (e.g., discussions, puppetry and picture cards) that highlight ways individuals grow and develop (physically and emotionally).
- Provide opportunities for students to sort healthy versus unhealthy behaviors.
- Provide interactive ways for children to recognize feelings (e.g., feeling box, emotion charts).
- Provide activities for children to identify adults who care about them.
- Provide activities for children to explore how they are similar and different.
- Provide opportunities and activities for children to visualize how families are unique (e.g., personal drawings, children's literature).
- Provide opportunities for children to interact with peers who are similar and different.
- Create interactive activities (e.g., songs, building models, child-size body drawings) to teach body part recognition and function.
- Engage in daily sensory-motor activities as part of daily routine (use CDs, tapes or self).
- Read non-fiction that names and describes the function of body parts and organs.

CONTINUED...

STANDARD 10.1: CONCEPTS OF HEALTH continued**CONTENT FOR 1ST GRADE**

- H. Develop an understanding of the importance of healthy eating and the role of food in keeping the body healthy
- I. Recognize that there are a variety of foods that can be grouped
- J. Develop an understanding of the importance of drinking water to keep the body healthy
- K. Recognize that there are drugs/chemicals that can help people and there are drugs that can be harmful
- L. Understand that medicines are drugs and that they should only be taken when given by a trusted adult
- M. Identify high-risk and low-risk activities related to health
- N. Identify age appropriate refusal skills.
- O. Identify common childhood illnesses and ways that they are spread

EXAMPLES**The learner will:**

- Explain how food provides fuel and energy for the body.
- Sort food cards into categories.
- Classify foods as nutritious or not nutritious.
- Identify nutritious snacks and beverages.
- Sort real food.
- Recognize vegetarian diet can be healthy.
- Identify trusted grown-ups who can give him/her medicine.
- Identify household items that are safe and not safe.
- Identify a trusted adult who can be asked about whether a household item is safe to take.
- Demonstrate basic refusal skills.
- Identify healthy/unhealthy risk-taking behaviors (e.g., smoking, alcohol).
- Identify common childhood illnesses (e.g. colds, pink eye, allergies).
- Know that germs can make someone ill.
- Identify ways that germs can spread.

SUPPORTIVE PRACTICE**The teacher will:**

- Read fiction and non-fiction books that focus on food choices and the role of food in keeping one healthy.
- Expose learners to various foods.
- Provide interactive activities using the FDA food guide pyramid to help students understand how foods are grouped and demonstrate how students need to eat a variety of foods.
- Create a classroom environment that supports healthy choices.
- Provide healthy snacks and beverages.
- Provide an assortment of foods.
- Model healthy eating.
- Provide activities in which the child has the opportunity to identify a grown-up at home and at school who can safely administer medicine.
- Provide interactive activity using a chart, common household items and candy in which the children categorize the item as safe or unsafe.
- Facilitate class discussions pertaining to healthy risks (trying out for a sport team) and unhealthy risks (taking someone else's medicine).
- Read literature related to decision making, saying no, healthy choices or risk-taking.
- Use role play situations so the child can develop competence in using basic refusal skills.
- Read a story about a health choice and have the children write, draw or discuss a positive or healthy story ending.
- Read literature related to childhood illness.
- Provide interactive activities that give children the opportunity to experience how germs are spread.



STANDARD 10.2: HEALTHFUL LIVING**THIRD GRADE STANDARDS:**

- Identify personal hygiene practices and community helpers that promote health and prevent the spread of disease
- Identify health-related information
- Identify media sources that influence health and safety
- Identify the steps in a decision-making process
- Identify environmental factors that affect health

CONTENT FOR 1ST GRADE

- Understand that personal health practices/habits affect your health
- Identify and use personal health practices/habits
- Identify ways to prevent illness through adequate rest, physical activity and healthy foods
- Identify ways to prevent the spread of communicable diseases (e.g., handwashing, sneezing in elbow, universal precautions)
- Identify trusted adults that can help to keep you healthy and safe and can help you make healthful decisions
- Know that signs and symbols, e.g. 911, Mr. Yuk, danger symbol (circle with line through it), can help us to stay safe
- Understand that your health behaviors are influenced by the media

EXAMPLES**The learner will:**

- Identify, draw or label things that he/she could do to stay healthy.
- Identify healthy and unhealthy personal health practices/habits (e.g., the spreading of germs, taking drugs, etc.).
- Role-play, with props, people who keep us healthy.
- Identify ways to prevent the spread of communicable diseases.
- Know not to touch others' bodily fluids.
- Identify health related signs and symbols and tell what they mean and when and where they might see them.
- Identify different media sources that influence our choices e.g., TV, video, advertisements and commercials.

SUPPORTIVE PRACTICE**The teacher will:**

- Read literature related to personal health practices, preventing illness and community helpers.
- Create learning centers that focus on healthy hygiene practices (e.g., brushing teeth, flossing teeth).
- Create interactive tasks on how to prevent the spread of germs and illness.
- Create classroom environment that practices good disease prevention e.g., handwashing, sneezing in elbow, universal precaution and is accepting of children with any childhood health condition.
- Provide interactive activities that provide children the opportunity to practice how to prevent the spread of disease, e.g. handwashing, covering mouth while coughing, universal precaution.
- Provide opportunities and materials for children to role-play with simple props.
- Model good health practices/habits (e.g. hand-washing, covering mouth during cough).
- Use interactive activities in which the children must categorize or sort healthy and unhealthy personal health practices/habits.
- Have school and community professionals come into the classroom so children can recognize community helpers.
- Take children on a field trip or invite community health care providers into the classroom to talk about what they do and the tools they use.
- Provide children with a variety of health related signs and symbols.
- Provide interactive activities that show how media can influence how we feel about things.

**CONTINUED...**

STANDARD 10.2: HEALTHFUL LIVING continued**CONTENT FOR 1ST GRADE**

- H. Recognize that every choice has a consequence
- I. Recognize that your health is affected by the choices you make
- J. Identify things in the environment that affect our health (e.g., insects, sun, loud noise, weather, tobacco smoke)

EXAMPLES**The learner will:**

- Explain when and who to ask for help in the decision-making process.
- Predict and list all possible consequences or outcomes from a choice.
- Describe how insects, sun, loud noise, weather and tobacco smoke can affect health.
- Describe ways to protect oneself from the identified environmental factors.

SUPPORTIVE PRACTICE**The teacher will:**

- Read literature related to making decisions and safe choices.
- Create scenarios and have children make the choice and predict the consequences for the character in the scenario.
- Provide interactive activities in which the children are active learners in making choices as a class or as individuals.
- Practice and rehearse what to do during emergency drills.
- Read literature related to the theme of environment and health.
- Engage learners in interactive activities matching preventative strategies with environmental factors.

STANDARD 10.3: SAFETY AND INJURY PREVENTION**THIRD GRADE STANDARDS:**

- Recognize safe/unsafe practices in the home, school and community
- Recognize emergency situations and explain appropriate responses
- Recognize conflict situations and identify strategies to avoid or resolve
- Identify and use safe practice in physical activity settings

CONTENT FOR 1ST GRADE

- A. Know and demonstrate the importance of rules to ensure safety
- B. Identify general safety guidelines to follow at home, school or community related to the following areas:
 - Home: fire safety, pool safety, kitchen safety, drug safety, firearm safety, electrical safety, poison safety
 - School Safety: fire drills, safe from bullies, safety from strangers, playground safety
 - Community Safety: aquatic safety, safety from strangers, motor vehicle safety, bicycle safety, bus safety

EXAMPLES**The learner will:**

- Identify the rules.
- Describe how to keep him/herself safe.
- Identify and demonstrate safe practices for situations at home, school and community.
- Sort behaviors as safe or not safe.

SUPPORTIVE PRACTICE**The teacher will:**

- Provide student guidelines for the areas that are relevant to their specific location (i.e., city, suburb, rural area).
- Model and discuss the importance of safety rules and practices.
- Read literature about strangers, bullies and safety rules for public places.
- Design interactive tasks that will provide learners opportunities to practice safety rules and behaviors.
- Provide opportunities for the student to sort safe and unsafe behaviors.

CONTINUED...

STANDARD 10.3: SAFETY AND INJURY PREVENTION**CONTENT FOR 1ST GRADE**

- C. Recognize an emergency situation and describe general guidelines for handling it
- D. Define conflict
- E. Identify ways to resolve or avoid conflict
- F. Identify and demonstrate safe practices in physical activities

EXAMPLES**The learner will:**

- Identify situations as an emergency or not an emergency.
- Describe appropriate ways to respond to emergencies (e.g., get an adult, call 911, leave the area).
- Appropriately participate in school emergency drill.
- Identify conflict situations.
- Demonstrate how to resolve or avoid conflict in a positive manner.
- Demonstrate appropriate ways to express and deal with emotions and feelings.
 - Share your feelings
 - Don't use put downs
 - Ask for help from a trusted adult
 - Walk away
- Know and demonstrate the difference between safe and unsafe practices.
- Avoid actions that might lead to accidents.
- Follow safe practices in all school areas.
- Utilize safe practices when participating in physical activities.
- Identify safe and unsafe practices that occur on the playground.
- Demonstrate safe practices on playground equipment.

SUPPORTIVE PRACTICE**The teacher will:**

- Provide opportunities and props for learners to role play responding to emergencies and first aid situations.
- Provide opportunities for learners to make reminders (magnet, sign) to place near the phone for placing an emergency phone call.
- Read fiction and non-fiction that describes emergency situations, what to do and how to respond safely.
- Read fiction and non-fiction that addresses conflict and/or bullying situations.
- Create home, school and neighborhood scenarios for learners to role play using appropriate strategies to solve conflicts.
- Create a classroom environment that fosters healthy conflict resolution and respect and acceptance for others.
- Model effective communication skills based on respect and acceptance.
- Read fiction and non-fiction that addresses the safety in physical activity.
- Create a classroom and school environment in which all children feel safe and comfortable.
- Have the children help create safety messages for the classroom and playground.



STANDARD 10.4: PHYSICAL ACTIVITY**THIRD GRADE STANDARDS:**

- Identify and engage in physical activities that promote physical fitness and health
- Know the positive and negative effects of regular participation in moderate to vigorous physical activities
- Know and recognize changes in body responses during moderate to vigorous physical activity
- Identify likes and dislikes related to participation in physical activities
- Identify reasons why regular participation in physical activities improves motor skills
- Recognize positive and negative interactions of small group activities

CONTENT FOR 1ST GRADE

- Understand that physical activities are chores such as raking the leaves, walking the dog, shoveling snow and walking to the store or play such as riding your bike, climbing on playground equipment, jumping rope and playing tag, that keep you moving
- Understand that moving your body by doing chores or playing can help you have strong bones and muscles, strong lungs and a strong heart
- Understand that being active is one way to be healthy
- Know that regular participation in physical activity can have positive or negative results
- Know that moving your body almost every day by doing chores or playing is called regular participation
- Know that good things that come from being active almost every day include strong bones and muscles, strong lungs, strong heart and having fun with family and friends
- Know that sometimes when we are not careful bad things such as sore muscles and blisters can happen from being active almost every day
- Know that the body needs more energy when you are being active
- Know that the body changes as you use more energy
 - Heart beats faster and harder;
 - Breath faster and heavier; and
 - Feel warm and may even sweat

EXAMPLES**The learner will:**

- Identify types of physical activities that promote fitness and health.
- Explain how physical activity helps us be healthy.
- Participate in physical activities that promote fitness and health during outdoor time.
- Keep a calendar of physical activities that promote fitness and health while at home.
- Offer ideas about what it means to be healthy.
- Explain what regular participation means.
- Identify the positive effects of regular participation in physical activity.
- Identify the negative effects of regular participation in physical activity.
- Recognize the effects of moderate to vigorous physical activity on the body.
- Learn to count/monitor their heart rate.
- Learn to monitor breathing rate.
- Participate in activities that will result in body changes.

SUPPORTIVE PRACTICE**The teacher will:**

- Provide inside and outside opportunities for learners to engage in physical activities that promote fitness and health.
- Facilitate class discussions that focus on how physical activity improves health.
- Encourage learners to participate in physical activities.
- Read related fiction and non-fiction books.
- Use brainstorming activities to identify what it means to be healthy.
- Integrate physical activities into daily instruction.
- Use brainstorming activities to identify positive and negative effects of regular participation in physical activity.
- Have students use an age appropriate method of monitoring their heart and breathing rate.
- Provide opportunities for children to talk about how their body changed during physical activity.
- Provide activities that will cause body changes to occur.

CONTINUED...

STANDARD 10.4: PHYSICAL ACTIVITY continued**CONTENT FOR 1ST GRADE**

- J. Know that people like to be active in different ways and that not everyone likes to be active in the same way
- K. Understand that some reasons you might like certain activities include they are fun, they make you feel good, you can do with other friends or family and you are good at the activity
- L. Understand that some reasons you might not like certain activities include they are hard to do, you need to learn the skills for the activity and you may not understand how to play the activity
- M. Know that regular participation in physical activities may help our skills get better, such as bouncing or catching a ball
- N. Know that practice may not always help our skills get better if we do not do the skills the right way or our body is not ready to do them
- O. Understand how to cooperate and share with others during small group activities
- P. Know that cooperating means that you are able to work nicely with the other children and that an important cooperation skill is sharing
- Q. Understand that when the teacher is busy working with other students, you must be able to stay on the task (work) that your teacher asked you to complete
- R. Understand that when you are on-task you can stay focused and keep working on the job without the teacher directing you

EXAMPLES**The learner will:**

- Identify physical activities that you like in school and at home and describe why.
- Identify physical activities that you dislike in school and at home and describe why.
- Participate in a variety of activities in order to determine likes and dislikes.
- Identify why regular participation may help skills improve.
- Recognize why regular participation may not help their skills improve.
- Recognize that practicing motor skills affects their ability to learn and improve their performance.
- Demonstrate the ability to cooperate with different partners during physical activities.
- Identify examples of cooperating and sharing.
- Identify examples of not cooperating or sharing.
- Explain what it means to be on-task.
- Demonstrate the ability to stay on task during a variety of different physical activities.

SUPPORTIVE PRACTICE**The teacher will:**

- Provide brainstorming opportunities for identifying likes and dislikes.
- Provide a variety of activities for children to try in order that they can determine likes and dislikes.
- Provide different amounts of time for practicing motor skills and subsequently ask children how short and long practice bouts affect their motor skill performance.
- Provide opportunities for children to talk about how their skills improved.
- Provide opportunities for children to identify reasons why the skill may not have improved.
- Provide opportunities for children to work with several different partners during physical activities.
- Provide opportunities for students to reflect on their ability to stay on task during physical activities.
- Provide opportunities for children to experience cooperation/non-cooperation and sharing and non-sharing.



STANDARD 10.5: CONCEPTS, PRINCIPLES & STRATEGIES OF MOVEMENT**THIRD GRADE STANDARDS:**

- Recognize and use fundamental motor skills and movement concepts
- Recognize and describe the concepts of motor skill development using appropriate vocabulary
- Know the function of practice
- Identify and use principles of exercise to improve movement and fitness activities
- Know and describe scientific principles that affect movement and skills using appropriate vocabulary
- Recognize and describe game strategies using appropriate vocabulary

CONTENT FOR 1ST GRADE

- Understand that there are many ways to move our body such as locomotor, nonlocomotor and manipulative
- Know and demonstrate locomotor movements such as walk, run, hop, jump, leap, gallop, slide and skip
- Know and demonstrate nonlocomotor movements such as bend, stretch, push, pull, swing, sway, strain, shake, twist and turn
- Know and demonstrate manipulatives such as rolling, throwing, catching, kicking and striking
- Know and demonstrate movement concepts as slow to fast (speed), high to low (levels), forward, backward and sideways (direction) and straight, curved and zigzag (pathways)
- Know that relationships refer to the ways the individual, while moving, relates with other people and the environment such as over, under, on, off, near, far, in front, behind, through and around
- Understand that motor skill performance may be different for others even though they are the same age
- Understand that you are different from every other child your age
 - Different abilities;
 - Different size and strength; and
 - Different movement experiences

EXAMPLES**The learner will:**

- Demonstrate fundamental movement skills within a variety of developmentally appropriate games, dance and gymnastic activities.
 - Locomotor
 - Nonlocomotor
 - Manipulative
 - Space Awareness, e.g. personal, general
 - Effort Awareness, e.g. speed, force
 - Relationship Awareness
- Know the correct names of the various movements.
- Participate in various rhythmic activities.
- Accept all teammates and playmates regardless of race, gender, ability, disability or other differences.
- Understand that performance does not depend on gender (i.e., boys' and girls' performance is similar).

SUPPORTIVE PRACTICE**The teacher will:**

- Provide opportunities for learners to participate in a variety of motor activities that develop the locomotor, manipulative and nonlocomotor skills in closed practice conditions.
- Provide activities that focus on the movement concepts, e.g. locomoting along different pathways – space awareness; bouncing a ball at different speeds – effort awareness; matching a partner's movement – relationship awareness.
- Create opportunities for learners to participate in a variety of rhythmical, expressive and creative dance experiences and educational gymnastics (tapes, CDs, paint/draw to music).
- Use different types of equipment (long and short handled bats and rackets, varied ball sizes, etc.) in order for children to have the option of choice.
- Provide opportunities for exploration and discovery of the range of possibilities within a skill theme, i.e., ways to toss and catch balls, bean bags and other objects.
- Provide opportunities for students to give feedback to partners (role play positive comments).
- Create an environment in which children feel safe to try new activities.

CONTINUED...

STANDARD 10.5: CONCEPTS, PRINCIPLES & STRATEGIES OF MOVEMENT continued**CONTENT FOR 1ST GRADE**

- I. Understand that when you first learn a new skill, you may not be very good at using the skill
- J. Know that practice and experience make you better at motor skills
- K. Understand that when we practice, we repeat the skill over and over and that we must practice the important parts of the skill correctly
- L. Understand that critical elements are the important parts of the skill and are cues that help students to learn a skill or to perform better
- M. Understand that sometimes a teacher watches you do a skill and then tells you about how you did the skill. The teacher is giving you feedback
- N. Understand that feedback lets us know how we are doing on a task and is helpful in improving a skill
- O. Know that exercises are special movement activities that help make you strong
- P. Understand that we can become stronger by exercising every day

**EXAMPLES****The learner will:**

- Explain what it means to practice.
- Demonstrate how to practice a skill using repetition.
- Practice motor skills for varying amounts of time.
- Actively engage in practice opportunities during class and outside of school.
- Explain how feedback helps to improve a skill.
- Perform activities based on the critical elements.
- Participate in exercises every day.

SUPPORTIVE PRACTICE**The teacher will:**

- Provide many practice opportunities.
- Encourage students to practice skills during class time and outside of class time.
- Design creative practice opportunities that are varied, motivating and novel, therefore, motivating children to continue practicing.
- Provide instruction on the function of practice (tie into first time riding bicycle or playing a specific game).
- Provide opportunities for students to give feedback to partners (role play positive comments).
- Assess student work based on the critical elements of a skill (e.g., through a drawing, student demonstration).
- Create an environment in which children feel safe to try new activities.
- Model activities utilizing critical elements.
- Provide instruction on the principles of exercise (frequency, intensity, length of time) and how exercise affects muscular and bone growth and strength.
- Design learning experiences that focus on each of the principle components of fitness (cardio-respiratory, muscular strength and endurance, flexibility, body composition).
- Use music to motivate children to move for longer periods of time.
- Have children and guardians/families keep an activity calendar of what learners do at home (i.e., How often do I participate in activity?).
- Encourage students to participate in physical activity outside of school. (Find out who is in sports? Who plays...?).
- Provide opportunities for children to exercise every day.

CONTINUED...

STANDARD 10.5: CONCEPTS, PRINCIPLES & STRATEGIES OF MOVEMENT continued**CONTENT FOR 1ST GRADE**

- Q. Know that scientific principles are rules that tell you the best way to move your body
- R. Understand that knowing the best ways to move your body can make your skill performance better and keep you safe
- S. Understand that there are many important things you need to know when playing a game in order to have fun and play safely:
- Jobs of the different game players;
 - Where the boundaries are in the game;
 - What skills you will be using in the game;
 - What object or objects you will be using in the game; and
 - Rules of the game

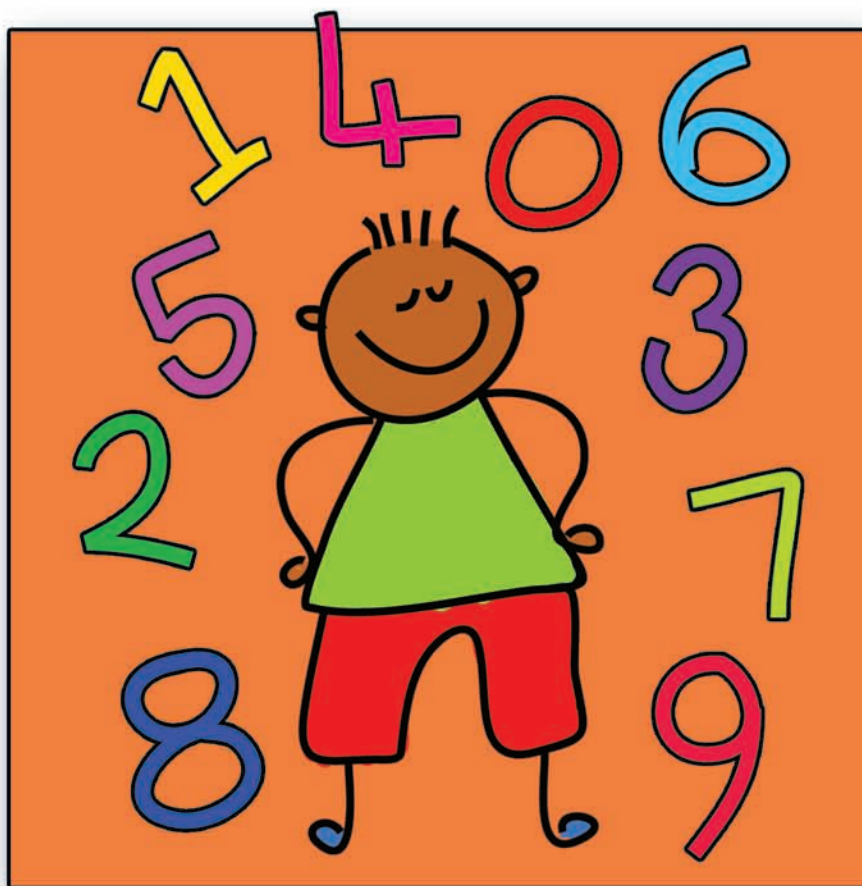
EXAMPLES**The learner will:**

- Demonstrate manipulative skills such as kicking or throwing a ball using varying trajectories (related to gravity).
- Demonstrate the ability to absorb force while catching a variety of different objects while stationary.
- Explain how the rules (scientific principles) can keep your body safe.
- Perform an activity that demonstrates a scientific principle, e.g. gravity, balance, force production, force absorption.
- Participate in games that emphasize one or more of the game components.

SUPPORTIVE PRACTICE**The teacher will:**

- Provide developmentally appropriate instruction related to scientific principles, e.g. gravity, balance, force production, force absorption. (Talk to your school physical education instructor.)
- Design developmentally appropriate learning experiences in which children explore gravity, force and balance.
- Provide students critical elements related to scientific principles.
- Provide educational experiences that emphasize cooperative (partner and small group) games.
- Provide educationally appropriate games that involve one or two players and only a few of the game components
- Design educational experiences that emphasize "moving in and to an open space."





LOGICAL MATHEMATICS

EARLY LEARNING STANDARDS FOR 1ST GRADE

Mathematical learning in first grade relies on children's opportunities to be actively engaged while using concrete objects and pictorial/symbolic representations. Students extend their mathematical knowledge and understanding in the areas of numbers, number systems and relationships; computation and estimation; measurement and estimation; mathematical reasoning and connections; mathematical problem solving and communication; statistics and data analysis; probability and predictions; algebra and functions; geometry; trigonometry; and calculus. Teachers facilitate mathematical learning when they promote students to problem solve, reason, prove, communicate, connect and represent.

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STANDARD 2.1: NUMBERS, NUMBER SYSTEMS AND NUMBER RELATIONSHIPS

THIRD GRADE STANDARDS:

- Count using whole numbers (to 10,000) and by 2's, 3's, 5's, 10's, 25's and 100's
- Use whole numbers and fractions to represent quantities
- Represent equivalent forms of the same number through the use of concrete objects, drawings, word names and symbols
- Use drawings, diagrams or models to show the concept of fraction as part of a whole
- Count, compare and make change using a collection of coins and one-dollar bills
- Apply number patterns (even and odd) and compare values of numbers on the hundred board
- Use concrete objects to count, order and group
- Demonstrate understanding of one-to-one correspondence
- Apply place-value concepts and numeration to counting, ordering and grouping
- Estimate, approximate, round or use exact numbers as appropriate
- Describe the inverse relationship between addition and subtraction
- Demonstrate knowledge of basic facts in four basic operations

CONTENT FOR 1ST GRADE

- Count using whole numbers to 100 by 1's, 2's, 5's, 10's and 25's
- Use whole numbers and fractions (halves, thirds and fourths) to represent quantities
- Represent equivalent forms of the same number through the use of concrete objects, drawings, word names and symbols to 100
- Use drawings or models to show the concept of a fraction as part of a whole
- Count, compare and make change up to one dollar using a collection of coins (pennies, nickels, dimes and quarters)
- Apply number patterns (even and odd) and compare numbers on the hundred chart
- Use concrete objects to count, order and group to 100
- Demonstrate an understanding of one-to-one correspondence up to 100
- Apply place-value concepts and numeration to counting and ordering numbers up to 100
- Estimate and approximate number quantities in at least a set of ten
- Recognize the inverse relationship between addition and subtraction
- Demonstrate knowledge of basic addition and subtraction facts

EXAMPLES

The learner will:

- Count, read and write whole numbers from 1 through 100.
- Skip count by 2's, 5's, 10's and 25's.
- Match the fraction to the corresponding model (concrete and/or pictorially).
- Represent a given number less than or equal to 100 in various ways (e.g. tallies, numeral, tens and ones, addition and subtraction, etc.).
- Identify fractional parts of a region or set.
- Represent a given fraction (halves, thirds and fourths) using drawings or concrete materials.
- Read and write fractions.
- Identify the name and value of pennies, nickels, dimes and quarters.
- Count, compare and record the value of a collection of coins up to one dollar.
- Count coins and make change in real life situations.
- Use different sets of coins to represent the same amount of money (up to one dollar).
- Differentiate between even and odd numbers.
- Order a set of whole numbers from least to greatest or from greatest to least up through 100.
- Count sets of objects to at least 100.
- Count objects using 1-1 correspondence.
- Compare two sets of objects using 1-1 correspondence to determine greater than/less than.
- Match a symbolic representation of numbers to appropriate whole numbers up to 100 (e.g. base-ten blocks).

SUPPORTIVE PRACTICE

The teacher will:

- For each stated skill the teacher will provide and incorporate opportunities in both everyday occurrences and planned, purposeful instruction; model and incorporate appropriate language and vocabulary; supply students with manipulatives (e.g. counters, base ten blocks, pattern blocks, coins, hundred chart, etc.).



STANDARD 2.2: COMPUTATION AND ESTIMATION

THIRD GRADE STANDARDS:

- Apply addition and subtraction in everyday situations using concrete objects
- Solve single- and double- digit addition and subtraction problems with regrouping in vertical form
- Demonstrate concept of multiplication as repeated addition and arrays
- Demonstrate concept of division as repeated subtraction and as sharing
- Use estimation skills to arrive at conclusions
- Determine the reasonableness of calculated answers
- Explain addition and subtraction algorithms with regrouping

CONTENT FOR 1ST GRADE

- Solve addition and subtraction in everyday situations using concrete objects with one and two digit numbers (no regrouping)
- Solve addition and subtraction in everyday situations with one and two digit numbers (no regrouping)
- Determine the sum of the same three one-digit numbers (e.g., $5+5+5$)
- Determine the difference by forming equal groups
- Make estimates of objects in a set up to and including 100 using groups of ten as a reference and verify estimate
- Compare estimate with verified answer
- Explain and describe the process of addition and subtraction

EXAMPLES

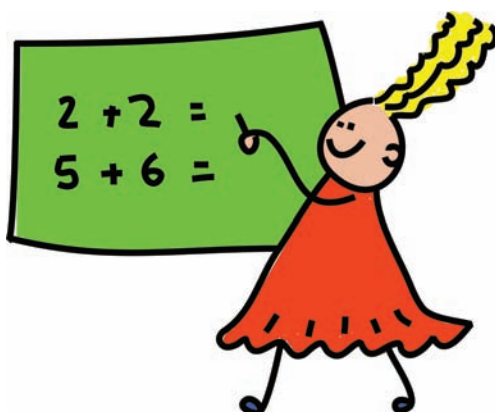
The learner will:

- Use concrete objects, including number lines, to find the solution to addition and subtraction problems with one and two digit numbers (no regrouping).
- Find the solution to addition and subtraction problems with one and two digit numbers (no regrouping).
- Write a number sentence to represent a picture/story problem.
- Determine the sum of the same three addends.
- Understand subtraction as separating sets to form equal groups.
- Form a group of ten and use as a reference to make an estimate.
- Count to verify the estimate.
- Compare estimate with verification.
- Recognize when estimation is or is not reasonable.
- Explore and state the concept of addition and subtraction as the joining and separating of sets.

SUPPORTIVE PRACTICE

The teacher will:

- For each stated skill the teacher will provide and incorporate opportunities in both everyday occurrences and planned, purposeful instruction; model and incorporate appropriate language and vocabulary; supply students with manipulatives (e.g. counters, base ten blocks, etc.).
- Teachers will demonstrate and develop students' abilities to find differences using related addition facts.



STANDARD 2.3: MEASUREMENT AND ESTIMATION

THIRD GRADE STANDARDS:

- Compare measurable characteristics of different objects on the same dimensions (time, temperature, area, length, weight, capacity, and perimeter)
- Determine the measurement of objects with nonstandard and standard units (US customary and metric)
- Determine and compare elapsed times
- Tell time (analog and digital) to the minute
- Determine appropriate unit of measure
- Use concrete objects to determine area and perimeter
- Estimate and verify measurements
- Demonstrate that a single object has different attributes that can be measured in different ways (length, mass/weight, time, area, temperature, capacity, perimeter)

CONTENT FOR 1ST GRADE

- Compare two objects using direct comparison
- Estimate, measure and compare the lengths of objects using non-standard units
- Estimate, measure and compare the lengths of objects using standard units of measure
- Determine and compare lengths of time
- Tell time (analog and digital) to the minute
- Determine appropriate unit of measure
- Demonstrate that a single object has different attributes that can be measured in different ways (e.g., length, mass/weight, time, area, temperature, capacity, perimeter)

EXAMPLES

The learner will:

- Collect two objects and compare them by a defined attribute (length, capacity or weight).
- Determine and use an appropriate non standard measuring tool (for example, an appropriate non-standard measuring tool would be a finger to measure the length of a piece of paper, not the length of a hallway). (Crayons, unifix cubes, paper clips.)
- Estimate and measure the lengths and heights of objects using non-standard units.
- Estimate and measure the lengths and heights of objects to the nearest inch.
- Estimate and measure the lengths and heights of objects to the nearest foot using a 12 inch ruler.
- Estimate and measure the length of objects in centimeters using a ruler.
- Estimate and determine the distance around a shape using non-standard units (paper clips) and standard units (inches).
- Estimate, measure and compare the capacities of various containers.
- Compare the capacities of cups, pints and quarts.
- Compare the capacity of containers to one liter.
- Estimate, measure and compare the weights of different objects using a balance scale.
- Compare the weights of objects to one pound.
- Determine the appropriate unit for measuring an object using gram or kilogram.
- Determine temperatures on a thermometer.
- Recognize the divisions of time: morning, afternoon and evening, before and after.

SUPPORTIVE PRACTICE

The teacher will:

- Model, using the appropriate language/vocabulary, the process of comparing objects using a specified attribute and measuring using standard and non-standard tools and units.
- Provide materials/opportunities and support learners in making estimations, determine the appropriate measurement tool and explore and apply understanding of estimation throughout the school day.
- Provide authentic opportunities for measuring such as cooking and mixing simple recipes.
- Encourage and support learners in explaining how they applied their skills during mathematical tasks.



STANDARD 2.4: MATHEMATICAL REASONING AND CONNECTIONS

THIRD GRADE STANDARDS:

- Make, check and verify predictions about the quantity, size, and shape of objects and groups of objects
- Use measurements in everyday situations (determine the geography of the school building)

CONTENT FOR 1ST GRADE

- Make, check and verify predictions about the quantity, size and shape of objects and groups of objects
- Use measurements in everyday situations

EXAMPLES

The learner will:

- Make estimates of objects in a set up to and including 100.
- Make estimates of quantity and verify by counting.
- Sort, classify and order objects by 2 or more attributes including color, size, shape (including two- and three-dimensional geometric shapes) and number properties (odd/even, numbers said when counting by 5s 10s) using standard and non-standard units.
- Explain and identify how a set or group of items has been sorted.
- Estimate the length or weight of an object.
- Select an appropriate unit and/or tool for the attribute being measured.
- Compare objects according to length, weight or volume.
- Tell time (analog) to the hour and half hour.
- Tell time to the nearest $\frac{1}{2}$ hour.
- Use a ruler to measure to the nearest inch.
- Measure objects to the nearest inch or centimeter.

SUPPORTIVE PRACTICE

The teacher will:

- Model, using appropriate vocabulary, the process of estimating and verifying groups of objects.
- Create and provide opportunities for learners to make comparisons of objects by at least 2 attributes.
- Engage learners in recognizing and applying estimation in everyday situations.
- Facilitate classroom discussion to encourage learners to explain how a set of items has been sorted.
- Provide opportunities for learners to explore and apply an understanding of estimating and measurement.

STANDARD 2.5: MATHEMATICAL PROBLEM SOLVING AND COMMUNICATION

THIRD GRADE STANDARDS:

- Use appropriate problem solving strategies (guess and check, working backwards)
- Determine when sufficient information is present to solve a problem and explain how to solve a problem
- Select and use an appropriate method, materials and strategy to solve problems, including mental mathematics, paper and pencil, and concrete objects

CONTENT FOR 1ST GRADE

- Use appropriate problem-solving strategies (e.g., make a model, draw a picture, guess and check, working backwards)
- Determine when sufficient information is present to solve a problem and explain how to solve a problem

EXAMPLES

The learner will:

- Identify and think about possible solutions to solve daily problems occurring in and out of the classroom.
- Determine appropriate strategies to solve various problems.
- Utilize the strategies to solve the problems.
- Describe the steps necessary to solve a problem. Communicate these steps orally.

SUPPORTIVE PRACTICE

The teacher will:

- Model, using the appropriate language/vocabulary, the process of identifying and solving a problem.
- Facilitate classroom discussion to identify the necessary steps and the appropriate order to solve problems occurring in and out of the classroom.
- Create and provide opportunities for learners to engage in problem solving activities.

CONTINUED...

STANDARD 2.5: MATHEMATICAL PROBLEM SOLVING AND COMMUNICATION continued

CONTENT FOR 1ST GRADE

- C. Select and use an appropriate method, materials and strategy to solve problems, including mental mathematics, paper and pencil and concrete objects

EXAMPLES

The learner will:

- Identify the correct operations to solve a word problem.
- Analyze problem situations to choose a correct operation.
- Invent different strategies and approaches to solve daily problems occurring in and out of the classroom.
- Determine what is the best method to solve a single step problem.

SUPPORTIVE PRACTICE

The teacher will:

- Highlight the process versus the product of an activity (give specific examples).
- Ask open-ended questions, encourage conversations and create classroom activities that encourage learners to explore a variety of possible solutions (setup situations).
- Encourage and support learners to explain their mathematical thinking and work.
- Provide opportunities for learners to explore and apply understanding of problem solving throughout the school day.
- Provide the students with examples on how to utilize the best method to solve a multiple step problem.

STANDARD 2.6: STATISTICS AND DATA ANALYSIS

THIRD GRADE STANDARDS:

- Gather, organize, and display data using pictures, tallies, charts, bar graphs, and pictographs
- Formulate and answer questions based on data shown on graphs
- Predict the likely number of times a condition will occur based on the analyzed data
- Form and justify an opinion on whether a given statement is reasonable based on a comparison to data

CONTENT FOR 1ST GRADE

- A. Formulate and answer questions that can be proven with data (bar graphs, pictographs and/or tally charts)
- B. Collect, organize and display relevant data to answer questions
- C. Discuss whether a prediction or statement is likely or unlikely based on a comparison to the data



EXAMPLES

The learner will:

- Participate in classroom graphing activities.
- Read and compare data shown on bar graphs, pictographs and/or tally charts (guiding questions may include: How many? How many more? How many less? Equal? Why? What? How do you know?).
- Sort and classify objects according to their attributes and organize data about these objects.
- Represent data using concrete objects, pictures and graphs.
- Discuss why a prediction or statement based on data is either likely or unlikely.

SUPPORTIVE PRACTICE

The teacher will:

- Provide easy to read data sets for the students.
- Assist (as needed) learners in reading the data, deducing information, drawing conclusions and applying data to future events/behaviors.
- Pose open-ended questions to engage learners in reading the data on a graph.
- Provide opportunities for learners to see graphs used in the real world.
- Encourage and support learners in explaining how they applied their skills during mathematical work.
- Provide opportunities for learners to create and interpret graphs throughout the school day.
- Model and verbalize, using language/vocabulary appropriate to the learners, the process of graphing.

STANDARD 2.7: PROBABILITY AND PREDICTIONS

THIRD GRADE STANDARDS:

- Predict and measure the likelihood of events and recognize that the results of an experiment may not match predicted outcomes
- Design a fair and an unfair spinner
- List or graph the possible results of an experiment
- Analyze data using the concepts of largest, smallest, most often, least often and middle

CONTENT FOR 1ST GRADE

- A. State and explain the likelihood of an event using the terms certain, likely, unlikely or impossible
- B. Discuss why a spinner is fair or unfair
- C. Discuss the results of an experiment

EXAMPLES

The learner will:

- Determine the likelihood of events occurring.
- Example: the teacher flips a coin and the students predict the likelihood of the coin landing "heads up."
- When presented with various spinners and activities with the spinners, students discuss why certain spinners are either fair or unfair.
- Predict what the results of an experiment will be.
- Discuss the results of an experiment for which the teacher has recorded or graphed the results.

SUPPORTIVE PRACTICE

The teacher will:

- Model and verbalize (as needed), using language/vocabulary appropriate to the students, the process of determining the likelihood of an event and/or why a spinner is either fair or unfair.
- Explain examples of activities that are most likely to occur at certain times of the year.
- Explain/demonstrate the meaning of the words certain, likely, unlikely and impossible.
- Facilitate predictions of possible results by referring to previous events.
- Encourage and support learners in explaining how they applied their skills during mathematical tasks.

STANDARD 2.8: ALGEBRA AND FUNCTIONS

THIRD GRADE STANDARDS:

- Recognize, describe, extend, create and replicate a variety of patterns including attribute, activity, number, and geometric patterns
- Use concrete objects and trial and error to solve number sentences and check if solutions are sensible and accurate
- Substitute a missing addend in a number sentence
- Create a story to match a given combination of symbols and numbers
- Use concrete objects and symbols to model the concepts of variables, expressions, equations, and inequalities
- Explain the meaning of solutions and symbols
- Use a table or chart to display information
- Describe and interpret the data shown in tables and charts
- Demonstrate simple function rules
- Analyze simple functions and relationships and locate points on a simple grid

CONTENT FOR 1ST GRADE

- A. Recognize and extend patterns based on shape, size, color, sound or number
- B. Identify the rule for a repeating pattern that could be extended infinitely
- C. Identify the rule for a number sequence that could be extended infinitely
- D. Choose the correct operation (addition or subtraction) to solve a story problem

EXAMPLES

The learner will:

- Construct patterns with a repeating pattern with concrete objects such as geometric shapes or connecting cubes.
- Describe a repeating pattern and be able to extend it beyond the pattern shown.
- Describe how patterns are alike.
- Create their own repeating pattern and be able to describe the pattern.

SUPPORTIVE PRACTICE

The teacher will:

- Provide a variety of materials for sorting, classifying and creating patterns (connecting cubes, beads, buttons, lids, etc.).
- Demonstrate and explain the concept of recognizing, describing, repeating and extending a pattern or sequence.

CONTINUED...

STANDARD 2.8: ALGEBRA AND FUNCTIONS continued

CONTENT FOR 1ST GRADE

- E. Write an equation to solve a story problem
- F. Use concrete objects and trial and error to solve addition or subtraction number sentences and check if solutions are accurate
- G. Find a missing addend that makes a number sentence true
- H. Explain how solutions to equations or missing addends are determined
- I. Identify the missing symbol (+, -, =) that makes a number sentence true

EXAMPLES

The learner will:

- Describe and extend a number pattern that is a constant sequence, such as 1,4,7, ... or 2,4,6, ...
- Solve a variety of story problems by first identifying the operation involved.
- Use concrete manipulatives and/or draw pictures to determine missing addends.
- Progress from the use of manipulative and drawings to use symbols and write equations to solve story problems and equations.
- Use a variety of strategies to solve problems involving addition or subtraction.
- Provide explanations for the solutions and strategies used in solving story problems and/or equations.

SUPPORTIVE PRACTICE

The teacher will:

- Provide opportunities and support learners in recognizing, describing and extending patterns and sequences.
- Demonstrate solving story problems through providing a variety of manipulatives and drawings to solve addition and subtraction story problems.
- Demonstrate how story problems can be represented with equations.
- Provide meaningful demonstrations to establish the meaning of symbols in equations.
- Provide opportunities for students to explain their strategy for solving story problems or equations (missing addends).

STANDARD 2.9: GEOMETRY

THIRD GRADE STANDARDS:

- Name and label geometric shapes in two and three dimensions (circle/sphere, square/cube, triangle/pyramid, rectangle/prism)
- Building geometric shapes using concrete objects (manipulatives)
- Draw two and three dimensional geometric shapes and construct rectangles, squares, and triangles on the geoboard and on graph paper satisfying specific criteria
- Find and describe geometric figures in real life
- Identify and draw lines of symmetry in geometric figures
- Identify symmetry in nature
- Fold paper to demonstrate the reflections about a line
- Show relationships between and among figures using reflections
- Predict how shapes can be changed by combining or dividing them

CONTENT FOR 1ST GRADE

- A. Name and label geometric shapes in two and three dimensions (e.g., circle, square, triangle, rectangle, sphere, cube, pyramid and prism)
- B. Build geometric shapes using concrete objects
- C. Create two- and three-dimensional shapes
- D. Find and describe geometric figures in real life
- E. Identify and draw lines of symmetry in geometric figures

EXAMPLES

The learner will:

- Identify two and three-dimensional figures and describe their specific attributes.
- Compare, contrast and sort two- and three- dimensional shapes.
- Relate faces of three-dimensional figures to two-dimensional shapes.
- Identify and create figures that are the same size and same shape (congruent).
- Use various materials to draw, build and make two-dimensional and three-dimensional shapes.

SUPPORTIVE PRACTICE

The teacher will:

- Provide an environment rich in geometric design.
- Use appropriate manipulatives (i.e. geoboards) and activities to create shapes and form congruent plane figures.
- Create a chart with attributes of each object.
- Use appropriate manipulatives (i.e. pattern blocks, building blocks, etc.) to allow for exploration and construction of new shapes while engaging the student in dialogue about the attributes of the new shape.

CONTINUED...

STANDARD 2.9: GEOMETRY continued

CONTENT FOR 1ST GRADE

- F. Identify lines of symmetry in nature
- G. Fold paper to demonstrate the reflection of a line
- H. Show relationships between and among figures using reflections
- I. Predict how shapes can be changed by combining or dividing them

EXAMPLES

The learner will:

- Recognize two-dimensional shapes within other two-dimensional shapes.
- Combine two-dimensional shapes to make new shapes.
- Draw and label parallelogram, trapezoid and hexagon.
- Recognize sides, vertices (angles), corners and curves in two-dimensional shapes.
- Name and label two- and three-dimensional shapes.
- Recognize and identify two- and three-dimensional shapes in the environment.
- Match two- and three-dimensional shapes to two- and three-dimensional shapes in real life.
- Identify lines of symmetry in shapes and objects.

SUPPORTIVE PRACTICE

The teacher will:

- Provide opportunities to identify and name the properties of two- and three-dimensional shapes using plane figures and geometric solids.
- Use real objects as examples of geometric solids.
- Provide opportunities to explore shapes that involves folding and/or drawing lines of symmetry.
- Provide opportunities to explore reflections using appropriate manipulatives (i.e. mirrors, graph paper, geoboards).
- Provide shapes for exploration.

STANDARD 2.10: TRIGONOMETRY

THIRD GRADE STANDARDS:

- Identify right angles in the environment
- Model right angles and right triangles using concrete objects

CONTENT FOR 1ST GRADE

- A. Identify and give examples of corner angles
- B. Identify a triangle that has one corner. Recognize that a line drawn from one vertex to the opposite vertex in a rectangle or square divides it into two triangles, each with a corner angle

EXAMPLES

The learner will:

SUPPORTIVE PRACTICE

The teacher will:

STANDARD 2.11: CALCULUS

THIRD GRADE STANDARDS:

- Identify whole number quantities and measurements from least to most and greatest value
- Identify least and greatest values represented in bar graphs and pictographs
- Categorize rates of change as faster and slower
- Continue a pattern of numbers or objects that could be extended infinitely

CONTENT FOR 1ST GRADE

- A. Describe how you can get closer and closer to a point or line and not reach or cross it

EXAMPLES

The learner will:

- Football penalty activity (if an offense is on the 5 yard line and the defense gets a penalty that equals "half the distance to the end zone" for the offense...will the offense ever cross the end zone if the defense keeps getting penalties?
- Approaching a tape 1/2 distance each move.

SUPPORTIVE PRACTICE

The teacher will:



PERSONAL-SOCIAL

EARLY LEARNING STANDARDS FOR 1ST GRADE

P rimary children's social and emotional development is strengthened when they have classroom experiences that promote a sense of autonomy, competence and belonging within an engaging and a responsive environment. Teachers support children's self identity and social competence by modeling respectful interactions and using positive guidance techniques that scaffold the development of self control and problem solving. By encouraging positive approaches to learning teachers allow children to plan and make choices so that school is meaningful to them and they become engaged in life long learning. Research supports that attention to the social and emotional needs of students increases the academic achievement of students, lowers the incidences of disruptive behaviors and improves the quality of relationships surrounding each child.

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PS 1 Develop Self Concept	42
PS 2 Develop Self Regulation.....	42
PS 3 Develop Social Interactions.....	43
PS 4 Develop Care and Self Reliance.....	43

STANDARD PS 1: DEVELOP SELF-CONCEPT**CONTENT FOR 1ST GRADE**

- A. Is aware of self and one's own preferences, strengths and challenges
- B. Show independence in a wide range of activities
- C. Know and state independent thoughts and feelings
- D. Attempt new experiences with confidence and independence
- E. Show pride in accomplishments
- F. Demonstrate skills related to achieving personal and academic goals
- G. Describe why school is important in achieving academic goals

EXAMPLES**The learner will:**

- Verbalize one's own needs, likes, dislikes, strengths and challenges.
- Choose activities, select materials and carry out tasks.
- Persist in developing self-management skills related to school tasks (papers, projects, library books, etc.).
- Express one's own opinion or ideas about a particular topic.
- Work independently for increasingly longer time periods.
- Describe why school is important in achieving academic goals.
- Identify goals for academic success and classroom behavior.
- Work with other adults in the school setting.
- Initiate the sharing of work and accomplishments with peers and adults at the appropriate times.

SUPPORTIVE PRACTICE**The teacher will:**

- Provide a caring, nurturing and accepting environment for learners.
- Create an emotional bond with learners.
- Refer to the learner by name.
- Make a personal connection with each learner.
- Display the learner's work at eye level.
- Provide, encourage and support opportunities for autonomy and self-direction (centers, job chart).
- Provide, encourage and support opportunities for one on one conversation between the children and adults.
- Provide, encourage and support opportunities for learners to want to try something new.
- Provide encouragement and praise for learners' efforts.
- Create an environment that fosters decisions-making, autonomy, self-direction and independence.

STANDARD PS 2: DEVELOP SELF-REGULATION**CONTENT FOR 1ST GRADE**

- A. Identify, express and manage feelings
- B. Tolerate adversity and disappointment
- C. Understand consequences of own behavior
- D. Follow rules and routines in classrooms and other settings
- E. Use materials with purpose, safety and respect
- F. Focus attention as required by the task
- G. Manage classroom transitions
- H. Follow adult directions
- I. Delay personal gratification until an appropriate time

EXAMPLES**The learner will:**

- Name a range of feelings (fear, affection, excitement, enthusiasm and disappointment).
- Express in different ways how he/she feels (verbal, walk away, drawing, journaling, physical activities, etc.).
- Separate feelings from actions.
- Control impulsive behavior when frustrated, angry or excited.
- Persist in and completing student initiated and/or teacher directed tasks.
- Maintain composure when not selected (to answer question, be first in line, play game, etc.).
- Use words instead of physical actions when upset.
- Move from one task to another efficiently.
- Respond to teacher requests or ask clarifying questions about the request.
- Understand the logical consequences of one's actions.

SUPPORTIVE PRACTICE**The teacher will:**

- Model non-verbal and verbal interactions congruent with feelings.
- Model genuine, appropriate emotional responses.
- Encourage expression of feelings and support learner in managing those.
- Respond to child's non-verbal and verbal cues.
- Use logical consequences and guidance practices that support self-control.
- Use class meetings to support the development of student self control.
- Cue learners so that they can bring their work to an end prior to changing tasks.
- Give specific directions with reasonable expectations.
- Provide opportunities for the children to express their feelings through play, writing and/or other artistic representation.
- Model and coach problem solving and negotiating conflicts with others.

STANDARD PS 3: DEVELOP SOCIAL INTERACTIONS

CONTENT FOR 1ST GRADE

- A. Is aware of self and one's own preferences
- B. Know and state independent thoughts and feelings
- C. Trust familiar adults and close peers
- D. Establish and maintain positive relationships with peers
- E. Respond with empathy by recognizing the feelings and perspectives of others
- F. Seek help from peers and adults when needed
- G. Respect the feelings, rights and belongings of others
- H. Cooperate in small and large group activities
- I. Identify problems and conflicts commonly experienced by peers
- J. Show increasing abilities to constructively resolve conflicts with peers
- K. Show nurturing behaviors through helpfulness to others
- L. Use listening skills to identify the feelings and perspectives of others

EXAMPLES

The learner will:

- Be able to adapt to new adults in the school setting.
- Ask for help when needed.
- Seek out companionship with other children.
- Begin to negotiate conflicts that arise.
- Recognize that others may experience situations differently than self.
- Re-establish a relationship with others after a conflict.
- Use multiple strategies for getting what he/she needs.
- Take turns and wait for a turn.
- Share materials.
- Be aware and sensitive to the wants and needs of others.
- Give and receive compliments.
- Use please and/or thank you appropriately.

SUPPORTIVE PRACTICE

The teacher will:

- Create caring adult/child relationships.
- Using eye contact and body proximity to give children support when needed.
- Provide consistency and predictability in daily routines, environment.
- Arrange the environment so there is space for learners to work together on activities.
- Be available to help children solve conflicts rather than removing the child or the materials.
- Provide opportunities and encourage group work or play.
- Model nurturing behaviors by acts of kindness and helpfulness to other adults and children.
- Provide opportunities to role play and practice new social skills.



STANDARD PS 4: DEVELOP CARE AND SELF-RELIANCE

CONTENT FOR 1ST GRADE

- A. Demonstrate responsible behaviors in personal, school and community context
- B. Contribute to the well being of one's school and community
- C. Identify and perform roles that contribute to one's classroom
- D. Follow classroom routines independently
- E. Recognize situations that are unsafe and behave accordingly

EXAMPLES

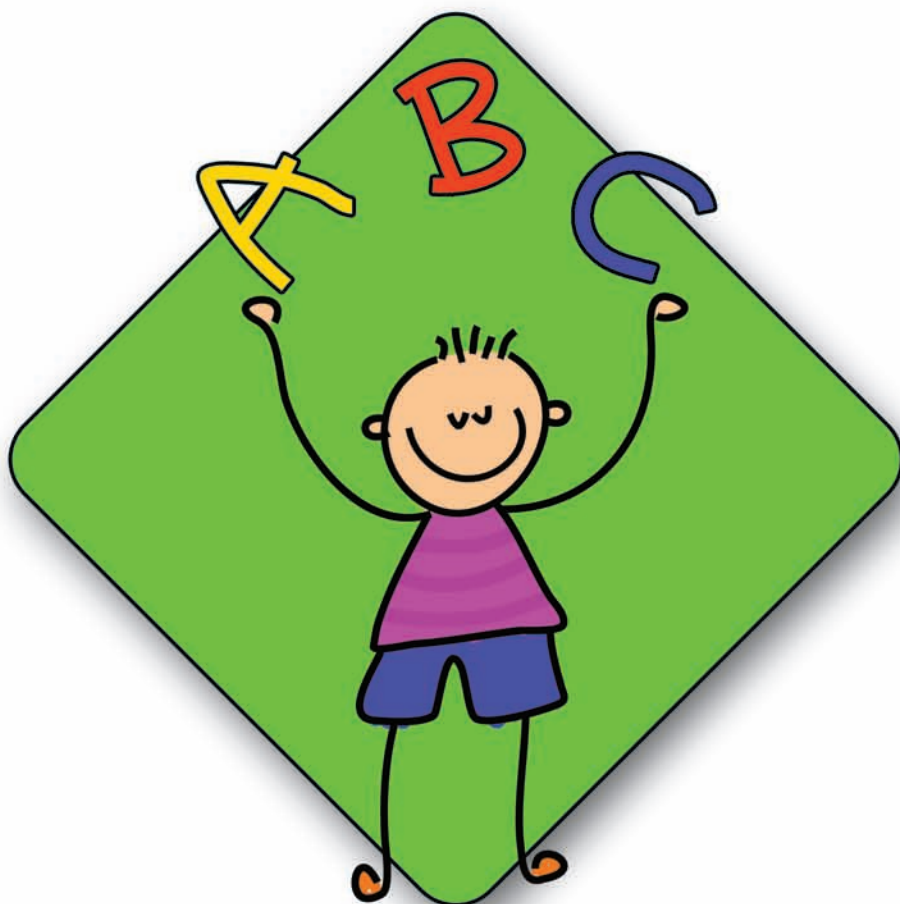
The learner will:

- Accept and manage assigned classroom jobs.
- Stay within safe boundaries and follow school safety rules.
- Check in with adults when he/she thinks something is not safe.
- Keep track of personal belongings (ie. book-bag, coat, gloves).

SUPPORTIVE PRACTICE

The teacher will:

- Organize the classroom and routines so that children can demonstrate more self reliant behaviors.
- Provide a safe environment that encourages active learning.



READING, WRITING, SPEAKING & LISTENING

EARLY LEARNING STANDARDS FOR 1ST GRADE

The Reading, Writing, Speaking and Listening Standards describe what students should know and be able to do to be effective readers and writers of the English language at grades one and two. The standards provide the targets for instruction and student learning that are essential for success in all academic areas, not just language arts classrooms. Because of the unique nature of the language arts, teachers in all areas within a school will use the Reading, Writing, Speaking and Listening Standards. Although the standards are not a curriculum or a prescribed series of activities, school entities will use them to develop a local school curriculum that will meet local students' needs. The three column representation outlines each content standard and provides examples to meet the standard with instructional supporting practices.

Standard	Page
1.1 Learning to Read Independently	45
1.2 Reading Critically in all Content Areas	48
1.3 Reading, Analyzing and Interpreting Literature.....	49
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STANDARD 1.1: LEARNING TO READ INDEPENDENTLY

THIRD GRADE STANDARDS:

- Identify the purposes and types of text (literary, informational) before reading
- Preview the text formats (title, headings, chapters, and table of contents)
- Use knowledge of phonics, word analysis (root words, prefixes and suffixes), syllabication, picture and context clues to decode and understand new words during reading
- Read text using self-monitoring comprehension strategies (predict, revise predictions, reread, use headings, use organization of text, adjust reading rate)
- Acquire a reading vocabulary by identifying and correctly using words, (antonyms, synonyms, categories or words). Use a dictionary when appropriate
- Understand the meaning of and use correctly new vocabulary learned in various subject areas
- Demonstrate after reading understanding and interpretation of both fiction and nonfiction text
- Retell or summarize the major ideas, themes or procedures of the text
- Connect the new information or ideas in the text to know information
- Clarify ideas and understandings through rereading and discussion
- Make responsible assertions about the text by citing evidence from the text
- Demonstrate fluency and comprehension in reading
- Read familiar materials aloud with accuracy
- Self-correct mistakes
- Use appropriate rhythm, flow, meter, and pronunciation
- Read a variety of genres and types of text
- Demonstrate comprehension

CONTENT FOR 1ST GRADE

- Demonstrate CONCEPT OF PRINT, how print is organized and used in reading and writing tasks
- Demonstrate PHONEMIC AWARENESS, the ability to hear and manipulate sounds in spoken words



EXAMPLES

The learner will:

- Identify the purpose for reading and writing.
- Identify the parts of a book.
- Use correct book handling skills.
- Display directionality.
- Identify various forms of print.
- Understanding the relationship between print and the spoken word.
- Differentiate between a word and a letter.
- Distinguish initial, medial and final sounds in single-syllable words.
- Distinguish long- and short-vowel sounds in orally stated single-syllable words.
- Orally blend three or more spoken phonemes into recognizable words.
- Orally segment single syllable spoken words into their phonemes.
- Manipulate individual phonemes to create new words through addition, deletion and substitution.
- Identify the number of syllables in a given word.

SUPPORTIVE PRACTICE

The teacher will:

- Engage students in using print to convey meaning (e.g. writing notes, reading directions, signs, books).
- Point out parts of the book (e.g. title, table of contents, authors and illustrators, glossary and index).
- Ensure student mastery of how to hold a book, turn pages one at a time, reading left to right and top to bottom.
- Display and teach using a variety of forms of print (e.g. signs, newspapers, books, labels).
- Provide opportunity for students to write from dictation.
- Demonstrate that sounds are represented by letters, letters make up words, words make up sentences and sentences make up stories.
- Model aloud how to sequentially retell a story (e.g. beginning, middle, end).
- Provide a spoken single-syllable word and ask the learner to identify the initial, medial or final phoneme (sounds) (e.g. What is the beginning sound you hear in the word 'cat'/?/c/).

CONTINUED...

STANDARD 1.1: LEARNING TO READ INDEPENDENTLY continued

CONTENT FOR 1ST GRADE

- C. Demonstrate knowledge of the ALPHABETIC PRINCIPLE, the ability to associate sounds with letters and use these sounds to form words

EXAMPLES

The learner will:

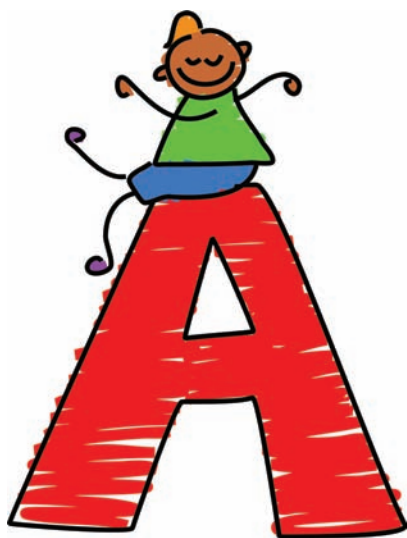
- Generate the sounds of all the letters and letter patterns, including consonant blends and long- and short-vowel patterns and blend those sounds into recognizable words.
- Demonstrate letter-sound correspondence knowledge to decode unknown and pseudo-words.
- Produce speech sounds associated with all individual letter symbols and letter combinations for digraphs, blends and /r controlled vowel(s).
- Encode (spell) three- and four-letter (single-syllable) words with short vowels, final -e spellings, initial and final consonant blends and digraph.
- Use decoding skills to accurately and fluently read and spell phonetically regular words.
- Decode words from common word families.
- Read common, irregular sight words accurately and fluently.
- Read compound words and contractions.
- Read inflectional forms (e.g., -s, -ed -ing) and root words (e.g. look, looked, looking).
- Reread and self-correct word recognition errors.

SUPPORTIVE PRACTICE

The teacher will:

- Provide opportunities for learners to blend and segment phonemes (sounds) in spoken words (e.g. Tell me all the sounds you hear in the word 'cat' /c/ /a/ /t/ and I am going to say a word slowly /c/ /a/ /t/. What word? /cat/).
- Offer spoken word play games that focus on addition, deletion and substitution of sounds in words.
- Ensure mastery of skill acquisition using a phonemic awareness mastery assessment.
- Provide opportunities for the learner to clap out syllables in words and sentences.
- Offer direct, explicit and systematic (sequential) phonics instruction.
- Have strong understanding of linguistics and how it affects reading acquisition in students.
- Use a word wall for instruction and practice of new words.
- Place high frequency words on 3 x 5 cards for practice, review and word recognition games.
- Create word lists for word sorts.
- Provide several opportunities for both reading and writing of newly learned words.
- Utilize intervention strategies to accommodate students experiencing difficulty with letter discrimination skills that are commonly confused (e.g. [e, a, s, c, o]; [b, d, p, o, g, h]; [f, l, t, k, i, h]; [n, m, u, h, r]).
- Teach commonly confused letters far apart from one another (e.g. b, d, p, q).
- Use key words and pictures when introducing sound-spelling relationships.
- Use differentiated instruction to accommodate the students' educational needs.
- Offer multisensory activities to support and practice new skills.
- Provide ongoing progress monitoring to ensure mastery of taught skills.
- Offer decodable text to provide multiple opportunities for practice toward mastery and transfer of phonics skills to connected text.

CONTINUED...



STANDARD 1.1: LEARNING TO READ INDEPENDENTLY *continued*

CONTENT FOR 1ST GRADE

- D. Demonstrate **FLUENCY**, the ability to read grade level text orally with accuracy, appropriate rate and expression
- E. Demonstrate a rich listening and speaking **VOCABULARY**, the ability to understand (receptive) and use (expressive) words to acquire and convey meaning

EXAMPLES

The learner will:

- Apply letter-sound (orthographic patterns) knowledge to decode and encode phonetically regular words quickly and accurately in isolation and in context.
- Recognize high frequency and familiar words in isolation and in context.
- Adjust reading rate based on purpose, text difficulty, form and style.
- Recognize and self-correct errors.
- Read a variety of genres.
- Read grade level texts with appropriate rate and expression.
- Answer comprehension questions orally and in writing based on material read independently.
- Understand, learn and use new vocabulary from a variety of content areas.
- Develop vocabulary by listening to and discussing both familiar and conceptually challenging selections read aloud (e.g. Aesop's fables).
- Use context to understand word and sentence meanings.
- Relate vocabulary to prior knowledge.
- Classify conceptual categories of words (e.g. animals, colors, foods).

SUPPORTIVE PRACTICE

The teacher will:

- Model reading aloud with fluency.
- Provide oral support for readers by activities such as choral reading or paired reading.
- Offer plenty of practice opportunities including repeated readings.
- Encourage fluency through phrasing or chunking to aid in comprehension.
- Ask the student to read a passage on his or her grade level and then compare the words correct per minute (WCPM) score to the benchmark standard.
- Use think aloud to share how you, as a fluent reader, are navigating through a piece of text.
- Prompt students to respond to what they read both orally and in print, how it was read and if any improvements are needed to further build fluency.
- Offer decodable text to provide multiple opportunities for practice toward mastery and transfer of phonics skills to connected text.
- Take advantage of student listening and speaking competencies to enhance student vocabulary.
- Use trade books that are read aloud to children as a major source for identifying interesting words and developing conceptual understanding.
- Choose rich and robust vocabulary words that are within the intellectual grasp of the children.
- Use words that can be used in many contexts and in a variety of instructional activities.
- Assist students in connecting new vocabulary to prior knowledge.
- Explore similarities and differences in words, meanings and concepts.
- Introduce vocabulary from narrative and informational text.
- Interactively use a vocabulary word wall to teach, reinforce and encourage the use of new words in oral and written language.
- Directly teach increasingly sophisticated words with examples and non-examples.
- Offer multiple, repeated practice opportunities to use new and previously learned vocabulary.



STANDARD 1.2: READING CRITICALLY IN ALL CONTENT AREAS

THIRD GRADE STANDARDS:

- Read and understand essential content of informational texts and documents in all academic areas
- Differentiate fact from opinion within text
- Distinguish between essential and nonessential information within a text
- Make inferences from text when studying a topic (science, social studies) and draw conclusions based on text
- Analyze text organization and content to derive meaning from text using established criteria
- Use and understand a variety of media and evaluate the quality of material produced
- Use electronic media for research
- Identify techniques used in television and use the knowledge to distinguish between facts and misleading information
- Assess the quality of media projects (script, play, audiotape) that have been developed for a targeted audience
- Produce work in at least one literary genre that follows the conventions of the genre

CONTENT FOR 1ST GRADE

- Identify, analyze and apply knowledge of the elements of a variety of informational texts to demonstrate an understanding of the information presented
- Identify a variety of media to gain information (e.g., computer, tape recorder, television and recorded media)

EXAMPLES

The learner will:

- Identify the difference between facts and opinions.
- Identify essential information such as facts, main idea and supporting information from illustrations and text.
- Make predictions about what happens next in a story or process and justify.
- Identify the organizational features (e.g. charts, graphs, captions) of text and indicate connection to the written text.
- Apply comprehension strategies (e.g. graphic organizers, rereading, summarizing) to build understanding.
- Identify type of media to be used for a specific task.

SUPPORTIVE PRACTICE

The teacher will:

- Display examples of fact and opinion in text, identifying characteristics of each.
- Model the distinction between essential and non-essential information.
- Assist students in using prior knowledge to predict and justify what will happen next in a story or process.
- Draw connections between illustrated organization features (e.g. charts, graphs, captions) and the written text.
- Assist students in selecting age and ability-appropriate non-fiction materials to read to begin building a core base of knowledge.
- Model use of a few graphic organizers to build connections and understanding followed by guided practice until students are able to use them purposefully and independently.
- Expose students to a variety of media used to gain information (e.g. computer software, internet, books on tape, television programming, film).

STANDARD 1.3: READING, ANALYZING AND INTERPRETING LITERATURE

THIRD GRADE STANDARDS:

- Read and understand works of literature
- Identify literary elements in stories describing characters, setting, and plot
- Identify literary devices in stories (rhyme, rhythm, personification)
- Identify the structures in poetry (pattern books, predictable books, nursery rhymes)
- Identify the structures in drama (dialogue, story enactment, acts, scenes)
- Read and respond to nonfiction and fiction including poetry and drama

CONTENT FOR 1ST GRADE

- A. Identify, analyze and apply knowledge of the elements of a variety of fiction and literary texts to demonstrate an understanding of a literary selection

EXAMPLES

The learner will:

- Read and listen to a variety of genres of literature (e.g. poetry, plays, fables, legends, picture books) and participate in guided discussion.
- Distinguish the distinct characteristics and purposes of each genre.
- Retell the main events of a story including characters and setting as well as beginning, middle and end.
- Identify the main topic or essential message of a literary selection.
- Make predictions about what happens next in a story or process and justify.
- Identify the literary devices in rhyme, repetition, rhythm and patterns.
- Identify and complete predictable language patterns (e.g., pattern books, predictable books, nursery rhymes).
- Identify dialogue and story action in plays and stories.
- Connect the reading to self and the world and other literary pieces.
- Select fiction materials to listen to or read based on interest or recommendation.

SUPPORTIVE PRACTICE

The teacher will:

- Display examples a variety of fiction and literary texts (e.g. classroom library, leveled books).
- Read aloud and expose students to a variety of genre.
- Model the distinction between essential and non-essential information.
- Assist students in using prior knowledge to predict and justify what will happen next in a story.
- Lead students to draw connections between illustrations and the written text.
- Assist students in selecting age and ability-appropriate fiction materials to read.
- Model use of a few graphic organizers to build connections and understanding followed by guided practice until students are able to use them purposefully and independently.



STANDARD 1.4: TYPES OF WRITING

THIRD GRADE STANDARDS:

- Write narrative pieces (stories, poems and plays)
- Include detailed descriptions of people, places, things
- Write informational pieces (descriptions, letters, reports, and instructions) using illustrations when relevant
- Use relevant illustrations
- Include literary elements
- Write an opinion and support it with facts

CONTENT FOR 1ST GRADE

Narrative

Develop and demonstrate the writing of narrative pieces that include a main idea based on read, imagined or personal events, characters and a sequence of events

EXAMPLES

The learner will:

- Develop an idea with a beginning, middle and end.
- Sequence two or more events.
- Include people, places and things in created writing.
- Select appropriate illustrations to accompany story.

SUPPORTIVE PRACTICE

The teacher will:

- Facilitate participation in writing simple stories, poems, rhymes or song lyrics.
- Provide daily shared and interactive writing opportunities.
- Read published stories to demonstrate use of story elements.
- Model the use of a graphic organizer to plan a beginning, middle and end.

Informational

Develop and demonstrate the writing of informational pieces that provides information related real-world tasks

- Write informational sentences (e.g., descriptions, definitions, simple instructions) using illustrations when relevant.
- Write brief informational descriptions of a real object, person, place or event, using sensory details.
- Differentiate between fact and opinion.

- Write in a variety of informational forms (e.g. thank you notes, short letters, rules, labels).
- Provide daily shared and interactive writing opportunities.
- Read published informational text to demonstrate use of topic and supporting details.
- Model the use of a graphic organizer to develop topic and supporting details.

Persuasive

Develop and demonstrate persuasive writing that is used for the purpose of influencing the reader

- Draw a picture and use simple text to tell a message (e.g. Say No to Drugs) and why it is important.

- Model and share examples of persuasion found in print and environment.
- Engage students in shared and interactive writing opportunities.

STANDARD 1.5: QUALITY OF WRITING

THIRD GRADE STANDARDS:

- Write with a sharp, distinct focus identifying topic, task, and audience
- Write using well-developed content appropriate for the topic
- Gather and organize information
- Write a series of related sentences or paragraphs with one central idea
- Incorporate details relevant and appropriate to the topic
- Write with controlled and/or subtle organization
- Sustain a logical order
- Include a recognizable beginning, middle, and end
- Write with an awareness of the stylistic aspects of composition
- Use sentences of differing lengths and complexities
- Use descriptive words and action verbs
- Revise writing to improve detail and order by identifying missing information and determining whether ideas follow logically
- Edit writing using the conventions of language
- Spell common, frequently used words correctly
- Use capital letters correctly (first word in sentences, proper nouns, pronoun "I")
- Punctuate correctly (period, exclamation point, question mark, commas in a series)
- Use nouns, pronouns, verbs, adjectives, adverbs, and conjunctions properly
- Use complete sentences (simple, compound, declarative, interrogative, exclamatory, and imperative)
- Present and/or defend written work for publication when appropriate

CONTENT FOR 1ST GRADE

Progress through the stages of the writing process (e.g., prewriting, drafting, revising, editing and publishing)

EXAMPLES

The learner will:

- With assistance, write for different purposes and to a specific audience or person.

SUPPORTIVE PRACTICE

The teacher will:

- Describing the process and its intended purpose and outcome.
- Provide shared and interactive pre-writing opportunities.
- Use focus, content, organization, style and conventions to direct instruction in the writing process.
- Hold individual conferences with students to guide the writing process.

Prewriting

Uses prewriting strategies to generate ideas and formulate a plan

- Generate ideas from multiple sources (e.g. brainstorming, webbing, drawing, group discussion, other activities).
- Organize and select a topic for writing.

- Model pre-writing strategies (e.g. think-aloud, listing, graphic organizers).

Drafting

Write clear and coherent sentences and paragraphs that develop a central idea

- Maintain a focus on a single idea while including supporting details.
- Organize details into a logical sequence that has a beginning, middle and end.
- Writes with a variety of well constructed sentences including descriptive words and action verbs.
- Use complete, simple declarative, interrogative and exclamatory sentences.
- Use descriptive words and verbs in context.

- Model writing that states a feeling or reaction.
- Provide opportunities for learners to engage in shared, interactive and independent writing.
- Demonstrate the transfer of information from prewriting to the drafting stage.
- Offer direct instruction on various sentence types.

CONTINUED...

STANDARD 1.5: QUALITY OF WRITING continued

CONTENT FOR 1ST GRADE	EXAMPLES	SUPPORTIVE PRACTICE
<p>Revising Revise and refine the draft for clarity and effectiveness</p>	<p>The learner will:</p> <ul style="list-style-type: none"> • Revise writing to add or eliminate details and correct ideas so a logical order is present. • Create clarity by marking out repetitive details by using a caret and replacing general words with more specific words. 	<p>The teacher will:</p> <ul style="list-style-type: none"> • Provide opportunities for students to engage in shared, interactive and independent revision of writing samples. • Offer cooperative learning opportunities for peers to discuss and improve their writing samples. • Demonstrate examples of marks used in revision and samples of more specific words for those that are general. • Use exemplar writing samples to demonstrate high levels of writing development.
<p>Editing Edit and correct the draft for standard language conventions</p>	<ul style="list-style-type: none"> • Spell common, frequently used words correctly. • Capitalize the first word of a sentence, names of people and the pronoun “I”. • Use proper end punctuation (period, exclamation and question mark). • Use nouns (i.e., singular and plural), pronouns (e.g. my/mine, his/her) and verbs in writing. • Correctly use common spelling patterns (e.g., onset and rimes, word families, CC, CCVC, CVCC and final -e words). • Use a checklist to ensure that they have properly edited their writing. 	<ul style="list-style-type: none"> • Provide opportunities for students to engage in shared, interactive and independent editing. • Demonstrate use of an editing checklist. • Provide and demonstrate the use of various resources to check for spelling errors (e.g. word wall, picture dictionary, environmental print). • Offer direct, explicit instruction on conventions of print.
<p>Publishing Write a final product for the intended audience</p>	<ul style="list-style-type: none"> • Produce, illustrate and share a variety of compositions. 	<ul style="list-style-type: none"> • Provide opportunities for students to share their published work with others. • Display published work.
<p>Penmanship Engage in the writing process and write to clearly communicate ideas and experiences in legible print</p>	<ul style="list-style-type: none"> • Write numbers and uppercase and lowercase letters using left to right sequencing. • Print legibly and space letters, words and sentences appropriately. 	<ul style="list-style-type: none"> • Use a consistent method for demonstrating letter and number formation. • Model appropriate spacing between letters, words and sentences.

STANDARD 1.6: SPEAKING AND LISTENING

THIRD GRADE STANDARDS:

- Listen to others
- Ask questions as an aid to understanding
- Distinguish fact from opinion
- Listen to a selection of literature (fiction and/or nonfiction)
- Relate it to similar experiences
- Predict what will happen next
- Retell a story in chronological order
- Recognize character and tone
- Identify and define new words and concepts
- Speak using skills appropriate to formal speech situations
- Use appropriate volume
- Pronounce most words accurately
- Demonstrate an awareness of audience
- Contribute to discussions
- Ask relevant questions and respond with appropriate information or opinions to questions asked
- Listen to and acknowledge the contributions of others
- Display appropriate turn-taking behaviors
- Participate in small and large group discussions and presentations
- Participate in everyday conversations
- Present oral readings, short reports, and interviews
- Give simple directions, explanations, and reporting of an emergency
- Use media for learning purposes

CONTENT FOR 1ST GRADE

- Apply listening and speaking strategies effectively
- Use electronic media for learning purposes, such as generating a journal or story

EXAMPLES

The learner will:

- Listen to others when they are speaking and demonstrate an understanding of the message.
- Listen attentively and follow directions to perform a task (e.g., multi-step oral directions, solving problems and following rules).
- Ask questions to clarify information.
- Listen to a selection and connect similar experiences to real events.
- Make realistic predictions about the outcomes of simple events and recognize different outcomes are possible.
- Retell stories using basic story grammar and relating the sequence of story events by answering, who, what, when, where, why and how questions.
- Identify character and tone in spoken information.
- Listen in order to identify and use new words and concepts.
- Use correct vocabulary and word usage when speaking.
- Use appropriate volume while initiating answers and conversation.
- Pronounce single and multiple syllable words correctly.
- Use appropriate pace in sentences, rhymes, poetry and questions.
- Interpret expressions, gestures and body language cues from audience.
- Ask and answer relevant questions and share experiences within a group.
- Initiate and respond appropriately to conversations and discussions.

SUPPORTIVE PRACTICE

The teacher will:

- Model appropriate speaking and listening behaviors throughout the school day.
- Verbalize thought processes while listening.
- Provide opportunities for students to demonstrate appropriate public speaking.
- Encourage use of learned vocabulary.
- Demonstrate and instruct students in purposeful listening activities.
- Utilize various media for instruction.
- Model the use of computers and software applications as a means for accessing information.



STANDARD 1.7: CHARACTERISTICS AND FUNCTIONS OF THE ENGLISH LANGUAGE

THIRD GRADE STANDARDS:

- Select a topic for research
- Locate information using appropriate sources and strategies
- Locate resources for a particular task (newspapers, dictionary)

CONTENT FOR 1ST GRADE

- Distinguish commonly used words from other languages
- Identify variations in the dialogues of literary characters

EXAMPLES

The learner will:

- Use common words from other languages (i.e. count to 10 in Spanish).
- Utilize speech bubbles and quotations to differentiate between dialogue and text.

SUPPORTIVE PRACTICE

The teacher will:

- Sing songs using words from other languages, connecting the English and other language term and meaning.
- Model various 'accents,' modulations and character voices when reading aloud.
- Offer examples of various dialogue presentations.

STANDARD 1.8: RESEARCH

THIRD GRADE STANDARDS:

- Select a topic for research
- Locate information using appropriate sources and strategies
- Organize and present the main ideas from research

CONTENT FOR 1ST GRADE

- Use a systematic process for the collection, processing and presentation of information



EXAMPLES

The learner will:

- Select a topic for research.
- Differentiate between various sources of information (e.g., dictionaries, newspapers, magazines, electronic media).
- Select sources for gathering information (e.g., dictionaries, encyclopedias, observation, electronic media).
- Use picture clues, keywords, heading to locate information.
- Organize key concepts using a graphic organizer.
- Summarize main ideas orally from key facts and concepts.
- Write a simple report with a title and at least three facts and supporting details using complete sentences.

SUPPORTIVE PRACTICE

The teacher will:

- Demonstrate the use of the writing process to create a research paper.
- Offer a collection of resources for students to use in collecting information.



SCIENCE AND TECHNOLOGY



First graders learn about scientific concepts through active investigation, observation and experimentation of the natural and human-made world. These experiences provide the foundation for abstract and scientific thought, leading to conscientious decision-making and improved problem-solving. Students who are given opportunities to conduct experiments, gather data and make conclusions are developing skills that support inquiry about the natural world, the scientific process, principles and technology.

SCIENCE

EARLY LEARNING STANDARDS FOR 1ST GRADE

ENVIRONMENT AND ECOLOGY



First graders learn about environment and ecology through first-hand experiences using the real world as their classroom. Through the integration of environment, science and social studies students understand the interdependence between themselves and their surroundings. Through the use of inquiry investigation, experimentation, place-based education students become environmentally-literate citizens.

The content embedded in this document for science and technology and environment and ecology should be addressed primarily at the introductory level to provide a foundation for proficiency at grades three and four. Each school district will need to determine where each standard area should be addressed in either first or second grade through a comprehensive curriculum alignment process at the district level.

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STANDARD 3.1: UNIFYING THEMES

FOURTH GRADE STANDARDS:

- Know that natural and human-made objects are made up of parts
- Know models as useful simplifications of objects or processes
- Illustrate patterns that regularly occur and reoccur in nature
- Know that scale is an important attribute of natural and human made objects, events and phenomena
- Recognize change in natural and physical systems

CONTENT FOR 1ST GRADE

- A. Know that natural and human-made objects are made up of parts
- Identify and describe what parts make up a system
 - Identify systems that are natural and human-made
- B. Know models as useful simplifications of objects or processes
- Identify different types of models
 - Apply appropriate simple modeling tools and techniques

Resources:

- Project Wet, PA Department of Education, Teaching and Learning, Office of Environment and Ecology
- ITEA-CATTS EdB Access, Kids Inventing Technology Series Activities, PA Department of Education, Teaching and Learning, Technology Education Advisor
- Houghton Mifflin, Experience Science Series
- FOSS Modules (New Plants, Air, Measurement and Weather)
- Science Companion, Pearson Scott Foresman, Collecting and Examining Life
- Trade Books (national geographic, content areas, Centennial Press, Scholastic, Dawn Publications, etc.)
- Reading to Learn the Content, Office of Environment and Ecology, PA Department of Education
- Science, Technology, Environment and Ecology Classroom Connection Kit, PA Department of Education (STEEP)
- Project Learning Tree, Office of Environment and Ecology, PA Department of Education

EXAMPLES**The learner will:**

- Explore with fraction blocks, puzzles, toy gear sets and other items made of parts.
- Take apart and reassemble simple toys and safe household items to identify the types and uses of the parts.
- Identify the different parts of a plant.
- Understand how a simple system works (e.g., water, agriculture, simple ecosystem, etc.).
- Identify differences in living and non-living systems.
- Sort objects and parts of objects as natural or human-made.
- Explore realistic models of common objects found in the natural world and human-made world (model cars, toys, visible human body, farm play kits, etc.).
- Understand the concept of a simple machine (levers, incline planes, pulley).
- Understand the design of a working model (e.g., bridge, Lincoln Logs, K'nex, wetland, terrarium, aquarium, simple ecosystems, etc.).

**SUPPORTIVE PRACTICE****The teacher will:**

- Use fraction blocks to explain the parts of the whole.
- Provide opportunities for students to see the relationships of the parts to the whole through the use of toys and common household items.
- Provide visual aids for students as well as actual models (e.g., seeds, plants, fruits, etc.) for identification of plant parts.
- Read fiction and non-fiction trade books as well as provide visuals for students understand of living and non-living systems.
- Provide field experiences or hands-on activities for real life understanding of these differences.
- Provide pictures and examples of natural and human-made objects for students to sort and categorize.
- Use visible human model to show internal body parts.
- Use Kenx, Lincoln logs or Lego parts to construct models of human-made objects.
- Use simple machines to demonstrate and provide simple experiments for students to do to show how simple machines work.
- Provide opportunities for students to design and build natural (wetlands, farms, rotting log) and human-made models.
- Provide hands-on opportunities for students to compare and contrast the similarities and differences in natural patterns.
- Point out more abstract patterns such as day and night and the seasons.
- Introduce the idea that nature occurs in cycles which is a repeating pattern that can be predicted.

CONTINUED...

STANDARD 3.1: UNIFYING THEMES continued

CONTENT FOR 1ST GRADE

- C. Illustrate patterns that regularly occur and reoccur in nature
- Identify observable patterns that occur in nature
 - Use knowledge of natural patterns to make predictions
- D. Know that scale is an important attribute of natural and human-made objects, events and phenomena
- E. Recognize change in natural and physical systems
- Examine and explain change through recording observations
 - Describe the change to objects caused by heat, cold or light

See Science and Technology 3.4

Resources:

- Field trips using the school grounds, the neighborhood, local nature centers or state parks, museums
- Classroom guest who could speak about their careers
- Classroom guest who are experts in the fields of science, technology and environment

EXAMPLES

The learner will:

- Identify natural patterns in leaves, inside shells, coats of animals, flowers, etc.
- Replicate natural patterns using basic classroom craft materials or natural materials found on the ground.
- Understand changes in weather in relationship to patterns and how to predict these changes through seasons.
- Identify patterns that are seen in nature that are used in human-made products (e.g., honeycomb, spirals, leaf patterns, etc.).
- Sequence objects from smallest to largest.
- Understand how rulers, tape measures and yardsticks all measure length.
- Sort common objects as small, medium, large and other descriptive measurements.
- Begin to use common units of standard measurement such as cup, quart, inch, foot, etc.

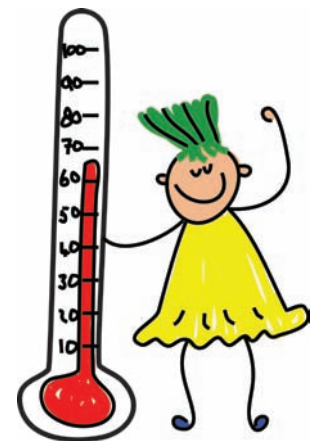
Through the five senses –

- Observe and record change in planted seeds over time.
- Observe changes in the outside temperature.
- Observe and record seasonal change.
- Observe and record change in a deciduous tree from the start of the school year to the end.
- Observe and record the phases of water by the change in ice as it melts, liquid after freezing, steam.
- Participate in simple cooking projects that build understanding of change caused by heating and cooling.
- Place common objects in direct sunlight to observe the change in temperature and color.

SUPPORTIVE PRACTICE

The teacher will:

- Provide objects to compare and contrast for various sizes.
- Provide opportunities for students to measure in the classroom and outside of the classroom various items and make classroom charts for discussion.
- Demonstrate how the use of common units of measurement (different scales – inch, cm, etc.) can represent the length of the same object.
- Explain that changes occur over a period of time.
- Have students record their observations of change over time (e.g., dissolve sugar and water and leave in sun to re-crystallize).
- Have students participate in simple experiments to understand the concepts of heating and melting, etc.
- Demonstrate how temperature affects the preparation of food (e.g., making of fudge).



STANDARD 3.2: INQUIRY AND DESIGN

FOURTH GRADE STANDARDS:

- Identify and use the nature of scientific and technological knowledge
- Describe objects in the world using the five senses
- Recognize and use the elements of scientific inquiry to solve problems
- Recognize and use the technological design process to solve problems

CONTENT FOR 1ST GRADE

- Identify and use the nature of scientific and technological knowledge
 - Distinguish between a scientific fact and a belief
- Describe objects in the world using the five senses
 - Recognize observational descriptors from each of the five senses
 - Use observation to develop a descriptive vocabulary
- Recognize and use the elements of scientific inquiry to solve problems
 - Generate questions about objects, organisms and/or events that can be answered through investigations
 - Conduct an experiment
 - State a conclusion that is consistent with information
- Recognize and use the technological design process to solve problems
 - Recognize and explain basic problems
 - Identifying possible solutions and their course of action
 - Try a solution
 - Describing the solution, identifying its impacts and modifying if necessary
 - Showing the steps taken and results

EXAMPLES

The learner will:

- Respond to “what if” questions.
- Engage in teacher-created opportunities to inquire about natural occurrences.
- Distinguish between real and make believe presented in a variety of literature experiences.
- Respond to teacher examples of either a scientific fact or opinion.
- Identify common objects using the five senses.
- Understand qualities of the senses (sight – brightness/color, sound – loudness and pitch, smell – burning/rotting, touch – smooth/rough and taste – sweet/sour).
- Use descriptive sensory vocabulary to identify a variety of natural and human-made objects.
- Observe and participate in simple experiments and investigations.
- Ask questions about observations.
- Predict what might happen next.
- Record results of experiments with other students.
- Ask “what if” questions.
- Record observations, explanations and ideas through multiple forms of representation including drawing, writing, movement and graphs.
- Listen to others’ perspectives and opinions.
- Use observations from experiments and investigations to form a conclusion.
- Identify simple problems to solve.
- Suggest possible solutions to everyday problems.
- Raise questions about the possible solutions to determine which may be the best course of actions.
- Test possible solutions.
- Record the steps taken to solve a problem using multiple modes including writing, drawing, movement and discussion.
- Share ideas, problems, solutions and steps taken with others.

SUPPORTIVE PRACTICE

The teacher will:

- Have students engage, explore, explain, extend the learning and evaluate the learning.
- Differentiate for students through examples what is the differences between real and make believe and scientific facts and opinion.
- Provide students with a variety of reading texts on real vs. make believe and have students identify the differences between the real and make believe through reader's theatre.
- Provide multiple experiences for students to be exposed to various stimuli designed to excite their five senses.
- Provide opportunities for student journals to be developed using descriptive sensory vocabulary. (Graphic organizers can be used.)
- Have students describe their least favorite and favorite sensory experience.
- Connect students with the activities being done by using the inquiry process and skills.
- Provide opportunities for students to participate in simple experiments and investigations both in the classroom and out of the classroom.
- Encourage students to ask questions about their observations and predict what might happen (future).
- Model examples of observation skills, journaling and record keeping.
- Facilitate group discussions based on student observations, journals, graphs, writings, etc.
- Model the technological design process first for students.
- Identify simple problems for students to solve. (e.g., make a tower out of news paper, make a strong bridge out of paper, etc.)
- Facilitate group work activities for identified simple problems.

STANDARD 3.3: BIOLOGICAL SCIENCES

FOURTH GRADE STANDARDS:

- Know the similarities and differences of living things
- Know that living things are made up of parts that have specific functions
- Know that characteristics are inherited and, thus, offspring closely resemble their parents
- Identify changes in living things over time

CONTENT FOR 1ST GRADE

- A. Know the similarities and differences of living things
- Identify life processes of living things
 - Know that some organisms have similar external characteristics and that similarities and differences are related to environmental habitat
 - Describe basic needs of plants and animals
- B. Know that living things are made up of parts that have specific functions
- Know that different parts of a living thing work together to make the organism function
- C. Know that characteristics are inherited and, thus, offspring closely resemble their parents
- Identify physical characteristics that appear in both parents and offspring
- D. Identify changes in living things over time (See Environment and Ecology Standard 4.6.C)

See Environment and Ecology Standard 4.6

Resources:

- Pennsylvania Song Birds, PA Game Commission
- Pennsylvania Project Wild, PA Game Commission

**EXAMPLES****The learner will:**

- Explain that all living things require food, water, shelter and space arranged for survival. (habitat)
- Sort pictures of plants or animals into categories of habitat requirements (food, water, shelter, space).
- Identify common body type characteristics for the animal kingdom (vertebrates – animals with a backbone and invertebrates – animals without a backbone).
- Identify differences in body type between each category.
- Be able to identify the parts of an insect and the parts of a plant.
- Recognize how the different parts of an animal are used for survival.
- Recognize how an animal or plant adapts to their surroundings for survival.
- Observe the different parts of a plant including the roots, stem, leaves and flowers. Make a list that gives the possible functions of each part.
- Compare themselves to their parents. Comparisons should include size, shape and color (hair color, eye color, skin pigmentation, dimples, gender).
- Compare characteristics of animals (size, coloration, gills, feathers, beaks, etc.).
- Compare fossils to living organisms noting similarities and differences.
- Create a model of a timeline and place artifacts throughout the model to simulate what might be found with change over time.

SUPPORTIVE PRACTICE**The teacher will:**

- Provide fiction and non-fiction books that depict different habitats and the animals that live there.
- Provide non-fiction books for students to read about different animals (both vertebrates and invertebrates).
- Provide media for students to collect pictures of plants and animals and do murals separating into different habitats.
- Provide hands-on opportunities for students to design an animal using body types and characteristics necessary for survival and predict their habitat.
- Provide diagrams or models of parts of an insect or plants and help students to identify the living organism.
- Use a variety of Pennsylvania species to help students recognize their similarities and differences.
- Using the out-of-doors to demonstrate to students how adaptation helps organisms to survive (e.g., coloration, beaks, gills, wings, etc.).
- Provide fiction and non-fiction books on Pennsylvania animals and plants for student readings, drawing or writings.
- Help students classify shared characteristics between themselves and their parents and discuss the possible reasons for those similarities and differences.
- Give students opportunities to identify similar characteristics among a variety of Pennsylvania animals.
- Provide models of various fossils and allow students to examine their similarities and differences.
- Take students on field trips to local museums where fossils could be viewed.
- Take students on local digs for students to get a first hand opportunity to find fossils.
- Have students create their own archeological model with a clear plastic container filled with play dough representing different years and common items buried in the layers.

STANDARD 3.4: PHYSICAL SCIENCE, CHEMISTRY AND PHYSICS

FOURTH GRADE STANDARDS:

- Recognize basic concepts about the structure and properties of matter
- Explore basic energy types and sources
- Explore and describe different types of force and motion
- Describe the composition and structure of the universe and the earth's place in it

CONTENT FOR 1ST GRADE

- A. Recognize basic concepts about the structure and properties of matter
- Describe properties of matter
 - Know that combining two or more substances can make new materials with different properties
 - Know different material characteristics
- B. Know basic energy types and sources
- Identify energy forms and examples
- C. Observe and describe different types of force and motion
- Recognize forces that attract and repel other objects and demonstrate them
 - Describe various types of motions

EXAMPLES**The learner will:**

- Understand that all matter has physical properties that can be observed by the five senses.
- Identify the three states of matter (solid, liquid, gas).
- Do simple activities to demonstrate heating, melting, cooling, freezing, mixing, separating.
- Observe various combinations of substances (e.g., ice in water, oil in water, salt in water and baking soda in white vinegar).
- Do experiments to learn how mixtures form using multiple modes including writing, drawing and movement.
- Do simple experiments to understand that air is a mixture of gases and that these gases are a material that spreads out to fill the space it is in (e.g., air bubbles, paper airplanes, spirals, balloons; demonstrate using a burning candle in inverted jar with water, etc.).
- Identify basic examples of different types and sources of energy (mechanical, electrical, magnet).
- Create an electrical circuit.
- Explain how the circuit works.
- Observe the interaction of magnets.
- Describe the motion as push or pull.

Look at 3.1 Unifying Themes for more ideas.

SUPPORTIVE PRACTICE**The teacher will:**

- Explain to students that matter is the "stuff that everything is made from."
- Involve students in various hands-on experiments using the five senses asking students: How does it smell? How does it look? How does it taste? How does it feel? How does it sound?
- Provide demonstrations that show that all matter is made of particles and that the closer together the particles are the more dense the matter (floating and sinking).
- Demonstrate turning a liquid to a solid and a solid to a liquid.
- Demonstrate how a mixture is formed (e.g., sand, mud, salad dressing, etc.).
- Work with students to separate a mixture through chromatography and then through the process of evaporation.
- Explain that sometimes a noticeable change is observed when mixing substances. This notable change is a reaction in the mixture.
- Demonstrate and then involve students in simple experiments to show how air takes up space, how air expands or becomes less dense, air pressure, etc.
- Provide students with activities that demonstrate types and sources of energy (magnets, batteries, wires, flash light bulbs, holders and paperclips) and explain how they provide energy.
- Demonstrate with a magnet and/or electricity that force leads to motion.
- Have students design and build a push pull toy.

Look at 3.1 Unifying Themes for more ideas.



STANDARD 3.5: EARTH SCIENCES

FOURTH GRADE STANDARDS:

- Know basic landforms and earth history
- Know types and uses of earth material
- Know basic weather elements
- Recognize the earth's different water resources

CONTENT FOR 1ST GRADE

A. Know basic landforms and earth history

- Identify various earth structures through the use of models
- Identify the composition of soil as weathered rock and decomposed organic remains

See the Environment and Ecology Standard 4.1

B. Know types and uses of earth materials

- Identify uses of various earth materials (e.g., buildings, high-ways, fuels, growing plants).

See the Environment and Ecology Standard 4.2

C. Know basic weather elements

- Identify cloud types
- Explain how the different seasons affect plants, animals, food availability and daily human life

D. Recognize the earth's different water resources

- Identify and describe types of fresh and salt-water bodies
- Identify examples of water in the form of solid, liquid and gas on or near the surface of the earth
- Explain and illustrate evaporation and condensation

Resources:

- Project Wet, PA Department of Education, Office of Environment and Ecology
- Project Wonders of Wetlands, PA Department of Education, Office of Environment and Ecology
- FOSS (Sand, Stone and Pebbles)
- Food, Land and People, PA Department of Education, Office of Environment and Ecology
- Bottle Biology,.....
- ITEA-CATTS EdB Access, Kids Inventing Technology Series Activities, PA Department of Education, Teaching and Learning, Technology Education Advisor

EXAMPLES

The learner will:

- Observe that water flows downhill.
- Identify local streams, river and lakes.
- Identify oceans and mountains on a map or globe.
- Understand different landforms using models such as watersheds, wetlands, volcanoes, mountains and valleys.
- Understand soil is made up of both organic and inorganic matter.
- Understand that several kinds of soil compose the layers of the Earth's surface.
- Understand what natural resources (renewable and nonrenewable) are and how they can be used.
- Identify and categorize the different uses of earth's natural resources.
- Understand how resources make a difference in our daily lives.
- Through the use of drawings describe one products journey from start to finish.
- Understand the different shapes and appearances of cloud types.
- Understand how different seasons have various temperature ranges.
- Observe through the different seasons, the affects on plants and animals.
- Provide written and oral reports, murals, graphic organizers on the different PA animals and how they adapt to seasonal changes.
- Identify and describe the differences between oceans, rivers, lakes, wetlands and streams through creating pictures, stories and models.
- Participate in hands-on activities to see how water goes through phase change (evaporation, condensation, freezing and melting).

SUPPORTIVE PRACTICE

The teacher will:

- Use models and hands-on activities for group work to create watersheds including local streams, rivers and lakes.
- Help students locate oceans and mountains on either a map or globe.
- Compare the different kinds of soil that compose the Earth's surface.
- Provide small containers for students to make compost and have them observe what happens over a small period of time.
- Provide various kinds of soil samples and using magnifying glasses and small tools have students sort and classify what they find.
- Provide graphics and media on what is a renewable or nonrenewable resource.
- Provide Venn diagrams or comparable graphic organizers to tie multiple resources together.
- Provide examples of how everyday objects are made from the Earth's materials.
- Provide opportunities for students to work in groups to create their own story board of a product from start to finish.
- Explain and show visuals of the four basic clouds types (cumulus, stratus, cirrus and nimbus).
- Explain that all clouds are made of water vapor (tie to water cycle).
- Have students keep a daily record of temperatures throughout the school year.
- Have students use their school site to observe through journals the changes in seasons.
- Provide non-fiction trade books on animals and their adaptations during the different seasonal changes.
- Provide multiple opportunities for students to do reports (written or oral) on different PA animals' adaptations during seasonal changes.
- Read non-fiction stories relating to and identifying what is an ocean, river, etc. and what lives in each.
- Provide materials necessary for students to visually depict the differences between oceans, rivers, lakes, wetlands and streams.

STANDARD 3.6: TECHNOLOGY EDUCATION

FOURTH GRADE STANDARDS:

- Know that biotechnologies relate to propagating, growing, maintaining, adapting, treating and converting
- Know that information technologies involve encoding, transmitting, receiving, storing, retrieving, and decoding
- Know physical technologies of structural design, analysis and engineering, finance, production, marketing, research and design

CONTENT FOR 1ST GRADE

- A. Know that information technologies involve encoding, transmitting, receiving, storing, retrieving and decoding
- Identify electronic communication methods that exist in the community
 - Demonstrate the ability to communicate an idea by applying basic sketching and drawing techniques
- B. Know physical technologies of structural design, analysis and engineering, finance, production, marketing, research and design
- Identify and group a variety of construction tasks
 - Know skills used in construction
 - Identify examples of manufactured goods present in the home and school
 - Identify basic resources needed to produce a manufactured item

Resources:

- International Technology Education Association –CATTS EdB Access, Kids Inventing Technology Series Activities, PA Department of Education, Teaching and Learning, Technology Education Advisor
- International Technology Education Association – Technology and Children
- Children's Engineer CD, VA Department of Engineering

EXAMPLES

The learner will:

- Identify various forms of electronic communication that they have used or have seen used.
- Demonstrate by writing, drawing, movement and graphs how electronic communications has impacted their lives.
- Sketch or draw a simple object such as a Lego block or simple geometric block shapes (e.g., as a plastic or wooden pyramids, triangles, cylinders, squares, rectangles).
- Identify different types of structures (e.g., houses, factories, shopping centers, sheds, schools, etc.) through visuals or media presentations.
- Identify and list what various jobs are needed to construct a school building.
- Identify by drawing products of technology that can be found in the classroom.
- Label the source of the materials found in the classroom drawing for each product of technology.

SUPPORTIVE PRACTICE

The teacher will:

- Demonstrate the proper use of various forms of electronic communication (e.g., telephone, computer, Morse code, cellular phone, camera, web-cam, email).
- Provide students with various simple objects to sketch or draw.
- Provide the students with visual aids that depict various types of buildings.
- Assign different career roles to teams of students and have them role play the job (e.g., plumbers, electricians, carpenters, masons, roofer, etc.).
- Guide students on a tour of the classroom pointing out the products of technology and what raw materials were needed for their production.



STANDARD 3.7: TECHNOLOGICAL DEVICES

FOURTH GRADE STANDARDS:

- Explore the use of basic tools, simple materials and techniques to safely solve problems
- Select appropriate instruments to study materials
- Identify basic computer operations and concepts
- Use basic computer software
- Identify basic computer communications systems

CONTENT FOR 1ST GRADE

- Explore the use of basic tools, simple materials and techniques to safely solve problems
 - Group tools and machines by their function
 - Select and safely apply appropriate tools and materials to solve simple problems
- Select appropriate instruments to study materials
 - Develop simple skills to measure, record, cut and fasten
 - Explain appropriate instrument selection for specific tasks
- Identify basic computer operations and concepts
- Use basic computer software
- Identify basic computer communications systems

EXAMPLES

The learner will:

- Understand that tools help humans do work more efficiently.
- Work with a selection of tools and group them by their function (e.g., drawing, cutting, measuring, fastening, magnifying, etc.).
- Understand that tools have specific uses to solve simple problems.
- Work in small groups with an assigned project and identify and safely use the appropriate tools.
- Recognize that a computer is made up of parts that perform different operations (e.g., input, processor and output).
- Draw and identify the different parts of the computer.
- Work with the computer where educationally appropriate.
- Use educational software and be able to manipulate the keyboard or mouse to perform the requested functions.

SUPPORTIVE PRACTICE

The teacher will:

- Provide and demonstrate an assortment of basic tools for the students.
- Assign a selection of tools and have students group them by function.
- Assign each group a project in which the students will have to use the appropriate tool safely.
- Demonstrate the appropriate function of each part of the computer.
- Provide educational drills and/or software to have students become familiar with the functions of the computer.
- Provide a variety of educational software and directed tasks for students to perform on the computer.

STANDARD 3.8: TECHNOLOGY AND HUMAN ENDEAVORS

FOURTH GRADE STANDARDS:

- Know that people select, create and use science and technology and that they are limited by social and physical restraints
- Know how human ingenuity and technological resources satisfy specific human needs and improve the quality of life
- Know the pros and cons of possible solutions to scientific and technological problems in society

CONTENT FOR 1ST GRADE

- Know that people select, create and use science and technology and that they are limited by social and physical restraints
 - Identify interrelationships among technology, people and their world
 - Apply the technological design process to solve a simple problem (See 3.2.D)
- Know how human ingenuity and technological resources satisfy specific human needs and improve the quality of life
 - Identify and distinguish between human needs and wants

EXAMPLES

The learner will:

- Understand the difference between needs and wants in relationship to technology.
- Identify a societal need and engage in the design process to solve the problem.
- Develop an understanding of the role of society in the development and use of technology by having them identify how they get their food, water and shelter.

SUPPORTIVE PRACTICE

The teacher will:

- Prepare a timeline showing the development of different technologies throughout history.
- Identify different society problems and have students engage in solving the problems through the design process.
- Read the Lorax and have the students distinguish between wants and needs.
- Have students work in small groups to identify and classify various technologies that meet human needs for survival.

CONTINUED...

STANDARD 3.8: TECHNOLOGY AND HUMAN ENDEAVORS continued

CONTENT FOR 1ST GRADE

- C. Know the pros and cons of possible solutions to scientific and technological problems in society

Resources:

- ITEA-CATTS EdB Access, Kids Inventing Technology Series Activities, PA Department of Education, Teaching and Learning, Technology Education Advisor
- Food, Land and People, PA Department of Education, Office of Environment and Ecology
- The Lorax Book or video by Dr. Seuss

EXAMPLES

The learner will:

- List the positive and negative aspects of a product of technology that they use in their daily lives.

SUPPORTIVE PRACTICE

The teacher will:

- Provide examples (visual or models) of technological products that students use in their daily lives and have them create a list of good and bad effects on them or their families.

STANDARD 4.1: WATERSHEDS AND WETLANDS

FOURTH GRADE STANDARDS:

- Identify various types of water environments
- Explain the differences between moving and still water

CONTENT FOR 1ST GRADE

- A. Identify various types of water environments

- Identify the *lotic* system (e.g., creeks, rivers, streams)
- Identify the *lentic* system (e.g., ponds, lakes, oceans)

- B. Explain differences between moving and still water

- Identify types of precipitation
- Explain why some water moves and others do not

Resources:

- Office of Environment and Ecology Website (www.pa3e.ws)
- Project WET (OE&E)
- Project Wonders of Wetlands (OE&E)
- Leaping through Wetlands
- Non-fiction trade Books on ponds, rivers, lakes, streams, oceans, fish, insects, reptile and amphibians, etc.
- Commercial educational kits
- Local and state parks and environmental centers
- Project Wild Aquatic (PA Fish and Boat Commission)
- Project Reptile and Amphibians (PA Fish and Boat Commission)
- Wetlands by Pamela Hickman

EXAMPLES

The learner will:

- Identify a creek, river and stream through pictures and books.
- Identify a pond, lake and ocean through pictures and books.
- Explain why water moves or does not move.
- Participate in outdoor experiences looking at moving and still waters.
- Participate in experiments that demonstrate types of precipitation (snow, rain, hail).
- Understand water as a habitat.
- Be able to identify the differences between a fish, insect and amphibian through either visuals or models of each.
- Understand the life cycle of living things and be able to put them into sequence.
- Observe life cycles either in the classroom, on the school grounds or a field experience.
- Be able to identify easily recognizable plants through pictures, books or field experiences.

SUPPORTIVE PRACTICE

The teacher will:

- Provide pictures of both still and moving bodies and have the student's compare and contrast.
- Read non-fiction books that clearly illustrate different water systems.
- Provide outdoor experiences on school grounds or field trips to recognize the different types of water systems.
- Provide opportunities for hands-on experiments to illustrate different types of precipitation.
- Provide opportunities for the students to observe water in the real world and note the differences (snow, rain, sleet).
- Use non-fiction books to identify fish, insects and amphibians and their habitat.
- Explain why water is necessary for life.
- List organisms that have aquatic stages of metamorphosis and describe those stages.
- Describe the life cycle of organisms that depend upon water.
- Provide hands-on opportunities in the classroom, on the school grounds or on a field experiences.

CONTINUED...

STANDARD 4.1: WATERSHEDS AND WETLANDS continued

CONTENT FOR 1ST GRADE

- C. Identify living things found in water environments
- Identify fish, insects and amphibians that are found in fresh water
 - Identify plants found in fresh water
- D. Identify a *wetland* and the plants and animals found there
- Identify different kinds of wetlands
 - Identify plants and animals found in wetlands
 - Explain wetlands as habitats for plants and animals

Resources:

- Watersheds A Practical Handbook for Healthy Water by Clive Dobson and Gregor Gilpin Beck
- Leapfrogging through Wetlands by Margaret Anderson, Nancy Field and Karen Stephenson
- The Web at Dragonfly Pond by Brian "Fox" Ellis

EXAMPLES**The learner will:**

- Be able to identify a swamp, marsh and pond through pictures books or field experiences.
- Recognize through visuals or field experiences animals that use wetlands as habitat.
- Use a model of a wetland and how it provides for living things.
- Be able to identify common types of plants found in wetlands (reeds, cattails, skunk cabbage, etc.) through pictures or field experiences.

SUPPORTIVE PRACTICE**The teacher will:**

- Provide opportunities for the learner to recognize various wetlands like a swamp, marsh and pond through pictures, books and/or field experiences.
- Help learners understand what a wetland is and how important it is for living systems.
- Help the learner use a model of a wetland and understand how it provides food, water, shelter and space for animals.
- Provide pictures or field experiences to help the learner recognize common types of wetland plants.

STANDARD 4.2: RENEWABLE AND NONRENEWABLE RESOURCES

FOURTH GRADE STANDARDS:

- Identify needs of people (basic)
- Identify products derived from natural resources
- Know that some natural resources have limited life spans

CONTENT FOR 1ST GRADE

- A. Identify needs of people
- Identify plants, animals and water as natural resources
 - Identify how the environment provides for the needs of people
- B. Identify products derived from *natural resources*
- Identify products made from trees
- C. Know that some natural resources have limited life spans
- Identify renewable and nonrenewable resources used in the local community
 - Identify various means of conserving natural resources

EXAMPLES**The learner will:**

- Understand what a natural resource is by using books and visuals.
- Identify plant parts (roots, stems, leaves). Look at seeds, blossoms, fruits, etc. and plants that make food. Learners can use models and pictures.
- Plant different seeds and record growth patterns based on the needs of the plant and the variables that affect its growth.
- Be able to identify food and water as natural resources by class discussion on what is needed for survival (water needs, food products, clothes from natural resources).
- The learner will generate a list of the raw materials used for housing, clothing, transporting, heating, cooking, etc. and put them into renewable or nonrenewable resources.

SUPPORTIVE PRACTICE**The teacher will:**

- Help learners understand the basic needs of food, water, shelter and space.
- Read non-fiction stories about natural resources.
- Use pictures of different kinds of natural resources (plants, animals, minerals, nutrients, water, etc.) supplied by the earth and have discussion about each.
- Use models and scientific equipment (magnifying glasses/ boxes, measuring sticks) to help learners understand plant parts and growth.
- Take the class on a field trip to a farm, tree plantation, orchard or use the neighborhood or school yard.

CONTINUED...

STANDARD 4.2: RENEWABLE AND NONRENEWABLE RESOURCES *continued***CONTENT FOR 1ST GRADE**

D. Identify by-products and their use of natural resources

- Identify those items that can be *recycled* and those that cannot
- Identify use of reusable products

See Standard 3.4 also

Resources:

- Office of Environment and Ecology Website (www.pa3e.ws)
- Project Learning Tree (OE&E)
- Conserving for the Future (OE&E)
- Foss Kit – Trees, Animals Two by Two
- The Budding Botanist, Aims Education Foundation
- Tree House, Lawrence Hall of Science
- Non-fiction Trade Books
- Project Wild (PA Game Commission)
- Project Food, Land and People (OE&E)
- Trade Books
- Recycling and You Video (OE&E)
- US Department of Environmental Protection
- PA Department of Environmental Protection Website (www.dep.state.pa.us)
- Recycling and You, OE&E
- Energy and You, Project Learning Tree (OE&E)
- CDs from Billy B on photosynthesis, air, energy, soil, water
- The Budding Botanist Investigations with Plants, AIMS Activities
- www.MII.org
- 4-H or Extension Programs

EXAMPLES

The learner will:

- Be able to identify different types of shelter (looking at why different habitats are important for survival).
- Bring in products that are made from trees (paper, toothpicks, rulers, pencils, cards, wrapping paper, coffee filters, lumber, 1x2 or 2x4 lumber, the grain on wooden blocks, etc.) and explain or make a mural of how they are made.
- Bring in from home items they use in their everyday lives and sort what is renewable and what is nonrenewable.
- Create murals or other visuals to illustrate how resources are used in daily routines.
- Read about water, air, rocks, minerals, trees, soil, animals, etc and how they are classified as renewable or nonrenewable.
- Develop a list of ways to conserve resources at both home and school.
- Distinguish between what is recyclable and what is not recyclable and why.
- Look at and sort different everyday items and decide what can be recycled or reused and what cannot be.
- Participate in a classroom-recycling program.
- Read books on the subject.

SUPPORTIVE PRACTICE

The teacher will:

- Help learners develop murals depicting what is needed for survival and where it comes from.
- Hang pictures of all different types of products made from trees around the classroom and have students explain how they are made.
- Use both products made from trees and products made from other materials and have students categorize them into those made from trees and those not made from trees.
- Create a chart of the resources they use in their daily lives distinguishing between renewable and nonrenewable resources.
- Invite local resource people to talk to the students about how their jobs impact local community resources.
- Describe ways of conserving resources they use (e.g., food, water, electricity).
- Read books that deal with different things that come from nature.
- Use CDs to illustrate conservation of resources (e.g., water, energy, soil).
- Use posters and/or charts that show recycling products.
- Provide an assortment of items that the students is familiar with and have them sort which are recyclable, reusable and non-recyclable.
- Set up a recycling program of paper in the classroom.

STANDARD 4.3: ENVIRONMENTAL HEALTH

FOURTH GRADE STANDARDS:

- Know that plants, animals, and humans are dependent on air and water
- Identify how human actions affect environmental health

CONTENT FOR 1ST GRADE

- A. Know that plants, animals and humans are dependent on air and water
- Know that all living things need air and water to survive
 - Describe potentially dangerous pest controls used in the home
 - Identify actions that can prevent or reduce waste pollution
- B. Identify how human actions affect environmental health
- Identify litter and its effect on the environment
- C. Understand that the elements of natural systems are interdependent
- Identify some of the organisms that live together in an ecosystem

Resources:

- Office of Environment and Ecology Website (www.pa3e.ws)
- Project Learning Tree, (OE&E)
- Project WET (OE&E)
- Reading to Learn the Content through the Environment and Ecology Standards (OE&E)
- Pest Patrol, Penn State University and OE&E

EXAMPLES

The learner will:

- Understand how important air and water are to every living organism (i.e., humans, animals and plants).
- Observe plant growth either in the classroom or on the school grounds.
- Identify simple pest controls found in the homes or in the school (e.g., bug spray, flea collars, mouse traps, fly swatters).
- Distinguish between pest controls that are good for the environment and those that are not.
- Understand what litter is and why it harms the environment.
- Discuss what should be done with trash.
- Understand their role in not littering and picking up litter when they see it (caution should be taken to explain about toxic or hazards materials).
- Observe micro habitats (trees, under a rock, flower bed, small patch of ground) and list the plants and animals and their needs.

SUPPORTIVE PRACTICE

The teacher will:

- Introduce the word "habitat" and have students read books or use manipulative to classify and sort what is living and what is not.
- Provide plants in the classroom and have students observe their growth based on the amounts of air and water each receive.
- Use the school grounds or local community for class observations of both plants and animals.
- Use the Mr. Yuk program to reinforce dangerous chemicals.
- Arrange for the local county recycling coordinator or the school district maintenance supervisor to visit the classroom room and talk about local and district attempts to keep trash disposed of properly.
- Read related books.
- Read books on different habitats, what lives there and their needs.
- Take a walk and observe all the plant and animal life.



STANDARD 4.4: AGRICULTURE AND SOCIETY

FOURTH GRADE STANDARDS:

- Know the importance of agriculture to humans
- Identify the role of the sciences in Pennsylvania agriculture

CONTENT FOR 1ST GRADE

- A. Know the importance of agriculture to humans
- Identify people's basic needs
 - Know how people depend on agriculture
- B. Identify the role of the sciences in Pennsylvania agriculture
- Identify common animals found on Pennsylvania farms
 - Identify common plants found on Pennsylvania farms
 - Identify the parts of important agricultural related plants (i.e., corn, soybeans, barley)
 - Identify a fiber product from Pennsylvania farms
 - Identify what plants and animals need to grow

Resources:

- Office of Environment and Ecology Website (www.pa3e.ws)
- Non-fiction trade books.
- Videos/CDs on farm animals and plants.
- Disney, Bill Nye and Broom
- Project Food, Land and People (OE&E)
- Pennsylvania Agriculture Supplement (OE&E)
- PA Act 26 Poster (OE&E)
- PA Ag Magazines (OE&E)
 - PA Vegetables
 - PA Soils
 - PA Pigs
- Dig It – Hands on Soil Investigation, National Science Teachers Assoc.
- Critters, AIMS Education Foundation
- Garden Tools for Learning by Environmental Concepts
- How Groundhog's Garden Grew by Lynne Cherry
- www.NSDL.org (science digital library)

EXAMPLES

The learner will:

- Identify what they want and what they need in order to survive (food, water, shelter and space).
- Understand the differences between a want and a need.
- Compare how agriculture influences food, dress, shelter and customs in the area and other areas.
- Read books and look at pictures of animals found on local farms.
- Visit a local farm or see a video on the kinds of crops grown on local farms.
- Examine a plant and identify its parts.
- Identify products that come from a farm and that they use in their everyday lives (a visit to a grocery store or display pictures or non perishables could be taken to a food pantry).
- Through the use of murals, trace one simple product from production to consumption (e.g., chocolate bar, jar of jelly).
- Grow plants in the classroom and provide what it necessary (food, water, air and sun).

SUPPORTIVE PRACTICE

The teacher will:

- Brainstorm with students what they need to survive.
- Read and discuss stories that deal with needs and wants (e.g., The Lorax).
- Provide an assortment of pictures of what people eat, wear, live and do in Pennsylvania and in other familiar areas so students can compare differences and similarities.
- Read books to illustrate what animals live on a local farm.
- Visit a farm or have a guest farmer, extension agent or master gardener talk to the students.
- Use magnifying glasses and other simple tools for students to examine plant parts.
- Help students draw and label the parts of the plant.
- Guide the students from production to consumption of a product.
- Give examples of a fiber product and how we use it (e.g., wool, cotton).
- Invite a person who spins to demonstrate wool-thread-clothes.



STANDARD 4.5: INTEGRATED PEST MANAGEMENT

FOURTH GRADE STANDARDS:

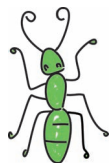
- Know types of pests
- Explain pest control
- Understand society's need for integrated pest management

CONTENT FOR 1ST GRADE

- A. Know types of *Pests*
- Identify and categorize pests
- B. Explain Pest control
- Know reasons why people control pests
 - Identify chemical labels (e.g., caution, poison, warning)
- C. Understand society's need for integrated pest management
- Identify integrated pest management practices in the home
 - Identify integrated pest management practices outside the home

Resources:

- Office of Environment and Ecology Website (www.pa3e.ws)
- Food, Land and People (OE&E)
- Integrated Pest Management: An Exploration Into IPM – Penn State University and OE&E
- Pest Patrol, Penn State University and OE&E
- Ladybugs, Lawrence Hall of Science, GEMS Books
- Creepy Crawlies and the Scientific Method, Fulcrum Publishing
- Market Places of the Mind, Department of Agriculture
- www.agclassroom.org



EXAMPLES

The learner will:

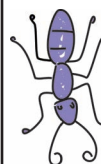
This should be done as a unit in either Grades 1 or 2.

- Understand and be able to explain that pest is a human category rather than a natural category.
- Explore the wide range of organisms that can potentially be pests.
- Compare and contrast the different roles organisms have besides pestering humans.
- Describe how management of a particular organism will depend upon a person's perspective.
- Using local surroundings, record what they see in terms of potential pest and report out in a classroom discussion.
- Define the term pesticide and identify common household pests that chemicals may be used to manage.
- Understand that there are other ways to control pest besides chemical.

SUPPORTIVE PRACTICE

The teacher will:

- Instruct students to choose an organism from a class-generated list of pests. Through drawings show when the animal is a pest and when it is not.
- Take a walk outside and if possible have student use a digital camera or use a journal and draw pictures of animals that could be considered a pest to humans.
- Display and discuss a variety of non-chemical products used to control pest in the home and at school.
- Invite the school district's integrated pest management coordinator to the classroom and have them talk about what the district is doing to control pest.
- Discuss how chemicals used for pest control could be poisonous.



STANDARD 4.6: ECOSYSTEMS AND THEIR INTERACTIONS

FOURTH GRADE STANDARDS:

- Understand that living things are dependent on nonliving things in the environment for survival
- Understand the concept of cycles

CONTENT FOR 1ST GRADE

- A. Understand that living things are dependent on non-living things in the environment for survival
- Identify and categorize living and non-living things
 - Describe the basic needs of an organism
 - Identify basic needs of a plant and an animal and explain how their needs are met
 - Identify plants and animals with their *habitat* and food sources
 - Understand the components of a food chain
 - Identify a local *ecosystem* and its living and non-living components
 - Identify a simple ecosystem and its living and non-living components
 - Identify common soil textures
 - Identify animals that live underground.

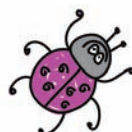
Resources:

- Office of Environment and Ecology Website (www.pa3e.ws)
- Project Learning Tree (OE&E)
- Project Wild (PA Game Commission)
- Project Wild Aquatic (PA Fish and Boat Commission)
- Wonders of Wetlands (OE&E)
- Fun with Nature Book (1-55971-702-5)
- Reading to Learn the Content to the Environment and Ecology Standards (OE&E)
- Reptiles and Amphibian (PA Fish and Boat Commission)
- Food, Land and People, PDE's Office of Environment and Ecology
- Gems Books
- Trade books – different animals, ecosystems, Magic School Bus books, books on cycles, etc.
- The Soilies Video, OE&E

EXAMPLES

The learner will:

- Give examples of living and non-living things.
- Understand what is meant by an ecosystem.
- Identify different ecosystems (e.g., forest, field, river, pond, wetland, farm).
- Give an example of a local simple ecosystem and list its living and non-living parts.
- Construct a three-component food chain and be able to explain it.
- Understand the meaning of habitat (food, water, shelter and space) and be able to depict an animal in its habitat and how its needs are being met.
- Distinguish between sand, silt and clay.
- Identify animals that live underground (e.g., worms, grubs, beetles, ants, spiders, millipedes, field crickets, slugs).
- Participate in hands-on experiences with animals and their needs.



SUPPORTIVE PRACTICE

The teacher will:

- Use Venn diagram or comparable graphic organizer to identify similarities and differences in living and non-living things.
- Identify the needs of plants and animals.
- Read books on various animals in different habitats and the needs of the animals (e.g., frogs, deer, bat, worm, raccoon, hawk, rabbit, dragonfly and otter).
- Provide the opportunity for students to describe objects in the world around them using the five senses.
- Provide opportunities for the students to compare different ecosystems (river, pond, wetland, forest, farm, field).
- Provide opportunities for the students to select a local simple ecosystem and describe through a visual its living and non-living parts.
- Display common soils (sand, silt and clay) and have students use their sense of touch to distinguish among them.
- Use the school grounds, field trips, aquariums to demonstrate different simple ecosystems.



STANDARD 4.7: THREATENED, ENDANGERED AND EXTINCT SPECIES

FOURTH GRADE STANDARDS:

- Identify differences in living things
- Know that adaptations are important for survival

CONTENT FOR 1ST GRADE

- A. Identify differences in living things
- Identify characteristics that living things inherit from their parents
 - Explain why each of the four elements in a habitat is essential for survival
 - Identify local plants or animals and describe their habitat
- B. Define and understand *extinction*
- Identify plants and animals that are extinct

Resources:

- Office of Environment and Ecology Website (www.pa3e.ws)
- Wildlife of PA Coloring Book (PA Game Commission)
- Wildlife of Pennsylvania CDROM (OE&E)
- Reading to the Content through the Environment and Ecology Standards (OE&E)
- PA Project Wild (PA Game Commission)
- PA Song Birds (PA Game Commission and PA Department of Conservation and Natural Resources)

EXAMPLES

The learner will:

- Understand that living things have like characteristics from their parents (e.g., wings, fins, feathers, scales, skin coloration, beaks, echolocation capabilities, vision).
- Recognize that living things come in different colors, shapes and sizes.
- Understand the parts of a habitat (food, water, shelter, space) and why each is essential for survival.
- Recognize the needs that animals and plants must have are obtained from their habitat.
- Understand that animals and plants must be able to adapt to their surroundings to survive.
- Help students design an animal and provide the opportunity to give it the characteristics it will need to survive in a new ecosystem.
- Understand why certain plants and animals are extinct.
- Understand why certain animals and plants have distinctive characteristics that help them survive.

SUPPORTIVE PRACTICE

The teacher will:

- Read non-fiction trade books on different animals and have students recognize difference in the animals and their habitats.
- Have students classify and sort different animals and plants based on their similarities and differences.
- Take field trips or do school yard work having students identify different species through journaling and drawings.
- Through observation skills have student identify different characteristics needed for survival.
- Use class discussions to help students understand why some animals are now extinct.



STANDARD 4.8: HUMANS AND THE ENVIRONMENT

FOURTH GRADE STANDARDS:

- Identify the biological requirements of humans
- Explain how human activities may change the environment

CONTENT FOR 1ST GRADE

- A. Identify the biological requirements of humans
- Identify several ways that people use natural resources
- B. Explain how human activities may change the environment
- Identify everyday human activities and how they affect the environment
- C. Know the importance of natural resources in daily life
- Identify items used in daily life that come from natural resources
 - Identify ways to conserve our natural resources

Resources:

- Office of Environment and Ecology Website (www.pa3e.ws)
- Project Wet (OE&E)
- Field trips to State and County Parks
- Local speakers from a variety of agencies, associations, organizations or companies
- Many of the resources throughout this section can be used here.
- Field experiences to a farm, state park, stream and wetland can enhance their understanding of the systems importance to living things.

EXAMPLES

The learner will:

- Compare the difference between wants and needs.
- Describe how different people in the community meet their own needs and wants.
- Read non-fiction books dealing with how people use natural resources.
- Understand how their use of water, electricity, recycling, pest control methods, etc. help to use the earth's resources better.
- Understand through hands-on involvement how gardening can provide for their need for food.

SUPPORTIVE PRACTICE

The teacher will:

- Read non-fiction books that depict how people use natural resources.
- Invite local resource people to talk to the students about their particular role in the environment (e.g., water treatment plant manager, recycling coordinator, pest control company, parks and recreation ranger, forester, game or fish commission education specialist).
- Read books that show how people have used the resource for their very existence.
- Do hands-on projects or activities with the students dealing with water and electric use.
- Assist students in planting a small garden either in the classroom or on the school grounds.
- Take a field trip to sites that will visually enhance the students understanding of how people use the resource (parks, streams, wetlands, etc.).

STANDARD 4.9: ENVIRONMENTAL LAWS AND REGULATIONS

FOURTH GRADE STANDARDS:

- Know that there are laws and regulations for the environment

CONTENT FOR 1ST GRADE

- A. Know that there are laws and regulations for the environment
- Explain how the recycling law impacts the school and home

When teaching Renewable and Nonrenewable Resources (4.2D) incorporate this standard statement.

Resources:

- Local resource personnel
- Recycling Video, PDE's OE&E
- Conserving for the Future, PDE's OE&E

EXAMPLES

The learner will:

- Explain what they could recycle at home and identify what is recycled at school.

SUPPORTIVE PRACTICE

The teacher will:

- Explain what they could recycle at home and identify what is recycled at school.
- Explain to the students when teaching 4.2D that there is a law that requires recycling in PA.
- Invite the recycling coordinator from either the school district or from the county to talk to the students about recycling and the law.



SOCIAL STUDIES

EARLY LEARNING STANDARDS FOR 1ST GRADE

The foundation for social studies, economics, geography, history and the workings of government begin with children's personal experiences and their initial understanding of themselves in relation to their families, homes and school. As their perception grows, they further expand their understanding of their role in the community, larger democratic society and as a global citizen. Using an interdisciplinary approach, teachers facilitate children's social studies skill development by helping them engage in active, age-appropriate investigations that build knowledge and understanding.

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STANDARD 5.1: PRINCIPLES AND DOCUMENTS OF GOVERNMENT

THIRD GRADE STANDARDS:

- Describe what government is
- Explain the purposes of rules and laws and why they are important in the classroom, school, community, state and nation
- Define the principles and ideals shaping government
- Describe the purpose of the United States Flag, The Pledge of Allegiance and The National Anthem
- Identify framers of documents of governments
- Explain why government is necessary in the classroom, school, community, state and the basic purposes of government in Pennsylvania and the United States
- Explain the importance of respect for the property and the opinions of others
- Identify symbols and political holidays

CONTENT FOR 1ST GRADE

- A. Identify the visible roles that government serves
- B. Identify the purposes of rules and laws and their importance in the classroom, school, community, state and nation
- C. Define the principles and ideals shaping government
- D. Describe the purpose of the United States Flag, The Pledge of Allegiance and the National Anthem
- E. Identify framers of documents of governments
- F. Explain why government is necessary in the classroom, school, community, state and the basic purpose of government in Pennsylvania and the United States
- G. Explain the importance of respect for the property and the opinions of others
- H. Identify symbols and political holidays

EXAMPLES

- The learner will:
- Explain why rules are necessary to keep a community safe.
 - Explain that governments are visible in a community through making laws, enforcing laws, gathering taxes and providing services for the common good.
 - Explain citizenship, diversity of people and ideas, common good, leadership and patriotism.
 - Discuss how symbols are important.
 - Discuss the importance of Thomas Jefferson as a framer of the Declaration of Independence.
 - Explain why we celebrate The Fourth of July.

SUPPORTIVE PRACTICE

- The teacher will:
- Make a list of classroom rules.
 - Invite a police officer to speak to the class.
 - Invite a local service person to speak to the class.
 - Salute the flag and discuss the Pledge of Allegiance.
 - Celebrate Constitution Day.



STANDARD 5.2: RIGHTS AND RESPONSIBILITIES OF CITIZENSHIP

THIRD GRADE STANDARDS:

- Identify examples of the rights and responsibilities of citizenship
- Identify personal rights and responsibilities.
- Identify sources of conflict and disagreement and different ways conflicts can be resolved
- Identify the importance of political leadership and public service in the school, community, state and nation
- Describe ways citizens can influence the decisions and actions of government
- Explain the benefits of following rules and laws and the consequences of violating them
- Identify ways to participate in government and civic life

CONTENT FOR 1ST GRADE

- A. Identify examples of the rights and responsibilities of citizenship
- B. Identify personal rights and responsibilities in the community
- C. Identify sources of conflict and disagreement and different ways conflicts can be resolved
- D. Identify the importance of political leadership and public service in the school, community, state and nation
- E. Describe ways citizens can influence the decisions and actions of government
- F. Explain the benefits of following rules and laws and the consequences of violating them
- G. Identify ways to participate in government and civic life

EXAMPLES

The learner will:

- Discuss the importance of voting.
- Describe personal responsibilities in the community such as following the laws such as bicycle safety, recycling and wearing a seatbelt.
- Discuss ways to solve problems and disagreements.
- Describe ways to be a leader/role model in the classroom and community.
- Explain how they can influence the actions of government (e.g., letter writing, discussions with school/community leaders).
- Initiate a public service project (e.g., school-wide cleanup, food drive).
- Develop rules and consequences within the classroom.
- Participate in a classroom election.
- Participate in anti-bullying initiatives.

SUPPORTIVE PRACTICE

The teacher will:

- Conduct a mock election.
- Hold classroom meeting to discuss how to resolve problems.
- Create authentic experiences for student to practice being leaders in the community.
- Aid students in writing a letter to the principal and/or community leader.
- Institute a school-wide food drive.
- Guide students in creating a set of classroom rules and consequences.
- Incorporate anti-bullying initiatives into the classroom.

STANDARD 5.3: HOW GOVERNMENT WORKS

THIRD GRADE STANDARDS:

- Identify reasons for rules and laws in the school and community
- Identify services performed by the local, state and national governments
- Identify positions of authority at school and in local, state and national governments
- Explain what an election is
- Explain why being treated fairly is important
- Identify different ways people govern themselves

CONTENT FOR 1ST GRADE

- Identify reasons for rules and laws in the school and community
- Identify services performed by the local, state and national governments
- Identify positions of authority at school and in local, state and national governments
- Explain what an election is
- Explain why being treated fairly is important
- Identify different ways people govern themselves

EXAMPLES**The learner will:**

- Explain how rules and laws keep the school and community operating smoothly and safely.
- Identify services provided by government such as law enforcement, firefighters, animal control, hospitals and education.
- Explain the roles of the principal, mayor, governor and president.
- Hold a mock election.
- Discuss the importance of treating others fairly.
- Discuss how advertising influences people.
- Discuss how a classroom is governed like a community.

SUPPORTIVE PRACTICE**The teacher will:**

- Invite the principal into the classroom to discuss his/her roles at school.
- Invite local figures (law enforcement, animal control, etc.) to speak to the children about their roles in the community.
- Invite the guidance counselor(s) to class to discuss what it means to treat others fairly.
- Show students various types of advertising and discuss how people are influenced by such advertising.

STANDARD 6.1: ECONOMIC SYSTEMS

THIRD GRADE STANDARDS:

- Describe how individuals, families and communities with limited resources make choices
- Identify local economic activities
 - Employment
 - Output

CONTENT FOR 1ST GRADE

- Describe how people balance unlimited wants with limited resources
- Identify local employment/producers
 - Jobs
 - Products/Services

EXAMPLES**The learner will:**

- Describe ways in which families spend and save money.
- Discuss reasons why people save money for the future.
- Practice exchanging manipulative money for classroom goods to demonstrate the process of buying and selling.
- Discuss community helpers and describe the services they provide to the community.
- Recognize the similarities and differences in jobs.

SUPPORTIVE PRACTICE**The teacher will:**

- Invite community helpers/local business people into the classroom to discuss the services they provide to the community.
- Create experiences (classroom stores) for students to make economic decisions in the classroom.
- Read various trade books describing different community professions.
- Establish classroom jobs.
- Provide field trip opportunities to local businesses.

STANDARD 6.3: SCARCITY OF CHOICE

THIRD GRADE STANDARDS:

- Define scarcity and identify limited resources
- Identify and define wants of different people
- Identify costs and benefits associated with an economic decision
- Explain what is given up when making a choice
- Explain how self-interest influences choice

CONTENT FOR 1ST GRADE

- Define scarcity and identify limited resources
- Identify and define wants and needs of different people in relation to limited resources

EXAMPLES

The learner will:

- Discuss scarcity and list various limited resources.
- Describe the difference between wants and needs.
- Create a list of wants and needs.
- Discuss how spending affects our ability to do certain things (i.e. restaurants, movies, shopping).
- Explain what it means to spend wisely.
- Practice saving money.
- Discuss how personal choice influences the decision to buy certain items.

SUPPORTIVE PRACTICE

The teacher will:

- Read books about scarcity and various limited resources.
- Provide pictures that give examples of needs and wants.
- Provide opportunities for learners to gain insight into making wise decisions regarding needs and wants.
- Use graphic organizers to identify wants and needs.
- Create opportunities for learners to practice saving pretend money in the classroom.
- Share reasons why people choose to spend their money certain ways.

STANDARD 6.4: ECONOMIC INTERDEPENDENCE

THIRD GRADE STANDARDS:

- Explain why people trade
- Explain why goods, services and resources come from all over the nation and the world
- Explain why some products are produced locally while others are not

CONTENT FOR 1ST GRADE

- Explain the process of trading
- Explain why goods, services and resources come from all over the nation and the world
- Explain why some products are produced locally while others are not

EXAMPLES

The learner will:

- Discuss the process of trade between two people.
- Discuss the relationship among traders.
- Describe why certain products cannot be produced locally (ex. oranges in PA).

SUPPORTIVE PRACTICE

The teacher will:

- Read various trade books about trade.
- Provide items to trade as part of a Native American/Pilgrim activity.
- Provide various pictures of goods and services that come from all over the nation and world.
- Use KWL charts to discuss why products are produced in certain regions.

STANDARD 6.5: WORK AND EARNINGS

THIRD GRADE STANDARDS:

- Explain why people work to get goods and services
- Describe businesses that provide goods and businesses that provide services
- Identify different occupations
- Define saving and explain why people save

CONTENT FOR 1ST GRADE

- A. Explain the various reasons why people work
- B. Identify different occupations
- C. Describe businesses that provide goods and businesses that provide services
- D. Define saving and explain why people save

EXAMPLES

- The learner will:
- List reasons why people work.
 - Explain the term allowance.
 - Match descriptions of work with the correct profession.
 - Identify community helpers that provide goods.
 - Identify community helpers that provide services.
 - Discuss/write about a profession of interest.
 - Explain what it means to save.
 - Visit a financial institution.

SUPPORTIVE PRACTICE

- The teacher will:
- Invite community helpers into the classroom to discuss their occupation.
 - Provide pictures and descriptions of different types of employment.
 - Provide various pictures of community helpers that provide goods.
 - Provide various pictures of community helpers that provide services.
 - Provide/display descriptions of various occupations.
 - Arrange to visit a local financial institution.

STANDARD 7.1: BASIC GEOGRAPHY LITERACY

THIRD GRADE STANDARDS:

- Identify geographic tools and their uses
- Identify and locate places and regions

CONTENT FOR 1ST GRADE

- A. Identify the following geographic tools: maps, globe, map elements, diagrams, photographs, map keys and cardinal directions
- B. Recognize continents and oceans



EXAMPLES

- The learner will:
- Explain the characteristics and purposes of different geographic representations.
 - Use and make maps to identify and locate familiar places or objects within the neighborhood and community.
 - Distinguish between continents and oceans on a world map.

SUPPORTIVE PRACTICE

- The teacher will:
- Locate and label specific landforms, countries and bodies of water on maps and globes.
 - Provide an opportunity to make authentic maps of classroom, playground, school, house, etc.

STANDARD 7.2: THE PHYSICAL CHARACTERISTICS OF PLACES AND REGIONS

THIRD GRADE STANDARDS:

- Identify the physical characteristics of places and regions
- Identify the basic physical processes that affect the physical characteristics of places and regions

CONTENT FOR 1ST GRADE

- A. Identify physical characteristics of places, noting physical properties (landforms such as swamps, hills and mountains), weather, climate, vegetation, animals, bodies of water such as creeks, rivers, ponds, lakes and human-made forms such as highways, streets, building and bridges
- B. Identify basic processes (e.g. flood, tornado) that affect the physical characteristics of places and regions

EXAMPLES

The learner will:

- Recognize natural and human-made physical characteristics.
- Describe the interactions between people, animals and physical features of their environment.
- Name and describe the characteristics of the four seasons.
- Discuss how extreme physical events effect the environment.

SUPPORTIVE PRACTICE

The teacher will:

- Read books about the rainforests of the world and discuss the rainforest.
- Provide field trips to outdoor destinations to identify and discuss various features of environments and nature.
- Illustrate different characteristics of seasons.
- Read literature about the effects of tornadoes, hurricanes, tsunamis, earthquakes on the environment.

STANDARD 7.3: THE HUMAN CHARACTERISTICS OF PLACES AND REGIONS

THIRD GRADE STANDARDS:

- Identify the human characteristics of places and regions by their population characteristics
- Identify the human characteristics of places and regions by their cultural characteristics
- Identify the human characteristics of places and regions by their settlement characteristics
- Identify the human characteristics of places and regions by their economic activities
- Identify the human characteristics of places and regions by their political activities

CONTENT FOR 1ST GRADE

- A. Identify the human characteristics that are affected by places and regions
- B. Identify how places and regions are impacted by people

EXAMPLES

The learner will:

- Describe the reasons why people settle in specific regions.
- Describe and list ways people impact the places in which they live.

SUPPORTIVE PRACTICE

The teacher will:

- Discuss the importance of natural resources and how they impact the environment.
- Provide opportunity for Earth Day activities.
- Provide opportunities for students to recycle.
- Establish a school-wide cleanup for Earth Day.
- Allow students to grow and care for plants.
- Discuss the various ways humans impact the places in which they live.

STANDARD 7.4: THE INTERACTION BETWEEN PEOPLE AND PLACES

THIRD GRADE STANDARDS:

- Identify the impacts of physical systems on people
- Identify the impacts of people on physical systems

CONTENT FOR 1ST GRADE

- A. Identify the human characteristics that are affected by physical systems
- B. Identify how physical systems are impacted by people

EXAMPLES

- The learner will:
- Discuss how the weather and natural resources impact people (e.g., drought, snowfall, soil quality).
 - Discuss and create a list of the various things people do to impact the environment (both positively and negatively).
 - Describe how natural resources help us produce things needed for survival.

SUPPORTIVE PRACTICE

- The teacher will:
- Incorporate weather into morning routines and activities.
 - Use KWL charts to learn more about weather and natural resources.
 - Provide opportunities to observe the weather and how it impacts lives (recreational choices, clothing choices, etc.).
 - Provide opportunities for children to plant trees and plants.
 - Discuss human effects on environment.

STANDARD 8.1: HISTORICAL ANALYSIS AND SKILLS DEVELOPMENT

THIRD GRADE STANDARDS:

- Understand chronological thinking and distinguish between past, present and future time
- Understand historical research

CONTENT FOR 1ST GRADE

- A. Understand chronological thinking and distinguish between past, present and future time
- B. Understand historical research



EXAMPLES

- The learner will:
- Develop a timeline of his/her life using photographs, drawings and brief descriptors.
 - Participate in daily calendar activities and discuss past, present and future events.
 - Distinguish between fact and opinion.
 - Appreciate multiple points of view.
 - Discuss illustrations in historical stories.
 - Begin to discuss cause/effect in historical events (e.g., Pilgrims' voyage, Martin Luther King, Jr.).
 - Interview grandparents about events from their childhood.
 - Listen to various folklore stories.

SUPPORTIVE PRACTICE

- The teacher will:
- Create a timeline using a designated topic.
 - Read non-fiction texts.
 - Evaluate stories.
 - Evaluate stories over time.
 - Provide opportunity to use graphic organizers to show cause and effect.
 - Visit a senior center or invite a senior citizen to the classroom.
 - Provide the opportunity to celebrate Grandparents Day.
 - Read and compare stories.

STANDARD 8.2: PENNSYLVANIA HISTORY

THIRD GRADE STANDARDS:

- Understand the political and cultural contributions of individuals and groups to Pennsylvania history
- Identify and describe primary documents, material artifacts and historic sites important in Pennsylvania history

CONTENT FOR 1ST GRADE

- Understand the political and cultural contributions of individuals and groups to Pennsylvania history
- Identify and describe primary documents, material artifacts, historic sites important in Pennsylvania history

EXAMPLES

The learner will:

- Identify and explain the significance of John Chapman.
- Identify the official commonwealth symbols (e.g. tree, bird, dog, insect, flower).

SUPPORTIVE PRACTICE

The teacher will:

- Provide opportunities to celebrate John Chapman's contributions to Pennsylvania history.
- Provide KWL charts to discuss historical figures.
- Identify and illustrate official symbols of Pennsylvania.

STANDARD 8.3: UNITED STATES HISTORY

THIRD GRADE STANDARDS:

- Identify contributions of individuals and groups to United States history
- Identify and describe primary documents, material artifacts and historic sites important in United States history

CONTENT FOR 1ST GRADE

- Identify contributions of individuals and groups to United States history
- Identify and describe primary documents, material artifacts and historic sites important in United States history

EXAMPLES

The learner will:

- Identify and explain the political and cultural contributions of Thomas Jefferson, Abraham Lincoln, Franklin Delano Roosevelt, Sacajawea, Martin Luther King, Jr.
- Recognize The White House and The Statue of Liberty.

SUPPORTIVE PRACTICE

The teacher will:

- Read trade books and discuss historical figures and identify them on money.
- Read literature about symbols of the United States of America.

STANDARD 8.4: WORLD HISTORY

THIRD GRADE STANDARDS:

- Identify historic sites and material artifacts important to world history

CONTENT FOR 1ST GRADE

- Identify historical sites important to world history

EXAMPLES

The learner will:

- Identify The Great Pyramids.
- Construct pyramids using geometric shapes.

SUPPORTIVE PRACTICE

The teacher will:

- Introduce the pyramids in math through the use of geometric shapes.
- Discuss the significance of pyramids to Egyptian civilization.
- Provide manipulatives for students to create pyramids.

APPENDIX

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GLOSSARY OF TERMS

FOR EARLY LEARNING STANDARDS FOR 1ST GRADE

APPROACHES TO LEARNING

Change – To cause to be different: *change the spelling of a word*. To give a completely different form or appearance to; transform: *changed the yard into a garden*. To give and receive reciprocally; interchange: *change places*.

Communication – The exchange of thoughts, messages or information, as by speech, signals, writing or behavior. Interpersonal rapport. Communications (*used with a sing. or pl. verb*). The art and technique of using words effectively to impart information or ideas.

Compare – To consider or describe as similar, equal or analogous; liken. To examine in order to note the similarities or differences of.

Confidence – Trust or faith in a person or thing. A trusting relationship; self assurance.

Cooperation – The act or practice of cooperating. The association of persons or businesses for common, usually economic, benefit.

Create – To cause to exist; bring into being. See synonyms at www.answers.com/topic/found. To give rise to; produce.

Decision Making – Cognitive process leading to the selection of a course of action among alternatives.

Emotions – Emotion, term commonly and loosely used to denote individual, subjective feelings which dictate moods.

Explore – To investigate systematically; examine.

Family – A fundamental social group in society typically consisting of one or two parents and their children. Two or more people who share goals and values, have long-term commitments to one another and reside usually in the same dwelling place. All the members of a household under one roof.

Feeling – Feelings are affective states of consciousness. An affective state of consciousness, such as that resulting from emotions, sentiments or desires: *experienced a feeling of excitement*. An awareness or impression.

Friends – Person whom one knows, likes and trusts. A person whom one knows; an acquaintance.

Friendship – The quality or condition of being friends.

Goals – The purpose toward which an endeavor is directed; an objective.

Investigate – To observe or inquire into in detail; examine systematically.

Predict – To state, tell about or make known in advance, especially on the basis of special knowledge.

Respect – To have a high opinion of admire, consider, esteem, honor, regard, value. *Idioms*: look up to, think highly much well

of. See www.answers.com/topic/praise-blame praise/blame. To recognize the worth, quality, importance or magnitude of.

Safe – Secure from danger, harm or evil. Free from danger or injury; unhurt: safe and sound. Free from risk; sure: a safe bet. Affording protection.

Sharing – Sharing is the joint use of a resource. In its narrow sense, it refers to joint or alternating use of an inherently finite good. To divide and parcel out in shares; apportion. To participate in, use, enjoy or experience jointly or in turns.

Thinking – Action of using one's mind to produce thoughts or covert symbolic responses to stimuli.

Trust – Firm reliance on the integrity, ability or character of a person or thing. Custody; care. Something committed into the care of another; charge.

ARTS & HUMANITIES

ART

Color – Specific hues that are visible when light reflects off of an object.

Form – Object with three dimensions (height, width and depth).

Line – A point moving in an identifiable direction.

Shape – Object with two dimensions (height and width), usually defined by a line.

Space – The feeling of depth in an artwork OR the way in which the artist uses the area within the picture plane.

DANCE

Direction – Spatial relation between a dancer and the path along which he/she moves.

Level – High, middle or low ways that the body moves in relation to the floor and ceiling of a performance space.

Locomotor – Movement that takes a dancer from one place to another by moving on feet, hands or other body parts.

Nonlocomotor – Also known as axial movement; movement in which the dancer does not travel, but instead moves in the space around the body.

Phrase – Dance movements that are linked in a single choreographic sequence.

Rhythm – The way that movement is organized within a beat.

Size – A way of making the body small or large.

Shape – A way of making the body look different by changing positions of body parts; some shapes include narrow, wide, angular, curved, symmetrical, asymmetrical.

CONTINUED...

Space – One of the three elements of dance, relating to the area through which a dancer moves.

Stasis/Stillness – Periods in dance when the body is not moving.

Tempo – Rate of speed of music and movement (fast or slow).

MUSIC

Beat – Steady pulse of music.

Dynamics – Loudness or softness of sound.

Form – the arrangement of smaller sections to make a larger piece of music (ex. AB, ABA, rondo).

Melody – Pattern of tones arranged to make a tune.

Meter – Method of grouping beats within a measure.

Pitch – Highness or lowness of sound.

Rhythm – Pattern of long and short sounds arranged to make music.

Tempo – Rate of speed of sound (fast or slow).

Timbre – quality that makes a sound unique.

THEATRE

Acting – Pretending to be a character and showing that character's feelings and actions.

Actor – A person who acts in a play.

Actions – What the character does to get what they want.

Audience – The person or persons who watch the play.

Character – A person, animal or imaginary object in a play or story.

Drama – Acting out a story or idea.

Intention – What your character wants or wishes for.

Lines – What your character says.

Off stage – The part of the stage or playing space which cannot be seen by the audience.

On stage – The part of the stage or playing space which can be seen by the audience.

Performance – Acting, singing, dancing or creating music which is planned and practiced and finally shared with an audience.

Play – A story written in lines and actions for actors to perform.

Playing Space/Drama Space – a special space in the room where actors practice or perform for others to watch.

Projection – To make your voice louder and easier for an audience to hear.

Rehearsal – Practicing for a performance.

Stage – A special space created to perform plays for an audience.

INTERDISCIPLINARY

Aesthetics – A branch of philosophy that focuses on the nature of beauty, the nature and value of the arts and the inquiry processes and human responses they produce.

Aesthetic Criteria – Standards on which to make judgments about the artistic merit of a work of art, derived from cultural and emotional values and cognitive meaning.

Aesthetic response – A philosophical reply to works in the arts.

Artistic choices – Selections made by artists in order to convey meaning.

Arts resource – An outside community asset (e.g., performances, exhibitions, performers, artists).

Assess – To analyze and determine the nature and quality of the process/product through means appropriate to the art form.

Community – A group of people who share a common social, historical, regional or cultural heritage.

Contemporary Technology – Tools, machines or implements emerging and used today for the practice or production of works in the arts.

Context – A set of interrelated background conditions (e.g., social, economic, political) that influence and give meaning to the development and reception of thoughts, ideas or concepts and that define specific cultures and eras.

Create – To produce works in the arts using materials, techniques, processes, elements, principles and analysis.

Critical Analysis – The process of examining and discussing the effective uses of specific aspects of works in the arts.

Critical Process – The use of sequential examination through comparison, analysis, interpretation, formation and testing of hypothesis and evaluation to form judgments.

Critical Response – The act or process of describing and evaluating the media, processes and meanings of works in the arts and making comparative judgments.

Culture – The way of life of a group of people, including customs, beliefs, arts, institutions and worldview. Culture is acquired through many means and is always changing.

Elements – Core components that support the principles of the arts.

Genre – A type or category (e.g., music – opera, oratorio; theater – tragedy, comedy; dance – modern, ballet; visual arts – pastoral, scenes of everyday life).

Humanities – The branch of learning that connects the fine arts, literature, languages, philosophy and cultural science. The humanities are concerned with the understanding and integration of human thought and accomplishment.

Improvisation – Spontaneous creation requiring focus and concentration.

Multimedia – The combined use of media, such as movies, CD-roms, television, radio, print and the internet for entertainment and publicity.

Original Works in the Arts – Dance, music, theatre and visual arts pieces created by performing or visual artists.

Principles – Essential assumptions, basic or essential qualities determining intrinsic characteristics.

Style – A distinctive or characteristic manner of expression.

Technique – Specific skills and details employed by an artist, craftsperson or performer in the production of works in the arts.

Timbre – A unique quality of sound.

Traditions – Knowledge, opinions and customs a group feels is so important that members continue to practice it and pass it onto other generations.

Traditional Technology – Tools, machines or implements used for the historical practice or production of works in the arts.

Vocabulary – Age and content appropriate terms used in the instruction of the arts and humanities that demonstrate levels of proficiency as defined in local curriculum.

FAMILY, COMMUNITY

Advocacy – The act of speaking or writing in support of someone or something.

Collaboration – To work cooperatively and respectfully toward a common goal.

Communication – The process in which information is received or transmitted; meaning making.

Respect – To show consideration for.

Trust – A belief or confidence in the honesty, integrity, reliability, justice of another person.

HEALTH AND PHYSICAL EDUCATION STANDARDS

Basic Movement Skills – The building blocks for more advanced sport-specific skills that are used in physical activities. Movement skills are the action words you use in physical education class. The basic movement skills are organized into three groups: locomotor, nonlocomotor and manipulative movements.

Choices – Picking an option from alternatives.

Conflict – A disagreement between two or more people or two or more choices.

Cooperation – An important social skill in which you work together with others for a common goal.

Emergency – a serious situation that occurs without warning and calls for quick action.

Emotions – Specific feelings such as angry, happy, sad, afraid.

Family – A group of people related by blood, adoption, marriage or a desire for mutual support.

Health – A quality of life, which is made up of many parts. How your body feels, how your mind thinks and how you feel about the things that happen to you, how you get along with others, as well as being free of illness or disease.

Physical Activity – Anything you do that requires movement and involves the body or parts of the body.

Practice – Repeating movements and cues to get better at performing skills. Practice helps us to go from inconsistent to consistent.

Motor skills – The body movements/actions used when participating in physical activities.

Movement Concepts – Ideas or activities that describe how a skill is to be performed or how a skill performance can be made more interesting. Examples of movement concepts are space awareness (where the body moves), effort awareness (how the body moves) and relationship awareness (over, under).

Risks – Something that threatens your health and can cause injury, illness or death.

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MATH

Addend – Any of a group of numbers or terms added together to form a sum.

Addition – To join two or more numbers (or quantities) to get a total amount (or sum).

Analog Clock – A clock that is not digital.

Array – An orderly arrangement often in rows, columns or a matrix used to show the concept of multiplication.

Attribute – Feature or characteristic.

Bar Graph – A graph that uses bars to show quantities or numbers so they can be easily compared.

Customary Unit of Measurement – A system of weights and measures frequently used in the United States. The basic unit of weight is the pound; the basic unit of capacity is the quart.

Data – Information that is gathered, which is often organized into graphs or charts.

Difference – The amount that remains after one quantity is subtracted from another.

Digit – One of the 10 Arabic number symbols 0 – 9.

Elapsed Time – How long an activity lasts (how much time has gone by from the beginning of an event to another point in time).

Equal – Having the same quantity, degree, value, etc.

Equation – A mathematical statement containing an equals sign to show that two expressions are equal (e.g. $6 + 4 = 10$; $2 + 4 = 5 + 1$).

Estimate – To form an approximate judgment, opinion or calculation regarding the worth, value, amount, size, weight, etc.

Expanded Form – Involves writing the number in expanded form to show the value of each digit (e.g., $15,629 = 10,000 + 5,000 + 600 + 20 + 9$).

Fact Family – The three numbers that make up a fact as well as the inverse of the operation (i.e., $3 + 5 = 8$; $5 + 3 = 8$; $8 - 5 = 3$; $8 - 3 = 5$).

Fraction – A number used to name an equal part of a group or a whole.

Geometric Shape – Any shape on a plane or in space.

Inverse Relationship – The opposite (i.e. $2 + 3 = 5$, therefore $5 - 3 = 2$ and $5 - 2 = 3$).

Line of Symmetry – A line of symmetry separates a figure into two congruent halves, each of which is a reflection of the other.

Metric Unit of Measurement – A system of measurement used throughout the world based on factors of 10. It includes measures of length, weight and capacity.

Minus – Involving or noting the act of subtraction.

Non-standard Unit – A unit used to measure something that is not standard (i.e., measuring the length of a book using paper clip-lengths rather than inches).

Number Line – A line on which every point represents a real number.

Number Sentence – A mathematical sentence written in numerals and symbols (e.g. $8 + 6 = 14$).

One-One Correspondence – When one and only one element of a second set is assigned to an element of a first set, all elements of the second set are assigned and every element of the first set has an assignment, the mapping is called one-to-one.

Ordinal Numbers – A number indicating position in a series or order (i.e. first, second, etc.).

Pattern – Regularities in situations such as those in nature, events, shapes, designs and sets of numbers (e.g., spirals on pineapples, geometric designs in quilts, the number sequence 3, 6, 9, 12, ...).

Pictograph – Graph using pictures to represent quantity.

Place Value – The value of a digit as determined by its position in a number, the name of the place or location of a digit in a number.

Plus – Involving or noting the act of addition.

Predict – To tell what you think will happen.

Problem Solving – Finding ways to reach a goal when no routine path is apparent.

Rectangular Prism – A three-dimensional figure whose sides are all rectangles; a box.

Regrouping – To change the grouping of numbers by separating ones, from tens, from hundreds, etc. and grouping the parts of the numbers with other like values (formerly known as borrowing and carrying).

Repeated Addition – A model for multiplication (e.g., $2 + 2 + 2 = 3 \times 2$).

Scale – A device used to weigh.

Sequence – A set of ordered quantities (e.g., positive integers).

Solid Figure – A three-dimensional shape with length, width and height.

Solve – To work out the answer to a problem.

Standard Unit – An accepted or approved instance or example of a quantity against which others are judged, measured or compared (e.g. inches, centimeters, feet, meter, quarts, pints, etc.).

Subtraction – To take one quantity away from another.

Sum – The result of adding two or more numbers.

Survey – A method of collecting a sample of data by asking people questions.

Table – Numbers or quantities arranged in rows and columns.

Tally – Using marks to record counting (e.g. $3 = \text{III}$).

Three-Dimensional Shape – A shape having length, breadth (or width) and height.

Two-Dimensional Shape – Having two dimensions: length and breadth (or width).

Value – Numerical worth or amount.

Verify – To prove or confirm.

PRIMARY – PERSONAL SOCIAL DEFINITIONS

Self Concept – the idea or mental image one has of oneself and one's strengths, weaknesses, status, etc.; self-image.

Self-Control skills – are necessary to accurately process the information contained in social encounters, to engage in thoughtful social decision making and to be able to approach others in difficult situations without provoking anger or annoyance.

Self Regulation – is used to refer to the many processes individuals use to manage drives and emotions. Therefore, self regulation also embodies the concept of will power. Self Regulation is an extremely important executive function of the brain.

Social and Emotional Competence – is the ability to understand, manage and express the social and emotional aspects of one's life in ways that enable the successful management of life tasks such as leaning, forming relationships, solving everyday problems and adapting to the complex demands of growth and development.

ACADEMIC STANDARDS FOR READING, WRITING, SPEAKING AND LISTENING

Academic Vocabulary – The vocabulary critical to understanding the concepts of the content taught in schools.

Conventions of Print – The proper rules and regulations that provide spelling and literary writings.

CC Words – Common abbreviation for consonant vowel consonant words, (e.g., cat, fan).

Decodable Text – Text in which the vocabulary is controlled based on scientific knowledge of sound-spelling relationships.

Direct, Explicit, Systematic Instruction – A predictable routine of teaching that is organized and have increased student responses. The teacher models and prompts students using cues.

Encode – To change a message into symbols, as encode oral language into writing, encode an idea into words.

Graphic Organizer – A visual representation of concepts that group common characteristics.

High Frequency Words – Words that students know by sight without having to analyze it to pronounce it (e.g., jump, the). Also known as sight words.

Orthographic Patterns – Letter sounds and spelling patterns commonly found in the English language.

Phoneme – The smallest unit of sound that conveys a distinction in meaning, such as /m/ of mat.

Phoneme Addition – Adding a unit of sound to another phoneme, such as /t/ to /a/ to form at.

Phoneme Deletion – Dropping a unit of sound, such as removing /c/ from cat to form at..

Phoneme Substitution – Replacing a spoken sound with another sound, such as changing /f/ to /p/ in fan.

Progress Monitoring – A consistent data collection method that measures individual progress on a specific goal.

Repeated Reading – The reader will read the material more than one time for fluency.

Research-based Benchmarks – Scores that have been tested and normed with students in many different trials.

Sensory Details – Looking at the details using the senses of smell, touch, taste and movement.

Sight Words – Words that students know by sight without having to analyze it to pronounce it (e.g., jump, the). Also known as high frequency words.

Syllabication Rules – Rules that show how a unit of pronunciation is organized around a vowel.

Text to Text – The reader relates the current text material to a previously read text.

Text to Self – The reader relates themselves to what is written in the text.

Text to World – The reader relates world events to what is written in the text.

Think-Aloud – Talking aloud the steps of the process.

Vowel Diphthongs – Two vowels that produce a unique sound (e.g. ou in bought, oy in boy, ow in bow).

Vowel Teams – A vowel spelling that uses two or more letters for a single speech sound.

Word Sorts – Putting words in categories according to their common characteristics (e.g., mat, sat, flat, pat).

SCIENCE AND TECHNOLOGY

Energy – capacity for doing work. Examples include the transformation of sunlight into chemical energy in plants through photosynthesis, the movement of objects (including water) through mechanical energy.

Force – a push or pull which can cause an object to speed up, slow down or change direction.

Fossils – a remnant, impression or trace of an organism of past geologic ages that has been preserved in the earth's crust.

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Inquiry – A systematic process for using knowledge and skills to acquire and apply new knowledge.

Investigations – to observe or study by close examination and systematic inquiry.

Landforms – Is a feature at or below Earth's surface, e.g., mountains, valleys, rivers, lakes and caves.

Life Cycle – The phases, changes or stages through which an organism passes during its lifetime.

Matter – Anything that has mass and takes up space. Three common states of matter are solid, liquid and gas.

Mass – Is the amount of matter in something.

Mixtures – combination of one or more substances (e.g., ice in water, oil in water, salt in water, baking soda in white vinegar).

Model – to construct or fashion in imitation of a particular object, to design or imitate forms: make a pattern, (e.g., model cars, toys, wetlands, mountains, valleys).

Observations – use of your five senses it is something you notice. Scientist use observation to help them make inferences/guesses.

Opinion – something someone feels or believes. You can not prove as true.

Patterns (regularly occur and reoccur in nature) – These are patterns that repeat in certain order and can be seen in nature like leaf patterns, flower, coats of animals, honeycombs, changes in the moon, etc.

Scale – Relates concepts and ideas to one another by some measurement (e.g., quantitative, numeral, abstract, ideological); provides a measure of size and/or incremental change.

Scientific Facts – true statements about the world.

Senses – Using the five senses of sight, smell, touch, taste and hear to explore the world around us.

Simple Machine – any of various elementary mechanisms formerly considered as the elements of which all machines are composed and including the lever, the wheel and axle, the pulley, the inclined plane, the wedge and the screw.

Soil – A mixture of inorganic minerals (clay, silt and sand), organic materials, water, air and living organisms formed as the result of organic and inorganic processes; top layer of the Earth's crust which supports plants, animals and microorganisms; varies with climate, plant and animal life, time and parent material.

System – A group of related objects that work together to achieve a desired result.

Technological Design – Recognizing the problem, proposing a solution, implementing the solution, evaluating the solution and communicating the problem, design and solution.

ENVIRONMENT AND ECOLOGY

Ecosystem – the interacting system of a biological community and its non-living environment; also, the place where these interactions occur.

Extinction – the complete elimination of a species from the earth

Fiber – slender, threadlike structure combining with other fibers in the form of weaving, knitting, or otherwise intertwining

Food Chain – the transfer of food energy from organisms in one nutritional level to those in another.

Habitat – an area that provides an animal or plant with adequate food, water, shelter and living space in a suitable arrangement.

Lentic – relating to or living in still water (e.g., lake, pond, swamp)

Lotic – relating to or living in actively moving water. (e.g., river, stream, creek)

Natural Resources – those raw materials supplied by the earth and its processes. Natural resources include nutrients, minerals, water, plants, animals, etc.

Nonrenewable Resources – substances such as oil, gas, coal, copper and gold which, once used, but which cannot be replaced in this geological age.

Pest – is a human constructed rather than a natural category for plants and animals. The term can be applied to almost anything that interferes with humans in their ability to do the things, health issues, farming, etc. It is an undesirable, potentially harmful or noxious organism. (e.g., mouse, mosquitoes, gypsy moth)

Pollution – harmful substances deposited in the air, water or land, leading to a state of dirtiness, impurity or unhealthiness

Recycle – a multi-phased process which includes removal, separation and/or diversion of materials from the waste stream; use of such materials as raw materials for the manufacture of new products and the use of the new product.

Renewable – a naturally occurring raw material or form of energy which has the capacity to replenish itself through ecological cycles and sound management practices. The sun, wind, falling water and trees are examples.

Soil – A mixture of inorganic minerals (clay, silt and sand), organic materials, water, air and living organisms formed as the result of organic and inorganic processes; top layer of the Earth's crust which supports plants, animals and microorganisms; varies with climate, plant and animal life, time and parent material.

Watershed – the land area that delivers run-off water and sediment to a major river or stream and its tributaries.

Wetland – lands where water saturation is the dominant factor determining the nature of the soil development and the plant and animal communities (e.g., sloughs, estuaries, marshes).





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