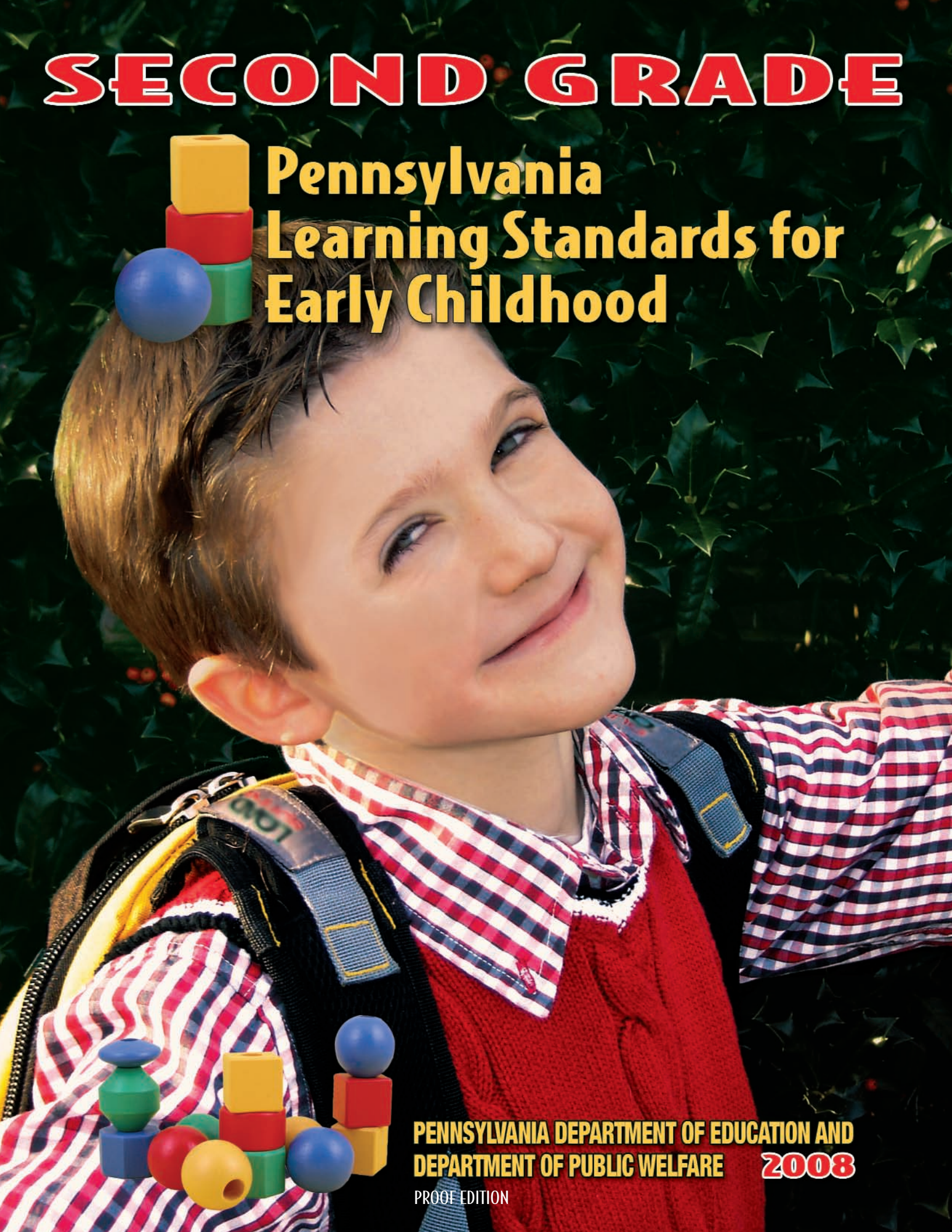
SECOND GRADE

Pennsylvania Learning Standards for Early Childhood



PENNSYLVANIA DEPARTMENT OF EDUCATION AND DEPARTMENT OF PUBLIC WELFARE

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PROOF EDITION

TABLE OF CONTENTS

Pennsylvania's Primary Standards for grade 2 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 2 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 and
- framing teachers' age-appropriate expectations for their students

A smooth transition from one grade to the next is critical to building solid learning foundations in 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.

1. 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.

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

3. 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.

4. 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.

5. 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 & communities and are intentional in their relationships children benefit.

6. 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.

7. 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.

8. 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.

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

10. 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 2ND 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.

STANDARD AL 1: DEMONSTRATE INITIATIVE AND CURIOSITY

CONTENT FOR 2ND GRADE

AL 1.1 Participate willingly in various experiences

AL 1.2 Express choices/preferences during concrete, immediate, familiar and unfamiliar 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 90% of the available learning centers including 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.
- Participate in preferred and non-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 2ND GRADE

AL 2.1 Demonstrate ability to complete a variety of tasks, activities, projects and experiences

AL 2.2 Demonstrate 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 Demonstrate the skills necessary for participating in a group or independently

AL 2.6 Follow through on 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.
- Self-monitor behaviors to adapt to changing situations.
- Initiate requests for factual information, stories, games and other learning activities.
  - 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 2ND GRADE

AL 3.1 Predict possible outcomes related to cause and effect

AL 3.2 Discover and try 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 Respond to other's social cues during group activities

AL 3.6 Cooperate with others to accomplish a joint task

AL 3.7 Classify, compare and contrast objects, events and experiences

AL 3.8 Recognize differing points of view

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.
- Negotiate and compromise in order to resolve conflict.
- Empathize with those in stressful situations.
- Respond in a variety of social situations.
- Collaborate with others in problem solving situations.
- 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 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 2ND GRADE

AL 4.1 Differentiate between appropriate and inappropriate risk-taking

AL 4.2 Participate in a variety of familiar and unfamiliar

AL 4.3 Accept responsibility for learning through active participation verbally or nonverbally

AL 4.4 Accept responsibility for one's behavior

EXAMPLES

The learner will:

- Identify and explain dangerous and inappropriate risk-taking.
- Participate in 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-school environment.
- Begin to improve weak areas.
- 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 learners' 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 learners' choices.

STANDARD AL 5: DEMONSTRATE IMAGINATION, CREATIVITY AND INVENTION

CONTENT FOR 2ND GRADE

AL 5.1 Initiate tasks and experiences as active leaders when selecting topics 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 2ND 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.

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 2ND GRADE

A. Know and use the elements of shape, direction and rhythm in dance

B. Create and perform dance

EXAMPLES

The learner will:

- Demonstrate different shapes the body can make in movement (i.e. curved, angular).
- Move to various directional cues in space (up, down, side, forward, etc.).
- Begin to perform series of locomotor movements that reflect a given rhythm pattern.
- Create movement phrases or short dances in small groups.
- Participate, record, view and discuss rehearsals and practice sessions.
- Create and perform a dance incorporating different rhythms and tempos of movement.
- Take turns being audience and performer to both watch and perform improvised works.

SUPPORTIVE PRACTICE

The teacher will:

- Demonstrate different shapes of the body in movement and allow students to copy the shapes and create new ones.
- Demonstrate how different locomotor movements can be combined to create rhythmic patterns.
- Provide opportunities for learners to watch and discuss presentations or videos of dance.
- Provide music with different rhythmic phrases.
- Demonstrate different directions that can be used when moving through space.
- Provide a dedicated place and time to rehearse for performances, record rehearsals and practices and allow students to view the recordings.
- Provide music of various tempos, including music with no meter, for students to improvise and create to.
- Provide opportunities for students to create, rehearse and perform simple improvised and structured dance movements.
- Provide a playing space for performing.

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STANDARD 9.1: PRODUCTION, PERFORMANCE AND EXHIBITION OF DANCE, MUSIC, THEATRE & VISUAL ARTS

CONTENT FOR 2ND GRADE

C. Create and perform music

D. Use the musical elements of timbre, rhythm, volume, intensity, pitch and texture

E. Recognize types (genres) of world music

F. Understand story (scenario), script/text in the theatre arts

EXAMPLES

The learner will:

- Create, perform and notate a variety of music using basic rhythmic and melodic patterns (quarter, eighth, half and whole notes and rests; do, re, mi, sol, la).
- Perform a variety of songs from different cultures and time periods.
- Create and notate sound effects and musical accompaniments for stories.
- Read basic traditional musical notation.
- Create and perform a variety of music using basic rhythmic and melodic patterns (quarter, eighth, half and whole notes and rests; do, re, mi, sol, la).
- Identify timbre, dynamic, intensity and texture changes in pieces of music.
- Explore different regions of the world and identify the music that comes from these places.
- Experience the different instruments and musical customs in world music by participating in drum circles, playing various world instruments, etc.
- Create improvised dramas in groups with dialogue and actions that reflect more complex character relationships, intentions and pursuit of goals.
- Combine sound and motion to create both animate and inanimate objects within complex, concrete or abstract imaginary worlds.
- Analyze story for conflict and character intentions.
- Identify and understand the purpose of voice and body warm-ups as a tool for actors.
- Collaborate in small groups to create original dramas improvised from a theme or story starter line of dialogue.

SUPPORTIVE PRACTICE

The teacher will:

- Provide a variety of music to perform.
- Lead students to explore various types of musical notation.
- Provide materials (books, poems, stories) as inspiration for musical accompaniments.
- Demonstrate effective musical accompaniment for stories.
- Allow students to experiment with musical instruments and voices to create new sounds.
- Model correct traditional musical notation.
- Give students the opportunity to sing and play instruments with varied pieces of music.
- Allow students to write pieces of music using traditional or basic musical notation.
- Provide a variety of listening examples from many cultures and time periods.
- Show students on a map or globe where pieces of music originated.
- Provide students with instruments and experiences related to different world regions.
- Provide simple plot descriptions or story starters and guide the children in creating improvised dramas with clear characters who are pursuing their own personal goals within the framework of the imaginary scenario.
- Lead the group in responding to music or abstract paintings by creating animate or inanimate objects that react to each other in an imaginary world.
- Read aloud plays and stories and lead class discussion to identify relationships between characters, central conflict or problem and the tactics each character uses to pursue their goals.
- Lead the group in voice and body warm-ups using the vocabulary of theatre to explain the reason behind each exercise.

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STANDARD 9.1: PRODUCTION, PERFORMANCE AND EXHIBITION OF DANCE, MUSIC, THEATRE & VISUAL ARTS

CONTENT FOR 2ND GRADE

G. Create and perform plays and productions

H. Use collaboration and emphasis in the theatre arts

I. Create and exhibit visual art

J. Know color, shape, line, texture, size/relationship (proportion/scale), pattern (repetition), space and emphasis/focal point in visual art

K. Create works of art based on varied styles within all art forms

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.
- Create work using a variety of media.
- Make choices regarding the presentation of their artwork (matting, size, orientation, location).
- Identify his/her own work and the works of others.
- Explore color through color mixing.
- Define shape through the use of line.
- Use line to simulate observed textures.
- Describe differences in size/relationship between one object and another.
- Identify the focal point in works of art.
- Respond to the works of famous artists by creating personal artwork.
- Know and understand the difference between mime, improvisation, story-telling and plays.
- Demonstrate a basic understanding of mime by creating a simple mimed performance of a daily activity such as brushing one's teeth.
- Demonstrate a basic understanding of storytelling by retelling a story from a picture book using a combination of narration, dialogue, repetitive words and illustrating of actions.
- Write a piece of music or create a dance using specific criteria.

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.
- Provide opportunities for students to discuss their own works and the works of others.
- Provide space and time for students to display and view their own works and the works of others.
- Provide age-appropriate examples of works that emphasis color, shape, line, texture, proportion/scale, pattern, space and emphasis/focal point.
- Allow students to experiment with materials to create artworks.
- Model the use of artistic elements in personal works.
- Provide prints of famous artworks and facilitate discussions about the qualities of these works.
- Share picture books with strong central conflicts and clear characters and then allow the students to tell the story to the class or to each other using their own words and illustrative actions.
- Model storytelling by performing a story as a storyteller might or inviting a story-teller to perform for the class.
- View a live performance of a play, read a play with the class or view a film of a play.
- Read a simple play script with the class and identify the differences between a script and a story in a book.
- Model the steps used to create music or dance.
- Provide opportunities for students to practice notating music and dance.

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STANDARD 9.1: PRODUCTION, PERFORMANCE AND EXHIBITION OF DANCE, MUSIC, THEATRE & VISUAL ARTS

CONTENT FOR 2ND GRADE

L. Understand that works in the arts can narrate and inform

M. Create works of art based on the works of other dancers, musicians, actors and visual artists

N. Know and use traditional and contemporary technology in the production and performance of the visual and performing arts

O. Know and recognize the function of rehearsals and practice sessions in dance, music, theatre arts and visual arts

P. Demonstrate safe use of all materials, equipment and tools at work and in performance spaces in dance, music, theatre arts and visual arts

Q. Identify school and community performances and exhibitions relating to the visual and performing arts

EXAMPLES

The learner will:

- Know the difference between a play designed to teach facts and a play designed to communicate a story, emotion or theme.
- Know the difference between folk songs and work songs.
- Identify a piece of program music and discuss its story.
- Recognize stories told through images and movement in works in the arts.
- Rehearse and perform a play from a script.
- Create and perform music or dance in a specific style.
- Create pieces of art inspired by the styles and materials of famous artworks.
- Explore appropriate contemporary technologies to create personal works of art (e.g. digital processing, MIDI software, polymer clay).
- Know and use traditional technologies to create works in the arts (e.g. charcoal, pens, percussion instruments).
- Produce both preliminary and finished works in the arts.
- Identify tools and materials used to create works in the arts.
- Demonstrate the safe and proper use of arts tools and materials.
- Identify and demonstrate the proper cleaning and storage of tools and materials.
- Demonstrate the proper use of musical instruments.
- Demonstrate respect for other dancers' personal movement space and safety.
- Participate as an audience member for school assemblies, performances and exhibitions.
- Identify media outlets that are used to advertise performance and exhibition opportunities.

SUPPORTIVE PRACTICE

The teacher will:

- Read or experience a performance of a play designed to educate the audience and compare and contrast it with a play designed primarily to tell a story or express an emotion or theme.
- Lead students to perform folk and work songs and discuss the differences between the two.
- Play pieces of program music for students and share books based on the music (e.g. The Sorcerer's Apprentice, Carnival of the Animals).
- Allow students to create their own personal works of art and dance based on stories communicated through previously viewed/discussed artworks and dances.
- Allow students to view and discuss famous artworks and explore techniques that are best suited to each work.
- Provide the class with simple scripts to perform for each other or for an open house. Rehearse the script with simple stage movement and an emphasis on voice and movement choices to create a character and pursue a goal.
- Give students the opportunity to experience music and dance in different styles (e.g. pentatonic songs, folk songs and dances).
- Demonstrate the uses of traditional and contemporary technologies to create works in the arts.
- Allow students to explore various technologies to create and perform works of art.
- Provide feedback to students so they see and understand how practice contributes to better work.
- Demonstrate the proper use of equipment.
- Identify which tools, materials and equipment are used in each art form.
- Inform students of proper storage areas and methods.
- Allow ample time for students to clean and store equipment after use.
- Inform students of opportunities to attend performances and exhibitions both in and out of school.
- Model proper audience/participant behavior at school assemblies, performances and exhibitions.

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 2ND GRADE

A. Identify the historical and cultural context of an individual work in the arts

B. Know the historical and cultural perspective of a work of art

C. Know how historical events and culture impact forms, techniques and purposes of works in the arts

D. Know and use appropriate vocabulary used between social studies and the arts and humanities

E. Compare and contrast historical and cultural differences as they relate to works in the arts

F. Describe traditions as they relate to works in the arts

G. Identify and discuss common themes, forms and techniques from works in the arts

EXAMPLES

The learner will:

- View and be aware of cultural perspectives represented in artwork, music, stories/folktales and dance performances.
- Notice the differences between ancient cultures and students' lives in works of art by viewing artwork, listening to music, moving or reading/acting out stories.
- Build upon and continue to use vocabulary appropriate to the time period and culture being discussed in works in the arts.
- Choose characteristics in works of art that show differences between cultures (i.e. prehistoric man's clothing as compared to contemporary clothing design, African vs. Middle Eastern drumming styles).
- Discuss how his/her own family traditions are different or similar to other family traditions in other cultures (i.e. Native Americans dinner vs. Modern Family dinner).
- Identify thematic information from contemporary and traditional resources and apply to his/her own works and performances.
- Understand various forms and techniques used in music (e.g. rondo form, musical themes) and apply these to his/her own works.
- Understand how various dances can share common forms or techniques with different end results (i.e. tap dance vs. clogging vs. flamenco dance).

SUPPORTIVE PRACTICE

The teacher will:

- Facilitate and guide class discussions about the place and time represented in works in the arts.
- Build upon cross-curricular social studies resources available to help students learn about cultural perspectives in a work of art.
- Introduce ancient cultures and how historical events of those cultures impact forms, techniques and purposes of works in the arts.
- Continue to provide social studies and art vocabulary word lists for use during art discussions.
- Use guided discussion to help students compare cultural differences as they relate to works in the arts.
- Choose a variety of art, dance, music and theatre examples from various cultures and time periods.
- Show examples of contemporary family traditions as they relate to other family traditions from other cultures and times.
- Provide resources that help students make connections between works in the arts with common forms and themes.
- Allow students to experience and experiment with various sound sources and musical examples.

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 2ND GRADE

A. Recognize critical processes used in the examination of works in the arts and humanities

B. Recognize that works in the arts can be described by using arts elements, principles and concepts

C. Use classification skills to identify materials and processes used to create works in the arts

D. Understand that works in the arts have meaning

E. Identify similar and different characteristics among works in the arts

EXAMPLES

The learner will:

- Form a judgment based on personal reaction to a work in the arts.
- Describe an artwork or performance using basic vocabulary describing the elements of art, dance, music or theatre.
- Know the properties of materials used to create works in the arts.
- Match a material or process with its correct use in creating a work in the arts.
- Identify basic meaning expressed in a work in the arts.
- Recognize common and different themes, materials and techniques used to create works of visual art, music, dance or theatre.

SUPPORTIVE PRACTICE

The teacher will:

- Provide dedicated time for students to express and share their personal opinions about works in the arts.
- Choose arts examples that exhibit the strong use of elements: color, line, shape, space, texture, rhythm, melody, timbre, etc.
- Allow students to respond to works in the arts by writing about, drawing and acting out their thoughts.
- Demonstrate the correct use of materials and processes in creating works in the arts.
- Provide dedicated storage space of materials grouped together by similar properties.
- Provide artistic, theatrical and musical examples that have clear meaning for class performance and discussion.
- Allow students to view and listen to viewpoints expressed by famous artists, dancers, choreographers, composers, musicians, actors and directors about their works.
- Facilitate guided discussion to explore themes.
- Allow students to explore characteristics they have observed (size, subject matter, material, color, movement, volume, etc.).
- Provide examples of works in the arts that exhibit similar characteristics.
- Provide examples of works in the arts that exhibit different characteristics.

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 2ND GRADE

A. Make a philosophical statement about works in the arts and humanities

B. Know how to communicate an informed individual opinion about the meaning of works in the arts

C. Identify the various environments in which observers experience the arts

D. Identify the choices that artists make regarding subject matter and theme

EXAMPLES

The learner will:

- Talk about their experience of a play, story, piece of music, work of art or dance and articulate why they liked or disliked it.
- Experience a live or filmed performance or exhibition and compare and contrast their feelings about beauty with their feelings and/or experience in watching the performance.
- Form an opinion about works in the arts.
- Understand that opinions differ.
- Gather information about specific works of art and be able to communicate facts to support his/her opinion.
- Identify the differences between live and recorded performances.
- Identify the differences between live and virtual/digital art exhibits.
- Experience program music and discuss its themes.
- Listen to music that uses different instruments and voices, including nontraditional sounds. Discuss how the composers' or performers' choices changed the listeners' experience.
- Experiment with found sounds, voices and instruments to create original pieces of music.
- View an artwork or performance and articulate its subject and/or theme.
- Find related themes or subjects in several works in the arts.

SUPPORTIVE PRACTICE

The teacher will:

- Provide opportunities for the students to experience live or filmed performances or exhibitions of high quality and then discuss these in terms of the students' aesthetic response (Ex: What about this performance/exhibition seemed beautiful to you? Why?).
- Give students the chance to express individual opinions about various styles and genres in the arts (e.g. museum day, music or dance critics).
- Provide students with reviews written by arts critics and guide them to examine the opinions presented.
- Make available varied works in the arts for student examination and critique.
- Provide opportunities for students to experience the arts in different environments (parades, concerts, recordings, art galleries, virtual art exhibits, etc.).
- Provide a variety of music for classroom listening and discussion.
- Guide students to look at instruments, voices and classroom objects in traditional and nontraditional ways.
- Provide traditional and contemporary examples for students to explore themes and subject matter in works in the arts.
- Facilitate discussions about subject matter and themes in works in the arts.

FAMILY-SCHOOL-COMMUNITY PARTNERSHIPS

EARLY LEARNING STANDARDS FOR 2ND GRADE

Primary 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.

Standard		Page

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 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 schools 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 2ND GRADE

Healthy, active children are better prepared to learn. Their learning is impacted by their health and well-being. Second 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 second grade students is focused on developing foundational skills in health, safety and physical education.

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 2ND GRADE

A. Identify the stages of development: infant, child, teen, adult

B. Make a short term personal health goal and take action to achieve the goal, e.g.
   1. What do I want to do?
   2. What do I need to do it?
   3. Where do I start?
   4. Who can help me?

C. Use basic communication skills, e.g. listening, not speaking when someone else is speaking, basic body language, paraphrasing

D. Effectively communicate wants, needs and feelings

E. Identify and describe ways individuals grow socially, e.g. friendships, family responsibilities

F. Choose appropriate ways to handle basic emotions

G. Demonstrate a basic knowledge of the brain, heart and lungs, major bones and circulatory system (major arteries and veins)

H. Summarize the basic functions of the brain, heart and lungs, major bones and circulatory system (major arteries and veins)

EXAMPLES

The learner will:

- Sequence stages of life through pictures.
- Take action to achieve short term personal goal.
- Demonstrate effective basic communication skills.
- Effectively communicate their wants, needs and feelings.
- Distinguish between healthy and unhealthy behaviors.
- Participate in interactive activities that show how people grow and change physically, emotionally and socially.
- Predict how someone is feeling based on body language and facial expression.
- Identify adults in the home, school and community who can help them with communication skills and goal setting.
- Summarize ways in which family members and friends care for each other.
- Develop personal, appropriate ways to handle emotions.
- Correctly identify the location of the brain, heart and lungs, major bones and circulatory system (major arteries and veins.)
- Construct a model of body parts and organs.

SUPPORTIVE PRACTICE

The teacher will:

- Provide interactive sequencing activities utilizing pictures.
- Walk children through the basic goal setting process so that they can achieve their personal goals.
- Provide interactive activities using children's literature to analyze effective and ineffective listening skills.
- Set scenarios for practicing effective communication and listening skills through children's literature, role play and modeling.
- Have children develop scenarios of times when they are stressed, have them choose appropriate strategies and identify adults who can help them.
- Provide interactive activities, e.g. discussions, puppetry and picture cards that highlight ways individuals grow and develop emotionally and socially.
- Provide opportunities for students to sort healthy versus unhealthy behaviors.
- Provide interactive ways for children to recognize feeling in self and others, e.g. feeling box, emotion charts.
- Provide activities for children to identify adults who care about them.
- Model appropriate expression of feelings.
- 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).
- Construct a model that names and describes body parts and organs.
- Use visual media that focuses on body parts and organs.

CONTINUED...

STANDARD 10.1: CONCEPTS OF HEALTH continued

CONTENT FOR 2ND GRADE

I. Describe the concept of balancing energy intake (eating) and energy output (physical activity)

J. Develop an understanding of the importance of eating a variety of foods that are low in fats and sugars

K. Explain the role of the food guide pyramid in helping people eat a healthy diet

L. Describe the short term effects of alcohol and tobacco on various body organs

EXAMPLES

The learner will:

- Explain how food provides fuel and energy for the body and how it must be balanced with physical activity.
- Identify vigorous physical activities.
- Summarize how food choices affect health.
- Classify foods as high or low in fats and sugars.
- Choose nutritious snacks that are low in fats and sugars.
- Monitor own diet for foods that are high in fat and sugar and the number of fruits and vegetables.
- Identify the categories of food in the food guide pyramid.
- Provide examples of a variety of foods in each category.
- Sort food according to the food guide pyramid.
- Explain why he/she should never take a medicine unless it is given by a trusted adult.
- Differentiate between healthy and unhealthy risk-taking behaviors, e.g. smoking, alcohol.
- Identify and illustrate the short term effects of alcohol and tobacco on various body organs.
- Choose a trusted adult who they can ask about whether a household item is safe to take.
- Produce a short role play, poster, rap, cartoon panel demonstrating use of basic refusal skills.

SUPPORTIVE PRACTICE

The teacher will:

- Provide a log for students to monitor food choices.
- Provide opportunities for students to choose vigorous physical activities that can be done by themselves or with their families.
- Read fiction and non-fiction books that focus on food choices and the role of food in keeping one healthy.
- Expose learners to culturally diverse fruits and vegetables.
- Provide interactive activities using the 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.
- Provide activities that allow the students to sort food into appropriate categories.
- Facilitate class discussions pertaining to healthy risks and unhealthy risks.
- Read literature related to decision-making, refusal skills, healthy choices or risk-taking.
- Use role play situations so the child can develop competence in using basic refusal skills.
- Model healthy habits.
- Read a story about a health choice and have the children write, draw or discuss a positive or healthy story ending.
- Provide activities in which the child has the opportunity to choose a trusted adult at home or school.
- Provide interactive activities showing the effect of various drugs on the body, e.g. smoking machine.

CONTINUED...

STANDARD 10.1: CONCEPTS OF HEALTH continued

CONTENT FOR 2ND GRADE

M. Identify high-risk and low-risk activities related to health

N. Demonstrate age appropriate refusal skills

O. Recognize that diseases such as diabetes, asthma and allergies are not communicable

P. Connect positive and negative behaviors, e.g. handwashing, sneezing in elbow, universal precautions, with the spread of communicable disease

Q. Children need not fear people with chronic conditions

EXAMPLES

The learner will:

- Identify diseases as communicable or non-communicable.
- Recognize that some diseases are caused by heredity or environmental factors, e.g. springtime allergies, food allergies, pet allergies, exercise induced asthma, hereditary diabetes.
- Participate in activities that provide interaction with a variety of students.
- Identify positive and negative behaviors that influence the spread of communicable diseases.

SUPPORTIVE PRACTICE

The teacher will:

- Read literature related to getting and being sick.
- Create classroom environment that practices good disease prevention, e.g. handwashing, sneezing in elbow, universal precautions and is accepting of children with any childhood health condition.
- Provide interactive activities that provide children with the opportunity to identify positive and negative behaviors.
- Utilize community materials and resources on chronic diseases.
- Facilitate discussions with children about not stigmatizing those with chronic conditions.
- Model acceptance of those with chronic health conditions.

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 2ND GRADE

A. Analyze how personal health practices/habits affect our health

B. Practice ways to prevent illness through adequate rest, physical activity and healthy foods

C. Monitor personal health practices/habits

D. Choose people that help to keep us healthy and safe

EXAMPLES

The learner will:

- Select things that he/she will do to stay healthy.
- Monitor healthy and unhealthy personal health practices, e.g. the spreading of germs, taking drugs, using a personal log or journal.
- Create a personal health pledge, e.g. pledging to be smoke free, being physically active, eating fruits and vegetables, getting enough sleep.
- Choose pertinent people in their lives who will help them be healthy and stay safe.
- Practice ways to prevent the spread of communicable diseases, e.g. handwashing, sneezing in elbow, universal precautions.

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.
- Provide interactive activities that provide children the opportunity to practice how to prevent the spread of disease, e.g. handwashing, covering mouth with coughing, universal precautions.
- Create interactive tasks on how to prevent the spread of germs and illness.
- Provide opportunities and materials for children to role-play with simple props.
- Model good health practices, e.g. handwashing, covering mouth during cough.
- Use interactive activities in which the children must categorize or sort healthy and unhealthy personal health practices.
- Have people that help to keep us healthy and safe such as school and community professionals come into the classroom so children can recognize community helpers.

CONTINUED...

STANDARD 10.2: HEALTHFUL LIVING continued

CONTENT FOR 2ND GRADE

E. Interpret the signs and symbols in a given situation, e.g. swimming, wet floors, street crossing, flashing red lights or others appropriate for area

F. Analyze how media influences health behaviors

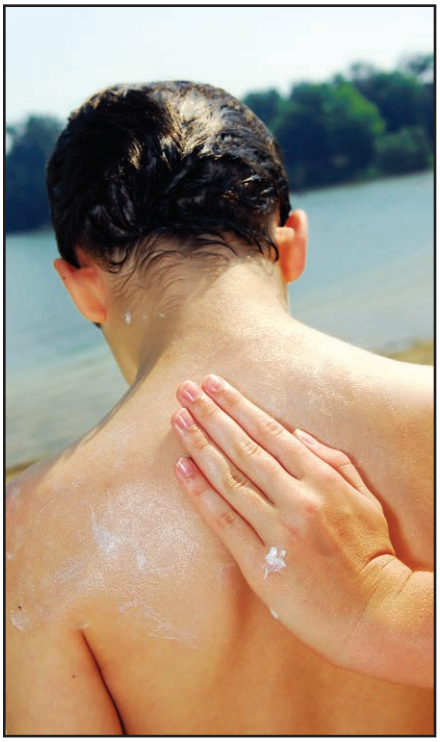
G. Deduce that the media are not always accurate regarding health choices

H. Generate possible outcomes and consequences to health related decisions

I. Apply the steps of a decision making process to a given scenario

J. Understand that trusted adults can help us make healthful decisions

K. Analyze things in the environment that affect our personal health, e.g. insects, sun, loud noise, weather, tobacco smoke



EXAMPLES

The learner will:

- Identify health related signs and symbols and interpret what they mean given the situation.
- Identify and explain different media sources that influence our choices, e.g. TV, video, advertisements and commercials.
- Document the various media sources, e.g. TV, video, advertisements and commercials, that influence health.
- Differentiate between accurate and inaccurate media related to health products and services.
- Explain when to ask for help in the decision-making process and select the best adult to help in the specific situation.
- Predict and list all possible consequences or outcomes from a choice.
- Utilize decision making steps to ensure a healthful outcome.
- Choose adults at home and in school that can help him/her make healthful decisions.
- Explain how trusted adults can help us make healthful decisions.
- Analyze how insects, sun, loud noise, weather and tobacco smoke can affect personal health.
- Adopt ways to protect him/her from the identified environmental factors.
- Demonstrate effective sun protection:
  - Slip into long sleeve shirt;
  - Slap on a hat; and
  - Slop on sunscreen.
- Demonstrate how to effectively prevent and manage tick exposure in wood and tall grass:
  - Wear light-colored, long sleeve clothing;
  - Wear socks covering cuffs;
  - Use insect repellant; and
  - Full body check by a trusted adult.

SUPPORTIVE PRACTICE

The teacher will:

- Provide scenarios for children to be able to interpret signs, symbols and meanings.
- Invite community health care providers into the classroom to describe what they do and the tools they use.
- Post common signs and symbol in the classroom.
- Provide interactive activities that show how media can influence how we feel about things.
- Provide media, e.g. video clips, magazine ads, for children to differentiate between accurate and inaccurate information.
- Provide students with examples of accurate health media, e.g. public health ads.
- Read literature related to making decisions and safe choices.
- Create scenarios and have children make the choice and predict the consequences for themselves in the scenario.
- Provide interactive activities in which the children are active learners in making choices as a class or as individuals.
- Model effective decision-making skills.
- Practice and rehearse what to do during different types of emergency drills.
- Read literature related to the theme of environment and health.
- Engage learners in interactive activities matching preventative strategies with environmental factors.
- Model effective sun protection.
- Model effective tick management exposure.

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 2ND 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

C. Recognize an emergency situation and describe general guidelines for handling it

D. Apply conflict resolution strategies to given scenarios

E. Identify and demonstrate safe practices in physical activity

EXAMPLES

The learner will:

- Describe how to keep him/her safe.
- Identify and demonstrate safe practices for situations at home, school and community.
- Distinguish between safe and not safe practices for situations at home, school and community.
- Identify situations as emergency or not an emergency.
- Demonstrate, through role play or personal actions during emergency drills, knowledge of appropriate ways to respond to emergency situations.
- Discuss with their family what to do in a home emergency.
- Demonstrate how to resolve or avoid conflict in a positive manner.
- Select personally 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; and
  - 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.
- Demonstrate appropriate use of safety equipment, e.g. such as bicycle helmets, knee and elbow pads.
- Participate in the development of classroom and playground rules.

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 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.
- Provide opportunities for students to discuss ways to respond to emergency situations with family members.
- Read fiction and non-fiction that addresses conflict and/or bullying situations.
- Create home, school, neighborhood, etc. 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.
- 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.
- Encourage children to help develop classroom and playground rules.
- Have the children help create safety messages for the classroom and playground.
- Model how to use playground equipment appropriately and provide students with opportunities to practice using the equipment correctly.

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 2ND GRADE

A. Distinguish between activities that promote health-related fitness and activities that do not develop physical fitness and health

B. Understand that fitness is the ability of your body to work well, feel good and be able to do the things you want to do when doing chores or playing

C. Understand that fitness is made up of several components, e.g. muscular strength and endurance, flexibility, cardio-vascular and body composition

D. Understand that health is made up of several components such as how your body feels, how your mind thinks, how you feel about the things that happen to you and how you get along with others

E. Identify positive and negative effects of regular participation in moderate physical activity

F. Recognize how the body changes when you do moderate to vigorous physical activity such as fast heart rate, heavy or increased breathing, sweating

G. Participate in the Talk Test (talk to a friend) while moving during physical activity

H. Recognize the difficulty of carrying on a conversation while moving during vigorous physical activities

EXAMPLES

The learner will:

- Participate in a variety of fitness activities and determine what specific health-related fitness components each activity promotes.
- Describe what it means to be physically fit.
- Determine what activities promote moderate to vigorous physical activity.
- Identify the components of health and physical fitness.
- Examine personal activity patterns.
- Identify the positive/negative effects of participating in moderate physical activity following an activity session.
- Explain how to change a negative effect into a positive result.
- Describe physical differences felt after participating in moderate to vigorous physical activities, e.g. fast heart rate, heavy or increased breathing, sweating.
- Compare changes that occur in the body for different physical activities.
- Explain the difference between moderate and vigorous physical activity using the Talk Test.

SUPPORTIVE PRACTICE

The teacher will:

- Provide opportunities for children to talk about what it means to be physically fit and healthy.
- Design activities that develop specific health-related fitness components, e.g. muscular strength and endurance, flexibility, cardio-respiratory and body composition.
- Assist students in determining how different activities develop different health-related components.
- Have students create an illustration or diagram of the components of health.
- Provide opportunities for students to participate in activities that promote health related fitness.
- Provide moderate physical activity sessions.
- Design interactive sessions in which the children identify negative and positive effects.
- Brainstorm with the class how to change a negative effect into a positive result.
- Provide opportunities for learners to compare and contrast different types of physical activities on their body, e.g. fast heart rate, heavy or increased breathing, sweating.
- Facilitate classroom discussions related to the physiological effects of different types of exercises.
- Provide a way to visually graph or depict their heart rates after participating in different physical activities.

CONTINUED...

STANDARD 10.4: PHYSICAL ACTIVITY continued

CONTENT FOR 2ND GRADE

I. Determine what affects an individual's physical activity choices, i.e., likes and dislikes

J. Understand that practice and knowledge of how to correctly do a skill are important in learning motor skills

K. Understand that critical elements are cues that help students to learn a skill or to perform a skill better

L. Understand and identify positive and negative interactions of small group activities

M. Recognize that in games and sports, we must work with other people. How we work with the other people in our group can be positive or negative

EXAMPLES

The learner will:

- Identify what affects physical activity choices, i.e. likes and dislikes.
- Identify and apply the appropriate critical elements to a variety of motor skills.
- Correctly practice the skill using the critical elements.
- Share with a partner one motor skill that he/she would like to improve by practicing.
- Demonstrate the ability to cooperate with others during small group activities.
- Identify positive and negative behaviors after participating in physical activities.

SUPPORTIVE PRACTICE

The teacher will:

- Provide think-pair-share opportunities or small group activities that involve comparing activity choices.
- Provide opportunities for children to identity the critical elements for a variety of motor skills.
- Provide task cards with critical cues and have children observe each other to determine if their peers are demonstrating the critical elements.
- Have children brainstorm motor skills that could improve by practicing using the critical elements.
- Provide opportunities for children to share with a partner.
- Use an assessment tool such as a T-chart to assist students in identifying interactions/ behaviors during and after participating in physical activities.
- Design activities that facilitate partner and small group work.
- Facilitate class discussions highlighting positive group behaviors.

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 2ND GRADE

A. Understand that games, dances and gymnastics are physical activities and all physical activities use fundamental motor skills

B. Recognize that movement concepts give you lots of ideas for different ways to use the fundamental motor skills in different physical activities

C. Understand that many physical activities use combinations of two or more fundamental motor skills/movement concepts

D. Know and demonstrate that correctly practicing a skill can help you become a more skillful mover

E. Recognize that good feedback tells you what you should do when learning "how to do a skill"

F. Know that the best feedback tells you how to change your performance so you can improve

G. Know that practice means repeating movements and cues to get better at performing skills

H. Know that getting better in a skill means to go from inconsistent, not being good at the skill or having to think about the skill, to consistent, being able to do a skill the same way and get the same results without thinking about how to do the skill

EXAMPLES

The learner will:

- Demonstrate fundamental motor skills and movement concepts in games, dance and gymnastics.
- Demonstrate knowledge of the critical elements of the fundamental movement skills.
- Identify basic movement skills he/she needs to be a skillful mover.
- With guidance from the teacher, identify the basic movement concepts he/she needs to learn to become a skillful mover.
- Understand how the movement concepts vary the practice of the fundamental movement skills.
- Practice motor skills while focusing on the critical elements of the skills.
- Use feedback from a peer to improve a motor skill.
- Demonstrate correctly practicing a skill.
- Recognize and describe how feedback helps one become a more skillful mover.
- Engage in teacher-designed practice of fundamental movements using repetition and performance cues.
- Record progress of skill improvement from inconsistent to consistent.

SUPPORTIVE PRACTICE

The teacher will:

- Provide movement experiences that combine the fundamental movement skills and are presented in progressively more open practice conditions, e.g. moving to catch a bean bag, running and kicking a stationary ball, strike a moving object and apply the movement concepts.
- Provide opportunities for children to learn what it means to be a skillful mover.
- Provide learning opportunities that show how movement concepts can help students be skillful movers.
- Have students learn the critical elements of the fundamental movement skills.
- Provide opportunities for students to observe correct performance, e.g. video, photos and to analyze correct motor skill performance, e.g. use a task card with critical elements on it to observe a partner.
- Provide opportunities for students to provide feedback to peers.
- Provide opportunities for students to practice motor skills while focusing on the critical elements.
- Design practice opportunities for fundamental movements using repetition and performance cues.
- Provide ways for students to record progress related to skill improvement.
- Encourage students to practice skills during and outside of class time.
- Design creative practice opportunities that are varied, motivating and novel, therefore, motivating children to continue practicing.
- Provide many practice opportunities.
- Provide instruction on the function of practice. (Tie into first time riding bicycle or playing a specific game.)

CONTINUED...

STANDARD 10.5: CONCEPTS, PRINCIPLES & STRATEGIES OF MOVEMENT continued

CONTENT FOR 2ND GRADE

I. Know that the principles of exercise (FITT) are guidelines to help you make good exercise choices.

J. Identify and use the principles of exercise (FITT):
- F= How often you should exercise
- I = How hard you should exercise
- T= How long you should exercise
- T=What kind of activity you should engage in

K. Recognize that it is best to use all four of the letters together when planning to exercise

L. Understand that scientific principles affect the performance of movement skills

M. Demonstrate space and relationship awareness during game play

EXAMPLES

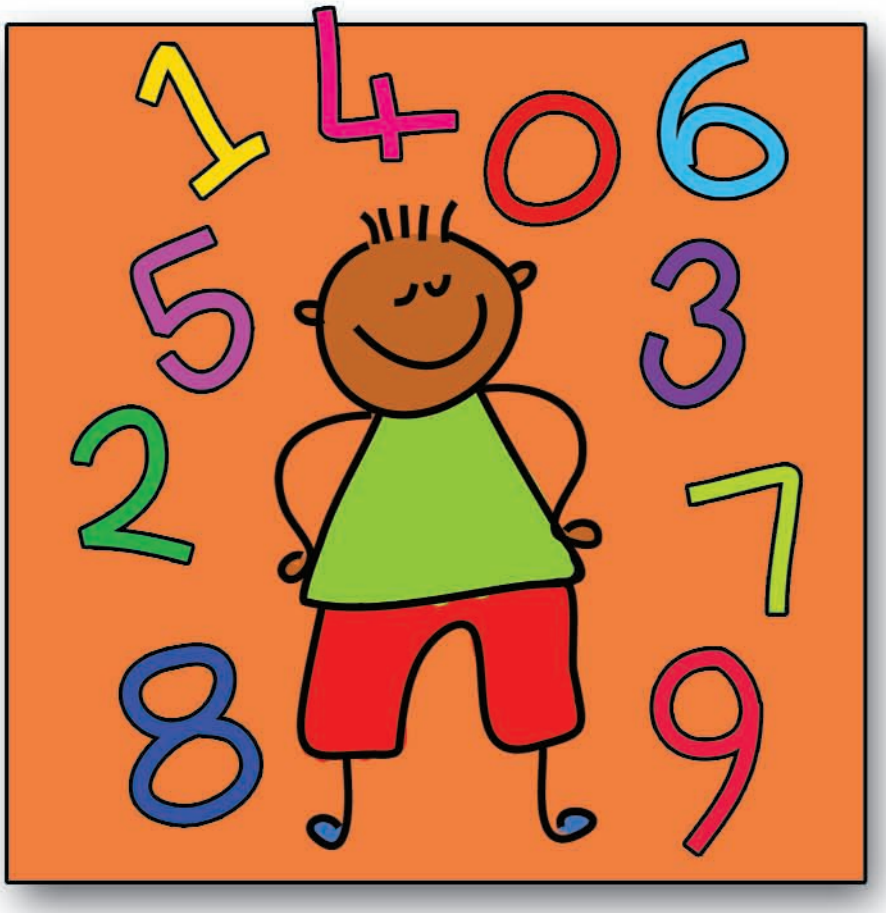
The learner will:

- Use the FITT guidelines to become a regular participant in physical activity to improve his/her performance.
- Keep a calendar or log of his/her choices in using the FITT principles and the guidelines for regular participation.
- Identify the exercise idea represented by each principle of exercise letter.
- Demonstrate the ability to absorb force while catching a variety of different objects while on-the-move.
- Demonstrate the ability to generate force when performing manipulative skills.
- Perform an activity that demonstrates a scientific principle, e.g. gravity, balance, force production, force absorption.
- Demonstrate the ability to maintain proper space in relationship to others during game play.
- Demonstrate proper positioning in relationship to the game object and other players.
- Participate in games that use more complex rules.

SUPPORTIVE PRACTICE

The teacher will:

- Provide instruction on the principles of exercise, (frequency, intensity, length of time).
- Design learning experiences that focus on each of the principle components (cardio-respiratory, muscular strength and endurance, flexibility, body composition).
- Provide a calendar or log so the children can record the different principles of exercise.
- Use music to motivate children to move for longer periods of time in regards to the principle of exercise – time.
- Have children and guardians/families keep activity calendars of what learners do at home such as "How often do I participate in activity?"
- Provide developmentally appropriate instruction related to scientific principles. (Talk to your school PE instructor).
- Design developmentally appropriate learning experiences in which children explore gravity, force and balance.
- Provide students critical elements related to scientific principles.
- Provide game play that involves two-four players with emphasis on spatial and relationship awareness.
- Play games applying 3-4 rules.



LOGICAL MATHEMATICS

EARLY LEARNING STANDARDS FOR 2ND GRADE

Mathematical learning in second 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.

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 2ND GRADE

A. Count using whole numbers to 1000 by 1's, 2's, 5's, 10's and 25's

B. Use whole numbers and simple fractions to represent quantities

C. Represent equivalent forms of the same number through the use of concrete objects, drawings, word names and symbols to 1000

D. Use drawings or models to show the concept of a fraction as part of a whole

E. Count, compare and make change using a collection of coins and one dollar bills

F. Apply number patterns (even and odd) and compare numbers on the hundred chart

G. Use concrete objects to count, order and group to 1000

H. Demonstrate an understanding of one-to-one correspondence up to 1000

I. Apply place-value concepts and numeration to counting, ordering and grouping numbers up to 1000

J. Estimate and approximate number quantities as groups of ten and 100

K. Describe the inverse relationship between addition and subtraction

L. Demonstrate knowledge of basic addition and subtraction facts

M. Use various models to demonstrate the concept of multiplication

EXAMPLES

The learner will:

- Count, read and write whole numbers from 1 through 100.
- Skip count by 2's, 3's, 5's, 25's and 100's.
- Match the fraction to the corresponding model (concrete and /or pictorially).
- Represent a given number less than or equal to 1000 in various ways (e.g. tallies, numerals, hundreds, tens and ones, addition and subtraction, etc.).
- Identify fractional parts of a region or set.
- Represent a given fraction (sixths, eighths) using drawings or concrete materials.
- Name and state the value of coins up to a half-dollar.
- Count a collection of coins less than $2.00.
- Make change for an amount up to $2.00 with no more than $.99 change.
- Describe strategies for counting money.
- Identify and describe the rule for a pattern.
- Use the rule to extend the pattern.
- Order a set of whole numbers from least to greatest or from greatest to least up to 999.
- Describe when we use ordinal numbers.
- Count objects using one-to-one correspondence up to 999.
- Match a symbolic representation of numbers to appropriate whole numbers up to 999 (ex. using base ten cubes).

SUPPORTIVE PRACTICE

The teacher will:

- For each stated standard provide and incorporate opportunities in everyday occurrences and planned direct instruction; model, the process/skill being presented using appropriate language/vocabulary; create authentic (real life situations) for learners to practice the skill; supply learners with appropriate manipulatives (e.g. uni-fix cubes, counters, pattern blocks, part-to-whole chart, coins etc.) as indicated by the standard.

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 2ND GRADE

A. Solve addition and subtraction problems in everyday situations with two- and three-digit numbers, with or without regrouping

B. Solve addition problems with 3 two-digit numbers with regrouping

C. Solve subtraction problems with double-digit numbers with regrouping

D. Use repeated addition, arrays and counting by multiples to demonstrate the concept of multiplication

E. Use repeated subtraction and equal sharing to demonstrate the concept of division

F. Make estimations of objects in a set up to 100 and verify the estimation

G. Compare estimation with calculated answer

H. Explain and describe the computation process in regrouping

EXAMPLES

The learner will:

- Find the solution to addition and subtraction problems with two and three-digit numbers.
- Describe when regrouping is necessary.
- Find the solution to addition problems with 3 two-digit numbers with regrouping.
- Find the solution to subtraction problems with double-digit numbers with regrouping.
- Understand multiplication as repeated addition and arrays.
- Understand division as repeated subtraction and sharing.
- Form a group of 100 and use as a reference to make an estimate.
- Count to verify the estimation.
- Compare estimation with verification.
- Recognize when estimation is or is not reasonable.
- Explore and state the concept of regrouping as making a set of ten from 10 ones.

SUPPORTIVE PRACTICE

The teacher will:

- For each stated standard provide and incorporate opportunities in everyday occurrences and planned direct instruction; model, the process/skill being presented using appropriate language/vocabulary; create authentic (real life situations) for learners to practice the skill; supply learners with appropriate manipulatives (e.g. uni-fix cubes, counters, pattern blocks, part-to-whole chart, coins etc.) as indicated by the standard.

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 2ND GRADE

A. Compare measurable characteristics of different objects on the same dimensions (time, temperature, area, length, weight, capacity and perimeter)

B. Determine the measurement of objects with non-standard (arm length, crayons, paper clips) and standard units (US customary and metric)

C. Determine and compare elapsed time

D. Tell time (analog and digital) to the minute

E. Determine appropriate unit of measure

F. Use concrete objects to determine area and perimeter

G. Estimate and verify measurements

H. 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 (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 or feet.
- Estimate and measure the lengths and/or heights of objects in inches, feet or yards using a 12 inch ruler or yardstick.
- Estimate and measure the length of objects in centimeters and meters using a meter stick.
- Estimate and determine the distance around (perimeter) a shape using non-standard units (paper clips) and standard units (inches).
- Estimate, measure and compare and order objects by their capacities using non-standard tools.
- Compare the capacities of cups, pints and quarts.
- Estimate and measure capacity in liters.
- Estimate, measure and compare the weights of different objects using a balance scale.
- Compare and estimate the weights of objects in ounces and pounds.
- Compare and estimate the masses of objects in grams and kilograms.
- Measure, read and write temperatures shown on Fahrenheit and Celsius thermometers.

SUPPORTIVE PRACTICE

The teacher will:

- Model, using the appropriate language/vocabulary, the process of comparing, measuring, estimating, telling time and determining elapsed time.
- Provide materials/opportunities and support learners in estimating and measuring using the appropriate instruments and units.
- Encourage and support learners in explaining how they applied their skills during mathematical tasks.
- Provide opportunities for learners to explore and apply understanding of estimation throughout the school day.

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 2ND GRADE

A. Make, check and verify predictions about the quantity, size and shape of objects and groups of objects

B. Use measurements in everyday situations

EXAMPLES

The learner will:

- Compare and/or order objects according to length, weight or volume.
- Use the attributes of length, weight and volume to describe objects.
- Estimate measurements of familiar objects using non-standard and standard units.
- Explain and identify how a set or group of items has been sorted.
- Estimate the length and/or weight of an object.
- Select an appropriate unit and/or tool for the attribute being measured in 15 minute intervals.
- Measure objects to the nearest inch using a ruler.

SUPPORTIVE PRACTICE

The teacher will:

- Model, using appropriate vocabulary, the process of comparing and describing groups of objects.
- Engage learners in recognizing and applying estimation in everyday situations.
- Create and provide opportunities for learners to make comparisons of objects by at least 2 attributes.
- 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.
- Provide opportunities for learners to exhibit understanding and application of measurement in everyday situations.

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 2ND GRADE

A. Use appropriate problem-solving strategies (e.g., make a model, draw a table or picture, working backwards)

B. 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.
- Create addition word problems.
- Describe the steps necessary to solve a problem. Communicate these steps orally as well as in written form.
- Analyze problems and decide whether to use addition or subtraction.
- Use a variety of strategies to solve/defend problems.
- Explain appropriate process of addition to solve problems (orally/written).

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.
- Highlight the process versus the product of an activity (give specific examples).
- Encourage and support learners to explain their mathematical thinking and work.
- Create and provide opportunities for learners to engage in problem solving activities.

CONTINUED...

STANDARD 2.5: MATHEMATICAL PROBLEM SOLVING AND COMMUNICATION continued

CONTENT FOR 2ND 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:

- Explain appropriate process of addition to solve problems (orally/written).
- 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 multiple step problem.
- Analyze/solve different types of problems using addition and subtraction.

SUPPORTIVE PRACTICE

The teacher will:

- 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
- Ask open-ended questions, encourage conversations and create classroom activities that encourage learners to explore a variety of possible solutions (set up situations).

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 2ND GRADE

A. Formulate and answer questions that can be proven with data (bar graphs, pictographs, tally charts and/or tables)

B. Interpret, construct and draw conclusions from bar graphs, pictographs, tally charts and/or tables

C. Form and justify an opinion on whether a given statement is reasonable based on a comparison to data

EXAMPLES

The learner will:

- Read and compare data (bar graphs, pictographs, tally charts and/or tables). Use concepts of greatest (maximum) and least (minimum).
- Describe features of data such as range (the difference between maximum and minimum values), mode (the "most popular" data values) and median (the middle value observed/the number half way between the two middle values).
- Describe parts of the data and the set of data as a whole to determine what trends the data show.
- Interpret and construct bar graphs, pictographs and/or tables with scales greater than one as well as tally charts.
- Describe the advantages and disadvantages of using bar graphs, pictographs and/or tables with scales greater than one as well as tally charts to represent data.
- Analyze data to form an opinion on whether a statement is reasonable or not to justify the opinion.

SUPPORTIVE PRACTICE

The teacher will:

- Provide easy to read data sets for the students.
- Assist (as needed) learners in reading and describing 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 and analyzing data.

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 2ND GRADE

A. State and explain the likelihood of an event and recognize that the results of an experiment may not match predicted outcomes

B. Design a fair and an unfair spinner

C. Record and analyze the results of an experiment

EXAMPLES

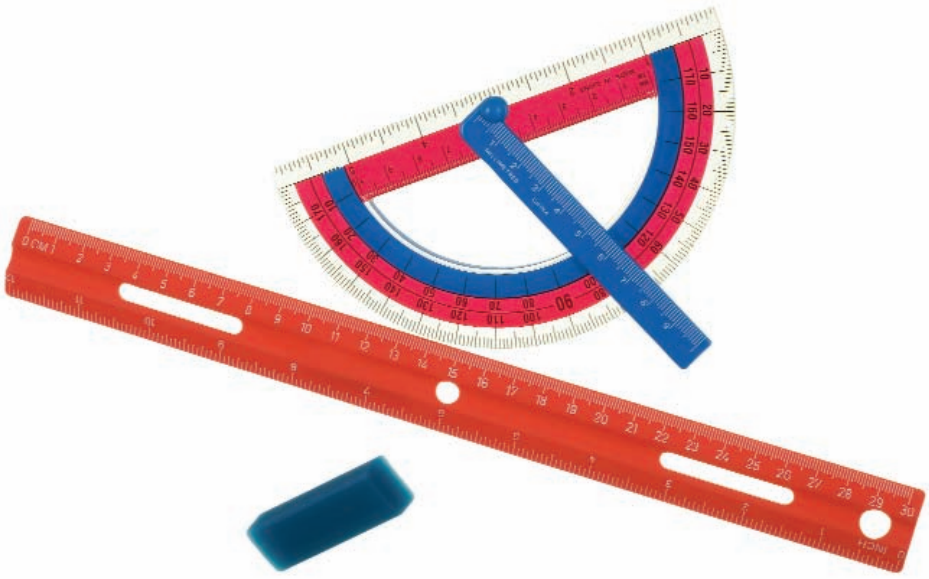
The learner will:

- Determine the likelihood of events occurring.
- Analyze possible reasons why the results of an experiment may not match predicted outcomes.
- Create a fair spinner (the spinner should show equal-sized parts), experiment with the spinner, record and analyze the results of their trials.
- Create an unfair spinner (the spinner should have unequal-sized parts), experiment with the spinner, record and analyze the results of their trials.
- Predict an outcome(s) before conducting an experiment.
- Record data from experiments in an organized manner.
- Analyze the results of the experiments to determine if the actual results matched his/her prediction.

SUPPORTIVE PRACTICE

The teacher will:

- Model and verbalize (as needed), using language/vocabulary appropriate to the students, the process of predicting outcomes, conducting an experiment and analyzing the results.
- Ask guiding questions, as needed, to help students create fair and unfair spinners.
- Provide scaffolding, as needed (much support at first, then gradually taking it away), to facilitate student recording and analyzing the results of experiments.
- 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 2ND GRADE

A. Recognize and extend repeating patterns based on an attribute (size, shape, color) or number

B. Identify/describe the rule for a repeating pattern or number sequence

C. Find a missing element(s) in a pattern of numbers or shapes

D. Choose the correct operation (addition or subtraction) and write an equation to solve a story problem

E. Use concrete objects and other methods to solve addition or subtraction number sentences and check if solutions are accurate

F. Find a missing element that makes an addition or subtraction number sentence true

G. Explain how solutions to equations or missing addends are determined

H. Identify the missing symbol (+, −, =, <, >) that makes a number sentence true

EXAMPLES

The learner will:

- Describe a repeating pattern and be able to extend it beyond the pattern shown.
- Create their own repeating pattern and be able to describe the pattern.
- Extend patterns to find a particular position.
- Solve a variety of story problems by first identifying the operation involved.
- Use concrete manipulatives and/or draw pictures to find a missing number in subtraction or addition sentences.
- Progress from the use of manipulative/drawings to the use of symbols and equations to solve story problems.
- Use a variety of strategies and functions 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:

- Demonstrate and explain the concept of recognizing, describing, repeating and extending a pattern or sequence (start with concrete manipulatives and work toward pictures and number patterns).
- Provide opportunities and support learners in recognizing, describing and extending patterns and sequences.
- Provide opportunities and support learners in recognizing patterns and sequences so missing elements can be filled in and explanations provided.
- Extend a repeating pattern and determine what element will be in a particular position (e.g. the 11th position) if the pattern keeps going.
- Demonstrate solving story problems through modeling the use of multiple strategies.
- 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.

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 2ND GRADE

A. Name and label geometric shapes in two and three dimensions (e.g. circle, sphere, square, cube, triangle, pyramid, rectangle, prism)

B. Build geometric shapes using concrete objects

C. Draw two- and three-dimensional shapes

D. Find and describe geometric figures in real life

E. Identify and draw lines of symmetry in geometric figures

F. Identify symmetry in nature

G. Fold paper to demonstrate the reflections about 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 and describe two-dimensional shapes by the number of line segments (sides) and vertices (corners).
- Recognize and describe three-dimensional shapes by number of surfaces, edges and vertices.
- Draw and label quadrilaterals, trapezoids, hexagons, pentagons, octagons and rhombuses.
- Describe, classify and sort plane and solid geometric shapes according to the number and shape of faces and the number of sides, edges and/or vertices.
- Construct two- and three-dimensional figures using given materials.
- Compare and contrast plane and solid geometric shapes: circle/sphere, square/cube, triangle/pyramid and rectangle/rectangular prism.
- Recognize and represent geometric shapes and solids in structures in the environment and specify their locations.
- Recognize and represent shapes/solids from different perspectives (e.g. recognizing a cone from all viewpoints).
- Identify and create symmetrical and congruent shapes/solids in the real world.
- Recognize and apply slides(translations), flips (reflections) and turns (rotations).
- Use symmetry to classify shapes.
- Recognize and describe symmetry in nature.

SUPPORTIVE PRACTICE

The teacher will:

- Provide opportunities to identify, label and represent two- and three-dimensional figures.
- Provide opportunities to explore geometric solids and plane figures that enables the learner to create a chart of attributes and properties.
- Provide materials and support as the learner creates various geometric solids (e.g. use blocks to make a rectangular prism).
- Provide a variety of experiences that will allow the learner to compare and contrast plane and solid figures.
- Provide an opportunity to engage in the exploration of the environment (e.g. scavenger hunts for shapes/solids).
- Provide opportunities to locate and describe lines of symmetry.
- Provide the materials (pattern blocks, tangrams) and support for learners to apply transformations of shapes (slides, flips, turns).
- Provide opportunities to observe symmetry in nature.
- Provide materials (graph paper, geoboards) and support as the learner creates a reflection of a shape.
- Provide materials for the learner to find other shapes that can be made from given shapes (e.g. A rectangle and a triangle can make what shapes? What ways can triangles be divided into three triangles?).

STANDARD 2.10: TRIGONOMETRY

THIRD GRADE STANDARDS:

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

CONTENT FOR 2ND GRADE

A. Identify and give examples of right angles in real life objects

B. Identify a right triangle and right angle

EXAMPLES

The learner will:

- Point out right angles in the classroom, hallway, etc.

SUPPORTIVE PRACTICE

The teacher will:

- Introduce the term right angle so that the student understands that it means the same as a corner angle which was mentioned in grade 1.

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 2ND GRADE

A. Describe rates of change as faster and slower using real life situations

EXAMPLES

The learner will:

- Describe the rate of change in walking or riding to school.

SUPPORTIVE PRACTICE

The teacher will:

- Requires understanding of teacher.

PERSONAL-SOCIAL

EARLY LEARNING STANDARDS FOR 2ND GRADE

Primary 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.

STANDARD PS 1: DEVELOP SELF-CONCEPT

CONTENT FOR 2ND 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 ones 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 2ND 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 2ND 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

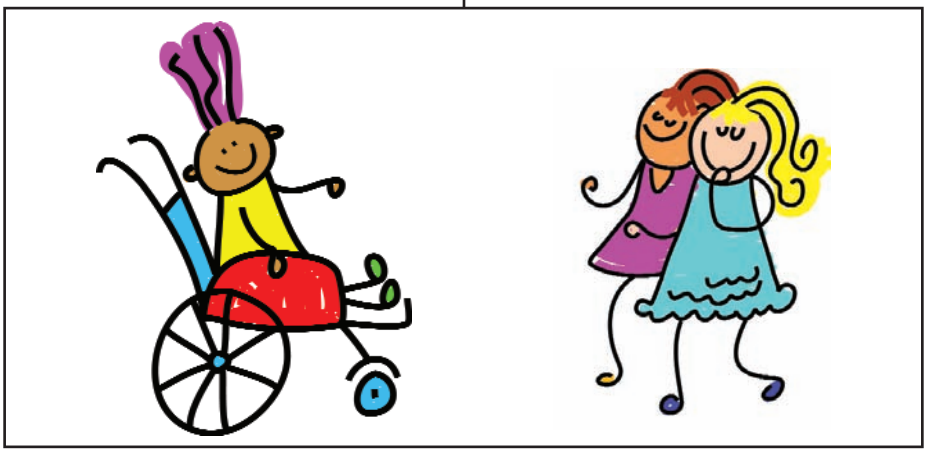
The learner will:

- 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 2ND 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

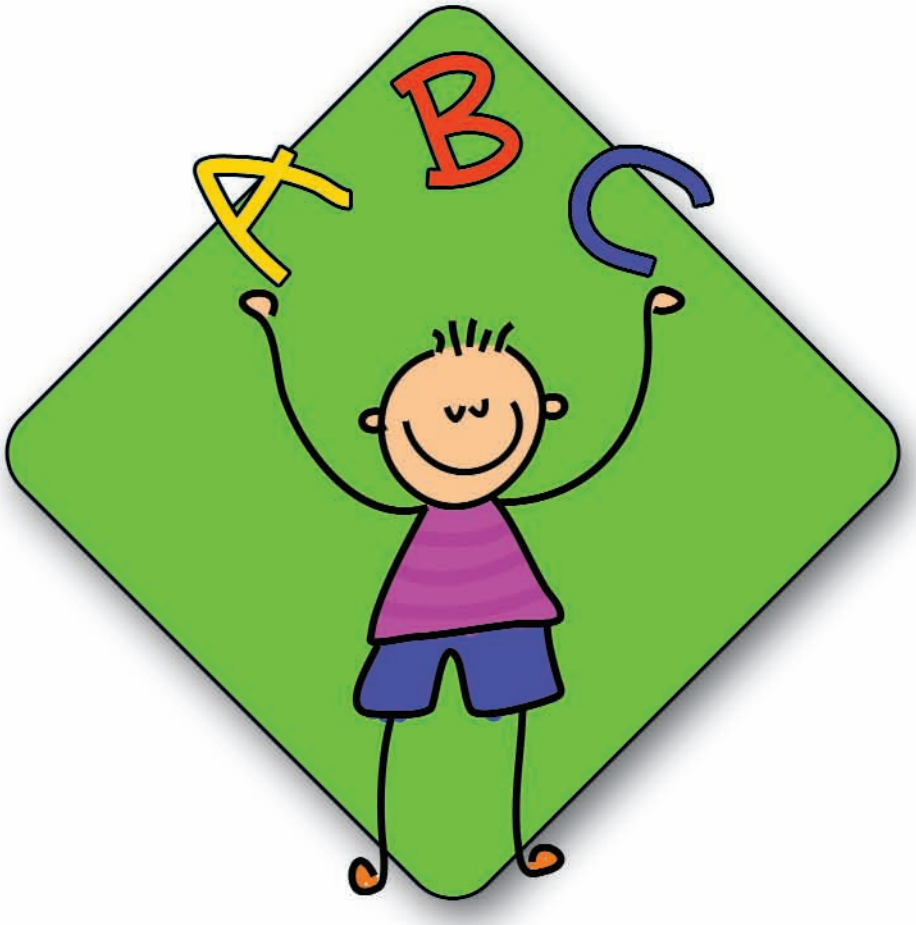
The learner will:

- 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 2ND 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 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 2ND GRADE

A. Demonstrate CONCEPT of PRINT, how print is organized and used in reading and writing tasks

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

EXAMPLES

The learner will:

- Identify the purposes and types of text (e.g. literature, information) before reading.
- Use titles, table of contents and chapter headings to locate information in text.
- Recognize and use knowledge of spelling patterns (e.g. vowel diphthongs, vowel teams, consonant blends and digraphs).
- Apply knowledge of basic syllabication rules when reading.
- Identify and spell high frequency words.

SUPPORTIVE PRACTICE

The teacher will:

- Engage students in using print to convey meaning (e.g. writing and reading directions, creating graphs and tables).
- Display and teach using a variety of forms of print (e.g. signs, newspapers, magazines, books).
- Offer direct, explicit and systematic phonics instruction.
- Have strong understanding of linguistics and how it affects reading acquisition in students.
- Have strong understanding of common syllable patterns.
- 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.
- Adjust the pace of instruction according to students' needs.
- Offer multisensory activities to support and practice new skills.

CONTINUED...

STANDARD 1.1: LEARNING TO READ INDEPENDENTLY continued

CONTENT FOR 2ND GRADE

C. Demonstrate FLUENCY, the ability to read grade level text orally with accuracy, appropriate rate and expression

D. 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:

- Decode and encode (spell) single and multisyllabic words in isolation and in text.
- Identify and correctly use regular (e.g. –s, -es, -ies) and irregular (e.g. fly/flies; wife/wives) plurals.
- Recognize common abbreviations (e.g months, days, Mr., Mrs., St.).
- Apply letter-sound and syllable knowledge to decode and encode phonetically regular/irregular words and pseudo-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 (e.g. orally read stories, informational text).
- Develop vocabulary by listening to and discussing both familiar and conceptually challenging selections read aloud.
- Keep a journal of a variety of new words and their meanings.
- Use context to understand word and sentence meanings.
- Relate vocabulary to prior knowledge.
- Identify and correctly use antonyms, synonym and categorization of words.
- Use a dictionary, thesaurus or other resource to confirm the meaning of a word.
- Use context to identify simple multiple-meaning words.
- Display understanding of the meaning of simple affixes (e.g. un-, -ful).

SUPPORTIVE PRACTICE

The teacher will:

- Provide ongoing progress monitoring to ensure mastery of taught skills.
- Use decodable text for multiple opportunities for practice and transfer of phonics skills to text.
- Model reading aloud with fluency.
- Provide oral support for readers by activities such as choral reading, echo reading and/or paired reading.
- Offer plenty of practice opportunities including repeated readings.
- Encourage fluency through phrasing or chunking to aid in comprehension.
- Provide ongoing progress monitoring to ensure mastery of taught skills.
- 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.
- Monitor student fluency rates against research-based benchmarks.
- Build a connection between fluency and comprehension.
- Provide decodable text for multiple practice and transfer of phonics skills to text.
- Take advantage of student listening and speaking competencies to enhance student vocabulary.
- Increase word knowledge through systematic rich and robust vocabulary development.
- Chart and display new vocabulary words to reinforce speaking, listening and writing usage.
- Use trade books that are read aloud to children as a major source for identifying interesting words and developing conceptual understanding.
- Choose 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.

CONTINUED...

STANDARD 1.1: LEARNING TO READ INDEPENDENTLY continued

CONTENT FOR 2ND GRADE

E. Demonstrate COMPREHENSION, the complex cognitive process involving the intentional interaction between reader and text to convey meaning

EXAMPLES

The learner will:

- Read text using self-monitoring comprehension strategies (e.g., predict, revise predictions, use picture and structural clues, reread and clarify meaning through questioning).
- Identify a text's features (e.g. title, subheading, captions, illustrations) and use them to make predictions and establish a purpose for reading.
- Identify text structures (e.g. compare/contrast, cause/effect and sequence of events) to build understanding.
- Identify and use text graphics, charts, figures and tables to build understanding.
- Determine the author's purpose in text and asks clarifying questions (e.g., why, how) if meaning is unclear.
- Relate prior knowledge to textual information.
- Retell the main idea of simple narrative and informational passages.
- Reread and self-correct word recognition errors to make meaning.
- Connect the reading to self and the world.
- Monitor one's own comprehension.
- Use graphic and semantic organizers.
- Answer questions aimed at finding information found directly in the text, information implied in the text and information inferred from the text.
- Generate questions.
- Use story structure as a guide for understanding.
- Respond to the text using a variety of mediums (dramatization, art forms, writing, oral interaction).
- Respond to and use academic vocabulary.

SUPPORTIVE PRACTICE

The teacher will:

- Explore similarities and differences in words, meanings and concepts.
- Introduce vocabulary from narrative and informational text.
- Promote wide reading.
- Direct teach increasingly sophisticated words with examples and non-examples.
- Offer multiple, repeated practice opportunities to use new and previously taught vocabulary.
- Understand the major factors that influence comprehension.
- Reinforce the use of before, during and after reading strategies by directly explaining the strategy and why it is helpful. Model how to apply the strategy using think aloud. Offer practice applying the strategy with guidance, feedback and assistance until it can be done independently.
- Build both listening and reading comprehension in students.
- Use modeling, think aloud, questioning and other techniques to promote active construction of meaning.
- Teach comprehension strategies (e.g. prediction, revision of predictions, use of picture and text structure clues, reread and clarify meaning through questioning).
- Demonstrate identification of text features and structures (e.g. title, subheadings, captions, illustration, compare/contrast, cause/effect and sequence of events).
- Model a think-aloud of connections between what is being learned and what is already known (e.g. text to text, text to self, text to world).
- Discuss text, features and structure to determine main idea.
- Provide opportunities for the learner to respond to the text using a variety of mediums.
- Directly teach and routinely use academic 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 2ND GRADE

A. Identify, analyze and apply knowledge of the elements of a variety of informational texts to demonstrate an understanding of the information presented

B. Identify and use a variety of media to gain information (e.g., computer, tape recorder, television and recorded media)

EXAMPLES

The learner will:

- Identify a text's features (e.g. title, subheading, captions, illustrations) and use them to make predictions and establish a purpose for reading.
- Distinguish fact from opinion.
- 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.
- Interpret and 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.
- Make inferences from texts to draw conclusions.
- Identify type of media to be used for a specific task.
- Review different techniques in television programs and evaluate fact from misleading information.
- Use electronic media to gather and report information.

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 and provide guided practice in the use of graphic organizers to build connections and organize information.
- Expose students to a variety of media used to gain information (e.g. computer software, internet, books on tape, television programming, film).
- Discuss new media as it becomes available and how it can be used for learning.

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 2ND 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.
- Identify and describe the elements of story structure (e.g. setting, plot, character, problem and resolution) in a variety of fiction.
- Retell the main events of a story including 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 text to self, (personal connection), text to world (social connection) and text to text (comparison among multiple texts).
- Select fiction materials to listen to, read and report on based upon interest or recommendation.

SUPPORTIVE PRACTICE

The teacher will:

- Display examples of a variety of fiction and literary texts (e.g. classroom library).
- 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 and provide guided practice for the use of a few appropriate graphic organizers to build connections and organize information.
- Model the steps to writing a book report.

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 2ND GRADE	EXAMPLES	SUPPORTIVE PRACTICE
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	**The learner will:** • Develop an idea with a beginning, middle and end. • Sequence three or more events. • Include people, places and things in created writing. • Select appropriate illustrations to accompany story.	**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. • Write informational paragraphs that contain a topic sentence, supporting details and relevant information. • Write informational descriptions of a real object, person, place or event, using sensory details from information gathered from varies media (e.g. internet, books, magazines). • Differentiate between fact and opinion. • Write a brief opinion piece and support the opinion with details.	• Write in a variety of informational forms (e.g. thank you notes, short letters, rules, descriptive directions, graphs/tables). • 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 a topic and supporting details. • Showcase exemplary writing samples of informational text.
Persuasive Develop and demonstrate persuasive writing that is used for the purpose of influencing the reader	• Draw a picture and use text to tell a message (e.g. Don't be a bully!) or to persuade the reader. • Identify and discuss the message offered in a persuasive piece.	• Model and share examples of persuasion found in print and environment. • Provide daily shared and interactive writing opportunities. • 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 2ND GRADE	EXAMPLES	SUPPORTIVE PRACTICE
Progress through the stages of the writing process (e.g., prewriting, drafting, revising, editing and publishing)	**The learner will**: • Write for different purposes and to a specific audience or person.	**The teacher will:** • Describe 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 Use prewriting strategies to generate ideas and formulate a plan	• Generate ideas from multiple sources and create a plan for writing (e.g. brainstorming, webbing, drawing, group discussion, other activities). • Organize and select a topic for writing. • Determine the purpose for writing a piece (e.g. to entertain, to inform, to communicate).	• Model pre-writing strategies (e.g. think-aloud, listing, graphic organizers). • Engage students in discussion surrounding a focus for writing, generation of ideas and organization to categorize ideas and plan for writing.
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. • Write with a variety of well constructed sentences including descriptive words and action verbs. • Use complete, declarative, interrogative and exclamatory sentences. • Use descriptive words and action verbs in context. • Write using a variety of differing sentence lengths and complexities.	• 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. • Offer opportunities to write using varied sentence lengths and complexities. CONTINUED...

STANDARD 1.5: QUALITY OF WRITING continued

CONTENT FOR 2ND GRADE	EXAMPLES The learner will:	SUPPORTIVE PRACTICE The teacher will:
Revising Revise and refine the draft for clarity and effectiveness	• 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.	• 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.
Editing Edit and correct the draft for standard language conventions	• Spell common, frequently used words correctly. • Capitalize the first word of a sentence, names of people, proper nouns and the pronoun "I". • Use proper end punctuation (period, exclamation, question mark and commas in a series, in dates, greetings and closings of letters and compound sentences, colons to punctuate time and apostrophes to correctly punctuate contractions). • Use appropriate nouns (i.e.. singular and plural), pronouns (e.g. my/mine, his/her, hers), verbs, simple adjectives and adverbs in writing. • Correctly use common spelling patterns (e.g., word families, simple CVC words, regular plurals, simple suffixes and simple prefixes). • Write using subject/verb and noun/pronoun agreement in simple and compound sentences. • Use a checklist to ensure the proper editing of the writing.	• Provide opportunities for students to engage in shared, interactive and independent editing. • Provide and demonstrate the use of various resources to check for spelling errors (e.g. word wall, picture or word dictionary, environmental print, spell check). • Model use of adverb and adjective to enhance meaning. • Offer direct, explicit instruction on editing for meaning, spelling and conventions of print. • Demonstrate use of an editing checklist.
Publishing Write a final product for the intended audience	• Produce, illustrate and share a variety of compositions.	• Provide opportunities for students to share their published work with others. • Display published work.
Penmanship Engage in the writing process and write to clearly communicate ideas and experiences in legible print	• Write numbers and uppercase and lower-case letters using left to right sequencing. • Print legibly and space letters, words, sentences and paragraphs appropriately.	• Use a consistent method for demonstrating proper use of letter and number formation. • Model appropriate spacing between letters, words, sentences and paragraph.

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 2ND GRADE

A. Apply listening and speaking strategies effectively

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.
- Differentiate fact from opinion.
- 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

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.
- Offer examples of fact and opinion in spoken language heard in the environment.

CONTINUED...

STANDARD 1.6: SPEAKING AND LISTENING continued

CONTENT FOR 2ND GRADE

B. Use electronic media for learning purposes, such as generating a journal or story

EXAMPLES

The learner will:

- Initiate and respond appropriately to conversations and discussions.
- Display appropriate turn-taking behaviors.
- Report an emergency.
- Recite poems, rhymes, songs and stories.
- Utilize different forms of media (e.g., television, radio, film, internet).
- Recognize advertisements and explain their purposes.

SUPPORTIVE PRACTICE

The teacher will:

- 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 2ND GRADE

A. Distinguish commonly used words from other languages

B. Identify variations in the dialogues of literary characters

EXAMPLES

The learner will:

- Recognize a word as one other than commonly used in spoken English.
- Utilize speech bubbles and quotations to differentiate between dialogue and text.

SUPPORTIVE PRACTICE

The teacher will:

- 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 2ND GRADE

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

EXAMPLES

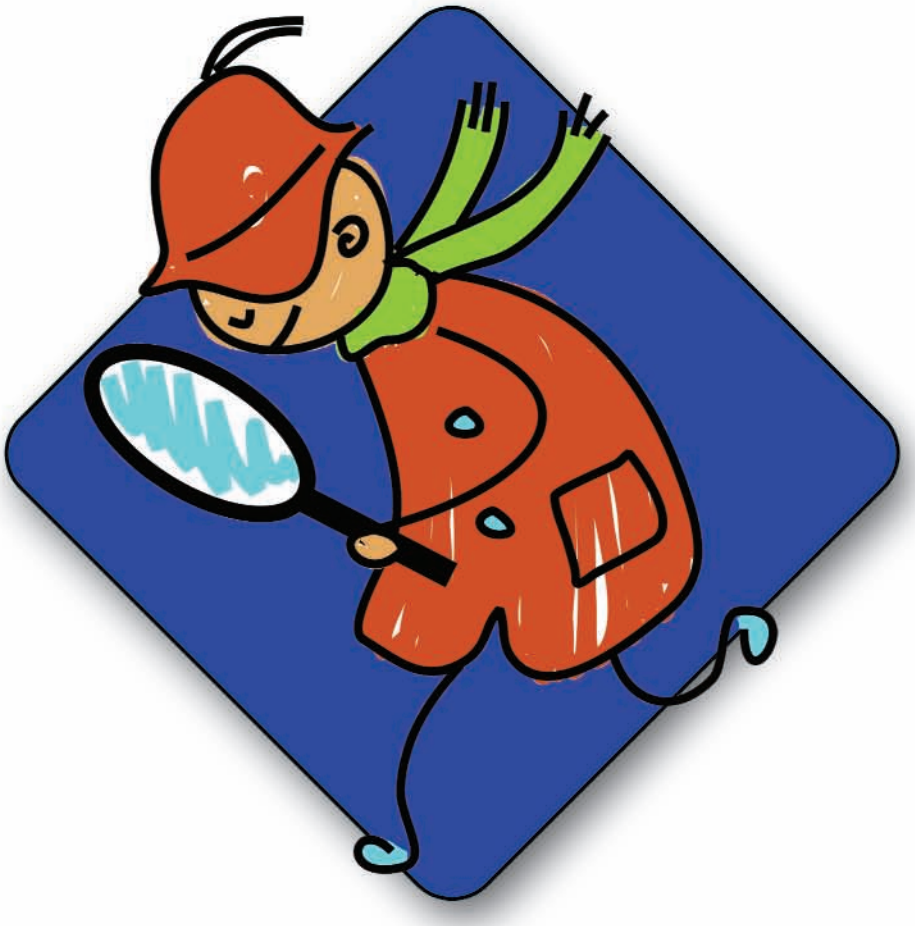
The learner will:

- Create a question or topic for research.
- Differentiate between various sources of information (e.g., dictionaries, newspapers, magazines, electronic media).
- Select sources for gathering information on a specific topic (e.g., dictionaries, encyclopedias, observation, electronic media).
- Use picture clues, keywords, headings 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 paragraphs that include at least three facts with 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.
- Model a systematic approach to collect, process and present information.
- Offer opportunities for the sharing of research.
- Showcase exemplary research samples.



SCIENCE AND TECHNOLOGY

Second 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 2ND GRADE

ENVIRONMENT AND ECOLOGY

Second 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.

STANDARD 3.1: UNIFYING THEMES

FOURTH GRADE STANDARDS:

- Know that natural and human-made objects are made up of parts
- Know models as useful simplications 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 2ND 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 K'nex, 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 2ND 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.

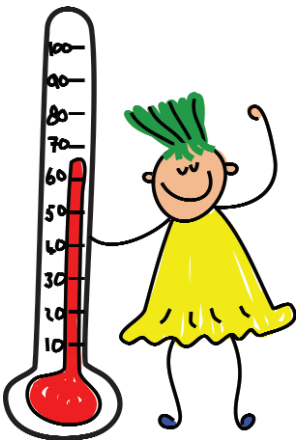
Through the five senses -

- 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 opportunities for students to look around the school yard or neighborhood to see patterns and shapes.
- Replicate repeating patterns that are found in nature to show how they are used in production of human-made products (weaving, paper making, etc.).
- 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 2ND GRADE

A. Identify and use the nature of scientific and technological knowledge
   - Distinguish between a scientific fact and a belief

B. 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

C. 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

D. 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, sound, smell, touch, taste) 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 action.
- Test possible solutions.
- Record the steps taken to solve a problem using multiple modes including writing, drawing, movement and discussion.

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 2ND 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 up a list and discuss reasons for the possible function 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 2ND 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, 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 2ND 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, highways, 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 earths' natural resources.
- Understand how resources make a difference in our daily lives.
- Through the use of drawings describe one product's 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 2ND 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 2ND GRADE

A. 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

B. Select appropriate instruments to study materials
   - Develop simple skills to measure, record, cut and fasten
   - Explain appropriate instrument selection for specific tasks

C. Identify basic computer operations and concepts

D. Use basic computer software

E. 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 task 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 2ND GRADE

A. 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)

B. 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 needs and wants.
- 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 2ND 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 2ND 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, 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 students 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 2ND 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 2ND 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

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)

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.
- Help learners develop murals depicting what is needed for survival and where it comes from.

CONTINUED...

STANDARD 4.2: RENEWABLE AND NONRENEWABLE RESOURCES continued

CONTENT FOR 2ND GRADE

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

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:

- 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), wooden blocks – actually look at the grain of the wood - 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:

- 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 tree 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 difference 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 2ND 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 2ND 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 to 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 2ND 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

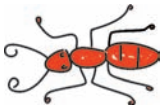
The learner will:

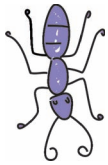
- Understand and be able to explain that pest is a human category rather than a natural category.
- Explore the wide range of organisms that can potentially be pests.
- Compare and contrast the different roles organisms have besides pestering humans.
- Describe how management of a particular organism will depend upon a person's perspective.
- Use local surroundings to 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 pests 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 pests.
- 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 2ND 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

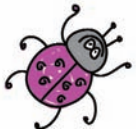
Resources:

- 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 Soils 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 2ND 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 2ND 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 2ND 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.

EXAMPLES

The learner will:

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

Resources:

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

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 4.2.D 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 2ND 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.

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 home, classroom and community
- Define the principles and ideals shaping government
- Identify documents of United States 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 nation 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
- Identify portions of famous speeches and writings that reflect the basic principles and ideals of government (e.g., "I have a dream," Reverend Martin Luther King; "One small step for mankind," Neil Armstrong)

CONTENT FOR 2ND GRADE

A. Identify the visible roles that government serves

B. Identify the purpose 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 the Declaration of Independence

F. Explain why government is necessary in the classroom, school, community, state and the basic purpose of government

G. Explain the importance of respect for the property and the opinions of others

H. Identify symbols and political holidays

I. Identify portions of famous speeches and writings that reflect the basic principles and ideals of government

EXAMPLES

The learner will:

- Explain that governments are visible in a community through making laws, enforcing laws, gathering taxes and providing services for the common good.
- Explain truth, justice and liberty.
- Discuss how symbols are important.
- Discuss the importance of John Hancock, John Adams and Benjamin Franklin as framers of the Declaration of Independence.
- Explain why we celebrate Veterans Day, Memorial Day, Labor Day and Flag Day.
- Discuss the famous speeches: Martin Luther King Jr. "I have a dream...".

SUPPORTIVE PRACTICE

The teacher will:

- Discuss meaning of the Pledge of Allegiance.
- Demonstrate the importance and purpose of school and classroom rules.
- Conduct a mock election during Election Day.
- Discuss the "I Have a Dream" speech.

STANDARD 5.2: RIGHTS AND RESPONSIBILITIES OF CITIZENSHIP

THIRD GRADE STANDARDS:

- Identify examples of the rights and responsibilities of citizenship
  - Personal rights
  - Political rights
  - Economic rights
  - Personal responsibilities
  - Civic responsibilities
- 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
- 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 2ND GRADE

A. Identify examples of the rights and responsibilities of citizenship

B. Identify personal rights and responsibilities

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 necessity of voting.
- Discuss personal responsibilities in the community, such as recycling and and following laws like bicycle safety and wearing a seatbelt.
- Use role plays to solve problems and disagreements.
- Demonstrate ways to be a leader/role model in the classroom and community.
- Influence the actions of government through 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.
- Hold a classroom election.

SUPPORTIVE PRACTICE

The teacher will:

- Discuss school safety.
- Celebrate Constitution Day.
- Conduct food drives or school wide clean up days.

STANDARD 5.3: HOW GOVERNMENT WORKS

THIRD GRADE STANDARDS:

- Identify the elected representative bodies responsible for making local, Pennsylvania and United States laws
- Identify the role of the three branches of government
- 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 individual interests and explain ways to influence others
- Identify the role of the media in society
- Identify different ways people govern themselves

CONTENT FOR 2ND GRADE

A. Identify the elected representative bodies responsible for making local, Pennsylvania and United States laws

B. Identify the role of the three branches of government

C. Identify reasons for rules and laws in the school and community

D. Identify services performed by the local, state and national governments

E. Identify positions of authority at school and in local, state and national governments

F. Explain what an election is

G. Explain why being treated fairly is important

H. Identify individual interests and explain ways to influence others

I. Identify the role of the media in society

J. Identify the ways a classroom is structured like a community

EXAMPLES

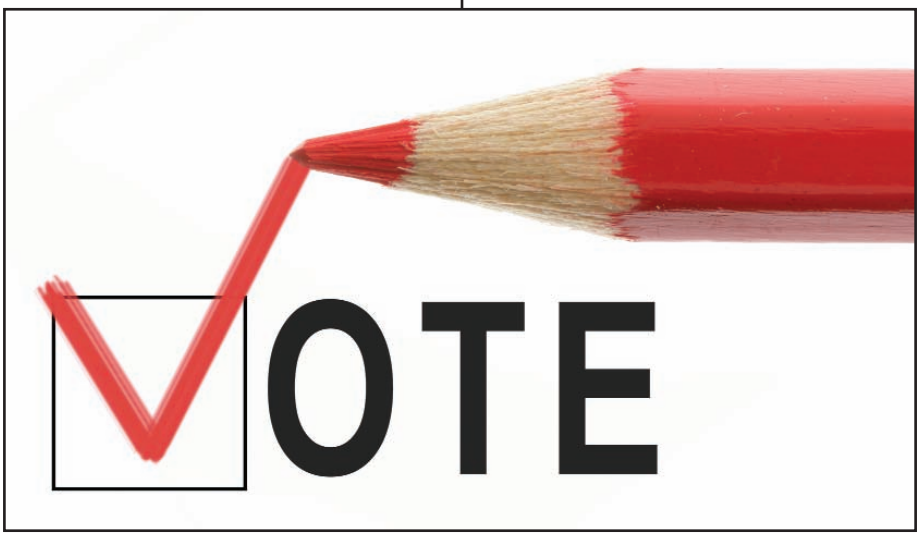
The learner will:

- Discuss the state senate and House of Representatives.
- Discuss the judiciary, executive and legislative branches of government.
- 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.
- 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:

- Use graphic organizers to discuss the state senate, House of Representatives and branches of government.
- Establish classroom rules and consequences with students.
- Invite local law enforcement in the classroom to discuss their roles in the community.
- Conduct a mock election.
- Provide opportunities for student to role play how to treat others in certain situations.
- Provide classroom jobs.



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
- Identify examples of local businesses opening, closing, expanding or contracting

CONTENT FOR 2ND GRADE

A. Describe how people balance unlimited wants with limited resources

B. Identify local employment/producers
   - Jobs
   - Products/Services

C. Identify the opening and closing of community businesses

EXAMPLES

The learner will:

- Describe ways in which families spend and save money.
- Identify reasons why people save money for the future.
- Use a given budget to decide how to spend money.
- Practice exchanging manipulative money for classroom goods to demonstrate the process of buying and selling.
- Create a list of various community professions and discuss if the professions provide goods, services or both.
- Create product(s) and sell the products to students with fake money to help discuss profits and losses.
- List community businesses that have recently opened, closed, expanding or contracted.

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 for students to make economic decisions in the classroom and at learning centers.
- Read various trade books describing different community professions.
- Provide graphic organizers to elicit students' ideas about community professions.
- Establish classroom jobs.
- Provide field trip opportunities to local businesses.
- Have children earn and spend "classroom cash" and help them understand the responsibilities of earning and spending money.
- Discuss and create a grocery list for a family and discuss their needs and wants based on the money they have to spend.
- Discuss any new and recent businesses and why they were brought into the community.

STANDARD 6.2: MARKETS AND THE FUNCTIONS OF GOVERNMENTS

THIRD GRADE STANDARDS:

- Define and identify goods, services, consumers and producers
- Identify ways local businesses compete to get consumers
- Identify and compare means of payment
  - Barter
  - Money
- Identify groups of competing producers in the local area
- Identify who supplies a product and who demands a product
- Define price and identify the prices of different items
- Identify forms of advertising designed to influence personal choice
- Explain why most countries create their own form of money

CONTENT FOR 2ND GRADE

A. Define and identify goods, services, consumers and producers

B. Identify ways local businesses compete to get consumers

C. Identify and compare means of payment
- Money
- Checks
- Credit Cards/Debit Cards

D. Identify similar community businesses

E. Identify who supplies a product and who demands a product

F. Define and compare the price of different items

EXAMPLES

The learner will:

- List various goods and services (ex. toys vs. doctor).
- Discuss how consumers and producers rely on one another.
- Discuss how consumers pay for goods and services through the use of trade and money.
- Compare various competing producers/ businesses (i.e. grocery stories, gas stations, etc.).
- Discuss the relationship between buyer and seller.
- Define the term price.

SUPPORTIVE PRACTICE

The teacher will:

- Provide descriptions of various goods and services for students to compare.
- Use a flow chart to discuss consumer and producer relationships.
- Provide items to trade as part of a Native American/Pilgrim activity.
- Provide play money and checkbooks for each student.
- Give examples of local producers and businesses.
- Provide opportunities for student to role play being buyers and producers.
- Incorporate various items into a math center for students to compare pricing.
- Show examples of advertising designed to influence personal choice.
- Show currency from other countries and place in learning centers.
- Create flow charts to describe everyday items that they use and all the people that put the time and effort into getting the product to them.
- Group students and have them pretend to be advertisers with the same product and have each group create an ad campaign for that product.

STANDARD 6.3: SCARCITY AND CHOICE

THIRD GRADE STANDARDS:

- Define scarcity and identify limited resources
- Identify and define wants of different people
- Identify and define natural, human and capital resources
- 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 2ND GRADE

A. Define scarcity and identify limited resources

B. Identify and define wants of different people in relation to limited resources

C. Identify and define natural and human resources

D. Explain what is given up when making a choice

F. Explain how self-interest influences choices

EXAMPLES

The learner will:

- Explain what scarcity means and list various limited resources.
- Understand that needs take precedence over wants.
- Discuss natural resources (water, gas, soil, trees).
- Identify different human resources (familiar workers).
- List the cost of items and discuss the benefits of buying such items.
- Explain what it means to spend wisely.
- Write about how to buy an item.
- Practice saving money.
- Discuss the difference between adult spending verses child spending.

SUPPORTIVE PRACTICE

The teacher will:

- Provide opportunities for learners to gain insight into making wise decisions regarding needs and wants.
- Use graphic organizers to identify wants and needs.
- Give examples of natural and human resources.
- Create opportunities for learners to practice saving pretend money in the classroom.
- Examine reasons why people choose to spend their money certain ways.
- Discuss and compare a list of the teacher's needs and wants to a list of the students' needs and wants.
- Set up a store setting in the classroom and have the students pretend to shop and pay for items.
- Discuss conserving and how little things such as "turning the water off when we brush our teeth" make a difference in the use and possibly scarcity of natural resources.
- Read various "Magic School Bus" books that discuss various resources and how to use them properly.

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
- Identify local resources
  - Natural (renewable, nonrenewable and flow resources)
  - Human
- Explain why some products are produced locally while others are not
- Identify local geographic patterns of economic activities
  - Agriculture
  - Travel and tourism
  - Mining and mineral extraction
  - Manufacturing
  - Wholesale and retail
  - Health services

CONTENT FOR 2ND GRADE

A. Explain why people trade

B. Explain why goods, services and resources come from all over the nation and the world

C. Identify local resources
   - Natural (renewable and nonrenewable)
   - Human

D. Explain why some products are produced locally while others are not

EXAMPLES

The learner will:

- Discuss the process of trade within the United States and between two countries.
- List local resources (natural and human).
- Describe why certain products cannot be produced locally (geographic location, settlement, climate, culture).
- Discuss the reason(s) specific businesses/industries are located in his or her community.

SUPPORTIVE PRACTICE

The teacher will:

- Explain how different states/countries trade products/services.
- Provide items to trade as part of a Native American/Pilgrim activity.
- Provide descriptions/explanations of why goods and services come from all over the nation and world.
- Use KWL charts to discuss why products are produced in certain regions.
- Use maps to identify where certain products are produced/manufactured.
- Brainstorm local resources and work as a class to categorize them between natural and human.
- Discuss businesses in our area and why some get more economic activity than others.
- Use maps to discuss why specific areas are strong for travel and tourism.

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 2ND GRADE

A. Explain why people work to get goods and services

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.
- Research and report upon a profession of interest.
- Compare and contrast businesses that provide goods with those that provide services (i.e. restaurants/mail carrier).
- Explain the term entrepreneurship.
- Explain what it means to save.

SUPPORTIVE PRACTICE

The teacher will:

- Invite community helpers into the classroom to discuss their occupation.
- Provide materials for learners to research various occupations.
- Use graphic organizers to discuss businesses that provide goods with businesses that provide services.
- Use a KWL chart to facilitate learners' knowledge of entrepreneurship.
- Give the students examples of items that they may want to "save" for with their money.
- Use a business map of the community to separate a business that provides goods with one that provides services.
- Brainstorm with the students why the teacher might be working and also reasons why their parents work.
- Give each child the opportunity to choose an occupation that they would like to be when they grow up and then have them discuss and write the steps they would take to reach their goal.

STANDARD 7.1: BASIC GEOGRAPHY LITERACY

THIRD GRADE STANDARDS:

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

CONTENT FOR 2ND GRADE

A. Identify the following geographic tools: maps, globe, map elements, diagrams, photographs, map keys and cardinal directions

B. Identify the 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 state and country.
- Make a three-dimensional representation of a room in his/her house.
- Name the seven continents and four oceans on a map and globe.

SUPPORTIVE PRACTICE

The teacher will:

- Look at landforms on a map.
- Identify the following on a map: legends, keys and compass rose.
- Provide opportunities for students to use maps to identify familiar places.
- Support learners in constructing a three-dimensional representation of a familiar living space.
- Discuss the continents and oceans.

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 2ND GRADE

A. Identify physical characteristics of places, noting physical properties: landforms (swamps, hills and mountains); climate; vegetation; animals; bodies of water (creeks, rivers, ponds, lakes); and human-made forms (highways, streets, buildings and bridges)

B. Identify basic processes (e.g. flood, tornado) that affect the physical characteristics of places and regions

EXAMPLES

The learner will:

- Create a model using physical characteristics such as mountains, rivers, lakes, etc.
- Describe the interactions between people, animals and physical features of their environment.
- Discuss the earth-sun relationship and how it effects seasons, length of daylight, weather and climate.
- Investigate the causes of extreme physical events and describe the effects of such events on the environment.

SUPPORTIVE PRACTICE

The teacher will:

- Celebrate Earth Day and discuss the environment.
- Discuss the seasons as they change during the school year.
- Observe and track weather changes.
- 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 2ND 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 how people effect the places in which they live.

SUPPORTIVE PRACTICE

The teacher will:

- Arrange visits to local businesses.
- Have fundraisers for local altruistic causes (food banks, etc.).
- Establish school/business relationships (ex. monthly projects to be displayed at local businesses).

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 2ND 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 how the weather and natural resources impact people (e.g., drought, snowfall, soil quality).
- Describe the various things people do to impact the environment (both positively and negatively).

SUPPORTIVE PRACTICE

The teacher will:

- Discuss relevant topics during Earth Day (protecting air, water and land; using natural resources wisely).
- Discuss the difference among suburban, urban and rural areas.

STANDARD 8.1: HISTORICAL ANALYSIS AND SKILLS DEVELOPMENT

THIRD GRADE STANDARDS:

- Understand chronological thinking and distinguish between past, present and future time
- Develop an understanding of historical sources
- Understand historical research

CONTENT FOR 2ND GRADE

A. Understand chronological thinking and distinguish between past, present and future time

B. Begin to develop an understanding of historical sources (e.g., author/ biography, historical places, events, and artifacts)

C. Understand historical research

EXAMPLES

The learner will:

- Develop a family tree.
- Listen to various historical biographies.
- Discuss and/or visit historical sites.
- Distinguish between fact and opinion.
- Appreciate multiple points of view.
- Discuss illustrations in historical stories.
- Discuss cause/effect in historical events (e.g., westward expansion, Rosa Parks, slavery, etc.).
- Interview grandparents about events from their childhood.
- Read various folklore stories.

SUPPORTIVE PRACTICE

The teacher will:

- Model how to create a timeline.
- Read biographies in language arts (Helen Keller, etc.).
- Visit or take virtual field trips to historical sites.
- Discuss the relationship between Pilgrims and Native Americans.
- Invite grandparents into the classroom to discuss events from their childhood.
- Read folklore, using Johnny Appleseed as a building block for other tales.

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 2ND GRADE

A. Understand the political and cultural contributions of individuals and groups to Pennsylvania history

B. Identify and describe primary documents, material artifacts, historic sites important in Pennsylvania history

EXAMPLES

The learner will:

- Identify and explain the significance of Betsy Ross.
- Identify and explain the significance of William Penn.
- Identify and explain the significance of Benjamin Franklin.
- Identify the official commonwealth symbols (e.g. tree, bird, dog, insect, flower, fish, animal, keystone state).
- Identify the Pennsylvania state flag.
- Identify and explain the significance of the Liberty Bell.

SUPPORTIVE PRACTICE

The teacher will:

- Read literature about William Penn's contribution to Pennsylvania history.
- Read literature about Benjamin Franklin.
- Provide pictures and descriptions of official commonwealth symbols.
- Celebrate Flag Day.
- Display the Pennsylvania flag in the classroom.
- Read about the Liberty Bell as a symbol of freedom.

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 2ND GRADE

A. Identify contributions of individuals and groups to United States history

B. 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/or cultural contributions of John F. Kennedy, Neil Armstrong, Henry Ford, Thomas Edison.
- Recognize Mount Rushmore, The Alamo, Golden Gate Bridge and the Empire State Building.
- Create an invention and explain how it works.
- Examine primary documents and material artifacts.

SUPPORTIVE PRACTICE

The teacher will:

- Use various publications to discuss Constitution Day.
- Discuss Martin Luther King, Jr. during the King Holiday.
- Discuss the first landing on the moon.
- Discuss how various inventors changed the way of life.
- Provide opportunities for students to be inventors.
- Provide examples of primary documents and material artifacts for student to examine.

STANDARD 8.4: WORLD HISTORY

THIRD GRADE STANDARDS:

- Identify individuals and groups who have made significant political and cultural contributions to world history
- Identify historic sites and material artifacts important to world history
- Compare similarities and differences between earliest civilizations and life today (e.g., Africa, Egypt; Asia, Babylonia; Americas, Olmec; Europe, Neolithic settlements)
- Identify how conflict and cooperation among social groups and organizations affected world history

CONTENT FOR 2ND GRADE

A. Identify individuals and groups who have made significant political and cultural contributions to world history

B. Identify historical sites important to world history

C. Compare similarities and differences between earliest civilizations and life today

D. Identify how conflict and cooperation among social groups and organizations affected world history

EXAMPLES

The learner will:

- Identify and explain the significance of King Tut, Fidel Castro, Christopher Columbus.
- Report on a significant political or cultural figure.
- Identify the Panama Canal on a map.
- Identify the similarities/differences between early communications, building structures, transportation and artifacts of everyday life.
- Discuss the impact of military conflicts, racial relations, religion and immigration on world history.

SUPPORTIVE PRACTICE

The teacher will:

- Read trade books about significant political and cultural contributors to world history.
- Describe the civil rights movement during the King Holiday.
- Read about Christopher Columbus.

APPENDIX

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GLOSSARY OF TERMS

FOR EARLY LEARNING STANDARDS FOR 2ND 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 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

Consequence - What happens because of a choice.

Critical Elements - The important pieces of a skill, which help you improve. The critical elements help you to understand the "how to" of the skill.

Decision - Looking at all possible solutions and making a choice.

Energy - The ability to do work.

Feedback - When someone watches you perform a skill and then tells you about your skill performance. Feedback helps you to correct and improve your performance.

Goal - What someone wants to achieve. Achieving the goal takes planning and work. A goal can be short-term or long-term.

Health - 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.

Hygiene practices - Things that we do every day to stay healthy such as dental care, tooth care and washing/bathing.

Need - Something that is necessary for sustaining life.

On Task - An important social skill. Staying focused on a task and being able to keep working on the task.

Refusal Skills - Methods a person can use to say no to an action or situation that could damage health status or be violent.

Universal Precautions - A way of protecting oneself from disease such as never touching another person's blood.

Want - Something that we desire.

GLOSSARY CONTINUED FROM PAGE 89

MATH

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

Addition – To join two ore 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 X 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 = 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 know has 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.

CONTINUED...

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

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, deign 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 ha 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-of 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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