Cognition

Social & Emotional Development

Physical Development and Health

Mathematics

Supporting All Children Using the Connecticut Early Learning & Development Standards:

A Guide to Domains & Strands

Connecticut Office of Early Childhood

CTELDS

Language and Literacy

Science

Social Studies

Creative Arts

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Introduction

Supporting All Children Using the Connecticut Early Learning and Development Standards (CT ELDS): A Guide to Domains and Strands is a companion document to the CT ELDS. This document includes the following components:

Domain Guidance: Information about each of the eight domains in the CT ELDS includes a general description of this area of development and general ideas about promoting development in this area. There is a list of all of the strands included in domain and resources, including websites, books and articles.

Strand Guidance: Information about each strand in the CT ELDS includes:

- **General Information**
  For each strand in the CT ELDS there is general information about what this strand includes and why this strand is an important part of children's growth and development.
- **Age Range Descriptions**
  For each strand there is a brief discussion about development in this area for the age ranges addressed in the CT ELDS (infants and toddlers and/or preschoolers).
- **Supporting all Children: Children with Disabilities and Children who are Dual Language Learners**
  This is a section that includes ways to support growth and development in this area for children with disabilities and children who are dual language learners.
- **Strategies**
  Examples of strategies to support growth and development across the learning progressions are provided for each strand. Note that these strategies are intended as examples and should not be considered to be comprehensive. Strategies should be planned specifically for the classroom, children and families in a particular setting. In addition, while the strategies are laid out in a manner that mirrors the age bands in the CT ELDS, remember that the CT ELDS are designed to be used as learning progressions. Therefore, it is important to consider the strategies across the age and developmental ranges when planning.

  Strategies are broken down into the following sections:
  - **Environment, materials and scheduling**
    These strategies involve providing appropriate materials, scheduling the classroom routine and planning the environment to support development along learning progressions in this strand.
  - **Teaching behaviors**
    Teaching behaviors include the ways that adults interact with and respond to young children that support their growth and development in this area.

A Note on Learning Progressions and Indicators in the CT ELDS
Each strand in the CT ELDS is further broken down into learning progressions. The learning progressions are labeled with a name in the left hand column of the CT ELDS document. Each progression is comprised of a series of indicators, that illustrate examples of a common progression of skills across the age ranges. Individual indicators may provide useful information, but must be considered in the context of the learning progression as a whole and as a part of the domain and strand. For the purpose of providing guidance about development and strategies to support children using the CT ELDS, it was found that this information was best organized by the domains and strands in the CT ELDS document. When planning curriculum or determining specific strategies to support young children, adults should closely consider the strands and specific learning progressions, reflecting upon how children develop over time in this area.

Additional Resources
In addition to this document, other supporting materials in the series include:

- *Building Meaningful Curriculum* (including The Connecticut Office of Early Childhood Curriculum Self-Assessment Tool)
- *A Guide for Families*
- *Meeting the Needs of Dual Language Learners*
- *Meeting the Needs of Diverse Learners*

In addition, the *CT Core Knowledge and Competency Framework for Early Childhood Professionals* should be used to address the needs of the professionals who support young children. This framework includes perspectives from education, special education, health, mental health, and social service disciplines to address the early childhood workforce that works most closely with children ages birth to five and their families. This workforce includes teachers in community-based settings, family home child care, public school settings, home visitors and interventionists. This “core” provides a shared set of competencies from a multi-disciplinary lens that can be used as a foundation to construct or adopt role specific competencies beyond those addressed in the shared set. The practices outlined in the document align to the Connecticut Core Knowledge and Competency Framework for Early Childhood Professionals.

The CT ELDS and the documents in the series *Supporting All Children Using the CT ELDS* do not constitute a curriculum. Rather, they are tools to support intentionally planning for teaching and learning. Curriculum should be intentional, responsive and reflective. This document provides information which may be helpful in planning as a part of an identified curricular approach so that the needs of the group of children and the individuals are addressed.

Supporting All Children:
Guide to Domains & Strands

CTELDS
Connecticut Early Learning and Development Standards

Cognition

Cognition is defined as, “the mental action or process of acquiring knowledge and understanding through thought, experience, and the senses.” (Oxforddictionaries.com). Cognitive processes include memory, reasoning, problem-solving, symbolic representation and thinking. These cognitive processes emerge throughout childhood. In addition, children begin to use specific ways to approach learning and to manage these cognitive processes.

While all aspects of cognition are important, symbolic representation provides an important foundation for future learning. Being able to think of objects or ideas using symbols helps people to store and manipulate information and manipulate information. Symbolic representation serves as a foundation for language development, pretend play, literacy and mathematics. As children develop, they are able to store increasingly complex and abstract information, and can manipulate the information in a variety of ways. The ability of a child to acquire, store and manipulate information is closely related to their language, social and motor development. For example, 18-month-old Christine has wandered into the kitchen where her mother is giving her dog a treat. Her mother is telling the dog to sit. Christine begins to imitate the action, word and intent of communicating with the dog. She has acquired new information that would not have been possible without increased motor, language and social skills. The next day at her child care facility, she repeats the sequence with the child care provider’s dog, showing she has stored that new information and is able to apply it in a new context.

In order for young children to develop strong cognitive skills and learn new information, they need to be engaged in real-life experiences. Children should have opportunities to learn through active exploration and inquiry. This can make the learning more real, helping them to absorb the information better. Active learning experiences may include:

- Exploring objects through touch and play, acting out new roles
- Building structures to learn about geometric shapes or the properties of the building materials
- Spending time outdoors to learn about specific science concepts
- Actively solving problems.

Early learning experiences will support children to:

Strand A: Develop effective approaches to learning

Strand B: Use logic and reasoning

Strand C: Strengthen executive function

Strand A: Early learning experiences will support children to develop effective approaches to learning.

All people approach learning in different ways, including children. Approaches to learning refer to how children respond to learning situations. It includes their curiosity, engagement, eagerness to learn and cooperation with peers during learning experiences. Research indicates that children's approaches to learning are powerful predictors of later school success (Peth-Pierce, 2000).

Learning approaches are important because they can enhance or detract from a child's ability to learn (Hyson, 2005; Hyson, 2008). Differences in approaching the world lead to different outcomes for children. Not surprisingly, if a child's curiosity has not been encouraged, he will not engage in as many learning opportunities as a child whose curiosity has been nurtured. This curiosity means that they explore and interact with varied toys, materials and people. Children use their approaches to learning throughout their day and in all learning situations.

Individual characteristics, such as temperament and personality traits can influence a child's approaches to learning. For example, a child who likes to be active will more likely approach a learning situation with a desire to be moving and using his/her body. If this child is involved in a learning experience that only involves listening, that child may have difficulty staying engaged. It is our job as adults to recognize these differences and adjust learning experiences to accommodate all children.

"By attending to approaches that are conducive to learning, educators can make a critical contribution to young children's school readiness and early school success." (Bredekamp, 2008)

Infants and Toddlers

For infants and toddlers, their approaches to learning begin with their interest in the world around them and their desire to make things happen. This can be seen immediately as young infants begin to explore their environment, chewing their fist, vocalizing different sounds and turning toward the sound of a familiar voice. Secure relationships, exploration and active learning are critical to supporting children's development of positive approaches to learning. "In active learning settings, children engage with an abundance and variety of materials that challenge their thinking skills and support their sensory, whole-body approach to learning" (Lockhart, 2011). Adults can encourage the child's eagerness to learn by celebrating the child's discoveries and modeling a variety of ways to use objects.

Preschoolers

Preschoolers have typically had enough experience to know that they enjoy exploration and discovery. With experience, preschoolers have often gained the confidence to identify what they are interested in and ask to do those things. They are better able to work through obstacles they encounter during their work and play, although they may seek support when necessary.

Preschoolers are beginning to learn what approaches to use in particular circumstances. Researchers have found that a specific learning approach is not equally effective for all activities. For an activity that has a clearly defined goal, such as running through an obstacle course or solving a math problem, a goal-orientation approach is effective for task completion. The same approach may not be as useful if a child engages in playing with puppets or making up a new dance. There is not a fixed set of approaches that are positive regardless of the learning contexts. Whether an approach is positive or effective depends on the specific activity in which children are engaged.

Because approaches to learning are not traits children are born with, adults have the ability to influence the development of those approaches that will help children to continue to gain skills and knowledge. In addition, adults can teach children to adjust their learning approach based on the task. Chen (2011) has identified three ways that adults can support children to use specific approaches include:

- Arranging and adjusting the work environment for tasks the group undertakes
- Providing specific instruction and modeling while children undertake a learning activity
- Engaging children in reflective actions when they encounter problems.

(Chen & McNamee, 2011)

Cognition Strategies

Strand A: Early learning experiences will support children to develop effective approaches to learning

Learning Progressions: Curiosity and Initiative, Engagement with Environment, People and Objects, Eagerness to Learn and Cooperation with Peers in Learning Experiences

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Provide infants with stable, responsive environments • Provide a wide variety of toys and materials for the child to interact with • Surround infants with visuals that interest them, bright colors, music	• Provide many, different appropriately sized toys to explore • Provide opportunities for infants to be with other infants	• Provide children with extended play times • Provide materials that can be used together or alone • Create environments where children can actively explore	• Give children opportunities to play with other children • Provide materials that encourage exploration, such as magnifying glasses, telescopes, containers with mixed items	• Provide flexible schedules to allow children to engage in activities that interest them and ways to make choices about their environment • Provide materials that can be used in multiple ways	• Give children opportunities to work together to reach a goal, allow them to evolve the project • Be sure to provide toys and materials that interest children	• Allow time for children to share their experiences in their own way • Provide toys and materials that encourage cooperative use
Teaching behavior	• Respond to their indications of need and initiations for social contact promptly • Talk to infants throughout their routines, describe what you are doing • Allow infants to explore safe toys through their mouth	• Play games like peek-a-boo and hide the toy • Encourage exploration of the environment • Point out sights and sounds throughout the infant's day • Offer infants choices • Support infants in new experiences	• Go for walks and point out interesting and novel objects or sights • Let children explore the objects • Observe children to determine preferences	• Wonder aloud about why things are the way they are • Encourage children to attempt tasks outside of their comfort zone, let them know you are there if they need help	• Notice and respond to children's curiosity, expanding the learning opportunity with rich vocabulary and open-ended questions • Increase challenge for children by providing more complex toys and activities • Engage children in completing "real" jobs, e.g., sweeping, putting away toys • Use the same visual and environmental cues throughout the day, such as singing the same clean up song or pointing to the bathroom and modeling washing hands when it is time to wash up before snack	• Encourage positive attitudes about mistakes • Point out the many different ways that things get done • Provide tasks where the goal is trying different strategies rather than right or wrong answers • Comment positively about children's perseverance • Give children adequate time to respond to questions, directions, greetings, etc.	• Support children to find answers to their questions, support them to brainstorm ways they can do that e.g., ask someone, read a book, try another way • Offer choices • Share in children's excitement about their discoveries • Expand children's ideas by wondering out loud

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to develop effective approaches to learning.

Children with Disabilities

- Ensure that children have ample opportunity to explore through different modalities (e.g., provide children with hearing impairments opportunities to explore through touch and visual means, provide children with visual impairments objects that make different noises).
- Provide children with ways to make choices about their environment.
- Structure cooperative experiences with peers.
- Give children adequate time to respond to questions, directions, greetings, etc.
- Use concrete items to help children learn new vocabulary.

Children Who Are Dual Language Learners

- Provide materials that reflect a child's home language and culture to promote exploration (e.g., familiar foods in a dramatic play area, books in home language, signs in home language in block area).
- Learn a few question words in the child's first language to build their connection with you. This will make them feel safer and promote their curiosity and questioning.
- Create buddy systems by pairing children who speak more English with children who speak less.
- Demonstrate interest in the child's attempts at interaction and activity.
- Be consistent in using the same visual and environmental cues throughout the day, such as singing the same clean-up song or pointing to the bathroom and modeling washing hands when it is time to wash up before snack.
- Observe children carefully. How they approach new situations will be impacted by their willingness to take risks. This level varies for each child. Be aware of these differences and provide additional support for children who are naturally more hesitant.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand B: Early learning experiences will support children to use logic and reasoning.

Logic and reasoning skills are an essential part of child development and early learning. These skills provide a foundation for competence and success in school and other environments. Children's ability to think, reason and use information allows them to acquire knowledge, understand the world around them and make appropriate decisions.

Logic and reasoning includes:

- Understanding how one action makes something else happen (cause and effect)
- Understanding characteristics of objects and people and how to organize or categorize (attributes, sorting and patterns)
- Thinking through problems and using strategies to solve them (problem solving)
- Understanding that one thing can represent another thing; including symbols, objects and people (symbolic representation).

Adults support children to use logic and reasoning when they provide learning experiences that allow children to explore and consider the impact of their own actions. Assisting children to understand the world around them and work through problems themselves supports confidence in problem solving. Opportunities to engage in dramatic play and explore symbols, such as letters and numbers, support the development of symbolic representation.

Infants and Toddlers

For infants and toddlers, logic and reasoning skills begin the way many other skills develop: through physical exploration of the environment. Children who have a strong attachment to at least one caregiver will be more willing to explore the world around them. Over time, they will explore in more complex, flexible and intentional ways. Their growing awareness of simple cause and effect relationships is evident when they bang a toy repeatedly to hear the noise it makes or knock a cup off of the table to watch you pick it up. They will also begin to use symbolic representation through make-believe play, such as holding a phone up to their ear and pretending to talk. Adults can support children in their development of logic and reasoning skills by creating safe environments to explore and encouraging discoveries. Using descriptive words when talking about people and objects helps children to notice and understand similarities and differences between people and objects.

Preschoolers

Preschoolers at this stage of development use their perceptions of the environment, along with pieces of information gathered during their past experiences, to understand their world (Piaget, 1967). Based on their observations and the application of new thinking processes, they develop new understanding to make logical sense of the world. For example, children's ability to group objects will expand from using one characteristic or trait, such as color, to finding multiple ways to group them. When trying to solve a problem, children will initially use trial and error. As they gain experience, children will begin to think before taking action, using logic and experience to determine the steps they follow to solve the problem. Children's logic and reasoning skills emerge when adults and children seek out answers to questions and problems together. The emphasis should be on the process rather than the result. Listen carefully to children's questions and think of ways that they can discover their own answers.

Developing symbolic representation is necessary for children to be able to do things such as math operations and reading. Encouraging children to engage in dramatic play supports the development of symbolic representation. Providing opportunities to draw and to use letters and numbers in meaningful ways also supports children to understand and use symbols.

Cognition Strategies

Strand B: Early learning experiences will support children to use logic and reasoning

Learning Progressions: Curiosity and Initiative and Engagement with Environment, People and Eagerness to Learn Cooperation with Peers in Learning Experiences

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
• Environment, materials, schedule	• Provide children with stable, responsive environments • Provide a wide variety of toys and materials for the child to interact with • Surround infants with visuals that interest them, bright colors, music	• Provide many, different appropriately sized toys to explore • Provide opportunities for children to be with other children	• Provide children with extended play times • Provide materials that can be used together or alone • Provide toys that are multisensory • Create environments where children can actively explore	• Give children opportunities to play with other children • Provide materials that encourage exploration, such as magnifying glasses, telescopes, containers with mixed items	• Provide flexible schedules to allow children to engage in activities that interest them • Provide materials that can be used in multiple ways	• Give children opportunities to work together to reach a goal, allow them to evolve the project • Be sure to provide toys and materials that interest children	• Allow time for children to share their experiences in their own way • Provide toys and materials that encourage cooperative use
• Teaching behavior	• Respond to their indications of need and initiations for social contact promptly • Talk to children throughout their routines; describe what you are doing • Allow infants to explore safe toys through their mouth	• Play games like peek-a-boo and hide the toy • Encourage exploration of the environment • Point out sights and sounds throughout the child's day • Offer children choices • Support children in new experiences	• Go for walks and point out interesting and novel objects or sights • Let children explore the objects • Observe children to determine preferences	• Wonder aloud about why things are the way they are • Encourage children to attempt tasks outside of their comfort zone, let them know you are there if they need help	• Notice and respond to children's curiosity, expanding the learning opportunity with rich vocabulary and open-ended questions • Increase challenge for children by providing more complex toys and activities • Engage children in completing "real" jobs, e.g., sweeping, putting away toys • Describe children's actions as they play	• Encourage positive attitudes about mistakes • Point out the many different ways that things get done • Provide tasks where the goal is trying different strategies rather than right or wrong answers • Comment on children's perseverance • Use embedded instruction	• Support children to find answers to their questions, support them to brainstorm ways they can do that e.g., ask someone, read a book, try another way • Offer choices • Share in children's excitement about their discoveries • Expand children's ideas by wondering out loud

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as effective ways to promote access and participation when supporting children's ability to understand how to use logic and reasoning.

Children with Disabilities

- Carefully observe children during routines to determine indications of interest in objects or experiences.
- Offer choices that intentionally include a preference.
- Provide toys that are multisensory.
- Provide preferred toys.
- For children who are blind or visually impaired, keep furniture arrangements the same.
- For children who are blind or visually impaired, store preferred toys and snacks in the same locations.
- Be sure children who are deaf or who have hearing loss can see you when interacting with them.
- Station adults in high-interest areas to facilitate engagement of all children.
- Use embedded instruction.
- Provide adapted or individualized materials that can be used to learn about cause and effect, such as large cars that children with fine motor challenges can hold and push.

Children Who Are Dual Language Learners

- Use gestures paired with language.
- Learn small phrases in the child's home language.
- Encourage parents to continue to speak to the child in the family's home language.
- Describe your actions as you complete them.
- Use exaggerated facial expressions and gestures.
- Describe children's actions as they play.
- Build relationships with families.
- Create small groups that include peers with more English vocabulary.
- Directly teach vocabulary that is linked to accomplishing the strand goal.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand C: Early learning experiences will support children to strengthen executive function.

Executive functioning is a term used to describe the many tasks our brains perform that are necessary to think, act and solve problems. Executive function is important for conscious control of behavior. Executive functioning includes tasks that help us learn new information, remember and retrieve information we've learned in the past and use this information to solve problems of everyday life. Executive function allows us to do things, such as make plans, keep track of more than one thing at once, ask for help when we need it and think about our ideas and work.

In the domain of Cognition, the executive function strand includes five learning progressions:

- Choosing and Planning
- Task Persistence
- Cognitive Flexibility
- Working Memory
- Regulation of Attention and Impulses

Together these learning progressions represent the components of executive function that young children are beginning to develop and will build on over time. Executive functioning continues to develop well into adolescence.

Infants and Toddlers

The first signs of executive function, the conscious control of thought, action or emotion, emerge as early as the end of the first year of life. When babies are about eight months old, they can usually be encouraged to search for hidden objects after a brief delay — a form of hide-and-seek. For example, if a baby is playing with a doll and the doll is covered with a cloth, the baby may remove the cloth and retrieve the doll. This behavior by itself suggests some degree of executive function because the baby keeps the doll in mind and performs one action (removing the cloth) in order to perform another action (retrieving the doll). Over the course of the second year of life, children become increasingly skilled at using the cognitive processes required to solve problems such as these. This occurs, to some extent, because children are starting to acquire language and use language to regulate their behavior.

Preschoolers

As they develop, children are increasingly able to reflect on their own thinking processes and actions. For example, a young child may act without thinking, while an older child may consciously think about their actions before they do them. Eventually, children understand that they can think about their actions and can then increase their control over their behavior. Increases in the extent to which children can reflect on their actions and intentions allow them to formulate and use more complex sets of rules for regulating their behavior.

Preschoolers may begin to think about the past and plan for the future, considering several options and then selecting one. It is important to note that while preschoolers' abilities in this area are increasing, their conscious control of thoughts, actions and emotions is still very limited. Quite often their knowledge about what they should do surpasses their actual ability to do it.

Cognition Strategies

Strand C: Early learning experiences will support children to strengthen executive function.

Learning Progressions: Choosing and Planning, Task, Persistence, Cognitive Flexibility, Working Memory and Regulation of Attention and Impulses

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Provide cause and effect materials • Engage in cause and effect activities, e.g., add bubbles to water • Provide extended periods of time for children to explore their environment • Provide materials that interest the child • Keep materials available until a child has mastered using them • Maintain a predictable schedule • Provide materials, such as mirrors, musical instruments, wind-up toys, stacking blocks, activity boxes, things to push and roll, squeaky toys				• Structure the environment so children can make choices both where to play and what materials to use • Provide opportunities for children to clean up after using materials • Keep the environment organized and free of clutter • Keep some materials available for extended periods of time • Provide extended periods of time for children to play • Provide a variety of learning experiences in both small and large group structures • Provide materials that require problem solving and planning, such as puzzles, different types of blocks, dramatic play materials • Provide activities and materials that require the process of inquiry • Use multiple times throughout the day to reflect with children • Use tools like time organizers, computers or watches with alarms		
Teaching behaviors	• Play turn-taking games, such as peek-a-boo and tickle games • Talk about the relationship between the cause and the effect • Offer children choices • Talk about what is going to happen over a brief period of time, “First we are going to eat lunch, then clean up and then take a nap” • Use phrases to encourage children to persist • Use pointing or modeling to support children during a challenging task • Model new ways to use materials • Ask children questions about objects that are out of sight or events that happened in the past • Celebrate children’s successes • Provide ample time for children to solve a problem before assisting				• Use children’s development, interest and temperament to design individual learning experiences • Use a variety of strategies to encourage a child to keep trying, e.g., pointing, modeling, modeling with verbal support, point out how a peer is doing it • Model persistence at a difficult task and give step-by-step directions • Model the use of self-talk while working through a task • Involve children in making a plan • Model making plans for both physical actions, like writing it down, and verbal actions, like asking yourself questions • Help children identify coping skills, such as taking a deep breath, asking for help or watching what someone else is doing • Celebrate children’s successes • Ask open-ended questions as they work to encourage reflection • Treat mistakes as learning opportunities • Celebrate perseverance, not just task completion		

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to strengthen their executive function.

Children with Disabilities

- Provide step-by-step approaches to work and directions, breaking down instructions and activities into small manageable steps.
- Use visual organizational aids.
- Use tools, such as time organizers, computers or watches with alarms.
- Use visual schedules and review them several times a day.
- Plan and structure transition times and changes in activities.
- Organize work and play spaces.
- Minimize clutter.

Children Who Are Dual Language Learners

In recent studies, preschool-age children who are learning more than one language have been shown to have more advanced executive function skills than their monolingual peers. For example, enhanced executive function abilities, such as working memory, inhibitory control, attention to relevant vs. irrelevant task cues, and mental or cognitive flexibility, as well as improved language skills, have been linked to early bilingualism when proficiency in each language is roughly balanced (Bialystok, 2009). Adults should encourage young children to continue to develop their home language and English as it provides benefits, including in the area of executive function throughout their lives.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

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Social and Emotional Development

Healthy social and emotional development includes a child's ability to experience, manage, recognize and respond appropriately to a full range of positive and negative emotions. It also includes using these skills to develop positive relationships with peers and adults.

A child's social and emotional development impacts all aspects of their life. It influences how they think, feel, act, and learn. Children need responsive, consistent, caring interactions in order to thrive. To support strong social and emotional development, adults provide an environment that is relatively calm, predictable, positive and stable.

Adults also set appropriate expectations based on the child's age and development. Early on, that means responding to babies' needs which are expressed by crying, calling out or making eye contact. When babies' requests for care and interaction are ignored, they do not develop a sense of self worth and feel that that they do not have control over their environment. This can impact their ability to become an active learner. Being responsive to babies also helps them to develop self-regulation. Self-regulation or the ability to control oneself, is critical to gain control of bodily functions, manage powerful emotions and maintain focus and attention. As children age, play experiences provide opportunities to engage children in social interactions and build their emotional development. Play helps children learn self-control, as well as social skills like turn-taking, sharing, negotiation and problem solving. Play is a natural way to help children to express their emotions and learn about the emotions of others. Playing with children is also a great way to take advantage of teachable moments. The way in which a child demonstrates some of these skills will be based on socially and culturally appropriate norms.

Early learning experiences will support children to:

Strand A: Develop trusting, healthy attachments and relationships with primary caregivers

Strand B: Develop self-regulation

Strand C: Develop, express, recognize and respond to emotions

Strand D: Develop self-awareness, self-concept and competence

Strand E: Develop social relationships

Strand A: Early learning experiences will support children to develop trusting, healthy attachments and relationships with primary caregivers.

The first building block of healthy social and emotional development is attachment with primary caregivers. Attachment is "an affectional tie that one person or animal forms between himself and another specific one – a tie that binds them together in space and endures over time," (Ainsworth, Waters & Wall, 1978). Attachment is not just a connection between two people; it is a bond that involves a desire for regular contact with that person and distress during separation from that person. This type of connection can begin to form with family members before a baby is born. It will also form with new individuals in a child's life. As children grow, they use these connections as a safe place from which to explore the rest of the world. When they have strong attachments, they build the ability to use adults to help them. This is because they have learned from earlier interactions that adults are there to meet their hunger, sleep and comfort needs.

Throughout this period, children are also learning that those important people in their lives will be with them and away from them. Learning to manage separation is an important skill for young children to master.

"Your nurturing strengthens a baby's determination to keep on learning, keep on cooperating, keep on being friendly, and keep on growing into a loving person – first in the world of the nursery and later in the wider world. You can give no greater gift to a child than to be the best guide possible as each child begins his or her unique life journey." Sterling Honig, 2010

Infants and Toddlers

In infancy, the most important people in babies' lives are their parents and caregivers. Infants actively work to establish relationships with their parents and caregivers. They seek contact and communicate their needs through simple communications, such as crying and smiling. Over time, their communication skills improve through back and forth interaction with parents and caregivers. When infants and toddlers explore their environment, they begin to develop an understanding of themselves in the context of their family, community and culture. From the moment they are born, babies communicate their needs. A newborn's cry is their first social interaction, and responding quickly to their cry encourages social development.

At 4 months, babies:

- turn their heads to watch interesting faces
- smile in response to an adult's smile

At 6 months, babies show their emotions by:

- laughing and cooing when they are happy
- crying when they are upset

By 12 months, babies start to use social gestures, such as:

- waving
- pointing
- giving objects back and forth
- repeating simple sounds like "ma" and "ba"
- recognizing and responding to their own name

By 18 months, a toddler will:

- seek out an adult for support and comfort
- share exciting new discoveries

Preschoolers

Preschool children who have experienced consistent, caring relationships are well on their way to having trusting healthy attachments with primary caregivers. If they have experienced responsive, warm, nurturing and consistent care they are more secure when meeting new friends or being cared for by new people. They are better able to manage separation from primary caregivers because:

- Their developing cognitive skills allow them to understand that people can go away and come back and that they are not gone forever when they leave.
- They have a growing vocabulary that allows them to express how they are feeling during separation from someone they love.

Children who have learned that adults support them and provide a safe and predictable environment are usually able to:

- Feel comfortable in new environments, such as attending a birthday party or starting a new school or group.
- Follow another adult's guidance.

Social and Emotional Development Strategies

Strand A: Early learning experiences will support children to develop trusting, healthy attachments and relationships with primary caregivers.

Learning Progressions: Trusting Relationships and Managing Separation

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Maintain a flexible schedule responsive to babies' internal needs • Provide consistent routines • Adjust the baby's environment to respond to need for quiet and more alert periods • Provide soft, plush materials that babies can hold and snuggle		• Maintain consistent and predictable routines and schedules • Provide materials for pretend play, e.g., dollhouses and people, stuffed animals, cars • Allow children to access toys independently • Allow children to hold and touch objects as they experience a new environment • Create places for small groups and individual children to spend time • Provide flexibility in the schedule • Retain materials that hold child's interest • Use consistent goodbye routines and learn small phrases in child's home language to reassure them family and caregivers will be back to get them • Allow enough time for hellos and goodbyes • Provide family photos or objects from home • Create a special goodbye place • Support children's comfort with separation through use of visuals and stories			
Teaching behaviors	• Respond to children's needs by holding, cuddling, singing, feeding or helping to go to sleep • Respond to children's social initiations by talking, smiling or offering an item • Reassure children when they are around unfamiliar adults • Show interest in children throughout the day		• Interact with children by responding to speech, touch, scent, movement, verbalizations and facial expressions that is paired with language • Respond when child requests comfort • Play with children on the floor and interact with them using smiles and verbal expressions • Support children during separation and reassurance that the person will return through the use of visual and stories • Use body language and facial expressions to show warmth and caring	• Notice the messages from the child and provide reassurance through words and/or touch • Provide hugs and smiles in response to needs • Tell the child when a loved one is leaving, provide reassurance that they will return • Talk about new places before going there • Use body language and facial expressions to show warmth and caring	• Support children to manage feelings of distress • Acknowledge children when they are exploring, "I see you playing with blocks. That looks like so much fun!" • Describe children's feelings with feeling words • Show interest in children's messages by listening carefully • Use body language and facial expressions to show warmth and caring	• Respond quickly to requests for support • Prepare children for separations; identify who will be there to help them • Observe children after caregiver leaves to be sure they are okay; check in if they are showing signs of distress • Explain that you can help if help is needed • Use body language and facial expressions to show warmth and caring • Encourage children to ask for help from a range of people • Talk about the important people in a child's life • Say goodbye when separating from a child • Use body language and facial expressions to show warmth and caring	• Visit unfamiliar places • Encourage children to try new things and explore within established boundaries with visual and auditory cues if needed or on their own or with friends • Engage children in extra activities like art classes, or story time • Use body language and facial expressions to show warmth and caring

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to develop trusting healthy attachments and relationships with primary caregivers.

Children with Disabilities

- Use a multisensory approach to build trusting relationships, using speech, touch, scent, movement.
- Use frequent verbal descriptors of environments.
- Allow children to hold and touch objects as they experience new environments.
- Encourage exploration through auditory and visual cues.
- Observe children to determine preferences; use those preferences to draw children into participation in new environments.
- Support children's comfort with separation through the use of visuals and stories.

Children Who Are Dual Language Learners

- Use body language and facial expressions to show warmth and caring.
- As much as possible, keep routines and schedules predictable, using visual cues to help children understand.
- Use gestures paired with language.
- Learn small phrases in children's home language to reassure them that you can help or that their mom, dad, grandpa, aunt, or uncle will be back to get them
- Allow children to stay close to you to help them develop trust.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand B: Early learning experiences will support children to develop self-regulation

Self-regulation is the internal process that occurs when we monitor and control our own behavior. Emotional regulation skills are important because they affect how socially competent children are perceived to be by peers and teachers (National Scientific Council on the Developing Child, 2004). The CT ELDS strand of self-regulation has two overarching components. The first is the regulation of emotions and the second is the regulation of impulses. These two appear separately in the *CT Early Learning and Development Standards* but are closely tied together, as children first feel something and then act on that feeling. That's because children and adults first feel something and then act on that feeling. When children are very young, the feeling and the acting happen almost simultaneously. For example, when a toddler sees an interesting toy in another child's hand, he/she feels the desire to play with the toy and immediately reaches out to grab the toy. As children grow, there should be a step added to that feeling-acting sequence. They begin to regulate their feeling and action by pausing and thinking of another way to meet the desire for the toy. Instead of grabbing the toy they may ask to have a turn, find an adult to help or look for a duplicate toy.

The ability to use language to communicate plays a large role in improving emotion and impulse regulation (Campos, Frankel & Camras, 2004). This means that providing children with ways to communicate their emotions using appropriate gestures, words or pictures helps them develop self-regulation.

Self-regulation is clearly not an isolated skill. Children must translate what they experience into information they can use to regulate.

Infants and Toddlers

Infants often demonstrate the early stages of self-regulation by turning away from stimulation or crying in response to discomfort. This is how they can take action to avoid what is causing them distress. Responding to infants' communication of need will help them learn emotional regulation. "By 18 months, toddlers begin an internalization of self-regulation and have some potential to amend their behaviors, delay gratification, and tolerate frustration as needed to attain their goals" (Jennings, 2004).

Toddlers' self-regulation will improve as they grow, especially during routines like mealtime when they have had a lot of opportunities to learn that their need for food will be met. In new situations or more complex situations, like interactions with peers, however, they will still need adult guidance to support their developing emotion and impulse regulation. Adults can also create environments that support toddlers by shortening wait time, maintaining predictable routines and schedules, making sure there are duplicates of favorite toys and materials in group situations, assuring young children have enough sleep and not exposing children to chaotic or stressful environments.

"Self-regulation refers to several complicated processes that allow children to appropriately respond to their environment" (Bronson, 2000).

Preschoolers

Preschoolers are continuing to work on regulating their emotions and impulses. They are better able to manage their upset feelings, pay attention and inhibit their use of potentially hurtful behavior. These increasing skills are often tied to their increasing ability to communicate.

"By the end of the preschool years, children who have acquired a strong emotional foundation have the capacity to anticipate, talk about, and use their awareness of their own and others' feelings to better manage everyday social interactions" (National Scientific Council on the Developing Child, 2004).

Preschoolers draw on what they have learned about interacting with peers and adults and use it to help them meet their own needs of self-regulation. Adults can continue to support preschoolers' self-regulation by modeling strategies to regulate emotions and impulses (e.g., taking deep breaths to calm down when angry), providing them with vocabulary to express their emotions (e.g., saying, "I'm angry," instead of throwing something), providing guidance during emotionally charged situations and acknowledging when children use self-regulation strategies.

Social and Emotional Development Strategies

Strand B: Early learning experiences will support children to develop self-regulation.

Learning Progressions: Regulations of Emotions & Behaviors and Regulation of Impulses and Behaviors

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Provide a calm environment • Offer options for self-soothing, like a blanket or pacifier • Follow infant's routine and schedule as much as possible	• Maintain consistent routines and schedules • Provide an environment that is safe for exploration; include interesting materials that encourage exploration • Provide multisensory cause and affect toys	• Set simple rules and limits and be consistent • Provide enough time for toddlers to become involved in activities	• Maintain consistency and encourage engagement in routines and schedules • Provide opportunities for children to make choices • Create calm and active spaces • Provide time for children to soothe themselves after they have become upset • Use a visual schedule and visual supports to remind children of expectations • Schedule opportunities for active and quiet times, group and individual times • Provide an adequate amount of materials • Provide materials that encourage cooperative play • Provide materials that represent diverse families and cultures • Encourage children to independently initiate actions by giving them cues; for example, you can find the piano, listen to where the sound is coming from			
Teaching behaviors	• Respond promptly to children's needs • Interact with children calmly and supportively • Be sure soothing strategies match child's preferences • Model self-regulation strategies	• Allow children to follow their own biological schedule • Support children to develop self-soothing strategies and recognize when they still need adult support • Support children during times of distress	• Nurture children by snuggling and cuddling • Spend one-on-one time with children • Support children when they are struggling to control impulses • Offer choices of materials and toys • Talk to children about waiting and what you have to do before you can meet their need • Involve children in getting ready for routines, such as bringing a diaper to the diaper table	• Talk about the routines and schedules of the day • Maintain consistent expectations • Use supportive strategies to help children meet expectations • Allow children to use comfort objects • Provide acknowledgment when a child meets expectations • Teach social skills like taking turns, sharing and entering play • Provide guidance as children attempt to use social skills	• Describe reasons for limits and boundaries • Use strategies, such as choices, timers, first/then to support children's ability to control their behavior • Provide preparation for transitions • Continue to support children in times of distress	• Read books with children about emotion and impulse regulation, such as *No, David!* by David Shannon • Prepare children for changes in routines or schedules • Provide reminders of ways children can calm themselves	• Stay close to children when they are expressing frustration, prompt them to use appropriate strategies • Model self-regulation strategies • Use body language and facial expressions to show the child warmth and caring • Provide positive reinforcement when a child demonstrates the ability to regulate their emotions and impulses • Discuss using different strategies in different situations, for example, at home a child may be able to express strong emotions by yelling, but at school the expectation is different

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to develop self-regulation.

Children with Disabilities

- Encourage children to independently initiate actions by giving them cues; for example, "You can find the piano; listen to where the sound is coming from," (Cho & Palmer, 2008).
- Provide cues, such as "The toy is by your feet" (Cho & Palmer, 2008).
- Provide multisensory cause and effect toys.
- Provide many opportunities for children to make choices, describe options for children who are blind or visually impaired (Cho & Palmer, 2008).
- Encourage engagement in routines by talking about the steps of the routine and encouraging children to complete parts of the routine themselves.
- Use adaptive and assistive equipment (Erwin, et. al, 2009).
- Use plan/do or first/then activities and picture cues when needed.
- Offer children choices throughout the day.
- Because self-regulation is so closely tied to self-determination, it is important that children with disabilities are provided opportunities to develop these skills (Ryan & Deci, 2006).

Children Who Are Dual Language Learners

- Use body language and facial expressions to show the child warmth and caring.
- As much as possible, keep routines and schedules the same.
- Use gestures paired with language.
- Model self-regulation.
- Respond to the child's need for help.
- Use the same key phrases, such as "It's okay," or "I can help."
- Use objects or point to options when offering choices, use one or two simple words to describe the object or option (e.g., "Do you want the apple or the orange?" pointing to each as you say them).

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand C: Early learning experiences will support children to develop, express, recognize and respond to emotions.

Children are born able to express their emotions. How strongly emotions are expressed and what emotions are expressed under what circumstances will depend heavily on individual differences and cultural expectations (Thompson & Goodvin, 2005). Very young children show their emotions through their actions. As children's language and cognitive skills develop, they begin to recognize, think about and talk about their own emotions and the emotions of others. They also learn to respond to the emotions of others. Children need a vocabulary that will support the development of these skills. Children must have the language to label emotions as well as the ability to recognize and understand feelings in one's self and others. These skills are often referred to as emotional literacy (Joseph & Strain, 2003). Emotional literacy is the foundation of emotional regulation, successful interpersonal interactions and problem solving. In addition, children who use emotion-related words have been found to be better liked by their peers (Fabes, Eisenberg, Hanish & Spinard, 2001).

"Children's ability to label and manage different emotions provides them with powerful social tools: Using words, children can 'talk through' rather than act out their negative feelings." (Raver, 2002)

Infants and Toddlers

The emotional development of young children typically follows several stages: From birth to 18 months, children display emotions of joy, interest, sadness, surprise, anger, fear and sadness (Sternberg, Campos, & Emde, 1983; Izard & Malatesta, 1987). They are also able to respond to the emotions of others and use the emotion cues of others to guide their behavior in new or unknown situations.

Beginning at about 18 months, children who have been exposed to emotion words will be able to describe their emotions and talk about them in conversations with other people.

From 2-3 years, emotion vocabulary increases greatly. With this increase in language, children can label emotions in themselves and others, talk about future or past emotions, talk about the causes and consequences of some emotions, identify emotions connected with certain situations and use emotion language in pretend play (Kuebli, 1994).

As with the development of healthy attachments and self-regulation, infants' and toddlers' ability to express emotion develops based on the experiences they have with caregivers. Infants who experience adults who are responsive to their needs are more likely to feel safe expressing a wide range of emotions. When infants and toddlers hear emotion words used in context they will be better able to express, recognize and respond to emotions themselves.

Preschoolers

During the preschool years, children's awareness of the emotions of themselves and others increases. Their ability to respond to their emotions also increases. During this stage of development, children begin to use strategies other than physical actions to express their emotions; begin to think about emotions and understand that people feel different emotions about the same situation; begin to understand that emotions can take a long time to resolve after the event that caused them; and show a growing awareness that expectations vary from one context to another. This helps them be able to respond to their own emotions in situation specific ways.

Adults can continue to promote children's emotion-related skills by talking about emotions. Adults help children understand that everyone experiences and expresses emotions. A key task of adults is helping children refine their responses to emotions. Addressing emotions as they occur and modeling behavior helps children develop effective ways to deal with emotions. In addition games, books and conversations that directly deal with emotions can be helpful.

Social and Emotional Development

Strand C: Early learning experiences will support children to develop, express, recognize and respond to emotions.

Learning Progressions: Emotional Expression and Recognition and Response to Emotions in Others

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Provide a safe place for children to demonstrate emotions • Provide child-size furniture, soft spaces to sit or crawl, mirrors to see themselves alone and with others, things posted on the wall at child's level, places for one or two children to go to get away, blanket on floor for infants, etc. • Control noise levels • Play games, read books, display pictures of children showing a range of emotions and use emotion words to identify the feelings • Provide frequent opportunities for children to participate in activities they enjoy • Use predictable schedules and supportive transitions • Provide places for children to express their emotions while remaining close by • Provide interesting toys that represent the diversity of the class • Provide materials that support emotional literacy, such as books, games, puzzles, etc. • Use a schedule with adequate child-directed time						
Teaching behaviors	• Use facial expressions and body language to indicate warmth and caring • Use words to describe how you and the child are feeing • Observe children carefully to determine preferences and stop interactions that are unpleasant for the child • Provide verbal recognition of children's emotions during routines they may not enjoy, use a soothing tone and words to assure the child it will be done soon	• Recognize and empathize with feelings • Demonstrate acceptance of the child's expressions • Allow child to make choices during feeding time; stop when they indicate they are done	• Label expressions of emotion (pictures, signs, touch or words) • Make faces in the mirror together of a range of emotions • Help children notice other children's expressions of emotion • Model care for other children and people	• Model strategies to support other children when they are upset, e.g., finding another toy and bringing it to the child • Use emotion vocabulary throughout the day; begin to include words, such as frustrated, proud, or content • Use body language and universally understood facial expressions to show the child emotions; pair these expressions with emotion vocabulary	• Invite children to draw pictures of different emotions • Use self-talk to describe your emotions and link them to the situation that caused the emotion • Sing songs that use emotion words	• Ask children how they are feeling when they are expressing an emotion, do this when they are expressing positive and negative emotions • Use the same key phrases to discuss emotions, such as, "He's sad" or "I'm happy." Provide pictures of emotions for children to point to so that they can communicate their emotions. Pair the pictures with simple emotional vocabulary • Create charts with lists of times when children have felt, happy, proud, angry, etc. • Brainstorm ways that children can respond to their emotions • Help children notice similarities and differences in how people respond • Model using verbal or breathing strategies to deal with frustration; ask children to join you	• Offer children your time to talk about an emotional experience they have had • Offer alternate ways that children can describe their emotions and feelings, such as journaling, drawing pictures, creating a play, writing a song, etc. • Encourage compassion by helping children make connections between their feelings and the feelings of others

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to develop, express, recognize and respond to emotions.

Children with Disabilities

- Carefully observe children to determine their emotional cues.
- Use words and signs to identify emotions as children are displaying them.
- Display examples of emotions as clearly as possible and pair with communication the child can access (pictures, signs, touch or words).
- Incorporate pictures or words for emotions into alternate communication systems and use them in response to the child's demonstrations of emotion.
- For children who are blind or visually impaired, allow them to feel your facial expressions, such as smiles and frowns and pair with language. Be sure that children who are deaf or who have hearing loss can see you when interacting with them.

Children Who Are Dual Language Learners

- Use body language and universally understood facial expressions to show the child emotions. Pair these expressions with emotion vocabulary.
- Use the same key phrases to discuss emotions, such as "He's sad," or "I'm happy."
- Provide pictures of emotions for children to point to so that they can communicate their emotions. Pair the pictures with simple emotional vocabulary.
- When possible, read bilingual books that have emotion words in the child's home language and English, such as *All Kinds of Feelings* by Emma Brownjohn.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand D: Early learning experiences will support children to develop self-awareness, self-concept and competence.

Our sense of self includes those roles, attributes, behaviors and associations that we consider most important about ourselves (Ylvisaker, Hibbard & Feeney, 2006). The foundation of a child's sense of self begins early. Children must first develop awareness that they are a separate person from the people who have cared for them. Children can then begin to indicate personal preferences that are truly their own and not choices of the special people in their lives. Young children's self-identities or self-concepts are still being formed. Society, culture and the adults in a child's life play an important role in the development of self-concept. Children as young as four years old have a sense of self based on some characteristics that the child considers important and that are maintained over time. For example, a child might say, "I am strong", "I figure things out easily", or "I am good at helping people."

Children acquire their sense of self and self-esteem slowly and development in this area continues to mature into adolescence and beyond. Personal preferences also develop over time as children have more experiences with materials, toys, food, people and activities. Some part of personal preference will be based on a child's innate temperament and personality traits, while society, culture and family also have a significant influence. Self-concept is the child's perceptions of their strengths and weaknesses regarding a specific activity or talent.

Infants and Toddlers

Infants are not born with an awareness of themselves as an individual and they have no idea where they end and you begin. In early infancy, there is not a distinction between self and caregiver. As control of physical movements is developed, babies begin to understand that body parts belong to them. Between 6 to 12 months, children also begin to respond to their name.

When children are between 15 and 24 months, they are learning that they are different from other people and becoming more aware that others may have feelings and likes that are different than theirs. It is during this phase that they begin to realize that the reflection they see in a mirror is their own face.

Research has shown that once young children reach this basic level of self-awareness, new emotions that involve others emerge. These emotions include embarrassment, envy and empathy (Lewis & Brooks-Gunn, 1979). To support an infants' sense of self, adults need to be responsive to their needs. As children enter the toddler years, encouraging exploration in their environment will support their continuing development of self.

Preschoolers

At this age, children are more aware of themselves as individuals. They will begin to be able to identify differences in themselves and others and will be able to identify traits and characteristics about themselves. They will be more likely to take risks and try new experiences. Their comfort level in new situations has increased and they will be able to take initiative in attempting unfamiliar tasks.

Adults can provide developmental support by encouraging children through genuine, positive guidance as children play and complete routines. They can also scaffold support so that children have an opportunity to experience success without frustration or dependence.

"Listen to children. What do they have to say about being happy, sad, scared, excited or full? This allows the child to express their own identity and through experience they will learn to listen to their inner voice that will guide them toward their unique purpose and aim… show the child all the possibilities that exist and let the child decide their unique path to greatness."

(Debra Slover, 2009)

Social and Emotional Development Strategies

Strand D: Early learning experiences will support children to develop self-awareness, self-concept and competence.

Learning Progressions: Sense of Self, Personal Preferences and Self-Concept & Competency

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Give children plenty of time to move without being restrained	• Provide cause and effect toys • Provide a wide variety of toys • Expose children to a wide variety of food	• Provide toys and materials that meet the need for challenge, but allow children to be successful • Provide open-ended materials that encourage interaction, exploration and experimentation • Provide materials that represent the diversity of cultures and languages of the group • Have duplicate toys and materials • Provide dress-up and pretend play materials from the child's daily life and cultural background • Model how to do something that is new to the child • Provide plenty of time for children to accomplish tasks or use toys • Read books about families; encourage children to talk about their families • Provide a housekeeping area • Store toys and materials in consistent places that can be accessed by children • Display children's artwork at their eye level • Provide adequate time for children to explore materials • Offer choices throughout the day • Keep some materials and toys available for extended time • Provide a broad range of experiences for the child; look for ways to address barriers to participation • Find ways for children to indicate preferences using home language, simple words or gestures				
Teaching behaviors	• Use names or roles (Mommy) when talking to children about themselves or other special people in their lives • Respond quickly to a child's attempts at interaction and calls for comfort • Hold children often	• Draw attention to and name body parts during bathing, dressing and diaper changing • Sing songs about body parts like "Head, Shoulders, Knees and Toes" • Allow children to touch your face, name each part • Offer a wide variety of appropriate foods, toys, activities • Allow children to stop participating when they indicate they are done • Encourage children's actions of discovery • Describe their impact on the toy or activity, e.g., you pushed the blocks and they fell over	• Stay close to children in new situations and offer verbal encouragement for their participation • Respond to children's attempt to communicate • Show children pictures of themselves and special people in their lives	• Sing songs using names, e.g., "If your name is Annie, jump up and down." • Offer children choices • Offer many opportunities for children to complete tasks they can accomplish, e.g., obtaining toys, cleaning up toys • Break tasks down into small steps • Acknowledge their attempts at completing tasks	• Smile at children's attempts to master new skills • Model challenging tasks • Describe what you like and don't like • Talk about your family members • Provide verbal support during a challenging task	• Pay attention to children and listen to their ideas • Acknowledge children's effort in their play and work • Describe characteristics of the child's life, tell stories about family • Share what you notice about how children spend their time • Ask children about what they enjoy about different parts of their life, such as school, playing with friends, being home and structured activities (art class) • Notice any patterns and point out strengths children bring to each part of their life • Use facial expressions and gestures to communicate about a child's preferences and sense of accomplishment	• Support children's developing appreciation of their gender and cultural identity • Provide challenging activities • Encourage children to help each other • Indicate a genuine interest in what children have to say

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to develop self-awareness, self-concept and competence.

Children with Disabilities

- Respond to children's attempts to communicate.
- Provide nurturing, reinforcing interactions.
- Find ways for children to make choices and influence their world (e.g., making noises, moving objects, etc.).
- Celebrate successes.
- Provide a broad range of experiences for the child; look for ways to address barriers to participation.
- When needed, use technology to support children's ability to contribute to discussions and indicate choices.
- Scaffold support so that children can complete what they can on their own.
- Break tasks down into small steps.
- Provide open-ended materials and toys so that children can use them in ways that match their ability.

Children Who are Dual Language Learners

- Find ways for children to indicate preferences using home language, simple words or gestures.
- Use simple vocabulary related to self, others and indicating preferences (e.g., names and words, such as "I", "mine", "you", "want").
- Make sure that children have opportunities to demonstrate their competence using nonverbal means.
- Use facial expressions and gestures to communicate about a child's preferences and sense of accomplishment.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand E: Early learning experiences will support children to develop social relationships.

There are three learning progressions in this strand: Adult Relationships, Play/Friendship and Conflict Resolution. Close relationships with adults who provide consistent nurturing and interactions characterized by positive feelings strengthen children's capacity to learn and develop.

Having close relationships with adults helps children to feel emotionally secure. This impacts the development of their sense of self and their understanding of the world around them. The development of play and friendship skills is largely dependent on a number of other skills, often referred to as social competence. Social competence includes:

1. Expressing interest, understanding and emotion with others
2. Joining in play with other, through interactions
3. Participating in activities with peers that are goal directed

(Halberstadt, Denham & Dunsmore, 2001; Lillvist Sandberg, Bjork-Akesson & Granlund, 2009; Van Hecke et al., 2007)

Through interactions with peers, children explore their interest in others and learn about social behaviors. Conflict resolution involves key skills that children begin to develop during this period. The development of these skills is important to overall well-being and confidence. Children can learn conflict resolution strategies when teachers are trained to develop those skills in children. Research showed that preschoolers of trained teachers had more skills in coming up with solutions to interpersonal problems (Vestal & Jones, 2004). When they use conflicts as teachable moments, teachers can support children through the process of the dispute. They can monitor children's behavior by observing and analyzing, and are then able to step in only when the children's skills fail them (Bayer, Whaley & May, 1995).

Conflict resolution involves strategies that help people to manage situations and achieve their own goals while also helping others to achieve their goals.

Infants, Toddlers and Preschoolers

For human beings there is a long period of time when young children are dependent on mature adults. Because of this, relationships between children and adults have a big impact on children's development in all areas.

It is through these relationships that children learn and develop. Developing close relationships with adults helps children to feel emotionally secure. This impacts their sense of self and their understanding of the world around them. Supporting children involves providing the strong secure base of a trusting relationship (see Social and Emotional Development, Strand A) and supporting them to develop the skills to interact with others.

While there is an obvious decrease in the amount of adult dependence from infancy to preschool years, children continue to need close, supportive relationships with adults for many more years.

Infants' play/friendship is characterized by low levels of interest in peers. They may use simple behaviors, such as touching another child briefly and then move their attention to another toy, person or situation. As children grow, their play/friendship skills progress to involve more complex play based on cooperation with, and between, peers.

Social and Emotional Development Strategies

Strand E: Early learning experiences will support children to develop social relationships.

Learning Progressions: Adult Relationships, Play/Friendship and Conflict Resolution

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Give children opportunities to spend time with other children • Allow infants to follow their own schedule	• Provide duplicate toys and materials • Represent diverse families and cultures in toys and materials • Maintain predictable schedules and routines	• Provide realistic props for children to use in play that encourage social interaction • Arrange space so that pairs of children can play • Maintain predictable schedules and routines	• Provide toys that can be played with by two or more children at the same time • Arrange toys and materials to encourage children to play close to each other • Maintain predictable schedules and routines	• Allow extended periods of time for play with other children • Have duplicates of toys • Maintain predictable schedules and routines	• Allow children to bring toys and materials to various areas • Maintain predictable schedules and routines	• Post pictures of problem-solving steps around the room • Maintain predictable schedules and routines
Teaching behaviors	• Respond to children's needs promptly • Talk with children as you complete daily routines • Use facial expressions and gestures to indicate pleasure about who the child is • Stay close to children when unfamiliar people are around • Explain who unfamiliar people are • Point out children to each other • Hold, cuddle and snuggle infants frequently	• Verbally describe actions of peers • Draw children's attention to the arrival of a peer • Model pro-social behavior • Supervise children's play • Play interactive games, such as peek-a-boo • Describe your actions as you complete tasks that do not involve the child, e.g., "Now I am going to make lunch."	• Spend time being close to children • Recognize children's preferences for playmates • Verbally support children's attempts to interact with peers • Offer ways to add to a child's play scheme	• Give children age-appropriate jobs to complete • Read books that show children playing together • Use the word "friend" with children • Spend time playing with children	• Respond enthusiastically when children share experiences • Recognize when a child imitates or is watching another child • Look at photographs of peers and adults in the child's life • Involve peers in social interactions interventions • Use body language and facial expressions to show the child warmth and caring	• Create activities that require cooperation, such as painting a mural or team scavenger hunt • Support children's play interactions • Teach children social skills • Teach problem-solving steps and pictures that represent conflict resolutions steps • Discuss typical early childhood problems; brainstorm ways that children can solve those problems • Acknowledge children's attempts and successes at solving problems • Play games that help children get to know each other • Support children to use each other as resources to solve problems • Use body language and facial expressions to show the child warmth and caring	• Provide activities that allow children to negotiate social conflicts, e.g., blocks • Observe children who are having a conflict and offer support only when necessary • Read books about social skills and conflict resolution • Use body language and facial expressions to show the child warmth and caring

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to develop social relationships.

Children with Disabilities

- Set up playgroups.
- Use toys that encourage social interaction.
- Set up material around familiar play themes.
- Use preferred toys/activities.
- Teach children social interaction skills.
- Involve peers in social interaction interventions.
- Create opportunities for children to play near other children.
- Use pictures to represent conflict resolution steps.
- Support interactions with other children through a variety of techniques, technology, pictures and signs.

(Hollingsworth, 2005; Jamison, Forston & Stanton-Chapman, 2012)

Children Who are Dual Language Learners

- Use body language and facial expressions to show the child warmth and caring.
- As much as possible, keep routines and schedules the same.
- Use gestures paired with language.
- Demonstrate respect and value for children's home language and culture.
- Encourage children's attempts to express themselves in English.
- Invite families to share their cultural experiences and oral traditions.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Supporting All Children:
Guide to Domains & Strands

CTELDS
Connecticut Early Learning and Development Standards

Physical Development and Health

Children who have had the opportunity to develop secure attachments to caregivers have a solid foundation for exploring as they grow. Children with strong relationships will be able explore comfortably because they have a safe place to come back to. Providing this secure base allows children to approach new situations with confidence. Adults who provide encouragement to children as they search out new adventures help children understand they are competent to try new things.

By providing well-designed, regular and frequent opportunities for physical play, adults draw upon children's innate desire to move. This begins by providing babies with many opportunities to experience different positions, especially time on their tummies. Adults can help children develop healthy habits by engaging them in health and care routines, and by helping them to understanding why these routines are important. Adults' role in helping young children develop all-around health includes modeling positive behaviors and supporting them to make healthy choices about nutrition, rest, active play and caring for their body.

Examples of specific strategies include:

- Offering a variety of healthy foods and snacks,
- Ensuring a safe and comfortable place to sleep, limiting time with electronic devices, opportunities to help with daily living skills (e.g., dressing, eating, bathing),
- Providing a variety of materials that challenge children's small and large muscle development (be sure to consider safety when choosing materials)
- Talking to children about safe and healthy behavior.

Early learning experiences will support children to:

Strand A: Develop gross motor skills

Strand B: Develop fine motor skills

Strand C: Acquire adaptive skills

Strand D: Maintain physical health status

"Physical health is important for learning and development as it enables children to explore, to investigate, and to challenge themselves in the environment." (National Council for Curriculum and Assessment, 2009)

Strand A: Early learning experiences will support children to develop gross motor skills.

Gross motor activities include: walking, running, skipping, jumping, throwing, climbing and many others. Gross motor skills also include: movement and coordination of the arms, legs and other large body parts (or large muscle groups).

Gross motor skills generally develop in order and build on each other. Children need strong gross motor skills so they can engage in age-appropriate physical activities (such as running, climbing and throwing) and so they can participate in classroom activities that require body control (such as walking in a crowded room or sitting still during a lesson).

Children develop their large muscles through reaching, rolling, pushing, sitting, crawling, climbing and walking. Early on, children's gross motor skills will develop through opportunities to move. As children grow, their own desire to explore will take over. It will be important to assess the environment to be sure it is safe for their exploration.

Providing varied experiences to develop new skills is also important. That will mean providing time in the day for children to move or adding novel materials and spaces for children to develop their skills.

Gross motor skills involve movement of the large muscles in the arms, legs and torso.

Infants and Toddlers

At first, it may not look as if a child's gross motor skills are developing, but many changes take place in the early months of life. After a few months, children gain greater control over their head, arms and legs. They will be able to hold their head facing forward when they are lying on their back and lift their head when they are on their stomach. They will begin to bring their hands together when they are on their back and prop themselves up on their forearms when they are on their stomach. As time progresses, these movements will become more refined and purposeful.

From about 6-15 months, children are working toward walking. They begin to roll over and push to a sitting position, sit unsupported and rise onto their knees into a crawling position. Next, they will pull themselves to a stand, stand independently and begin to walk.

Adults help young children to develop these skills by providing them with opportunities to move in different ways. For babies, you can use mirrors or musical toys placed on the floor at eye level to encourage them to lift their head. For young children you can place interesting items across the floor to encourage them to move toward the objects.

Preschoolers

By the time children are in preschool, they are usually able to:

- Walk
- Run
- Climb and descend stairs
- Hop
- Pedal a tricycle
- Balance on one foot.

As they move through their preschool years, children can accomplish these tasks faster and with greater ease. They will also be able to change between sitting, standing and squatting. Adults support the development of a child's gross motor skills by providing opportunities to move in different ways. For example, creating obstacle courses with pillows, hula hoops and blankets draped over furniture encourages children to crawl over, hop in and out and crawl under. Other ideas to support gross motor development include bringing children to playgrounds where they can challenge themselves to accomplish new tasks and teaching them new skills like skipping and galloping.

Physical Development and Health Strategies

Strand A: Early learning experiences will support children to develop gross motor skills.

Learning Progressions: Mobility and Large Muscle Movement and Coordination

<table>
<tr><th></th><th>0-6 months</th><th>6-12 months</th><th>12-18 months</th><th>18-24 months</th><th>24-36 months</th><th>3 to 4 years</th><th>4 to 5 years</th></tr>
<tr><td rowspan="2">Environment, materials, schedule</td><td>• Limit time in assistive or stationary devices, such as walkers, car seats or swings
• Give infants frequent tummy time
• Create environments that encourage movement</td><td>• Provide safe spaces for babies to move and materials that encourage babies to move to obtain them</td><td colspan="5">• Visit a playground
• Provide balls of various sizes, textures and weights, bean bags and flying disks to toss and catch
• Set up an obstacle course
• Provide frequent opportunities for children to move when they are inside
• Provide riding toys, jump ropes, hula hoops and other materials that encourage movement
• Build movement into transition times
• Provide a variety of surfaces (e.g., sand, hardtop) for children to play on
• Create play areas that children have to crawl to enter
• Use boxes to create unique play spaces
• Provide visual supports that include signs, such as arrows, stop signs and modeling of motor tasks, e.g., riding a bike</td></tr>
<tr><td colspan="7">• Decorate with photographs or pictures of young children being active
• Vary the length of participation in structured activities for children who may tire more quickly
• Offer encouraging responses to children as they attempt new tasks
• Model movement skills and use gestures to indicate enjoyment, effort and improvement
• Lend assistance when needed
• Use visual cues, such as colored tape on the floor to indicate where children should move
• Design the indoor and outdoor environment to allow children with varied gross motor ability to navigate the space</td></tr>
<tr><td>Teaching behaviors</td><td>• Hold your baby and dance together using different types of music, and move to the tempo</td><td>• Provide encouragement as children attempt new tasks
• Describe children's movements</td><td>• Play follow the leader
• Play music and dance together
• Use songs with movement in them, such as "Head, Shoulders, Knees and Toes" or "The Hokey Pokey"
• Have children stand in, out, or on a hula hoop
• Describe your own movements</td><td>• Play music and dance together
• Play seek and find, ask the child to find things in the house or classroom
• Play bowling using a foam ball and empty plastic bottles
• Read books about being active
• Provide suggestions for how to use equipment or move through equipment</td><td>• Model and participate in the use of space for movement activities and equipment
• Make tape "balance beams" on the floor and have children walk across them
• During transitions, have children move to the next activity in different ways; offer choices in how they move, such as hop like a frog or crawl like a bug</td><td>• Give opportunities to practice more complex skills like pedaling, climbing or jumping rope
• Act out a story that has movement in it, such as a story about a marching band marching through a city
• Walk places instead of riding
• Prompt children to watch other children completing a gross motor activity</td><td>• Help to organize games like catch or races
• Help children begin to bat a ball; use lightweight bats and adapt the handle to make it larger so all children can grasp the bat
• Play imitation games; see who can move like a kite, dog or butterfly
• Use movement exploration techniques, such as show me all the ways that you can move the ball
• Provide pushing and pulling games with peers</td></tr>
</table>

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to understand how to develop their gross motor skills.

Children with Disabilities

- Design the indoor and outdoor environment to allow children with varied gross motor skill ability to navigate the space.
- Address any barriers to access of materials, play areas and equipment (e.g., materials stored too high/too low, no ramps).
- Provide guidance and encouragement for children struggling with gross motor tasks.
- Orient children to the arrangement of the space.
- For a child with visual impairments, use contrast strategies to differentiate parts of the room (e.g., white tape on a dark floor to encourage independent movement around the room).
- Teach children how to support each other's individual needs (e.g., have a peer who is behind the child with a visual impairment tell the child how many steps are left before he reaches the top of the slide).
- Teach children to encourage peers with gross motor challenges to participate in gross motor activities.

Children Who Are Dual Language Learners

- Increase visual support, such as using gestures, signs like arrows or stop signs and modeling of motor tasks.
- Allow the child to observe the process of completing the movement activity prior to taking their turn.
- Use gestures to indicate enjoyment, effort and improvement in gross motor activities.
- Take time to learn meaningful words in the child's home language that can used during motor activities.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand B: Early learning experiences will support children to develop fine motor skills.

In Physical Health and Development Strand B, there are two learning progressions. Visual Motor Integration refers to a child's ability to use their eyes and their hands together to accomplish a task. Small Muscle Movement and Coordination refers to the ability to maneuver pencils, crayons, markers, scissors and other small objects accurately with the fingers, thumb and hand. Strong fine motor skills are essential to complete tasks, such as writing, cutting, using a fork or spoon, threading beads, moving puzzle pieces, zipping, buttoning and tying shoe laces. Success with these activities depends on strong fine motor skills, which are honed through practice.

Babies first exercise their small muscles when they begin to grab objects. Their motions are not refined to start, and they are lucky if what they are reaching for actually lands in their hand. But they don't stop trying and eventually toddlers become adept at retrieving exactly what they want when they reach for it.

As a toddler practices and exercises the small muscles in his hand, his movements become more controlled and precise. He begins refining his initial "fist grip" into what is perhaps the most important fine muscle movement in the hand called the pincer grip. This grip occurs when the pointer finger works with the thumb to pinch and grip an object.

Children develop their fine motor skills through practice. So providing them with multiple opportunities to work on their skills is critical. Allowing children to attempt to complete tasks on their own, such as holding a toy, feeding and dressing, gives them a chance to practice these skills with a purpose.

Infants and Toddlers

In the beginning, babies are working on bringing their arms and hands together to swat at objects. They also begin to refine their eye and hand coordination by learning to move their head and eyes together from side to side. Both of these skills will progress so they can purposefully visually locate an object, reach for it, pick it up and purposefully release it. Their arm movements will also become more refined progressing from hand and arm moving together to being able to use their hand independently from their arm. They will also be able to use their fingers independently for things like pulling a bubble wand out of the bottle. Adults can encourage a child's development by providing them with toys to reach for suspended above their body and close by when they are on their tummy. Provide many types of toys that are slightly larger and softer so that grasping them is easier. Place appropriate food in front of children and let them reach for and feed themselves.

Preschoolers

As children move into the preschool years, they will begin to demonstrate a dominant hand and will be able to use their arms for different purposes at the same time, such as holding the paper while drawing and drawing with their dominant hand. They will be able to hold a crayon or pencil in between their thumb and index finger instead of in their whole fist. Children at this stage should be able to use scissors, copy simple shapes and use refined movement when drawing or writing. Adults encourage a child's development by providing a variety of drawing and writing materials, encouraging children to complete dressing and bathing tasks on their own and including them in tasks that require fine motor skills, such as cooking and cleaning up their toys.

Physical Development and Health Strategies

Strand B: Early learning experiences will support children to develop fine motor skills.

Learning Progressions: Visual Motor Integration and Small Muscle Movement and Coordination

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Provide opportunities for infants to reach for objects • Provide opportunities for infants to grasp and hold objects • Provide toys that infants can hold and bring to their mouth	• Provide cause and effect toys that require pushing buttons or turning knobs • Provide board books	• Provide shape sorters and other toys that require use of two hands • Provide child-safe drawing and writing materials that all children can use • Allow children to assist in dressing	• Use upright working surfaces to build strength, such as easels and flannel boards • Provide a variety of toys that come apart and fit together like pop beads, interlocking blocks and puzzles • Provide opportunities to throw balls at large targets, such as laundry baskets • Provide toys that require eye hand coordination, such as nesting cups and large peg boards	• Be sure children are seated in a stable chair and their feet can be flat on the floor • Provide animal grabbers, bug catchers and wooden tongs for children to pick up objects	• Provide stiff materials to practice cutting like index cards, sandpaper or magazine inserts • Provide non-paper items to cut, such as play dough or straws	• Provide small collage materials • Provide lacing cards, peg boards, toothpicks, plastic knives to use with play dough, screwdrivers, stringing beads, eye droppers, stickers and buttons • Provide pencils and fine line markers • Offer children many opportunities throughout the day to write and draw
Teaching behaviors	• Call the infant's name to encourage eye-head coordination • Play finger games • Model and narrate as you dress, change diapers, etc.	• Give infants appropriate finger foods and allow them to feed themselves	• Continue to use finger plays • Give toddlers jobs, such as wiping down a table or setting the table	• Encourage children to rip paper as part of an activity • Make suggestions about how children could use materials	• Play games that allow children to crawl and creep on the floor. Bearing weight on their hands and arms will help them develop the arches and muscles needed to write and manipulate objects	• Encourage children to fold paper as a part of a meaningful activity such as making menus for the dramatic play area • Play games that involve eye-hand coordination, such as rolling a ball back and forth, magnetic fishing games, pounding bench or stringing beads	• Play catch with increasingly smaller balls • Ask questions, such as, "Can you put the blocks together?"

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to develop fine motor skills.

Children with Disabilities

- Use adapted materials, such as large crayons, spring-loaded scissors.
- Tape paper to the table during drawing and painting.
- Provide opportunities to participate in fine motor activities in a variety of ways, so that children with varied skill levels can still take part in the learning experience.

Children Who Are Dual Language Learners

- Provide models paired with verbal directions of fine motor tasks.
- Narrate while you watch a child completing a fine motor task; use gestures to indicate what you are talking about.
- Use activities that have a fine motor component and are connected to the child's culture, such as making tortillas or folding paper for origami. (Make sure to discuss with families the activities which are meaningful and relevant to their family and culture).

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team

Strand C: Early learning experiences will support children to acquire adaptive skills.

Our adaptive skills are those that we use to help our body meet its requirement for

- Nutrition, so that our bodies have the energy we need to play and work
- Clothing, so that we stay warm, cool and dry
- Safety, so we avoid dangerous and harmful situations.

To accomplish these tasks we use a combination of skills. For example, when our stomach grumbles in hunger, we have learned to identify that feeling. We then must use our problem-solving skills to plan what we do next. Perhaps we decide to get something to eat from the refrigerator. We then must use our gross and fine motor skills to walk to the kitchen, open the refrigerator and then open a container.

For young children, the beginning of adaptive skills includes learning to feed themselves, using utensils to eat and serve themselves, washing their bodies and brushing their teeth, putting on and taking off their clothes and zipping or buttoning. It also includes their ability to learn rules that help keep them safe. Later they will be able to explain those rules and the reasons why they are important.

Note: Learning progressions identified in this strand are often heavily influenced by a family's cultural values and beliefs. Efforts should be made to determine a family's preferences for their child's development in this area.

"Adaptive behavior is a broad domain of development that refers to a child's ability to function independently in his or her environment. Adaptive skills are developmental, which means that a child gains skills with age and experience. Adaptive behaviors typically become more complex as children age, and more is expected of them."
(Minnesota Department of Education, n.d.)

Infants, Toddlers and Preschoolers

Infants and toddlers will be able to help hold their bottle or may hold their mother's breast during feeding sometime in the first 6 months. As solid foods are introduced, they will be able to pick up appropriate finger food and bring it to their mouth. "Describe what they might be feeling as they eat with statements, such as, "You are hungry and ready to eat." This will help them learn to identify hunger to recognize how to address it.

When children get older provide them with utensils to hold while they are being fed and describe how they are used. As children's fine motor skills develop, they can begin to serve themselves.

A child's ability to dress and bathe themselves starts as a participant in those routines. Gradually children can become leaders in their dressing and bathing. You will know when that shift is happening when you start to hear, "I do" or "No, me" as you start the process of getting them dressed and bathed. As children get older and begin to move around move and are more likely to get into unsafe situations, the need to understand safe behavior increases.

Typically, children become aware of items in their environment that are unsafe, such as the stove or knives, and can identify those items before they can tell you why they are not safe. Their ability to follow rules that protect their safety is also dependent on their development. Self-regulation develops over time. When they are young, children have a difficult time controlling their impulse to touch things that might be unsafe. As they get older, with gentle reminders and explanations, they will be able to show more self-control.

Because infants and toddlers will have a difficult time following safety rules, it will be helpful to remove as many environmental safety issues as possible. Keep unsafe objects out of reach, eliminates the need to repeatedly say "no", which may prove frustrating to children and adults.

Physical Development and Health Strategies

Strand C: Early learning experiences will support children to acquire adaptive skills.

Learning Progressions: Feeding Routines/Nutrition, Safety and Responsibility and Dressing and Hygiene

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Keep regular feeding and sleeping routines • Be sure children have a safe and comfortable place to sleep • Post health and safety guidelines	• Provide appropriate finger foods • Provide bath toys • Arrange the environment to promote sound health and hygiene	• Provide a safe environment • Provide pretend play materials related to daily routines • Provide dishes, utensils, clothes, furniture, etc. that increase children's independence within daily routines	• Establish routines about when hand washing is needed, after blowing nose, before meals, etc. • Give children opportunities to practice dressing allowing plenty of time to complete the routine • Provide opportunities to practice safe behavior • Provide opportunities for children to progress from finger feeding to using utensils to eat, serve and pour	• Provide opportunities for children to be responsible for their personal belongings, e.g., hang up coat • Use a family style serving process • Provide supports, such as visual cues, stools and child height hooks to increase independence so that children can reach sinks and hang up their coats	• Provide opportunities for children to complete dressing and personal hygiene activities, if necessary, one step at a time • Post pictures of healthy food and hygiene practices	• Provide opportunities for children to choose their own personal hygiene items • Allow children to complete personal hygiene routines
Teaching behaviors	• Make eye contact with children often during routine times, such as feeding, diaper changing and bathing • Talk about what you are doing during routines and why it is important • Respond positively and promptly when children indicate a need (food, diaper change)	• Practice cleanliness routines, such as washing hands before and after meals, swabbing gums • Talk about what you are doing and why it is important • Encourage children to hold spoons and cups • Give children opportunity to take off simple pieces of clothing like socks or mittens	• Explain when things are too hot or too sharp to touch safely • Supervise children's activities • Allow children to participate in wiping their hands and face • Model basic personal care routines • Model words to describe symptoms of illness, "My head feels hot"	• Acknowledge children's communication about their need for a diaper change, something to drink, etc. • Talk with children about health rules, e.g., cover your mouth when you cough • Provide opportunities to practice safe behavior • Provide opportunities for children to progress from finger feeding to using utensils to eat, serve and pour	• Model putting on and zipping or snapping your coat and tying your shoes • Support children to clean up after spills, acknowledge their efforts • Use visual supports, such as gestures and pictures	• Provide guidance and allow enough time for the child to complete routines • Consistently explain boundaries about harmful objects and situations • Read stories about crossing the street, staying close to adults and touching animals	• Respect children's emerging need for privacy • Have clear and consistent boundaries about harmful objects and situations

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to develop fine motor skills.

Children with Disabilities

- Break tasks down into smaller steps.
- Give the child only one piece of clothing at a time.
- Provide visual cues, such as a picture representation of the steps to washing hands and helping them to use the schedule to complete each step.
- Create opportunities for children to learn about safety routines in many different ways, such as reading a book, setting up a role play and sequencing pictures of the routine.
- Modify materials as necessary to encourage independence in routines.
- Use verbal, visual and physical cues to help children know what to do and encourage active involvement in routines.

Children Who Are Dual Language Learners

- Increase visual supports, such as using gestures or pictures and stories.
- Repetition will allow the child to build confidence in the task.
- Use gestures to indicate successful completion.
- Take the time to learn a few words in the child's home language that would typically be used in feeding and dressing routines, especially words that will support a child's safety.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand D: Early learning experiences will support children to maintain physical health status and well-being.

In this strand there are three learning progressions: Physical Health Status, Physical Activity and Healthy Behaviors. Children's physical health status refers to their overall well-being, including illness, nutrition, amount of rest, and their growth and development. Physical activity refers to the level of exercise and movement that a child experiences. Healthy behaviors include sleeping, eating and hygiene. Through providing healthy choices of activities and teaching children about healthy eating, sleeping and hygiene practices, adults create a foundation that will support their ultimate growth and development throughout their lives. In addition to regular visits to health professionals, children can avoid health complications that prevent them from taking part in learning experiences that they need to lead rich and productive lives.

Note: Learning progressions identified in this strand are often heavily influenced by a family's cultural values and beliefs. Efforts should be made to determine a family's preferences for their child's development in this area.

Infants, Toddlers and Preschoolers

For children at each developmental level, it is important to model the types of behaviors that will assure good overall health. Because children function in the context of relationships, they will want to imitate the behaviors of the people that care about them and that they care about.

If you are participating in physical activity, eating healthy foods, sleeping enough and taking care of your hygiene, children will do the same. Some research has shown that children are more likely to eat a new food if they continue to be offered that food and they see their peers trying that food. Children who had never eaten a food were willing to try it after being exposed to it approximately nine time.

It is also essential for the adults to monitor for signs that children may not be may not be hearing, seeing or communicating in ways that would be expected for children their age. Getting support for sensory or health differences early (e.g., glasses, hearing aids) can help children's development in other areas.

Physical Development and Health Strategies

Strand D: Early learning experiences will support children to maintain physical health status and well-being (health).

Note: Consideration of cultural beliefs and preferences across these developmental progressions is critical.

Learning Progressions: Physical Health Status, Physical Activity, and Health Behaviors

Children's physical health status impacts learning and development in all areas. Children who possess good overall health (including oral, visual, and auditory) with any appropriate supports (such as glasses, hearing aids, or alternative communication systems) have a solid foundation to help them grow and learn. Maintaining good overall health status involves regular screenings, a lack of illness or preventable diseases, age-appropriate amounts of sleep and rest, and healthy growth patterns (e.g., height and weight).

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Provide safe environments for children to use their advancing motor skills • Provide materials to support independence in routines, such as sippy cups • Provide children with time every day for unstructured movement			• Provide daily time for children to play inside and outside • Provide opportunities for children to independently complete self-care routines by using visual supports • Allow enough time in the schedule for all children to complete routines • Adapt environments to be sure all children can access the materials they need to complete routines and participate in physical activity	• Provide pretend play materials for children to practice healthy behaviors • Create games that focus on healthy practices, such as matching or memory games • Adapt environments to be sure all children can access the materials they need to complete routines and participate in physical activity	• Engage children in group exercise times/activities • Create active play opportunities throughout the day • Adapt environments to be sure all children can access the materials they need to complete routines and participate in physical activity	• Post pictures of healthy behaviors • Provide books related to physical health • Adapt environments to be sure all children can access the materials they need to complete routines and participate in physical activity
Teaching behaviors	• Place children on tummy on the floor • Play games that require movement • Help child experience mobility by carrying, positioning and holding them	• Model daily physical activities • Provide oral health care	• Talk with children about what you are doing when bathing, diapering and dressing • Place desired objects out of reach to encourage children to move	• Move to music or sing songs that have movement in them • Read stories about healthy eating, sleeping and personal care behaviors	• Play games, such as chase or have races • Model and participate in the movement activities that children create or that you design • Encourage emerging independence in completing self-care routines	• Use transition times to encourage movement • Model healthy eating behaviors • Ask children questions about their healthy behaviors	• Engage children in group exercise times/activities • Create active play opportunities throughout the day • Use transition times to encourage movement • Help children understand the connection between their choices and being healthy, e.g., washing hands and spreading germs

- Establish ongoing and regular medical and dental visits for children. Ensure children receive all age-appropriate immunizations.
- Give children a safe and comfortable place to sleep.
- Model basic personal care routines.

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to understand how to develop and maintain their physical health status and well-being.

Children with Disabilities

- Use visual strategies (gestures, picture routines) to support children to participate in dressing, bathing and feeding routines.
- Increase the amount of time to complete routines.
- Adapt environments to be sure all children can access the materials they need to complete routines and participate in physical activity.

Children Who are Dual Language Learners

- Use visual strategies, such as picture sequences and videos to support children to understand the importance of the health routine.
- Learn words related to the health practice in the child's home language.
- Seek to understand the child's cultural influence on activity levels and outdoor play.
- Provide information in family's home language about healthy practices, including the importance of physical activity.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Supporting All Children:
Guide to Domains & Strands

CTELDS
Connecticut Early Learning and Development Standards

Early Language, Communication and Literacy/Language and Literacy

Babies communicate from the time they are born through facial expressions, sounds, and gestures. Very quickly, children refine their communication skills and begin to use language to communicate. During important developmental periods, children who are exposed to a lot of rich language learn many new words each week (Bloom, 2001). The differences in how much language a child hears, what type of language a child hears and the variety of language experiences a child has have long lasting impacts. A solid foundation in oral language in the years before a child enters school helps them be successful later on in reading and writing (National Early Literacy Panel, 2008).

Children's oral language skills serve as the foundation for the two main aspects of reading – word reading and understanding the meaning of what is being read (language comprehension) (Lonigan & Shanahan, 2010). Interactions that best encourage language learning include:

- Having conversations that stay on a single topic
- Providing children with plenty of opportunities to talk
- Encouraging analytical thinking
- Giving information about the meanings of words

(Lonigan & Shanahan, 2010)

In order to actively engage children in the types of interactions described above, they need plenty of opportunities to experience new things that are of interest to them. Varied play-based experiences facilitated by adults offer opportunities to build the vocabulary and language comprehension skills that can lead to strong literacy skills. In addition, shared book reading is the strategy that is most strongly supported by research. One specific structured approach to shared reading is called *dialogic reading*. Dialogic reading is an interactive strategy that engages children in answering questions and discussing books as they are being read. This approach increases the language interaction between the reader and the child and has been shown to increase the impact of shared book reading (Wasik & Bond, 2001).

It is important to remember that while children will learn to talk primarily based on exposure to language, developing foundational literacy skills typically requires more intentionally planned experiences. When literacy skills are taught in developmentally appropriate and effective ways by sensitive and observant adults, children's curiosity and wonder can be carried into the world of language and literacy.

Early learning experiences will support children to:

Strand A: Understand language (receptive language)
Strand B: Use language (expressive language)
Strand C: Use language for social interaction
Strand D: Gain book appreciation and knowledge
Strand E: Knowledge of print and its uses
Strand F: Phonological awareness
Strand G: Conveying meaning through drawing, letters and words

Strand A: Early learning experiences will support children to understand language (receptive language).

Receptive language involves listening and understanding what is communicated. This may also be referred to as language comprehension. In order to develop receptive language, a person needs to pay attention to the message, understand the message and process the information. Following directions and responding to questions are two examples of how children demonstrate their receptive language. Receptive language also includes understanding non-verbal language, such as signs, gestures and picture symbols. While most children use non-verbal cues to help them understand language, some children with special needs may rely solely on non-verbal language to communicate.

Infants and Toddlers

Understanding language begins at birth. When a new baby responds to the sound of a pleasant voice, she is displaying the beginnings of understanding what someone else is communicating. Even when babies don't yet understand specific words, tone of voice and physical cues communicate to them. Over time, they begin to learn the meanings of words and then can understand what multiple words used together mean. When a toddler responds to the direction, "Go find your coat," she is showing signs of her expanding receptive language skills. These are signs that she is beginning to understand that communication is important and useful. In order to use language, children must first understand language. Therefore, the number of words and phrases a child understands is typically greater than their expressive language.

Preschoolers

Three- and four-year-olds understand much of what they hear if it is spoken in the language they have been primarily exposed to. They are working on understanding more complex directions and sentences and are continuing to build their vocabulary. Even though preschoolers often understand a lot of the words used in everyday routines, it is important for them to continue to build their vocabulary. Children should have opportunities to learn about interesting topics that include a broad variety of new words. Preschoolers can also develop ways to find out the meaning of an unknown word, such as asking for information, using other words in a sentence as clues, looking at pictures, etc. When children understand a lot of words, they are better able to comprehend what they are reading in later years.

Early Language, Communication and Literacy/Language and Literacy Strategies

Strand A: Early learning experiences will support children to understand language (receptive language).

Learning Progressions: Word Comprehension and Language Comprehension

<table>
<tr><th></th><th>0-6 months</th><th>6-12 months</th><th>12-18 months</th><th>18-24 months</th><th>24-36 months</th><th>3 to 4 years</th><th>4 to 5 years</th></tr>
<tr><td>Environment, materials, schedule</td><td colspan="7">• Use any opportunity throughout the day to communicate with children using their individualized method of communication
• Provide interesting and engaging toys and materials that encourage children to explore
• Provide materials that can increase in complexity, such as pretend play toys and building materials
• Provide learning experiences that encourage children to make connections between what the child already knows and new learning
• Label the environment with word cards
• Create a word wall; include words from all languages spoken by children and their families
• Provide listening activities like books on tape
• Provide new and different experiences that expand receptive vocabulary, such as field trips, visitors and objects to explore
• Read to children every day with the express purpose of enhancing their vocabulary and listening skills</td></tr>
<tr><td rowspan="2">Teaching behaviors</td><td>• Call to the baby
• Move into the child's visual field
• Smile, tickle, play peek-a-boo
• Play back and forth games
• Talk frequently as you complete care taking routines
• Hold the baby frequently and talk or sing to her</td><td>• Talk about what children are doing as you watch them
• Sing songs, use finger plays
• Label items as you use them, e.g., "Here's your spoon."
• Refer to people by their name or role, e.g., Mommy
• Label toys during play</td><td>• Ask, "Where's the…" or "Where's your…"
• Use exaggerated inflection and gestures
• Name and describe people, things and actions during play activities and daily routines
• Pre-teach key vocabulary related to stories
• Individualize response time</td><td>• Comment on the child's actions/narrate what they are doing
• Use a wide range of vocabulary
• Label things the child demonstrates an interest in
• Give children simple directions to follow and complete
• Read the same book multiple times</td><td>• Play "I Spy"
• Read culturally and linguistically diverse books
• Describe multiple aspects of your action, e.g., "I'm driving the blue truck up the hill"
• Encourage children to spend time with other children</td><td>• Read daily and pause to explain new vocabulary
• Expand on initiations from children, offer more information
• Provide a rich and varied curriculum that expands children's vocabulary</td><td>• Model more complex language
• Provide specific feedback to increase children to think about making connections
• Model good listening, such as maintaining eye contact and expressing interest in the speaker
• Play listening games, such as "Simon Says" or "Treasure Hunt"</td></tr>
<tr><td colspan="7">• Encourage maintenance and growth of child and family's dominant language
• Provide model of varied types of communication, e.g., sign language
• Use child's interests to encourage communication
• Use consistent phrases during everyday routines</td></tr>
</table>

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to develop to understand language (receptive language).

Children with Disabilities

- Help children to learn key words or phrases prior to reading a story or before a group experience, e.g., pre-teach key vocabulary that will allow them to participate, use visuals to support the vocabulary.
- Provide models of a variety of types of communication, e.g., sign language, oral language
- Name items as you use them.
- Use a favorite toy or activity to encourage communication.
- Give children adequate time to respond to questions, directions, greetings, etc.
- Use concrete items to help children learn new vocabulary.
- For children with visual impairments, provide non-visual support for learning vocabulary (opportunities for touch) and alternatives to facial expressions for conveying emotion.

Children Who Are Dual Language Learners

- Help children to learn key words or phrases prior to reading a story or before a group experience, e.g., pre-teach key vocabulary that will allow them to participate, use visuals to support the vocabulary.
- Teach children key vocabulary words before they are used in books or group settings, e.g., make sure they understand what the word “frog” means before reading a book about frogs.
- Describe your actions as you complete them.
- Use consistent phrases during routines, e.g., always say, “It’s time to go to the bathroom.” Don’t vary it with, “It’s time to use the potty.”
- Read the same book multiple times.
- Observe children’s interests and talk about what they are showing an interest in.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand B: Early learning experiences will support children to use language (expressive language).

Expressive language is a term that refers to communicating using your body, language and signs. It also includes children's emerging use of the rules of language, such as adding an "s" to make a word plural. Expressive language includes how a child interacts with the special people in their life to communicate their wants and needs, ideas and thoughts and hopes and fears.

Communication is related to children's development in all other areas of development. When children can express their needs and emotions, their physical health and social development benefit. When children can ask questions and express their ideas, their learning in all areas is improved. The early years in a child's life are extremely important in laying this important foundation for later development in all areas. Adults play a critical role in helping young children develop language skills by being responsive to attempts to communicate and by creating a language-rich environment.

Infants and Toddlers

Children are learning language from the time they are born. In the first year, children's language mostly consists of making sounds, crying and gestures. During this period, very young children are mostly communicating their basic needs and wants.

As time moves on, they begin to communicate more complex messages, including their preferences and emotions. Children will start to coo and then babble until their first words are spoken. For most children this usually happens between 10 and 18 months. Toddlers who are exposed to a great deal of language are rapidly learning and using new words. During some periods of time, children may be learning as many as one to two new words every day! Toddlers also begin to put words together, creating short sentences or phrases.

Preschoolers

Language skills usually blossom during the preschool years, particularly from age four to five years. At this stage, children can communicate easily with other children and adults. They can use six to eight word sentences, tell stories that stay on topic and can answer questions about themselves or about stories they have heard. Between three-and five-years old, children also begin to understand how the words they hear (oral language) are connected to the words they see in books and on signs. As they begin to understand that words and pictures are written symbols, they also learn to create their own symbols to communicate their ideas. At this stage of development they will often pretend to write.

Early Language, Communication and Literacy/Language and Literacy Strategies

Strand B: Early learning experiences will support children to use language (expressive language).

Learning Progressions: Vocabulary, Expression of Ideas, Feelings and Needs and Language Structure

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Consistently respond to children's vocalizations, gestures and cries • Provide books, puppets, dolls and mirrors • Display pictures of family members	• Provide board books and tactile books • Sing songs and do finger plays	• Add new toys • Bring children to a variety of community locations	• Display pictures and artifacts that represent the diverse cultures of children • Provide books in children's home language	• Provide materials that encourage communication, such as two toy telephones • Change something in the environment to provoke comments and questions • Provide ways for children to interact with new vocabulary words in meaningful contexts using real objects or pictures	• Choose stories or books with rich vocabulary and unfamiliar words • Regularly read in small groups of three to six to ensure children's active participation • Provide materials that generate interest and conversation	• Provide pretend play areas with props and costumes • Allow enough time during novel activities for questions and discussion • Provide wordless books, encourage children to narrate the story • Create category lists of words
Teaching behaviors	• Use individualized ways to communicate, sign language, alternative communication systems, if necessary • Respond quickly to babies' initiations	• Remember that young children use crying as a way to communicate, not an intentional way to frustrate adults • Talk and read to children often throughout the day • Maintain a familiar routine	• Use children's interests as a source of vocabulary enrichment • Engage in back and forth communication • Talk about what you are seeing out in the community • Observe children to closely to determine all communication attempts including eye gestures, sounds and body language	• Model phrases for children to use to have their needs met • Use choice to encourage language • Describe what children are doing • Model feeling words • Provide opportunities for children to use new vocabulary • Accept oral approximations	• Encourage children to describe what is familiar to them • Share appropriate current event information • Ask open-ended questions • Model correct examples, through conversation, when the child makes an error, e.g., Child: "I seen a bird", Adult: "Oh, you saw a bird?"	• Use children's interests to identify new words • Ask open-ended questions • Take time to talk frequently throughout the day • Ask children about their life outside of school • Use gestures or expectant looks to encourage children to elaborate on their conversation • Allow children to respond verbally in a group setting	• Add information, explanations and descriptions to what children say • Model a wide variety of rich, rare vocabulary words including nouns, adjectives and verbs • Demonstrate genuine interest in conversations with children • Define new words for children by connecting them to what they already know

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to use language (expressive language).

Children with Disabilities

- Provide opportunities throughout the day for language use and interaction with peers and adults.
- Maintain a familiar routine and use consistent language during the routines.
- Provide opportunities for children's input.
- Demonstrate interest in children's attempts to communicate using facial expressions, gestures and words.
- Provide engaging and interesting materials and activities to stimulate children's interest in discussion.
- Observe children's gestures and eye gaze; model language to accompany their actions.

Children Who Are Dual Language Learners

- Pair children with a peer who speaks the same languages, but is more advanced in English.
- Use gestures as you speak and pair words with the action.
- Pause often and allow longer periods of time for a child who is a dual language learner to respond.
- Provide multiple opportunities for children who are dual language learners to use new vocabulary.
- Pair the child's home language with English as often as possible.
- Accept oral approximations.
- Allow children to respond in a group.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand C: Early learning experiences will support children to use language for social interaction.

The use of language for social interaction involves a number of complex skills, combining both language and social skills. In order to communicate well, children must learn that conversations are turn-taking activities. They need to learn to engage in exchanges where one person shares something and then someone else adds to it, comments on it or asks a question. Learning experiences that support children to use language for interaction help them learn that language has many purposes including meeting needs, asking questions, expressing ideas and sharing common experiences.

Infants and Toddlers

Infants and toddlers are not masters of taking turns. However, during interactions with caring adults, even very young children can take turns. Providing a language-rich environment is key to supporting very young children to understand how language is used to interact. Adults can support turn-taking during interactions by:

- Play interactive games, such as peek-a-boo and “This Little Piggy Goes to Market.” Pause to allow children to show their interest in another turn.
- Imitate the sounds children are making, pausing and taking turns repeating the sounds.
- Take turns imitating motions. Any kind of quick repetitive turn-taking will help children develop the sense of back and forth involved in conversation.
- Let your children listen as you talk to others so they can hear and watch communication in action.

Preschoolers

By preschool, children usually take turns with their partner when talking, although they will still need reminders about interrupting. The number of turns they take is increasing, and they can talk about the same topic for longer periods of time. Preschoolers are able to use language for all of the same purposes as adults: to get information, to get needs met and to share thoughts or ideas. The more often adults have conversations with children, the more opportunities they have to practice these skills. When adults are interested in what children have to say and respond to their questions, they learn how conversations happen. When children spend time with peers and other adults, they gain additional practice and increase what they can talk about.

Some aspects of conversation will vary between families and cultures. In one culture or family, people may be more likely to talk at the same time. Cultures and families also vary in how close they stand next to each other when they are talking. Children who are in environments with differing expectations about the conventions of conversation may need additional time and support to learn how to respond in different environments. Adults should be respectful of cultural differences with children and their families when having conversations.

Early Language, Communication and Literacy/Language and Literacy Strategies

Strand C: Early learning experiences will support children to use language for social interaction.

Learning Progressions: Conventions of Conversation and Language for Interaction

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Provide interesting toys and materials • Provide mirrors at child level • Use routine care activities to play back and forth games	• Display pictures of family members and the child • Spend time playing with children	• Make photo albums of activities; look at them with children • Maintain a consistent schedule	• Observe children's interests; provide materials related to their interests • Use routines and expectations to support children to wait their turn to talk	• Provide microphone, old telephones, puppets, flannel boards and paper towel tubes	• Structure centers to encourage children to communicate with peers and adults • Allow time during teacher-directed activities for children to comment and share • Provide time for children to share a story or experience they have had • Provide books that describe conversation norms	• Provide props for role-playing and pretending • Create a news station or stage • Provide nonfiction books
Teaching behaviors	• Play simple interactive games • Sing songs, such as, "The Itsy Bitsy Spider" • Imitate babies' actions and sounds • Watch for babies' cues that signal a need to change activities	• Play back and forth games • Sing songs, such as, "Head, Shoulders, Knees and Toes" • Model language during routines and play • Respond quickly to children's initiations and attempts to communicate	• Play games and finger plays that involve taking turns • Use expectant looks to encourage children to use a word or gesture • Use self-talk to describe what is happening, e.g., "The rain feels cold on my skin."	• Introduce new words in context by saying what the child sees, hears, smells, touches and tastes when appropriate • Offer choices; use words to describe the items • Prompt children to take turns during conversations	• Repeat and extend what a child says • Provide pictures and other visuals to allow children who are dual language learners to "show" their story • Make time for conversations with children • Provide feedback when talking with a child to model listening and encourage additional comments • Teach children key phrases to use during social and play situations • Narrate children's play	• Ask children to share their thoughts, ideas and feelings • Tell stories about your life and discuss how things are the same and different • Help children remain focused on the main topic of the conversation by redirecting and restating current ideas	• Provide children with a wide variety of experiences • Play guessing games, allowing children to describe something and have peers guess what it is • Describe what children are doing and then ask a question for them to respond to • Ask children about what happens in their lives when they are not with you • Learn children's individual communication cues and teach peers to understand those cues

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to use language for social interaction.

Children with Disabilities

- Teach children key phrases to use during social and play situations.
- If a child uses an augmentative communication system, be sure it is programmed with social language.
- Use choice as a way to encourage interaction, e.g., have a peer ask a child if they want to play with a truck or car.
- Respond quickly to children's attempts to communicate.
- Learn children's individual communication cues and teach peers to understand those cues.
- Develop stories that help children understand communication norms, such as greetings and turn-taking during conversations.

Children Who Are Dual Language Learners

- Narrate play to help both children understand what they are doing.
- Model being a language learner by using the child's home language.
- Prompt children to speak slowly and repeat if their peer does not respond.
- Read non-English stories.
- Encourage adults and other children in the classroom to learn and use words in the home languages represented.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand D: Early learning experiences will support children to gain book appreciation and knowledge.

This strand includes two learning progressions: Interest and Engagement with Books and Understanding of Stories or Information. When young children develop an interest in books and engage regularly with a variety of texts, they have an opportunity to explore the world, learn new words, gain knowledge and learn other important literacy skills. Early exposure to informational, or nonfiction texts about topics they are interested in also helps children begin to understand that books can serve as a source of learning new information. This understanding is important for later school success. Understanding or comprehending the stories or information they experience through books is equally important to young children's growth and development and is a foundational skill. If a child does not understand the story being shared with them, they will struggle to appreciate books and all of the uses that they have in our lives.

To gain the most benefit from books, children need hands-on experience and adult guidance (Neuman & Roskos, 1993). By reading and re-reading stories, teachers help children follow the elements of narrative texts (U.S. Department of Health and Human Services, 2003).

Teachers can encourage children's understanding of stories by supporting them to retell a story using props or acting it out through dramatic play. Children's understanding of informational texts can be promoted by incorporating texts to answer important and interesting questions (e.g., "Why is the sky dark at night?" or "Why do balls roll?") to provide additional information about real-life experiences (e.g., reading a book about squirrels after watching the squirrels on the playground), and to support experiences involving investigations (e.g., reading a book about colors after a color mixing inquiry). The environment also plays a crucial role in children's literacy development. Access to a literacy-rich environment is critical to development. Some examples of a literacy-rich environmental are having a variety of reading and writing materials available for children, having signs and other text visible, hearing stories and seeing adults in their lives reading and writing.

Infants and Toddlers

Before children can read, their appreciation of books and stories can be nurtured. Finger plays, such as "The Itsy Bitsy Spider" are brief stories that engage infants, sparking their interest through rhythm and personal interaction. Cuddling an older infant or toddler on a lap with a book helps very young children connect books with a positive experience and encourages them to seek out books during independent play time. It's not unusual for mobile infants and toddlers to have favorite books that they bring to adults to be read to them over and over again. This repetition is very helpful to their emerging interest in books and stories. The more positive experiences children have with books and stories the more they will appreciate and eventually understand them.

Preschoolers

Children's language and literacy skills are closely related to each other. By preschool, children have mastered many language skills, but their literacy skills are still emerging. During these years, children will choose to spend more time with books and become aware that books can help them learn new information. They also begin to interact with books in more advanced ways by answering questions and describing what happened in a story or book. They can also use clues from the pictures to make guesses about what might happen next in the story.

Early Language, Communication and Literacy/Language and Literacy Strategies

Strand D: Early learning experiences will support children to gain book appreciation and knowledge.

Learning Progressions: Interest and Engagement with Books and Understanding of Stories or Information

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Provide small people, animals, cars, etc., that children can pretend with • Provide age-appropriate books for children to explore, e.g., board books, waterproof books • Arrange time to read every day • Display elements of print at the child's level				• Provide fiction and nonfiction books that stimulate children's curiosity • Provide multiple cozy areas for children to read • Provide stories in multiple formats, e.g., CD, computer (touch screen if applicable), flannel board • Accept retelling in many forms • Schedule a time for children to look at and read books (tab pages if applicable); discuss the book with them while they are reading • Provide books and other literacy materials that reflect multiple cultures and languages • Provide materials that children can use to act out and retell stories • Provide books with limited pictures on each page		
Teaching behaviors	• Expose children to books, finger plays, poems, songs and rhymes • Read books with descriptive vocabulary and interesting pictures • Make books with children • Provide time for children to interact with you while reading • Encourage children to point to pictures • Read with excitement • Read favorite books repeatedly • Read a variety of types of book, including fiction and nonfiction • Gain information from families about use of books at home				• Model reading and an enjoyment of books • Allow children to choose books they want to read and have read to them • Read to children daily or more often • Discuss stories with children as you read to them, comments, such as, "Didn't you go on a train once?" or ask questions, such as "How do you think that character feels?" • Ask children questions about their life when they are away from you • Gain information from families about use of books at home • Listen to children read		

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to gain book appreciation and knowledge.

Children with Disabilities

- Provide a variety of types of books, including tactile books, books with sounds, large print books, adapted books and board books.
- Use books with a limited number of images on the page.
- Use computers with touch screens and interactive software for children to engage with carefully selected texts.
- Adapt books with tabs to make page turning easier.

Children Who are Dual Language Learners

- Build a reciprocal relationship with the child's family.
- Ask volunteers who speak the child's language to come in and read in their home language.
- Provide books written in the child's home language.
- Provide wordless books.
- Listen to children read.
- Create books about classroom experiences that are familiar to everyone.
- Allow children to respond to story comprehension questions as a group.
- Accept retelling in many forms: actions, words, use of props.
- Have parents record a story in their home language; play those recordings in the listening center.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand E: Early Learning experience will support children to gain knowledge of print and its uses.

This strand has three learning progressions: Book Concepts, Print Concepts and Letter Recognition.

Book Concepts refer to a child's ability to use a book in the way it is intended to be used. This includes holding books so that the words can be read, knowing that pages are for turning and eventually knowing that printed words are a symbolic way to represent language. It also involves understanding that words are made up of groups of letters.

Print Concepts refer primarily to a child's emerging understanding of print, including symbols, letters and, eventually, words.

Letter Recognition includes recognizing and knowing the names of some letters as well as the sounds they make. Often, a great deal of focus is placed on this aspect of early literacy development; however, this is only one small part of early literacy. Children who are engaged and interested in books and understand the purpose of letters and words are more likely to be enthusiastic about learning letters.

Toddlers

When infants and toddlers are exposed to books and experience being read to often, they begin to develop an understanding of books and other print media and how they are used. Consider the following scenario:
Martha pulls on the book basket and removes books until she finds *Moo, Baa, La, La, La* by Sandra Boynton. She sits on the floor next to the basket, opens the board book, and begins pointing to the pictures saying "Cow, moo."

How did Martha know what to do with the book? How did she know that the pictures convey some meaning? She has gained this understanding because she has had lots of experience with books and other print materials. She also has access to books and other print materials throughout her day. Adults have modeled what the books and materials are for, and now she is on her way to using them independently.

Preschoolers

Preschoolers who have regularly been exposed to books have developed an understanding of the purpose of books and are beginning to use books appropriately, turning pages and holding them upright. They are also beginning to understand that symbols have meaning (see Cognition, Strand B). As they have more opportunities to experience books and print in context, their ability to identify symbols and perhaps identify some familiar words will emerge. The following scenario illustrates how a child in a preschool classroom might demonstrate emerging print concepts and illustrates some strategies for supporting development in this area.

Jason is packing his backpack to go home. He notices a piece of paper in his cubby which means he should put it in his backpack to take home. As he removes it, he sees some familiar words. He recognizes his teacher's name and the logo for the grocery store his family visits often. He asks his teacher why the grocery store sign and her name are on the paper. She takes a moment to explain to the whole class that they are going on a field trip to the grocery store and this is a note asking their families if it is okay for the school to bring the children on a trip. She also explains that she put her name on the letter so their families would know it was from her. They also have a discussion about the common letters and sounds that appear in both the store name and her name.

Early Language, Communication and Literacy/Language and Literacy Strategies

Strand E: Early learning experiences will support children to gain knowledge of print and its uses.

Learning Progressions: Book Concepts, Print Concepts and Letter Recognition

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Provide sturdy books for infants to explore independently • Provide books representative of children's language and cultural backgrounds		• Provide a print-rich environment, e.g., books, alphabet puzzles, labels on furniture • Arrange the environment so that there are places to read and write • Read books frequently throughout the day • Provide a variety of types of books, e.g., cloth, board, etc. • Provide opportunities for independent book selection		• Add to the print-rich environment with various types of print, e.g., magazines, brochures, maps, junk mail, greeting cards, ticket stubs, etc. • Make printed materials easily accessible to children • Create cozy places where you and children can read alone or together • Incorporate print materials into play areas, including materials that represent a variety of cultures • Provide culturally diverse books children can read on their own, such as wordless books and photo albums • Provide toys and materials that show letters • Post letters around the environment • Provide examples of environmental print, such as bags from a local restaurant with a familiar logo or places and items that are familiar to children • Provide letters in many forms and in many places where children play • Display and write the child's name in the environment and on items that belong to them • Provide letters in a variety of formats, textures and sizes		
Teaching behaviors	• Engage infants in interactive songs and rhymes, using facial expressions and gestures during daily routines and play • Sing songs throughout the day • Hold children and read to them; point to and ask questions about the pictures		• Point to the words and say things, such as, "These are words, and they need to go like this so I can read them" • Assist the child to move the book to an upright position; talk about how the pictures help us understand the book • Talk often with children about their activities and what you are doing • Reference print during shared book reading • Reread favorite books • Model careful book handling during shared reading • Draw attention to print in the environment		• Play word find and word matching games • Point to words as you read them • Create books with children using photographs from activities they participate in • Encourage children to read • Introduce letters that have a connection to children's lives, such as the letters in their name • Take trips to places in the community that have a lot of print, such as the library and grocery store • Model reading for a variety of purposes, information, communication, direction, etc. • Make books with children • Use print in the child's environment to encourage letter identification, e.g., the job chart or a food storage box • Sing the ABC song, pointing to the letters as you say them • Encourage children to make letters out of play dough or pipe cleaners • Talk about the role of the author, illustrator and publisher • Model using print to gain information, e.g., follow a recipe, read driving directions • Call attention to print while reading to children • Play alphabet games, such as matching or letter bingo • Gain information from families about use of books at home		

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to gain knowledge of print and its uses.

Children with Disabilities

- Provide a variety of types of books, tactile books, books with sounds, large print books, adapted books and board books.
- Use computers with touch screens and interactive software.
- Provide letters in a variety of formats, textures and sizes.
- Ensure access to books and print materials in the environment.

Children Who Are Dual Language Learners

- Pair children with a peer that speaks the same two languages, but is more advanced in English.
- Pair the child's home language with English as often as possible.
- Build a relationship with the child's family.
- Ask volunteers who speak the child's language to come in and read in their home language.
- Provide books in all languages spoken in the setting or wordless books that allow children to create their own story in their own language.
- Build letter knowledge in home language and then English (Bialystock, McBride-Chang & Luk, 2005).
- Reference print during shared book reading (Justice, Weber, Ezell & Bakeman, 2002).

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand F: Early learning experiences will support children to develop phonological awareness.

This strand has only one learning progression: Phonological Awareness. Phonological awareness is an auditory skill that involves an understanding of the sounds in spoken words. Encouraging phonological awareness does not require print and can therefore begin before children have accomplished letter identification and letter sound correspondence. According to the National Early Literacy Panel (2008), phonological awareness is "the ability to detect, manipulate or analyze the auditory aspects of spoken language (including the ability to distinguish or segment words, syllables or phonemes) independent of meaning" (p. vii).

Phonological awareness is often seen as developing on a continuum, starting with sensitivity to large and concrete units of sounds (i.e., words, syllables) and progressing to sensitivity to small and abstract units of sounds or phonemes (Lonigan, Dickinson & Neuman, 2006). This developmental progress is usually described as occurring along the dimension of linguistic complexity (National Early Literacy Panel, 2008).

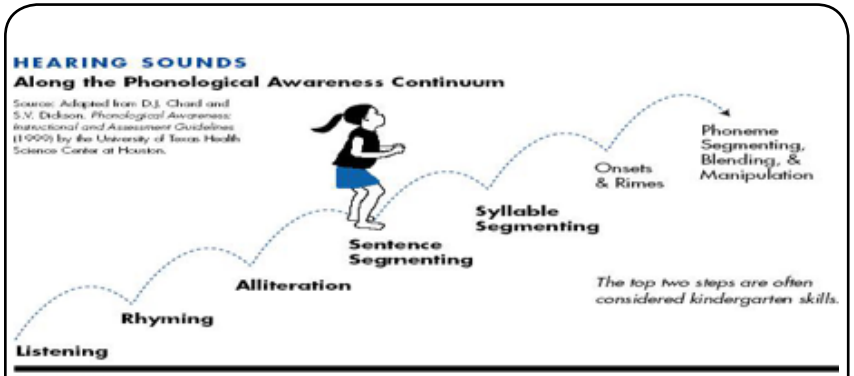


Figure 1.

Reprinted with permission from *The Head Start Leaders Guide to Positive Child Outcomes* (U.S. Department of Health and Human Services, 2003).

Preschoolers

Phonological awareness is represented along a continuum with the ultimate destination of segmenting words into individual sounds occurring, for most children, during the kindergarten year. By preschool, children can segment and manipulate in larger pieces, such as whole words in a sentence or syllables. Segmenting syllables in compound words is often easier for young children (Anthony, Lonigan, Driscoll & Phillips, 2003). This is because each segment has a meaning. For example, "backpack" and "raindrop" are compound words. Each section of "backpack," "back" and "pack," means something so children can see it as its own word.

In the English language, there are approximately 44 phonemes that are represented by 26 letters of the alphabet. These phonemes are the sounds of individual letters as well as letter combinations. Like all literacy skills, children's development of phonological awareness needs to be purposefully supported. Children learn best when phonological awareness practice is embedded into daily activities and done in small group work.

Early Language, Communication and Literacy/Language and Literacy Strategies

Strand F: Early learning experiences will support children to develop phonological awareness.

Learning Progression: Phonological Awareness

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Provide toys and materials that make sounds or can be used to make sound • Provide books and other printed materials for the child to explore		• Provide a variety of materials and objects for sound exploration • Play recordings of environmental sounds • Provide frequent opportunities for talking • Provide opportunities to listen to sounds inside and outside		• Provide toys that make noise • Display pictures of animals and talk about the sounds they make • Visit varied places in the community • Provide toys that have a specific sound associated with them	• Provide a variety of books that include poetry, song books, folktales, etc. Include books from other languages • Provide containers of toys and materials that all begin with the same sound; post the letter on the container • Post sentence strips in children's environments • Provide word cards with corresponding pictures for children to arrange into sentences • Provide letters in a variety of forms; magnetic, foam, block, etc. • Post words in the child's home language in the environment • Provide books on CD, music and children's own recorded story telling in an area for them to listen to • Provide containers of objects that have some similar and some different initial sounds	
Teaching behaviors	• Encourage babies' attempts to communicate • Respond to babies' coos, gestures and cries • Notice babies' repetition of sounds		• Use rhyming during routines, such as "It's time to wash your nose and your toes!" • Identify environmental sounds that are the same and different, e.g., a car and a bird chirping		• Play listening games using environmental sounds, e.g., sirens, car horns, trains • Play "Name that Animal Sound" • Model the sounds that toys make during play, e.g., animal sounds, car noises • Point out sounds in the environment as children hear them • Encourage children to make sounds that correspond with their toy • Sing songs like "Old McDonald" • Take listening walks • Engage in play with children and embed opportunities for oral language development	• During everyday activities, talk about words and sounds • Read books to children that focus on sound identification • Make up silly songs with made up words • Post word walls • When playing with containers filled with objects that begin with the same sound, emphasize the similarity of the initial sound • Model creating sentences using the word cards mentioned above • Encourage children to create sentences using the word cards • Sing songs, use finger plays, recite nursery rhymes • Play games that help children focus on letter sounds, such as, "Everyone whose name starts with an Mmmm sound wash your hands" • Emphasize rhyming words in informal conversation • Clap once for each word while saying a sentence • Read and reread books that have rhymes and repeating parts, leave out a familiar word and encourage the children to fill it in • Pair rhyming words with pictures or action (cat, hat, bat/hop, stop, drop)	• Continue to read and reread books that have rhymes and repeating parts, leave out a familiar word and encourage the children to fill it in • Play games that encourage children to match rhyming words, such as word jump where a child hops from one rhyming word to another • Pause and ask children to identify the words that have the same sound during informal conversation • Use instruments to help children identify the syllables in words by playing the instrument once for each syllable • Exaggerate your production of syllables • Stretch out sounds when you read • Draw children's attention to words that begin with the same sound as their name • Play a guessing game in which children have to match the number of syllables you clap with the correct picture • Play picture/word matching games based on initial sound or rhyme • Use developmentally appropriate computer-based reading programs that support the development of phonological awareness

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to develop phonological awareness.

Children with Disabilities

- Use direct instructional strategies in a small group format.
- Provide opportunities for children to hear you elongating words with continuous sounds, such as, “seen,” by modeling the elongated word, e.g., “sseeeeennnn,” and then asking the child to say the word (O’Connor, Jenkins, Leicester & Slocum, 1993).
- Provide opportunities for auditory awareness activities that highlight similarities and differences in sounds.
- Frequently play rhyming, alliteration and sound identification games.
- Change the placement of a sound in a word and ask children to imitate you, allow them to create words and you repeat them.
- Use interactive storybook reading to build phonological awareness (Lefebvre, Trudeau & Sutton, 2011).

Children Who are Dual Language Learners

- Highlight words that include sounds common to both languages and separate similar sounds.
- Engage in play with children and embed opportunities for oral language development.
- Pair rhyming words with pictures or action (cat, hat, bat/hop, stop, drop).

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand G: Early learning experiences will support children to convey meaning through drawing, letters and words.

This strand has one learning progression: Drawing and Writing. Learning to write involves cognitive, social and physical development. Children from a very young age notice writing in their surroundings. They begin to understand that signs in the environment represent words for ideas or concepts. The ability to write is a key component in children's development of communication skills and contributes to their academic success (Graham & Harris, 2005). Writing and drawing allows children to share their ideas and understandings about the world. Before children can represent their ideas with letters and words, they use play and drawing. Children will use writing before they can read.

Toddlers

Jack ,who is 15 months old, holds a crayon and sits on a large piece of chart paper. He taps the crayon on the paper enjoying the sound it makes and noticing that when he taps the crayon it leaves a mark. Jocelyn, who is 24 months old, also sits nearby with a crayon and paper. She has drawn several lines that start near the top of the paper and finish near her knee. Both children hold the crayons in their fist.

For very young children, there are five stages of drawing and writing that most children move through as they grow from 15 months to 5 years of age. The first two stages are described as scribbling. The difference between these two scribbling phases are the increase in amount of control or purpose that the child uses as they draw. Control increases with age as fine motor skills develop. At about 2½, children will begin to recognize that there are patterns in writing and will try to imitate that in their writing.

Preschoolers

Rosalie and Sofia who are three and five years old are sitting at their kitchen table with notebooks, pencils, crayons and puppets in front of them. Sofia tells Rosalie, "We are going to write a story about our puppets. You will draw the pictures, and I will write the words." From three to five years of age children are working on two tasks. They begin to draw pictures of something. Initially children will start out making marks on a page, but will then decide it looks like something. This is a transition phase as they recognize that they can draw things that look like something. Eventually they will be able to decide what to draw first and then try to create lines and shapes that look like their intended drawing. Children are also working on practicing writing letter-like shapes. As they get older, they may begin to purposefully form the letters in their name or write a couple of simple words. Provide many opportunities for children to use writing in meaningful ways, such as making lists, documenting observations and creating signs for things that they made.

Early Language, Communication and Literacy/Language and Literacy Strategies

Strand G: Early learning experiences will support children to convey meaning through drawing, letters and words.

Learning Progression: Drawing and Writing

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Provide examples of print in the environment		• Provide access to a wide variety of appropriate a variety of writing tools, e.g., large handles, oversize crayons • Provide other toys and materials that build fine motor skills • Allow children to feed themselves finger foods • Post notes and lists in the child's environment • Provide upright surfaces for writing	• Display children's attempts at writing • Provide frequent opportunities for conversations between peers • Label items in the child's environment	• Create art and writing spaces in the child's environment • Add flannel board materials and puppets to the library area to encourage children to act out stories	• Provide multisensory materials for writing, e.g., shaving cream, sand • Create play areas that lend themselves to writing, e.g., post office • Display writing, such as historical documents or story drafts, that are hand-written • Provide book-making materials • Include print, books and materials that represent families' cultures and languages	• Use small group time to have more individual interactions with children • Alternate writing materials frequently • Provide writing materials in varied areas of the child's environment • Provide keyboards to use for typing in dramatic play • Use transition times to encourage writing
Teaching behaviors	• Respond to babies' communications in a nurturing way • Read and talk to babies throughout their day		• Model writing • Complete projects with children that involve writing	• Write out words to familiar songs; use the chart while singing the song, point to each word	• Make lists of favorites with children, e.g., food, toy, book • Write the child's name on their artwork • Have frequent conversations with children and encourage them to draw or write about it	• Listen to children's stories and write down what they say and read the story back to them • Encourage children to make books with pictures and words • Think out loud as you write; say each word as you write it • Make cards for people and encourage children to write a greeting • Allow children to "pretend to write" • Refer to letters by name and sound	• Demonstrate enthusiasm for children's attempts at writing • Ask children to read you their writing; do not make assumptions about their message • Give children help with writing when they request it • Model writing • Send writing materials home with families • Write for the child, stretching out each word so that the distinction between the sounds is more obvious • Allow peers to write together and edit each other's work

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to develop through drawing, letters and words.

Children with Disabilities

- Provide whiteboards mounted to the wall and easels, as upright surfaces are easier for some children to write on than flat surfaces.
- Provide writing tools that are varied sizes, some with larger handles or oversized crayons and pencils.
- Allow peers to write together and edit each other's work.
- Use high- and low-tech assistive technology when necessary.

Children Who are Dual Language Learners

- Provide extensive opportunity for young dual language learners to experiment with writing.
- Encourage children to draw and write their stories even if they have not mastered oral English.
- Provide print in children's home languages.
- Engage children in conversations throughout their day.
- Invite families to provide samples of writing for the classroom, e.g., grocery lists, addresses; translate the daily schedule into the child's home language.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Supporting All Children:
Guide to Domains & Strands

CTELDS
Connecticut Early Learning and Development Standards

Creative Arts

Creative arts development is supported when children and adults share in the discoveries. Adults must bring their own curiosity and awe into the interactions with children and be prepared that children often lead in the discovery. The willingness of adults to consider new ideas allows children's imaginations to flourish. Through interactions between children and adults, both in the home and in the classroom, one generation builds a legacy for the next, and we all contribute to a changing culture (Rogoff, 2003).

Creativity is the ability to invent or make something new, using one's own skills without the specific use of patterns or models. Children will accomplish this goal when adults focus on a process of discovery, rather than on an end product. This engages children in the learning process and allows them to be active in learning skills and concepts, to practice and then plan and produce something rather than be passive participants in the learning process. The adult's role should be to offer guidance and teach skills and concepts, to provide inspiration and meaningful choices with the goal of finding a balance between freedom and structure, process and product.

What children do and learn through process-focused art:

Social and Emotional – Children can relax, focus, feel successful and express their feelings.

Language and Literacy – Children may choose to discuss their art and add print to it (on their own or by dictating to a teacher).

Cognitive – Children compare, predict, plan and problem-solve.

Physical – Children use small motor skills to paint, write, glue, use clay and make collages (Bongiorno, 2014).

In their article, *Promoting Creativity for Life: Using Open-Ended Materials,* Walter F. Drew and Baji Rankin (2004) identify seven key principles for using open-ended materials in early childhood classrooms. The use of open-ended materials is one way that adults can increase the focus on process over product.

Principle 1	Children's spontaneous, creative self-expression increases their sense of competence and well-being now and into adulthood.
Principle 2	Children extend and deepen their understandings through multiple, hands-on experiences with diverse materials.
Principle 3	Children's play with peers supports learning and a growing sense of competence.
Principle 4	Children can learn literacy, science and mathematics joyfully through active play with diverse, open-ended materials.
Principle 5	Children learn best in open-ended explorations when teachers help them make connections.
Principle 6	Teachers are nourished by observing children's joy in learning.
Principle 7	Ongoing self-reflection among teachers in the community is needed to support these practices.

Early learning experiences will support children to:

Strand A: Engage in and enjoy arts

Strand B: Explore and respond to creative works

Words to Describe Art

There are many aspects of art that can be discussed with young children. You do not need to be an art critic to describe what you see and how your respond to art, but it does help to think about the aspects of art that can be described. Below are some ideas for describing various aspects of visual arts, dance. This list includes just some examples. Be creative, look for other lists of words and find many ways to talk with children about art. Encourage children to talk about their own art and the art of others, using a variety of words.

Music

Types of music (the genre, country of origin, instruments or purpose): rock, country, folk, blues, classical, march, lullaby, reggae, Celtic

Timbre (the sound of the music or tone quality): gentle, loud, soft, shrill, harsh, breathy, bright, mellow

Reaction (how the music affects you): excite, calm, frighten, relax, make you happy, sadden

Visual Arts

Line: flowing, thick, delicate, bold, curved

exture (the actual or perceived feel of the surface): rough, course, velvety, soft, fluffy, smooth

Scale (the size in relation to another object, often the human body): large, small, life-sized, miniature, enormous

Contrast (the difference in and arrangement of opposite elements such as light/dark, rough/smooth, small/large): balanced, dramatic

Color (features of the colors): bold, muted, pale, warm, cool

Movement (the actual or perceived movement): flowing, swirling, still

Drama

Types of drama: comedy, tragedy, historical, musical, farce

The mood of the production and your response: suspenseful, funny, puzzling, mysterious, dark, sad, happy

Dance

Types of dance: ballet, jazz, tap, swing, hip hop, modern

Movement: flowing, bouncy, expressive, passionate, fluid, graceful

Dance elements: parts of the body, patterns, actions, locomotion (or the way the body travels during dance)

Strand A: Early learning experiences will support children to engage in and enjoy the arts.

Young children have a natural interest in expressing themselves through the arts. Even without formal instruction, children will tap objects to create a rhythm, use a writing tool to scribble or create a picture, engage in dramatic play and move their bodies to music or fly like a butterfly. The arts naturally engage children because they incorporate many components that support the way young children learn.

They require a hands-on or participatory approach, they are open-ended, and everyone's butterfly dance does not have to be the same. This allows children to bring their varied experiences, strengths and interests to the activity. In addition, young children are still developing many skills including their ability to communicate through words. Participation in music, visual arts, drama and dance gives children ways to share what they are thinking and feeling without the use of words.

This increases their confidence in their ability to connect with the important people in their lives. Another hallmark of early childhood is that learning is interconnected and related. Participation in the arts simultaneously builds children's skills, such as problem-solving and critical thinking, language/communication, mathematics, and social and interpersonal skills. This strand includes how children move through a progression of reacting and responding to different aspects of the arts to finally creating their own expressions.

"By attending to approaches that are conducive to learning, educators can make a critical contribution to young children's school readiness and early school success."
(Bredekamp 2008)

Infants and Toddlers

How does engagement and enjoyment of the arts begin?

- It begins with a soft song sung quietly to a baby as they fall asleep.
- It begins when we give a child a way to make marks on paper; before those marks represent anything, the action of making the mark is reinforcing enough to continue doing it.
- It begins when we jump in excitement with a child when a favorite person comes to visit
- It begins when we rock with them while we listen to or sing a favorite song.

Early in children's lives, their engagement and enjoyment in the arts will be in response to or reacting to the experiences the adults give them. By providing many opportunities to listen to music, create with art materials, listen to stories, play with toys and move around their environment, we will set them on the path to creating and producing their own works of art.

Preschoolers

As children move through their preschool years, their increasing skills will allow them to be able to generate their own creations in visual and performing arts.

- Their increasing cognitive skills will allow them to wonder what sounds objects might make, and their motor skills will allow them to test out their ideas. Their scribbles will progress to recognizable objects, and they will be able to decide what media best expresses what they want to do in their art.
- Their pretend play will become more complex including characters and roles. They may try out being a director and request that their friends follow a plot and suggest their role within the story.
- They can now express themselves through dance with more complexity in movement and creativity because their coordination and ability to hear differences in the tempo, tone and beat of music has increased.

Much of children's development in the creative arts proceeds naturally and only needs opportunities to grow. If engaging in and enjoying the arts is a way for children to express themselves, adults must create safe and respectful environments where children feel they can share who they are and what they are thinking. Adults also need to expose them to a wide variety of music and dance and provide materials to create visual arts and dramatic play. Some skills in the creative arts will progress on their own, but others will need more direct instruction. For example, children may need to be shown how to use certain art materials, how to play certain musical instruments, or how to do specific dance steps.

Creative Arts Strategies

Strand A: Early learning experiences will support children to engage in and enjoy the arts

Learning Progressions: Music, Visual Arts, Drama, and Dance

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Provide visual representations in the child's environment, e.g., pictures on the walls, photos of familiar people	• Provide children with open-ended materials and activities, such as blocks, water and jumbo crayons	• Provide a wide variety of art materials including adapted tools and space to use them • Provide children with materials that can be used as musical instruments, e.g., spoons, buckets	• Provide materials that can be used as realistic props in play, such as toy phones, mealtime utensils • Use natural objects to create art • Display children's artwork • Provide instruments from varied cultures, listen to live and recorded music from a wide variety of cultures and styles	• Provide purchased and home-made musical instruments • Provide space for moving to music in a variety of ways • Provide access to open-ended art materials on a daily basis and extended time to work • Provide daily access to musical instruments • Set up a stage and encourage children to perform • Provide recording devices so that children can sing or play music and talk about it as they listen to the recording • Provide realistic and imaginative props that represent all cultures in the program • Provide a picture sequence for simple scenarios		
Teaching behaviors	• Play varied types of music for children • Talk to children about the music • Sing songs to children • Read to children often	• Play games with children that involve singing and movement, such as "Row, Row, Row Your Boat" • Model moving to different types of music • Talk about how the music is different; this song is fast; this song is slow • Talk about how the music makes you feel; use words, such as happy, sad, relaxed, moved, uplifted, exhilarated • Initiate and respond to children's vocalizations; use a sing song voice	• Sing songs that incorporate hand movements, such as "The Itsy, Bitsy Spider" • Encourage children's advancing motor development • Read books about creative arts, such as *A Picnic with Monet* by Julie Merberg • Select and read other books about the creative arts. Lists of suggested books may be found through organizations such as NAEYC	• Use descriptive words to describe art • Use self-talk and parallel talk when being creative • Respond to different rhythms by marching, clapping, finger-tapping • Provide children with opportunities to explore different textures, e.g., shaving cream, rice • Use song throughout a child's day • Make up songs about routines and activities • Play games that require children to take on a role, such as Simon Says walk like a duck	• Read books about creative arts, such as *Giraffes Can't Dance* by Giles Andreae. Lists of suggested books may be found through organizations such as NAEYC • Model creating music by singing or tapping on a toy or table • Sing songs with repetition to encourage children to learn some of the words • Observe people or animals in motion; describe how they are moving • Observe children's artwork commenting only if they ask you for your input • Write words on children's artwork only when they have created something that will be used as an illustration for a story • Watch short clips of a variety of styles of dance musical and theatrical productions with children • Read books that can be acted out, such as *Caps for Sale* by Esphyr Slobodkina • Add movement to activities and transitions; for example, hop like a frog to line up to get your coat • Invite children to share dances that represent their home culture • View art with children and use descriptive words, such as flowing, delicate, bold, subtle, dramatic, rough, smooth, curvaceous, geometric, swirling, large, small, bold, pale, earthy • Suggest that children develop a plan for their performance by drawing pictures or writing • Play music that varies in tempo, rhythm and form; ask children to move to the music and describe how they moved and why • Pull feeling words or brief descriptions of action out of a box, read them to children and ask them to move in a way that represents that word or action, e.g., happy, excited, distressed, mad, float like a bubble, pop like popcorn, etc. • Read stories with more complex plots and larger numbers of characters • Encourage children to make up and tell stories • Display art that represents diversity of cultures in the program		

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to understand how to engage in and enjoy the arts.

Children with Disabilities

You can support children with disabilities to engage in and enjoy the arts by:

- Using adapted materials, such as large handled paint brushes.
- Providing visual cues for dramatic scenarios, such as using cue cards to indicate when a particular action should be performed.
- Providing adequate space for children to move to music from a variety of positions, such as sitting down, standing or using a wheelchair.

Children Who Are Dual Language Learners

- Provide dramatic play materials, such as dolls, clothes or food containers from the cultures that are represented in the program.
- Play music that represents the music children hear in their homes.
- Display art work from artists that are representative of children's home cultures.
- Provide musical instruments that represent varied cultures.
- Use self-talk and parallel talk to describe the materials and your actions and the materials and actions of the child, e.g., "I am using the paintbrush and the red paint to paint my flower" or "Giza is using the blue marker to draw her house."
- Learn basic vocabulary in a child's home language to describe the arts (e.g., music, dance, painting).

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand B: Early learning experiences will support children to explore and respond to creative works.

This strand describes children's interest, enjoyment and appreciation of creative arts. Exploring and responding to creative arts allows children to develop critical thinking skills, such as sorting and categorizing, comparing and contrasting and recognizing similarities and differences.

It also allows children to develop language skills and self-concept because they are encouraged to identify and articulate what they like and don't like in works of art, music, drama and dance. Creating their own artwork is one way in which children create meaning in their lives. But they can also discover meaning in the art created by others and in nature, and that discovery is the core of art appreciation. While encouraging children to create their own visual and performance art, adults can also connect them to the world of art beyond their own actions.

Acknowledging that children are naturally egocentric, Ann S. Epstein (2007) believes that encouraging them to explore art, whether by peers or well-known artists, can broaden their perspectives to include others. Art can show children that the thoughts and feelings of others can differ from their own. It can also introduce them to other cultures in ways they can easily understand and appreciate. "We talk a lot about the importance of multicultural (education) these days," says Epstein (2007). "And certainly the younger you begin that the better. Art is a wonderful way of entering into other cultures, how other people see the world, what things are important enough to them that they want to express them artistically. These are important social lessons that children can learn through appreciating art."

Infants, Toddlers and Preschoolers

Art appreciation is a subject that can be enjoyed by all ages. Before children can use language to communicate, they demonstrate their preferences for sounds, tastes, colors, movement and textures.

These are all precursors to appreciating artistic elements. "Every young child expresses awareness and preferences about the world in different ways. While one toddler sways rhythmically to music in a television commercial or a song on the radio, another returns time and time again to look at a particular visual image in a picture book" (Shaffer & Danko-McGhee & 2004).

When they view others' work, children are learning to appreciate and respect differences in culture and viewpoint. Adults can support children to explore and respond to creative works by drawing attention to their preferences and using words to describe what they notice. For example, you could say, "I see that you really like to use paint to create pictures." Adults can also use illustrations in children's books as examples of art, draw attention to the beauty of the natural world and help children develop a language to talk about art.

Creative Art Strategies

Strand B: Early learning experiences will support children to explore and respond to creative works.

Learning Progression: Appreciation of the Arts

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Provide examples of works of art • Display the child's artwork • Provide open-ended materials • Use materials in different and varied ways, e.g., use a blanket to make a tent • Provide books with rich and detailed illustrations • Provide multiple opportunities for movement				• Provide children with access to many types of works of art by displaying reproductions of works of art, providing books of art collections, taking field trips to museums, and reading books about artists, such as *Diego Rivera (Life and Work of…)* by Adam Schaefer • Provide many opportunities for children to listen to music of all cultures and styles	• Provide a wide variety of art materials • Plan activities where children can focus on a specific art element, such as theme or material	• Provide experiences for children to learn about various forms of art, music and dance • Provide children with more complex works of art; provide time for children to reflect on and compare those works to less complex works • Create a space for performances to occur
Teaching behaviors	• Talk to children throughout the day as you complete routines • Describe colors, sounds, movement of the trees • Ask children to describe preferences to many different things • Allow children to make choices within the appropriate parts of their day • Sing and dance with children				• Model an enjoyment of art • Model noticing and commenting on children's process of creating a work of art • Develop a process for children to share their likes and dislikes about works of art, pieces of music or dance, e.g., writing in a journal, using stickers on a chart • Discuss the art a child has created by noticing and wondering, not evaluating • Be flexible in how children explore works of art; allow them to use all of their senses.	• Model using descriptive words while watching a performance or looking at a work of art, e.g., "That dance was very graceful," or "That painting is very realistic," or "The music makes me feel happy" • Ask children how they feel when they listen to music, look at a work of art or watch someone dance • Ask children how they were feeling when they created a work of art, some music or a dance • Use open-ended questions with children, such as "How does the clay feel/smell?", "What made you decide to make a… today?", "I wonder what's the same or different about the water color and tempura pant?" • Be flexible in how children explore works of art; allow them to use all of their senses	• Record children performing and let them watch it with peers • Have children create their own art collection portfolio by choosing specific pieces and summarizing why they chose the piece of work • Provide examples of visual arts, music, drama and dance from a variety of cultures • Talk about how culture influences how people express them selves • Be flexible in how children explore works of art; allow them to use all of their senses

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children how to explore and respond to creative works.

Children with Disabilities

To encourage development in this strand for children with disabilities, materials are important. Children who are blind or visually impaired will be able to explore and respond to sculpture or a piece of music by touching or listening, but a drawing or dance will need to be described to them.

A child, who is deaf or hearing impaired, will be able to describe a piece of music based on the vibrations that they feel or the tones that they are able to hear. In order to be able to express interest or describe a work of art, a child must have a way to communicate those ideas. If a child uses alternate forms of communication, they will need those descriptive words available to them in their communication system. Indicating preferences can happen in many ways, such as thumbs up, down or in the middle, smiling or frowning, pointing or gesturing. Remaining open to communicating in ways other than words will increase the chance that children will be supported to explore and respond to creative works.

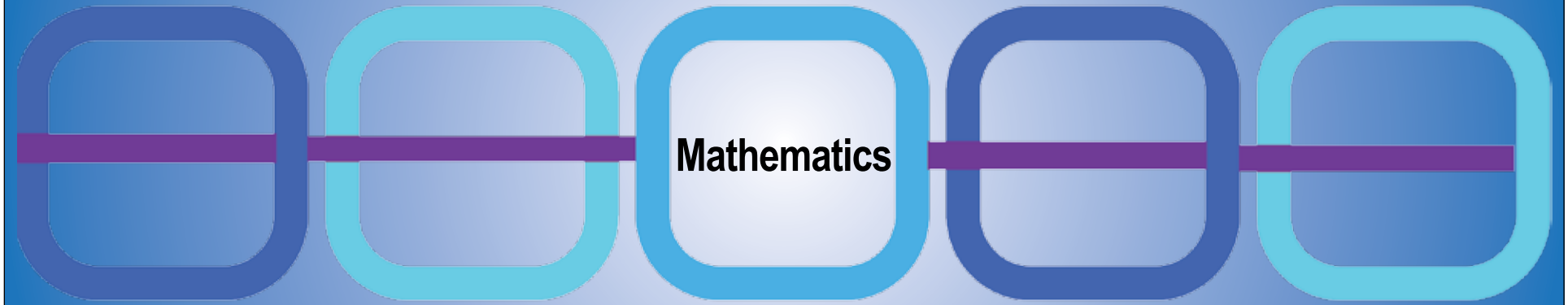
Children Who Are Dual Language Learners

According to Bunce and Watkins (1995) and Tabors (2008), providing ongoing commentary on activities taking place in the classroom exposes children to the language associated with the immediate context and has been shown to enhance their oral language development.

As children are creating art or dancing to music, use words to describe their actions. Observe the child who is learning English as they watch their peers and comment on how you think they feel about what they are watching. You could say, “You are smiling; I think that means you like the way Isaiah and Julia are dancing.”

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Supporting All Children:
Guide to Domains & Strands



CT ELDS
Connecticut Early Learning and Development Standards

Early Mathematical Discovery & Mathematics

Promoting children's mathematical development

Children use early math skills throughout their daily routines and activities. During their early years, children begin to understand the concept of numbers and quantity. The earliest signs of this might be a child requesting "more" of something or sharing one item with a caregiver. Children also explore shapes and compare objects. Even before they start school, most children develop an understanding of addition and subtraction through everyday interactions (Zero to Three, n.d.). For example, a child has two cars, but his friend wants one. After he shares one, he notices that he has one car left (Bowman, Donovan & Burns, 2001).

Child-centered practices can facilitate children's understanding of a variety of mathematical concepts. Such experiences should use a variety of types of learning including visual, auditory and experiences. Such experiences should match the children's ways of learning. Using children's interests as the context of their first mathematical experiences supports the way young children learn. Eemerging math concepts embedded in those experiences become mathematical when they are represented in language.

Young children will use models and graphics, such as pictures or charts, to represent their ideas as well (Clements & Sarama, 2015). The more opportunities children are given to practice math, the stronger their skills will be. There are countless opportunities each day for children to hear and practice new math words and deepen their understanding of math concepts. The more we talk math, the better chance young children have to reach positive math learning outcomes.

Some Math Words to Use When Talking with Young Children

Quantity words	More, many, less, equal, a lot, a little
Numerals (a symbol used to represent a number)	1, one, 2, two, etc.
Math operations	Add or put together, subtract or take away
Names for 2-dimensional shapes	Rectangle (including square), circle, oval, triangles, rhombus, trapezoid, pentagon, hexagon, ellipse, crescent, sides corners, turns
Names for 3-dimensional shapes	Cube, sphere, cylinder, prism, cone, pyramid
Position words	On, under, off, next to, beside, over, between, through, around, outside, inside, in front, behind, in, out, above, below
Size words	Big, colossal, fat, gigantic, great, huge, immense, large, limitless, little, mammoth, massive, miniature, petite, puny, scrawny, short, slender, slim, small, tall, teeny, teeny-tiny, tiny

Early learning experiences will support children to:

Strand A: Understand counting and cardinality

Strand B: Understand and describe relationships to solve problems (operations and algebraic)

Strand C: Understand the attributes and relative properties (measurement and data)

Strand D: Understand shapes and spatial relationships (geometry and spatial sense)

Strand A: Early learning experiences will support children to understand counting and cardinality.

The basic foundation for math is the knowledge of number names and their order. Counting in sequence, applying one number word to one item (one-to-one correspondence) and gradually understanding the idea that a set of items has a specific quantity (cardinality) are key skills that people use throughout their lives. These skills provide the groundwork upon which addition, subtraction and other mathematical operations are built.

Learning to count, maintaining one-to-one correspondence and understanding cardinality involves a number of different skills that eventually work together. Often children begin to learn the ordered list of number words as a sort of chant but do not use these words to actually count objects. Children's knowledge of cardinality increases as they learn specific number words for sets of objects they see (I want two crackers). When children do begin counting objects, they must use one-to-one counting correspondence so that each object is paired with exactly one number word. Over time they begin to understand that the last word that they state in counting tells "how many."

Children learn to recognize written numeral symbols by having such symbols around them paired with the number word (e.g., seeing the numeral "3" on a birthday card, following a recipe).

Infants and Toddlers

It is never too early to introduce a child to math. In the same way that we use language to support very young children's development of pre-literacy skills, we can use language to build a child's math vocabulary and concepts. While changing a baby's diaper, count their toes or the number of snaps on their pajamas. As children grow, encourage them to count along. Read books to children that include number quantities represented with familiar objects. Draw a child's attention to the representation of the quantity by saying, "Two. There are two cups. One, Two." Hold up two fingers and count them to give a visual representation of what a set of two looks like and help children practice counting.

Preschoolers

Preschool children learn counting an increasing range of numbers in sequence. They also begin to understand quantity without counting the objects in a group. They can visually identify which group has more or less. This skill supports their ability to compare small groups of objects and to know if they are the same, which one is smaller and which one is larger. They are also beginning to perform simple arithmetic-like operations on groups of objects, such as adding to or putting together and taking apart and deciding how many are left. Preschool is the time when children begin to count in order, recognize written numerals and begin to incorporate the idea of one-to-one correspondence counting to determine quantity. Preschool children are also beginning to understand the concept that the last number they say when they are counting is the quantity of the objects they just counted, the answer to the question, "How many?" Support children's growth and development in counting and cardinality by modeling counting of objects during everyday tasks, such as setting the table or walking up the stairs. Ask question that encourage purposeful counting, such as "How many crackers do you want?"

Early Mathematical Discovery / Mathematics Strategies

Strand A: Early learning experiences will support children to understand counting and cardinality.

Learning Progressions: Numbers Names, Cardinality, Written Numerals, Recognition of Quality and Comparison

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule			• Read books with numbers • Post numbers throughout the environment • Provide materials that can be counted	• Provide groups of materials or collections with varying numbers of items • Continue to read books with numbers • Post numerals and number words in the child's environment	• Provide opportunities within daily routines for one-to-one correspondence, e.g., setting the table, passing out items • Provide opportunities for children to count sets, such as crackers on the plate • Set up objects for children to count in a simple configuration • Provide containers with multiple sections	• Vary classroom arrangement to include opportunities to compare quantities, e.g., have more chairs at one table than another • Provide groups of materials or collections with varying numbers of items • Offer children counting activities, number puzzles and books	• Embed math materials throughout the environment • Include objects that have numbers and number words, e.g., clocks, timers, calendars, thermometers, calculators, measuring cups, number lines
Teaching behaviors			• Sing songs with numbers, such as "One, Two, Buckle My Shoe" • Talk about how many, such as you have two eyes, ten toes, etc. • Model counting objects	• Use comparison words throughout the day, e.g., "Sophie has more blocks"	• Take nature walks, collect different items, count the items and write the numeral for each group • Hand materials to children one at a time while counting • Talk aloud while doing simple math computations, "The recipe says I need two eggs. I have one so I will need to add one more" • Combine counting with actions, e.g., pointing, moving or touching. Remember to say one number word for each object	• Give children opportunities to practice grouping objects and comparing quantities • Count how many big and small steps it takes to get from one place to another • Have children draw objects to represent a number • Have a child collect materials for a project, request that they collect 5 pieces of paper and 3 markers • Request children count objects that are randomly arranged, such as puzzle pieces they have dumped out of the puzzle frame • Encourage children to count varied items including some that are not observable, such as the days of the week • Encourage children to use their fingers for counting (the use of fingers and what finger represents one will vary by culture)	• Help children understand numbers in many contexts, e.g., temperature, speed limits • Play "Guess How Many," lay out sets of objects on a tray, cover the tray, reveal the tray to children and have them identify the sets and tell which set has more, less or the same • Play games that require numeral recognition, such as BINGO • Encourage children to "build" numbers out of a variety of items, such as blocks, pipe cleaners, play dough, etc. • Continue to encourage children to practice counting throughout the day, e.g., ask children to predict how many pages are in a book before you read it, count how many cars of a specific color you see in a parking lot, ask children to predict how many blocks they will need to build their structure • Help children to discover that when you count objects the amount is always the same regardless of the order you count them in

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to learn counting and cardinality skills.

Children with Disabilities

- Provide increased opportunities to count with adults and other children.
- Combine counting with actions, such as marching or clapping.
- Begin by counting a small number of objects with adult support.
- Provide assistance to manipulate objects to count for children with motor impairments or use manipulatives that accommodate the child's specific access issues, such as thick counting chips with knobs.
- Encourage children to identify how many are in a set by means other than pointing.

Children Who Are Dual Language Learners

- Focus on counting exercises in both languages.
- Use hands-on experiences to facilitate children's focus on numbers and counting, such as board games in dual languages, creating grocery lists.
- Build vocabulary, such as number words, related to counting and cardinality.
- Add increased opportunities to learn number words to the child's day, such as during clean-up, snack, transitions, walking.
- Use manipulatives, objects and gestures when counting.
- Expand children's statements by adding information, e.g., "You counted 6 cars," after the child says "6."

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand B: Early learning experiences will support children to understand and describe relationships to solve problems (operations and algebraic thinking).

A child's ability to identify and solve problems involving numbers is often referred to as operations and algebraic thinking. While young children aren't going to be solving complex equations, they are often very interested in questions about "How many?" and "Who has more?" As children begin to work with numbers to figure out things that are of interest to them, they begin to understand that numbers represent certain quantities and begin to understand that these numbers are related. For example, a young child can begin to understand that they have one block and their friend has one block. If they put them together to make a tower, they have two blocks.

Young children's vocabulary is also growing and they can learn many new words associated with number and quantity. This vocabulary provides a building block for mathematical understanding and communicating mathematical ideas. It is important to remember that children can make mathematical observations and connections throughout the day and in all areas of their life. Providing them with lots of opportunities to think and talk about numbers and quantity will help them to see that mathematics is an important part of most everything we do.

Preschoolers

At this stage, children are beginning to understand simple addition and subtraction (number relationships and operations). They first begin to understand the idea of more and less. This is often observed when a favorite snack is passed out to a group of childre and one child gets more than another. Some children may even be able to tell you how many more another child has. Situations such as this can be used as a teachable moment by talking about more or less and comparing numbers. Adults also support children's ability to describe the relationships between numbers by using mathematical vocabulary to describe situations that involve numbers and mathematical operations. Learning the words that will be used as children move forward in school can help them to understand the ideas and build upon their knowledge. Talking with families about the words you use can help children make connections.

Early Mathematical Discovery / Mathematics Strategies

Strand B: Early learning experiences will support children to understand and describe relationships to solve problems (operations and algebraic) thinking).

Learning Progression: Number Operations

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule					• Provide varying size containers and items to fill them; count the objects in each container; ask the child which one has more, which one has less	• Use every day interactions and routines to highlight and talk about addition and subtraction, e.g., "You had five marbles and you gave Peter two. How many do you have now?"	• Provide a wide variety of objects that can be counted and grouped in all learning centers
Teaching behaviors					• Model quantity vocabulary throughout the day, e.g., "I see that Marcus has more play dough than Georgia" • Use numerical concepts in everyday routines, e.g., "Arianna is having four crackers for snack. Would you like more than four or less than four?" • Describe child's activities with words related to quantity	• Read books that include concepts of addition and subtraction, such as *Big Fat Hen* by Keith Baker. Check organizations such as NAEYC for lists of additional math-related books • Have children write their own stories about adding to or taking away • When children demonstrate their knowledge of math operations, provide the correct word for the operation, for example, you can say, "When you take away one piece of your apple by eating it, you are subtracting" • Play games that involve adding objects and taking away objects; ask children to reflect on what changed • Teach children to add by using their fingers to count a number on one hand, another number on the other hand and then count them all	• Describe real-life situations involving numbers and a problem for children to solve, e.g., saying, "We have five cartons of milk for snack but only three straws. How many more straws do we need?" • Read books to children that have math concepts and vocabulary in them, such as *Quack and Count* by Keith Baker • While playing with children, wonder out loud about how many ways you can group a number of items • Display five objects, cover the objects and remove a number of them, remove the cover and ask children how many were taken away; encourage children to play this game with their peers • Teach children to subtract by counting items, removing a number of objects and counting what is left • Encourage children to count more abstract items, such as how many times they feel happy • Support children to solve word problems by using objects or drawing

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to solve problems (operations and algebraic).

Children with Disabilities

- Break math tasks down into small steps, e.g., add one at a time.
- Use shorter more frequent opportunities for practice.
- Incorporate mathematics into everyday experiences, such as snack time and transitions.
- Add items that encourage mathematical thinking and ideas across the environment, e.g., signs with numbers in the block area, numbers on a shopping list or menu in the dramatic play area.
- Use visual supports, such as graphic organizers.
- Include numerals and mathematical words in communication systems.

Children Who Are Dual Language Learners

- Simplify the language while teaching mathematics, but do not simplify the concepts.
- Intentionally develop the child's language related to mathematics by modeling the beginning of a sentence, rephrasing what the child said with an expansion that adds vocabulary.
- Allow the child to express their knowledge in multiple ways, such as gesturing, drawing, or diagramming.
- Use cooperative group learning so that children have an opportunity to learn from each other.
- Model the language/vocabulary children need; use gestures, facial expressions and pointing to increase understanding.
- Learn a few words in the child's preferred language. Learning number words or the words for "more" and "less" may help to pair those words with English during discussion.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand C: Early learning experiences will support children to understand the attributes and relative properties of objects (measurement and data).

This strand describes children's ability to think about objects in specific ways and to use that information to measure and classify (sort, group or categorize) the objects. Specifically, children will develop their ability to notice the physical properties of objects. Those properties include the length, weight, area (how many square units a closed figure covers), volume (how much space a 3-dimensional object takes up) and capacity (how much fluid an object can hold).

Typically, children will interact with all of these properties and may be able to describe them, although they may use the same words to describe different concepts. For example, they might say, "I want the big cup," because they understand it has greater capacity and will hold more juice, and "I want the big ball," showing that they understand volume. Once children can recognize these properties they may begin to compare or measure to find what is the same or different. They may be able to represent those comparisons in a chart or picture.

Lastly, children's ability to recognize similar characteristics in objects, such as color, shape or size, is beginning to develop. While they are playing, they may choose to use only the cars that look like race cars or only build with the rectangle blocks. They may arrange their snacks on their plate by shape with round cucumbers in one place and square crackers in another. Children develop an understanding of attributes by looking, touching and directly comparing objects. All of these skills form the foundation and support later math and science learning.

Toddlers

Toddlers are learning the words they need to describe objects. They are also refining their ability to sort objects that have similar characteristics. Adults can support their development by providing toys and materials that have similar and varying characteristics. Model language and use descriptive words, such as round, flat, big, tall, short, more, and full throughout their day and in many situations. Promote their wondering about using measurement by commenting on aspects of size especially if it is connected to themselves or their actions. For example, say, "You are taller than your little sister," or "Your truck is heavier than my truck."

Preschoolers

Preschool-age children develop an intuitive idea of attributes and properties of objects through everyday experiences. As they play in the bathtub or water table with containers of various sizes, pouring water from one to another, they will see that the water flows over the side of the smaller container. This helps them perceive that the bigger container holds more water. As multiple children build block towers at the same time, they can observe whose tower is taller and use their bodies to measure how tall they are.

At this time, children will begin to group objects with like objects. They may not see all of the ways objects can go together, but they will be able to identify some distinct characteristics and use that as criteria for grouping and sorting. As they approach kindergarten age, children will understand more options for grouping, such as an object's function. Some research (Seo & Ginsburg, 2004) has shown that children do not spontaneously choose to sort objects on their own. It is important for adults to encourage and facilitate sorting in a variety of situations throughout the child's day.

Measurement for young children begins with simple statements, such as "That's heavy," or "My string is longer than yours." They will progress to being able to assign a number of units to their observation as they learn about how to measure using standard types of measurements (scales, rulers) and non-standard types of measurements (pieces of paper, their arms). By the time children leave preschool, they understand that measurement involves assigning a numerical value to an attribute, such as counting the number of units (inches, arms) that were used to "measure" the object.

Early Mathematical Discovery / Mathematics Strategies

Strand C: Early learning experiences will support children to understand the attributes and relative properties of objects (measurement and data).

Learning Progressions: Measurement, Data and Sorting and Classifying

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule			• Provide many types of objects that have the same characteristic	• Provide opportunities for children to share, describe and compare familiar objects in one-on-one and small group settings	• Provide materials of various sizes, colors, textures, and shapes that can be sorted and compared • Provide opportunities for children to measure, such as counting the number of steps it takes to walk from one place to another	• Provide materials of various sizes, colors, textures and shapes that can be sorted and compared • Provide a variety of materials that can be used to measure objects including standard measurement tools	• Create opportunities for children to measure items • Encourage children to record and document what they learn • Provide materials for documenting measurement and classifying, e.g., white boards, journals, graph paper
Teaching behaviors			• Use words that describe physical properties and can be used to compare objects, e.g., big, small, long, short, full, empty, more, less • Hold doll clothes up to a doll or a block up to the side of a car and think out loud. Say, "I am measuring the clothes to see if they will fit the doll."	• Continue to use words that describe physical properties and can be used to compare objects, e.g., big, small, long, short, full, empty, more, less • Grow plants and measure their height each week. Chart the growth with the children • Read stories about measurement, such as, *Who Sank the Boat?* by Pamela Allen • Have a scavenger hunt. Tell children to find objects that have the same characteristic, such as color	• Demonstrate methods of measurement throughout the day; chart the number of children who are wearing red or green and compare • Facilitate children's ability to sort objects throughout the day during routines, such as laundry or cleaning up toys • Continue to use words that describe physical properties and can be used to compare objects, e.g., big, small, long, short, full, empty, more, less	• Make verbal comparisons about objects or people, such as, "This bucket of sand is heavier than this cup of sand" • Read the books, *Do Like a Duck Does* by Judy Hindley and *Shoes, Shoes, Shoes* by Ann Morris • Engage in conversations with children throughout the day about quantity and comparisons as they interact with materials • Play matching games with items that can be grouped by more than one attribute. Ask children why they put the items together. Ask if they can regroup them in another way • Continue to use words that describe physical properties and can be used to compare objects, such as big, small, long, short, full empty, more, less • Model how to use rulers and encourage children to use them when asking questions about linear measurement • Model using measurement words, longer/shorter and taller/shorter	• Play matching games with items that can be grouped by more than one attribute. Ask children why they put the items go together. Ask if they can regroup them in another way • Provide activities using standard and non-standard units of measurement • Support children's use of measurement to solve problems by posing questions, such as, "How far can you jump?" and "How can we find out how high our ceilings are?" • Continue to use words that describe physical properties and can be used to compare objects, such as big, small, long, short, full, empty, more, less • Use visual models to help children understand and quantify differences • Model charting data and chart data with children • Encourage children to use rulers to measure objects of different lengths and compare them to each other and compare the number they determined through measurement

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children's ability to understand the attributes and relative properties of objects.

Children with Disabilities

- Allow peers to assist children to manipulate objects in order to count, sort, compare, order, measure, create patterns, or solve problems.
- Use adaptive materials, e.g., large manipulatives that are easy to grasp.
- Allow alternate ways for children to demonstrate knowledge in these areas without directly manipulating objects.
- Use materials for counting, sorting or problem solving that are easily distinguishable by touch.
- Place materials in containers and clearly define the work space.
- Program communication devices to contain words that will allow them to participate and express their knowledge.

Children Who Are Dual Language Learners

- Allow children to use multiple ways to demonstrate their knowledge.
- Link English vocabulary to experiences with pictures, concrete objects and real-life events.
- Refer to events in the present until children become more proficient in English.
- Simplify the language demands when you can, but do not lower the expectations for concept mastery.
- Provide multiple opportunities for practice in varied settings.
- Use bilingual texts to support concept development.
- Allow children time to observe you or peers before requiring action.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand D: Early learning experiences will support children to understand shapes and spatial relationships (geometry and spatial sense).

This strand highlights both geometry and spatial sense. Geometry may seem like a complex topic for young children, but the foundations are set when children develop an understanding of basic forms, including their boundaries and the way they are constructed. Young children's spatial sense initially develops as an awareness of where he/she is in relationship to other people and objects. They can begin to describe relationships between and among objects in the physical world using positional words, such as "in front of" or "next to." Young children can learn the properties of shapes, solids and other spatial concepts by interacting with objects in their daily life. According to the National Council of Teachers of Mathematics (2006) geometry should be the second most emphasized area of mathematics in early childhood, behind only number and operations.

Daily experiences offer young children numerous opportunities to notice and manipulate shapes and can engage and challenge young thinkers. Adults support young children's developing understanding of shapes and spatial relationships by building children's vocabulary. By asking questions, modeling and introducing mathematical ideas throughout the day, adults can support analytical thought, growing precision and abstraction.

Some suggested strategies include:

- Providing many opportunities to explore and talk about different shapes
- Talking about the attributes of shapes and objects
- Comparing attributes of varying shapes
- Talking about objects and their position in space

"Geometry is the area of mathematics that involves shape, size, space, position, direction, and movement, and describes and classifies the physical world in which we live. Young children can learn about angles, shapes, and solids by looking at the physical world. Spatial sense gives children an awareness of themselves in relation to the people and objects around them." (Fromboluti & Rinck, 1999)

Infants and Toddlers

Children's knowledge of shapes and the position of those shapes in space begins as early as infancy. Through their daily experience with the many objects in their life, children are introduced to a variety of shapes. When a child is interacting with objects, adults can talk about the shapes of objects and can model putting together two shapes to make a different shape. Using words such as "round," "straight" and "corner" will help build the vocabulary that will help them to compare shapes later on. Adults can also use words to describe spatial relationships, such as "behind," "above," "over," etc. Toddlers are especially excited when they can touch objects and move them around. Providing lots of materials of various shapes and items such as single piece puzzles, blocks and shape sorters will help toddlers be active learners about shape and spatial relationships.

Preschoolers

Preschool children begin to recognize and name 2-dimensional shapes, such as triangle, circle, rectangle, square and star. Initially, they use the shape's overall appearance as a cue to identify the shape name. As they have more experiences with shapes and more opportunities to identify the attributes that make a circle a circle and a square a square, they will be able to compare, sort and analyze shapes. According to Douglas Clements (2004), younger preschool children use shapes in isolation, but older preschool children use shapes to create images of things they know and many combine shapes into new shapes.

In another recent study, preschool children who hear parents use words describing the size and shape of objects such as "big," "small," "round" or "tiny," and who then use those words in day-to-day interactions, do much better on tests of their spatial skills (Levine, Suriyakham, Rowe, Huttenlocher & Gunderson, 2011). The study is the first to show that teaching children to use a wide range of words relating to size and shape may improve their later spatial skills. As children's cognitive and language skills develop, they are able to visualize shapes in different positions and can describe the location, distance and direction of objects in space. This skill is called spatial reasoning.

Early Mathematical Discovery / Mathematics Strategies

Strand D: Early learning experiences will support children to understand shapes and spatial relationships (geometry and spatial sense).

Learning Progressions: Spatial Relationships, Identification of Shapes and Composition of Shapes

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule			• Provide children with many objects of varying size and weight or a few objects with distinct and sharp variations, e.g., attribute blocks	• Provide many materials that have shapes • Display shapes in the child's environment	• Provide different types of building materials of varying shapes and sizes • Display artwork that uses geometry and discuss the shapes in the work	• Provide shape cutouts, shape stencils and foam shapes in creative arts centers to encourage children to create representations that include new shapes • Provide dolls and dollhouses, trucks and boxes, and other toys that can be out in/out, over/under, etc. • Provide a variety of types of triangles: equilateral, isosceles, scalene, acute, right and obtuse • Provide examples and non-examples of shapes	• Continue to provide many materials that include shapes, including two- and three-dimensional shapes • Provide children with opportunities to use shapes in their artwork; complete simple weaving activities • Provide items that encourage movement, such as a tunnel, low balance beam, boxes; encourage children to describe where they are when using the item • Provide children with opportunities to create designs with pattern blocks
Teaching behaviors			• Frequently present children with many objects at varying distances from where they are positioned • Talk with children about the weight and size of the objects • Refer to shapes in the child's environment • Use words that describe spatial relationships, such as "next to" or "behind"	• Make requests for children to put objects in/out, on/off under, etc. • Ask children to go find objects and include a positional word, e.g., "Go find your shoes. Look, they are under the table" • Draw attention to shapes in the child's environment • Draw attention to shapes that are the same, e.g., "Look, your cracker and the wheel of this truck are both circles" • Model matching the shapes • Play matching games that include shapes	• Play games with boxes that are large enough for children to get in and under; give them directions about where to put their body; have them choose where to go and then tell you • Sing songs that include spatial words • Read books that include shape names and spatial relation words, such as, *Up, Down and Around* by Katherine Ayers; For additional books related to number, check organizations such as NAEYC	• Identify the features of shapes while children are using them • Provide children with experiences breaking apart and putting together shapes, to make new shapes, such as breaking apart a square graham cracker into two smaller rectangles or putting together two triangles of cheese to make a square • Play games that include shapes, such as "Twister" • Have children move through an obstacle course • Allow children to build shapes using toothpicks and mini-marshmallows • Support children's ability to compare squares and rectangles	• Make blocks out of paper towel tubes, oatmeal containers, empty milk cartons and other items to expose children to three-dimensional shapes • Play Simon Says with a carpet square, allow a child to lead and give positional directions to peers, e.g., "Simon Says, stand behind your square" • Introduce the mathematical attributes of shapes, e.g., number of sides, type of angle, parallel/non-parallel sides, length of sides (all the same or different lengths) • Have children feel shapes in a box and describe them to peers • Have children draw a series of rectangles increasing in size. Discuss what they changed to make them larger

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children's ability to understand shapes and spatial relationships (geometry and spatial sense).

Children with Disabilities

- Be sure that communication devices include words for children to communicate about the shapes and the position of objects in their environment.
- Provide shapes for children to manipulate based on their needs. Provide large shapes or secure items to a table surface for stability.
- Provide children with the opportunity to experience movement, be in different positions and see things from multiple perspectives.

Children Who are Dual Language Learners

- The use of simple questions and access to materials to manipulate is particularly helpful for children who are learning English to gain an understanding of geometry concepts.
- The use of materials will help English learners to link the new vocabulary to a real life event. This increases the connection they will have to the experience and improves their ability to remember new vocabulary words.
- Use simple sentences and repeat critical words, such as the name of the shape supports children's language acquisition.
- Structure learning centers to provide children opportunities to learn about shapes and spatial relationships through observing and listening to peers whose English is more advanced.
- Learn a few words related to shapes and/or spatial relationships in the child's home language.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Supporting All Children:
Guide to Domains & Strands

CTELDS
Connecticut Early Learning and Development Standards

Early Scientific Inquiry — Science

When infants and toddlers have strong, trusting relationships with caring adults, they feel safe to explore and discover. As very young children interact with supportive adults and explore the world around them, they discover many things including how their bodies work and how they fit in within their environment. They also begin to develop concepts that form the foundation for their emerging scientific knowledge. Their strong desire to explore supports their understanding of the processes through which science knowledge is gained. Adults can provide infants and toddlers with a variety of materials and a safe environment to explore. Adults should also be tuned into the discoveries that children make during their exploration and join in the wonder that children express during those discoveries. Providing verbal descriptions of children's actions will help them develop vocabulary related to science. For example, when a child rolls a ball, say "When you push the ball you make it move. I am going to push the ball, too." This vocabulary will help them to understand and talk about the concept of force and motion.

In general, research has shown that the following teaching strategies are effective in supporting science learning:

1. Encourage exploration and manipulation
2. Observe and listen
3. Model, challenge and coach
4. Encourage reflection and self-correction
5. Provide the language for scientific properties, processes and relationships
6. Introduce scientific content
7. Encourage peer interaction (Epstein, 2007).

Research has also shown that the teacher's role is critical to children's science learning (Worth, 2010; National Research Council, 1996). The role the teacher plays is guided by her or his understanding of the science concepts underlying the learning opportunity. For example, as children engage in painting with marbles by rolling them around in a box, teachers may focus on the social skills involved with requesting and sharing paint. However, they could also support children's emerging understanding of motion and how force causes objects to move. Lastly, the National Science Education Standards (National Research Council, 1996) highlight that, "Inquiry into authentic questions generated from student experiences is the central strategy for teaching science." It is not the presence of interesting materials attractively placed on a table with magnifying glasses and tweezers that will encourage the development of scientific concepts. It is facilitated, sustained exploration of meaningful questions and reflection that will support science learning in young children (Gallas, 1995; Worth & Grollman, 2003).

In 2012, the National Research Council released *A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas* (Quinn, Schweingruber, & Keller, 2012). While the framework focuses on science education for children beginning in kindergarten, the foundation for the practices of science and engineering begin in the earlier years. The eight practices of science and engineering identified in the framework are:

1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating and communicating information

Adults play a critical role in guiding children in a process of inquiry that facilitates young children to begin to use these practices. On the next page is an example of how teachers can organize a process of engaging children to construct rich experiences involving the eight practices of science and engineering.

Early learning experiences will support children to:

Strand A: Apply scientific practices

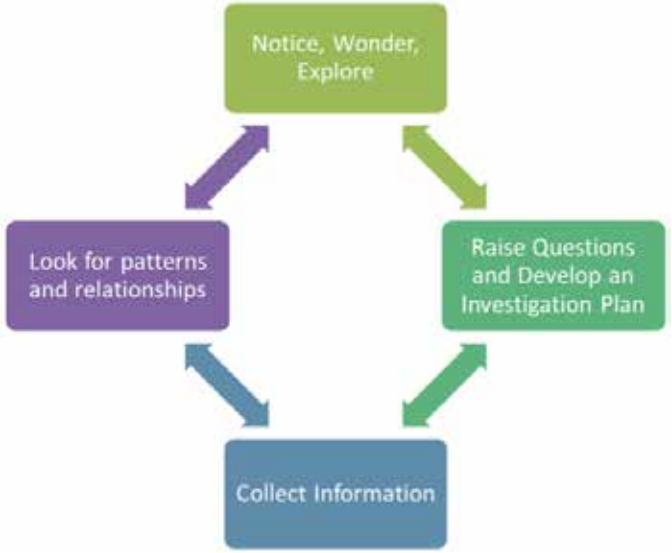
Strand B: Engage in the process of engineering

Strand C: Understand patterns, process and relationships of living things

Strand D: Understand physical sciences

Strand E: Understand features of the earth

INQUIRY PROCESS



Notice, Wonder, Explore

Adults provide children with opportunities to observe a variety of objects, living things, interactions and movement, draw upon children's interests to promote curiosity, comment, on things children notice and ask probing questions to expand upon their wonder.

Raise Questions and Develop an Investigation Plan

Teachers encourage children to ask questions and ask children open-ended questions that do not require a single right answer to promote guessing and prediction. They encourage children to think of ways to investigate or experiment to discover answers to their questions. They support children to make predictions.

Collect Information

Teachers support children to carry out their investigations and document the results of their investigations. There are many ways to document information including using physical objects, drawing, writing and taking photographs. Teachers can provide paper, journals, pencils and crayons for the children to record their own observations as their inquiry process progresses.

Look for Patterns and Relationships

Children learn best from their own interpretations rather than from their teachers telling them what the facts are. Therefore, teachers should continue to use open-ended questions, encouraging children to look for patterns and relationships in what they have observed. The process of reflecting upon their observations will often lead to more questions and further inquiry.

Strand A: Early learning experiences will support children to apply scientific practices.

This strand includes three learning progressions: Questioning and Defining Problems, Investigating and Using Evidence. These learning progressions all involve the processes that help young children understand the world around them. They provide the mechanism for science learning and should be used in conjunction with the other strands in this domain. Science learning is a natural fit for young children as they strive to understand the world around them.

Toddlers and Preschoolers

Children observe and interact with their environment beginning at birth. As children grow and develop, their ability to make observations about the world around them increases. Toddlers are beginning to see themselves as separate from the people who care for them. This awareness, along with their developing language skills, motivates them to share their experiences with the people around them. Toddlers are also increasingly aware of the impact of their own actions. As they begin to understand that results vary depending upon the action, they can begin to investigate in more intentional ways. As children reach preschool age, they can, with adult support, apply scientific processes more systematically to build their own knowledge. As children approach kindergarten, they are able to become more independent in their application of scientific practices and are able to describe their observations in greater detail. Adults are sometimes hesitant to explore “science” with young children because they may feel they need to have all the answers. This couldn’t be further from the truth. Adults simply need to be willing to explore with children and when a question develops from that exploration, adults can work to find the answer as a team with the child.

Early Scientific Inquiry and Science Strategies

Strand A: Early learning experiences will support children to apply scientific practices.

Learning Progressions: Questioning and Defining Problems, Investigating and Using Evidence

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule	• See Curiosity and Initiative learning progression in Cognition • See Cause and Effect learning progression in Cognition • See Personal Preferences learning progression in Social Emotional Development			• Provide extended periods of time for play and exploration • Offer a variety of natural and found materials for exploration (e.g., rocks, shells, seed pods, soil, leaves, sticks, plants, etc.) • Provide magnifiers, collection jars, shovels and other simple tools to support exploration • Create an environment where all ideas are welcome • Provide inquiry-based learning opportunities			
Teaching behaviors	• See Curiosity and Initiative learning progression in Cognition • See Cause and Affect learning progression in Cognition • See Personal Preferences learning progression in Social Emotional Development			• Observe children in play; express interest with an expectant look or smile • Model communication about sensory observations • Wonder out loud about events • Interact in a way that expands a child's curiosity • Ask questions about something you and the child have seen, heard or touched	• Model and describe the process of making observations of objects using clear and specific vocabulary • Model asking open-ended questions to stimulate thinking and inquiry • Engage children around design challenges that are relevant to their lives (e.g., "Let's see if we can make something that will let us reach the toy that fell behind the shelf.") • Encourage children to ask questions about objects, events and other phenomena in the indoor and outdoor environment. Scaffold how to act upon these questions • Invite children to document and discuss their observations through drawing, sketching, sculpting with clay or play dough, writing, etc. • Model and encourage a sense of wonder about nature, the world and science • Ask open-ended questions, such as, "What would happen if…?" or "What happened when you…?" • Provide children with personal materials to record their investigations • Listen openly to children's questions • Encourage children to ask "how" and "why" questions		

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children apply scientific practices.

Children with Disabilities

- Ensure physical access to materials that promote the use of scientific practices including sensory tables, the outdoors, plant and animal life, etc.
- Provide visual supports during multistep activities.
- Ensure children have multiple ways to communicate about their observations, questions and growing knowledge.
- Use sensory experiences that promote touching, tasting, smelling and holding.
- Model scientific practices visually and verbally.
- Ensure children have opportunities to impact their environment in a variety of ways and observe the results.

Children Who Are Dual Language Learners

- Use body language and facial expressions to encourage observation and investigation.
- Use gestures paired with language, ask questions and model investigations.
- Use simple language to build new vocabulary related to observations and investigations.
- Use repetition of vocabulary and process.
- Allow children to express their ideas and questions through drawings, gestures, phrases and whatever means available to them to communicate.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand B: Early learning experiences will support children to engage in the process of engineering.

This strand includes one learning progression, Design Cycle, which is a process used in engineering. Engineering is the use of math and science to solve problems. Engineers are problem-solvers who want to make things work more efficiently and less expensively.

The design process is similar to the process scientists use to solve problems or answer questions. Engineers use this process to observe a problem, plan a potential design that solves the problem and then test whether the design is successful.

One way to think about the difference between scientists and engineers is that scientists more often ask the question, “Why?” and engineers ask the question, “How?”. By focusing on the “how” when supporting young children to engage in the process of engineering, adults help them to create something that will solve the problem, not just finding information that answers a question.

When a child asks, “Why...”, adults can guide them through a process of inquiry to answer that question. But when a child asks, “How....” adults instead guide them through a design cycle to engineer a solution.
Bridges and modern plumbing are examples of the work of engineers. To create a bridge, engineers had to understand math and science then apply that understanding to the creation of a solution to the problem.

Toddlers and Preschoolers

Children are natural engineers. Have you ever observed a child using a stick to pull a ball out from under the playscape, realizing the stick is not long enough and then searching for a longer one? If you have, you have witnessed a child’s emerging engineering skills. They independently moved through the design cycle by identifying a problem, designing a solution and refining their solution. Their solution may not be as complex as a bridge or water flowing out of a faucet, but they are beginning to understand that using an object can help them solve a problem. They will build on this understanding and begin to create new solutions to the problems they encounter.

Early Scientific Inquiry and Science Strategies							
Strand B: Early learning experiences will support children to engage in the process of engineering. *Learning Progression: Design Cycle*							
	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule					• Provide resources for information collection, such as books, access to websites, pictures • Provide a variety of man-made and natural objects • Provide many different types of documentation materials: cameras, notebooks, audio recorders • Display pictures of historical figures that have solved problems through the process of engineering. Talk to children about who they are and what they did. (Be sure to represent engineers from diverse gender, racial and cultural backgrounds)		
Teaching behaviors					• Encourage children to make observations about how man-made objects work and the problems they solved • Use children's questions and comments as an opportunity to promote the identification of a problem and the design of something to solve that problem • Read books where characters solve problems through invention or by using man-made devices • Plan activities that will help children design solutions to problems • Take a walk and discuss things you see that are a part of nature and things that are man-made. Group your items and encourage children to describe their reasoning • Use a variety of tools with children, such as an apple peeler or a juicer. Ask them questions about what the tool helps us to do • Encourage children to use everyday objects to help them solve problems • Model reflection and revision in solving different types of problems and when creating new things • Model collecting information about how well a solution works • Encourage children to document their results		

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to engage in the process of engineering.

Children with Disabilities

- Break the design process down into simple steps, modeling each step or providing visual cues.
- Wonder out loud about how things are designed in ways that help us so children can hear your thought process.
- Use visual cues and body language to convey meaning.
- Draw attention to children designing solutions as this naturally occurs.
- Allow children to demonstrate their solutions in multiple ways.
- Discuss adaptive equipment that children use in the context of engineering.

Children Who Are Dual Language Learners

- Use body language and facial expressions to encourage designing solutions to problems and testing them.
- Use gestures paired with language or visuals to explain the design cycle.
- Use simple language to build new vocabulary related to the design cycle.
- Use repetition of vocabulary and process.
- Allow children to describe a problem and/or design a solution through drawings, gestures, phrases and whatever means available to them to communicate their inquiries and ideas.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand C: Early learning experiences will support children to understand patterns, process and relationship of living things.

This strand includes two learning progressions: Unity and Diversity of Life and Living Things and their Interactions with the Environment and Each Other. The learning progression of Unity and Diversity of Life focuses on the similarities and differences among all living things, including changes over their lifespan. Children begin to understand the features and structures of various living things.

The learning progression Living Things and their Interactions with the Environment and Each Other focuses on the processes living things have in common that allow them to survive, including the need for food, water and shelter. In addition, this learning progression involves the role of the environment in providing these resources. Adults support children's development in this strand by giving children opportunities to actively explore, observe and investigate the characteristics of living things. As with all learning for young children, using their everyday experiences helps them make connections and build their own knowledge in a way that is meaningful to them.

Toddlers and Preschoolers

Researchers have found that young children can identify the characteristics of living things and have an innate ability to distinguish living things from nonliving things (Gelman, 2003). They are able to use themselves as a source of reference and comparison about what living things need. Children realize that just as they need food, so do dogs; however, rocks do not need food. Growth and taking in food and water are the two characteristics that young children most often attribute to living things (Ingaki & Hatano, 2006).

Providing experiences where young children can notice and document patterns common to living things supports them in developing a beginning understanding of life sciences. Interacting with a variety of living and nonliving things offers the opportunity to observe and discuss the structures and processes involved in both the physical and life sciences. Simple comparisons of how plants receive nutrients (through their roots and photosynthesis) with how humans receive nutrients (through eating and the digestive system) helps children understand similarities and differences and explore patterns and cause and effect relationships.

Early Scientific Inquiry and Science Strategies

Strand C: Early learning experiences will support children to understand patterns, process and relationships of living things.

Learning Progressions: Unity and Diversity of Life and Living Things and their Interactions with the Environment and Each Other

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule					• Provide resources for finding information such as books, access to websites, pictures • Provide a variety of man-made and natural objects • Provide many different types of documentation materials: cameras, notebooks, audio recorders • Provide safe opportunities to interact with and observe living things		
Teaching behaviors					• Encourage children to make and document observations • Use children's questions and comments as an opportunity to discuss living things, structures and their functions, and patterns • Read books that accurately reflect the patterns, processes and relationships of living things • Plan activities that will help children directly observe life cycles and/or the structures and processes of living things • Take a walk and discuss the living things you see. Group your items and encourage children to describe their reasoning • Encourage children to document what they observe		

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to understand of patterns, process and relationships of living things.

Children with Disabilities

- Provide access to information about living things in multiple formats including real life experiences.
- Teach concepts in multiple formats over time.
- Scaffold support throughout learning opportunities.
- Provide consistent feedback to children.
- Adapt experiences so children have exposure to a variety of living things.
- Ensure children have opportunities to observe aspects of the life cycle.
- Expand examples of functions performed by living things to include adaptive equipment, e.g., wheelchair, hearing aid.

Children Who Are Dual Language Learners

- Use simple language to build new vocabulary related to living things.
- Use repetition of vocabulary and processes.
- Allow children to express their questions through drawings, gestures, phrases and whatever means available to them to communicate their inquiries and ideas.
- Provide the same information in multiple ways.
- Provide first-hand experiences and physical activities paired with language.
- Provide a connection to children's preexisting knowledge by learning some key vocabulary words in their home language.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand D: Early learning experiences will support children to understand physical sciences.

The strand of understanding physical sciences includes two learning progressions: Energy, Force and Motion and Matter and its Properties. The learning progression Energy, Force and Motion focuses on the cause and effect relationship between acting on an object and setting it in motion and how an object's motion can be changed or stopped. Young children will begin to understand that when they are given a push on the swing, they begin to move. They also recognize that the heavier an object is, the harder they will need to push (or the more force they will need) in order to set it in motion.

The second learning progression, Matter and its Properties, focuses on the characteristics of materials and how these characteristics relate to their purpose. For example, we make buildings out of wood, steel, brick or stone because of the strength of those materials. It also includes guiding children to explore how heating and cooling a material can alter its properties, e.g., butter melts when it is exposed to heat. Children are continually interacting with objects and materials, creating many options for increasing young children's understanding of concepts related to physical science.

Toddlers and Preschoolers

Young children learn best through hands-on experiences and when adults use children's interests and questions as sources of learning. They need lots of opportunities to see, hear, smell, touch and talk about new objects and experiences in order to learn. As toddlers, children can engage in explorations that let them see that different materials have different properties, such as banging on different types of pots and pans and getting different sounds. They can also engage in explorations related to motion using objects such as balls and ramps. As children's cognitive skills develop, they are able to identify characteristics of materials and objects, such as, size, shape, weight, texture and flexibility. During their experiences, adults can guide children to engage in the process of inquiry around a variety of object properties and movements and can provide new vocabulary related to these properties. These early explorations and vocabulary form the foundation for their emerging understanding of physical science.

Building Rich Learning Experiences: An example of applying an inquiry process to the learning progression Energy, Force and Motion.

Sample questions for inquiry	Vocabulary
What makes objects move along a flat surface?	ramp, slanted, flat, roll, slide, observe, compare, same, different, change, predict
Why do objects move at different rates?	
How do the size, shape and weight of an object affect how it moves?	

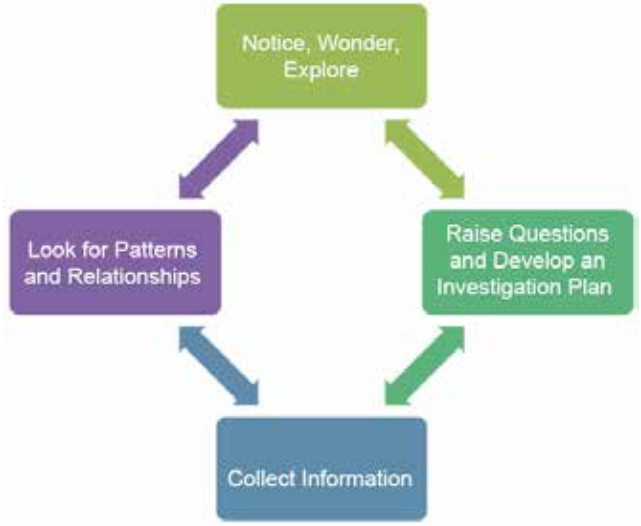
Notice, Wonder, Explore:
Children explore what happens to a variety of objects when they are placed on a ramp. The teacher facilitates their exploration of which objects roll and which stay still. Children test different objects on the ramp and talk about the properties of these objects.

Raise Questions and Develop an Investigation Plan:
Teachers help children develop questions for deeper exploration. Together they plan ways to figure out the speed at which objects move on the ramp, which objects move further and what actions or changes make objects move differently.

Collect Information:
Teachers help children to gather and document evidence related to their questions. They may use real objects (sorting objects into bins), photographs, drawings, or words to document the results of their investigation.

Look for Patterns and Relationships:
Children and teachers consider what they have discovered, review the evidence they collected and reflect on their experience.

Notice, Wonder, Explore:
As children and teachers reflect on their investigation and continue to wonder and explore, further investigations can be planned. Learning experiences and investigations may take place over extended periods of time and involve multiple cycles of inquiry.



Additional sample questions for inquiry:

Energy, Force and Motion

- How does the speed and properties of objects affect how they respond to collisions?
- How much force is needed to pull different objects? How does this change based on properties of the object (e.g., weight, friction)?

Matter and its Properties

- How much light gets through objects made from different materials?
- How does the flexibility of different materials affect what they can be used for (e.g., building, making a catapult)?
- How do the properties of objects change when they are heated or cooled?

Early Scientific Inquiry and Science Strategies

Strand D: Early learning experiences will support children to understand physical sciences.

Learning Progressions: Energy, Force and Motion and Matter and its Properties

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule				• Provide materials for children to mix and combine, such as ice, snow and water • Provide materials with a variety of physical properties for building (including different strengths and degrees of flexibility) • Provide materials that can be sorted and classified in many ways • Provide opportunities for children to explore objects used in their daily life, talk about their function • Provide tubes, ramps, paper cups, balls, marbles			
Teaching behaviors				• Model adjusting the strategy as you explore making an object move • Make statements, such as "I wonder what would happen if I do…" • Talk about the properties of objects, such as, "The glue is sticky" • Say things, such as, "I notice that when I roll a car, it moves across the floor, but when I push a square block, it doesn't roll"	• Ask questions that support children to notice, e.g., "Did you notice…" or "What do you notice about…" • Encourage children to use objects in different ways to support an understanding of their purpose • Comment on the properties of an object saying things, such as, "This block is hard," or "This stick bends" • Encourage children to collect, sort, classify and describe many materials	• Describe the motion of objects and toys as children are engaged in play • Ask children questions that help them compare, e.g., "How are they similar?", "How are they different?", "Are there things that they all have?" • Talk about observable changes in matter, such as a balloon being blown up or ice cream at room temperature	• Make books about objects with specific characteristics, such as soft objects • Encourage children to experiment during their play • Experiment with moving objects in different ways (e.g., blowing, pushing, throwing the same item) or using the same motion with different objects (e.g., pushing different objects down a ramp) • As children explore objects and movement, encourage questioning by making statements, such as, "I wonder why it…" • Discuss how the properties of objects make them useful or not useful for different purposes (e.g., rigid and strong boards make sturdy structures, but flexible materials allow you to bend and shape them)

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to understand physical sciences.

Children with Disabilities

- Design the environment so a wide variety of materials for exploration are accessible to all children.
- Use naturally occurring activities as sources of learning about physical science.
- Provide individualized support to assure engagement.
- Present information in multiple ways.
- Provide models.
- Encourage children with sensory issues to explore new objects in different ways while respecting their limits and boundaries.

Children Who are Dual Language Learners

- Use body language and facial expressions to highlight observed differences and reactions of objects.
- Use gestures paired with language to encourage children to engage in explorations related to force, motion and the properties of objects.
- Use simple language in real time when building new vocabulary.
- Repeat vocabulary and processes multiple times.
- Allow children to express their questions through drawings, gestures, phrases and whatever means available to them to communicate their inquiries and ideas.
- Provide the same information in multiple ways.
- Use concrete materials that represent science concepts.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand E: Early learning experiences will support children to understand features of earth.

This strand of includes two learning progressions: Earth's Features and the Effects of Weather and Water and Earth and Human Activity. The learning progression Earth's Features and the Effects of Weather and Water focuses learning about the parts of the earth, such as land and bodies of water, as well as how the earth changes because of varied weather conditions.

The second learning progression guides children's learning about human impact on the earth, specifically focusing on our use of natural resources. This includes how the presence of the earth's natural resources helps us to survive and the impact our use of these resources has on the environment.

Together, both learning progressions support children's explorations of the earth's materials and understanding that the earth changes over time due to both natural and human forces.

Toddlers and Preschoolers

Making observations is a natural and frequent part of children's lives. They are especially interested in new experiences and things that attract their curiosity. The natural world is a perfect match for children's desire to explore and their love of new experiences. Giving young children many opportunities to spend time outside gives them a chance to learn about the features of the earth. Talking with them about things such as hills, rocks and streams, helps them build a vocabulary related to the earth and promotes understanding of the earth's features. Discussing changes that occur with different weather patterns, such as streams or rivers that run faster after a significant rainfall, also helps them to understand the impact of the weather on the earth. Discussions about weather should be rich and focus on meaningful, observable changes that have an impact on children's lives or the environment. Providing children with a chance to read books or watch short video clips can support their learning about things they cannot observe.

Early Scientific Inquiry and Science Strategies

Strand E: Early learning experiences will support children to understand features of earth.

Learning Progressions: Earth's Features and the Effects of Weather and Water and Earth and Human Activity

	0-6 months	6-12 months	12-18 months	18-24 months	24-36 months	3 to 4 years	4 to 5 years
Environment, materials, schedule				• Be sure the schedule includes outdoor time every day • Bring outdoor materials inside for children to explore • Provide materials for pouring and directing water that varies the amount of water released, e.g., watering cans, pitchers, buckets, plastic tubing of various diameters	• Provide outdoor experiences for children to observe and explore • Discuss how rocks and other natural materials are used by humans (soil in flower beds, rocks for construction) • Provide books that describe living things and their habitats	• Provide various types of materials for recording observations (paper, writing utensils, graph paper, audio recorders, video recorders). Allow children to help peers record observations • Provide books that highlight humans' interaction with the earth's natural resources, such as *The Great Kapok Tree: A Tale of the Amazon Rain Forest* by Lynne Cherry or *Why Do We Need Soil?* by Kelley MacAulay	• Provide materials that simulate weather conditions, such as fans for wind, watering cans for rain and flashlights for sun • Go out in all types of weather wearing appropriate clothing (boots, raincoats, gloves, etc.)
Teaching behaviors				• Take frequent walks outside • While outside, make observations about the features of the earth out loud • Take pictures on the walk to create a book • Create a culture of investigation by noticing children's wonderings and questions and supporting their exploration over time	• Plant a vegetable garden, harvest and eat the produce • Observe and discuss various elements of the sky • Go outside when it's windy and observe the impact of the wind • Help children use fans inside to investigate wind on classroom and natural materials • Play matching games that connect a feature of the earth with things that do with it, e.g., fish or underwater plants with a lake	• Pay attention to weather conditions and be sure to discuss what children notice after significant weather • Take a walk after a rain storm and record observations of rainfall on trees, roads, sidewalks, etc. • Have water available to add to sensory materials • Place materials, construction paper, fabric or toy in the sun and observe over time	• Reuse and recycle materials in the classroom • Provide opportunities for children to take care of the environment • Encourage children to use materials that simulate weather conditions and conduct investigations about the impact on natural materials • When outside, encourage children to notice the impact of wind, sun, rain and snow • Heat and freeze natural elements and observe the melting process

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to understand features of the earth.

Children with Disabilities

- Provide sensory experiences related to exploring the earth's features which match a child's strengths.
- Use vocabulary to describe the earth, weather and changes that matches children's sensory abilities.
- Ensure that all children have the opportunity to experience nature. Find ways for children with limited mobility to touch and feel features of the earth and experience weather.

Children Who Are Dual Language Learners

- Pair key vocabulary about this strand with visuals and, if possible, words from the child's home language.
- Use small group learning situations to support development of vocabulary and participation in learning experiences.
- Use pictures from the child's country of origin to compare features of the earth.
- Spend time outside.
- Add water elements like squirting or pouring containers to sand boxes, sand tables or dirt piles. Use simple words, in both the child's home language and English, to describe the effects on the sand or dirt.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Supporting All Children:
Guide to Domains & Strands

CTELDS
Connecticut Early Learning and Development Standards

Social Studies

Learning about yourself and the world around you is the focus of learning in the domain or area of social studies. Young children first learn about themselves and their family and then extend this learning to other settings the child spends time in, such as child-care, places of worship and/or other community locations. Young children will benefit from approaching social studies learning through an activity-based approach (Dewey, 1916, 1966) that capitalizes on their interests (Katz & Chard, 2000). When adults focus on both what the children will learn and how they will learn it, children are able to apply the social science techniques of raising questions and gathering, analyzing, discussing and displaying data. Through these strategies children can then begin to answer more complex questions that require critical thinking.

For example, children may wonder why they see so many airplanes flying over their school. This initial curiosity could prompt an investigation using social science techniques. Children, with the support of adults, could research air traffic patterns, how the school fits into those patterns and how the airport in their community supports jobs and the economy. This investigation can be completed through books, field trips, guest speakers, interviews, internet research and small and large group activities. Throughout this investigation, children can collect information and adults can help them learn how to display that information to answer their questions.

Early learning experiences will support children to:

Strand A: Understand self, family and a diverse community

Strand B: Learn about people and the environment

Strand C: Understand of economic systems and resources

Strand D: Understand change over time

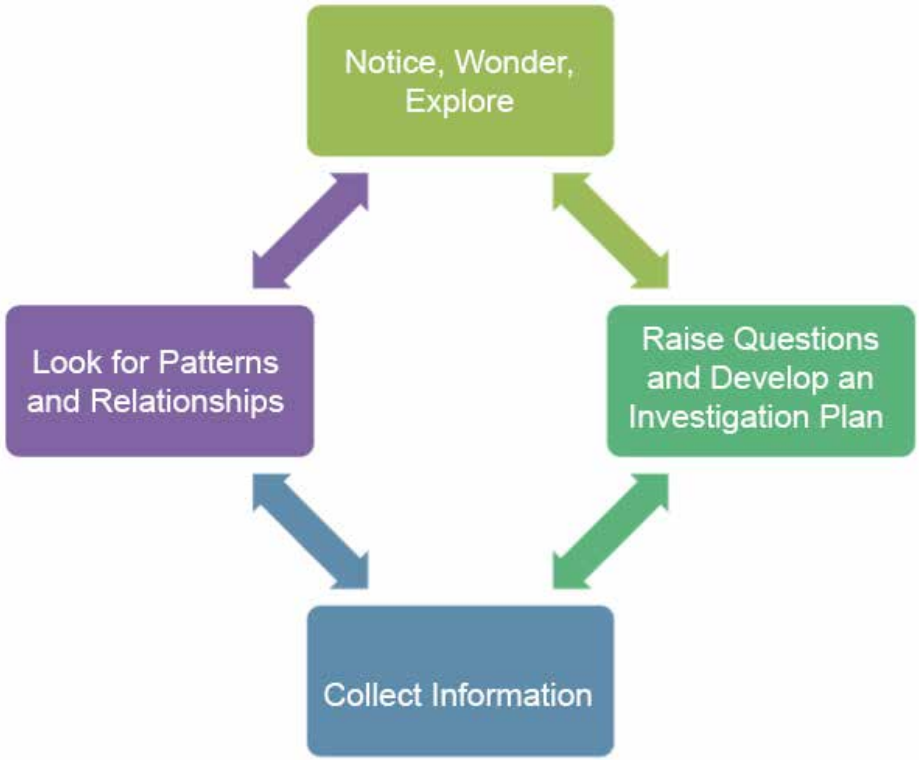
Adults play a critical role in guiding children in a process of inquiry that facilitates young children to begin to use these practices. The College, Career and Civic Life (C3) Framework for Social Studies State Standards maps out four separate Dimensions of Inquiry for Social Studies:

- Dimension 1: Developing questions and planning inquiry
- Dimension 2: Applying disciplinary concepts and tools
- Dimension 3: Evaluating sources and using evidence
- Dimension 4: Communicating conclusions and taking informed action

These Dimensions of Inquiry closely mirror the Inquiry Process which is also included in the domain of Science and in the document *Building Meaningful Curriculum Using the CT ELDS*. With young children, high-quality learning experiences or units of study are planned to address multiple areas of development. The Inquiry Process included here is designed to align to work in content areas in elementary and secondary education, but to be also be appropriate and generalizable across domains and content (or interest) areas. On the next page is an example of how teachers can organize a process of engaging children to construct rich experiences.

Building Rich Learning Experiences: An example of applying an inquiry process to the learning progression Power, Authority and Governance

Sample questions for inquiry	Vocabulary
What is a government and why is it important?	rules, government, capital, senator, representative, election, vote, ballot
Why do we need rules?	
What role do individuals play in government?	



Notice, Wonder, Explore
During a national, state or local election children begin to notice campaign ads and signs and hear adults talking about an election. Teachers help children to focus their questions on the process of elections and what government is, allowing all children to be involved and interested no matter what their family's political beliefs. The children read fiction and nonfiction books about elections and government.

Raise Questions and Develop an Investigation Plan
Teachers help children develop questions for deeper exploration. Together they plan ways to collect information about government, elections and how the process works.

Collect Information
Teachers help children to gather and document evidence related to their questions. They may use real objects (sorting objects into bins), photographs, drawings or words to document the results of their investigation.

Look for Patterns and Relationships
Children and teachers consider what they have discovered, review the evidence they collected and reflect on their experience. To summarize this inquiry into government, they plan a class election drawing upon the information they collected to plan the process.

Notice, Wonder, Explore
As children and teachers reflect on their classroom election and the information they have gathered, they continue to wonder and explore, and may plan further investigations.

Additional sample questions for inquiry

People, Places and Environments
- Why do we recycle?
- How do we get clean water?
- How do we take care of the plants and animals in our community?

Civic Ideals and Practices
- What jobs need to be done for our school/classroom to run smoothly and how do these jobs get done?
- How does a particular job/industry contribute to our community/school/classroom?

Strand A: Early learning experiences will support children to understand self, family and a diverse community.

Preschoolers

After children first develop a sense of themselves (see Social and Emotional Development, Strand D), they then are able to think about others and to consider how they fit into the social world around them. They become more aware of and interested in the similarities and differences between people. Their understanding of how they fit within social systems beyond their family is increasing. They have observed adult roles and occupations and practice those in their play. They have also begun to learn about the responsibilities of each person with whom they have relationships. As they have more experiences, they will likely encounter cultural, ethnic and racial diversity that allows them to further understand who they are in relationship to others.

What young children learn in an early childhood education setting builds, of course, on what they learn at home about the responsibilities of family members, the importance of treating others fairly and respectfully, and family identity and culture (Perez-Granados and Callanan, 1997).

Adults support children's understanding of self, their family and a diverse community by noticing and drawing attention to the things that make each child unique and discussing and comparing the family and cultural experiences of children they know. Children learn about their community by making visits to varied places and can begin to explore how individual, families and communities are similar and different. Approaching these conversations and experiences with a sense of wonder and learning will support children to view the diversity in their world in a positive way.

Social Studies Strategies		
Strand A: Early learning experiences will support children to understand self, family and a diverse community. *Learning Progressions: Individual Development and Identity and Culture*		
	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Provide many opportunities for children to be involved in dramatic play • Provide a variety of artifacts throughout the classroom, including props for dramatic play, that represent a variety of roles and cultures • Use songs and games to identify physical characteristics • Provide children with opportunities to create maps of their classroom	• Allow time in the schedule for discussions about family and cultural characteristics • Provide maps and globes for children to use independently • Provide children with opportunities to create maps of their early childhood program, playground, neighborhood and their bedroom, including three-dimensional maps
Teaching behaviors	• Develop books about each child's cultural characteristics • Create "all about me" posters with children • Allow children to share parts of their life with other children • Create visual representations (graphs, charts) of physical characteristics of children • Place mirrors in various locations; encourage children to look at themselves and compare their features to each other • Make family trees • Read books that represent multiple family structures, cultures and languages; prompt children to think about how they are the same and different as the characters in the book • Invite family members to share aspects of their culture • Use body language and facial expressions to show children warmth and caring	• Have children collect data about the children in their class and family (what color eyes, how tall, boy or girl, speak one or more languages, etc.) and support them to chart that data • Ask questions to prompt their analysis of the data they charted • Read books that represent multiple family structures, cultures and languages; prompt children to think about how they are the same and different as the characters in the book • Conduct investigations about people from distant parts of the country or world • Provide children with opportunities to look at maps and globes and discuss differences in climate and resources that contribute to differences in cultural characteristics • Design instruction or themes based on children's interests in studying a variety of topics • Provide children with multiple opportunities to create maps of places important to them

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to understand self, family and a diverse community.

Children with Disabilities

- Use stories developed specifically for the child to describe characteristics about her or him.
- Use scripted stories developed specifically for the child that describe characteristics of the child's family.
- Give the child multiple opportunities to learn to identify physical characteristics through songs and games.
- Make aspects of culture concrete; for example, complete a chart about each child's cultural elements.
- Display pictures of children and talk frequently about similarities and differences.

Children Who Are Dual Language Learners

- Use body language and facial expressions to show the child warmth and caring.
- Represent the diversity of children in the classroom, school and community in classroom materials (e.g., books, photographs, props for dramatic play).
- Express interest in all children's descriptions of their home culture.
- Build children's vocabulary by pairing new words with familiar home language words.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand B: Early learning experiences will support children to learn about people and the environment.

Preschoolers

This strand focuses on developing children's understanding of the need for governance and authority, the connection to the environment and how helping to support the community (home, school and, finally, the wider world) is important for everyone's well-being.

Young children are largely egocentric. That means that they think mostly about their own needs and spend time trying to meet those needs. This is a natural part of development and as children get older they can begin to think more about others. Preschool is a great time to foster a child's ability to think beyond themselves. During these years, they will begin to understand the need for rules and order and can use their newly developing ability to reason to see the value in following those rules. They are better able to understand the impact of their own actions and can learn that the environment is directly impacted by the choices that they make. This allows them to develop a caring for the natural world around them. Because their connection to the social world is growing, children are becoming more interested in being responsible members of their community and they can participate in the work of supporting their home and school communities.

Social Studies Strategies

Strand B: Early learning experiences will support children to learn about people and the environment.

Learning Progressions: Power, Authority and Identity and People, Places and Environments and Civic Ideals and Practices

	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Take a walk and describe and record what you see, sequence the pictures after the walk • Allow children opportunities to contribute to making decisions • Provide materials for making maps including clay and paper-mâché • Post job charts • Make job completion part of the daily schedule • Provide books and newspapers for children • Use visual supports to help children understand rules, expected behaviors and responsibilities	• Allow significant or adequate time for discussion with children as they raise questions about authority and responsibility to themselves, others and the environment. It doesn't have to be lengthy, just meaningful • Spend extended periods of time outside. Encourage children to notice aspects of the sky, earth, plant, bug and animal life • Use visual supports to help children understand rules, expected behaviors and responsibilities
Teaching behaviors	• Take pictures of locations in the community and create a map with the pictures on the wall • Have children individually draw sections of the classroom, assemble them to create a map of the classroom; repeat this for the building • Place large pieces of paper in the block area and encourage children to draw maps of buildings they create • Involve children in drafting rules • Revisit and revise rules as contexts and children's skills change • Investigate different ways to make decisions, such as voting, offering choices, sharing the decision making authority, talking about how the outcomes change with different types of decision making and discussing how the process felt • Offer children the opportunity to be responsible for taking care of their materials, toys and belongings • Use peer and visual supports to increase children's ability to complete jobs • Model recycling and encourage children to follow your model • Engage in investigations about the impact of erosion, pollution, building in wildlife habitats • Involve families creating community maps • Involve families in creating expectations and responsibilities at home	• Read books to children and pause to discuss the outcomes of characters following the rules or not following the rules, e.g., read *How to Lose All Your Friends* by Nancy Carlson • Write a classroom book about the rules with examples and ideas from children • Find ways for children to contribute to routines in meaningful ways • Investigate classroom, home and community jobs and write books about how doing those jobs helps the community; talk about what would happen if no one did those jobs • Model treating living things with respect • Use peer and visual supports to increase children's ability to complete jobs • Create classroom rules together, discussing the purpose for the rules and consistent words • Involve families creating community maps • Involve families in creating expectations and responsibilities at home

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children's ability to understand how to learn about people and the environment.

Children with Disabilities

- Use scripted stories to explain rules and expected behavior.
- Use peer supports during completion of jobs.
- Present information about the environment using a variety of representations, books, video clips, demonstrations.
- Create or use clear, step-by-step stories to explain rules and expected behavior.
- Provide props for acting out roles.
- Ask families to provide pictures of community locations that they visit frequently; create a map with the pictures.

Children Who Are Dual Language Learners

- Provide visual cues to support completing a job.
- Use visual supports when describing jobs and responsibilities, e.g., a fire truck and firefighter.
- Have visual representations next to a rule; point to the picture when reminding a child to follow a rule.
- Ask parents to describe expectations and responsibilities the child has at home.
- Make taking care of the environment concrete, e.g., bring in plants, have a class pet, notice littering and help children clean it up if it is safe to do so.

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand C: Early learning experiences will support children to develop an understanding of economic systems and resources.

Economics studies involve how societies manage resources to satisfy people's wants and needs. This definition can apply to individuals, families, companies and even entire nations.

Preschoolers

While young children do not yet understand complex economics, they are becoming very aware of the connection between work, money and purchasing. They know that goods and services usually come with a cost and are beginning to understand that work allows people to pay those costs. As they become more aware of this connection they also become more interested in the variety of jobs that they could participate in as adults. This strand describes young children's growth in understanding the variety of work that people can do and how technology supports that work. It also describes children's understanding that work results in a product or service and that products or services are consumed or used by others.

Dramatic play offers rich opportunities for children to explore the roles and responsibilities associated with various jobs. Applying the process of raising questions and gathering information prior to engaging in the dramatic play can ensure an increase in knowledge, the development of new rich vocabulary and can encourage the use of critical thinking.

Social Studies Strategies

Strand C: Early learning experiences will support children to develop an understanding of economic systems and resources.

Learning Progressions: Individuals, Groups and Institutions, Production, Distribution and Consumption and Science, Technology and Society

	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Post pictures of people doing a variety of work and the sequence of those jobs • Provide pretend play materials to allow children to act out purchasing and exchange, such as pretend money, cash register, receipt pads, wallets, etc. • Provide opportunities for children to explore tools in their environment, such as scales, woodworking tools, wagons • Take field trips to stores • Use visual supports and cues when teaching new content	
• Teaching behaviors	• Read stories about a variety of work and economic concepts • Take on-site and virtual field trips to local businesses • Identify problems that may be solved by a tool; engage children in designing and constructing a tool that could help; try them out • Brainstorm the tools and technology that help us in our lives • Place price stickers on food in dramatic play; talk with children about the value of the items • Make concrete connections between jobs and the outcomes they achieve • Model playing the roles of a variety of jobs • Learn and teach number words in a variety of languages	• Create a matching game with jobs and tools/technology that are used in each job, e.g., mail collector and mail truck or mail bag • Invite family members to visit and talk about their work • Help children understand the difference between wants and needs by engaging them in conversations about what people require to survive • To help children see the difference between a want and a need; use a "What would happen if…" question, e.g., "What would happen if we didn't have food/housing/clothes/clean water, etc.?" "What would happen if we didn't have toys, video games, cars, candy, etc.?" • Use technology as a tool to support social studies learning • Allow children extra time to use technology to finish the task. Some children may take longer and need more support to accomplish a task using technology • Help them identify the uses of the technology; what it helps us to accomplish • Talk about how technology has changed over time • Model playing the roles of a variety of jobs

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to develop an understanding of economic systems and resources.

Children with Disabilities

- Use scripted stories to explain purchasing.
- Use peer supports during completion of jobs.
- Make concrete connections between jobs and the outcomes they achieve, e.g., cleaning up garbage keeps us healthy.
- Adapt props so all children can use them.
- Model playing the roles of a variety of jobs.
- Provide visual supports to sequence different jobs.
- Provide opportunities to simulate spending money.

Children Who Are Dual Language Learners

- Provide visual cues when new language is being used to teach content.
- Use visual supports when describing jobs and responsibilities, e.g., a fire truck and firefighter.
- Learn number words in child's home language to support purchasing.
- Observe children during dramatic play and provide support for their participation by modeling, prompting and encouraging.
- Include artifacts of jobs in classroom materials, such as aprons and cooking utensils for a chef, tools for a carpenter

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

Strand D: Early learning experiences will support children to understand change over time.

Preschoolers

“We are going to the store yesterday?”

“When I’m big, I will ride a bike like Michael!”

“We have snack after center time, right?”

When we hear children asking questions or making statements such as these, we know that their awareness of time is emerging. It also reminds us that their understanding of the past, present and future is still developing. The ability to understand that our lives progress along a continuum of time is uniquely human. Remembering an event or making a prediction allows children to begin to create a mental timeline and helps connect the events in their lives. Young children are just beginning to understand that certain things change over time, while other things remain the same.

Adults can help children develop their understanding of change over time by:

- Providing opportunities to reflect and recall events
- Sharing stories from their past and the past of meaningful people in their lives
- Asking them to wonder about the future.

Young children can talk about things that have happened or will happen, but they cannot yet understand or talk about these events in terms of units of time or sequence .
(Beneke, Ostrosky & Katz, 2008)

Social Studies Strategies

Strand D: Early learning experiences will support children to develop an understanding of change over time.

Learning Progression: Time, Continuity and Change

	3 to 4 years	4 to 5 years
Environment, materials, schedule	• Use visual schedules that are able to change • Display children's work to promote discussions about past work or events • Display pictures of children at play to promote discussions about past work or events • Provide dramatic play materials, e.g., dolls and beds, uniforms for different careers • Follow a consistent, predictable schedule	
• Teaching behaviors	• Take pictures of a tree over the course of a year, place them in a photo album for children to review • Ask parents to submit photographs of children over time • Read books about past events • Talk about what children did over the weekend when you were away from each other • Tell stories about your past and what you hope to accomplish in the future • Make direct statements about what will happen next • Encourage children to make plans about their day or their play choices • Model using time words during dramatic play • Use a variety of representations to present information • Learn time words in children's home language	• Encourage children to retell stories • Discuss life cycles of different living things (see Science, Strand C) • Throughout the day, ask children what should happen first, next and last • As children play, remind them what they did yesterday or last week during their play • Describe events using the terms yesterday, today and tomorrow • Encourage children to observe and comment on the world around them • Allow children to work on projects over time • Draw children's attention to the seasons and activities that typically happen during that time, e.g., winter–play in the snow, fall–go to school, summer–go swimming • Grow seeds, measuring and tracking the growth of the plant • Ask families to share parts of their family story and give children a chance to tell their story to their peers • Use a variety of representations to present information • Learn time words in children's home language

Supporting All Children

The strategies in this section are appropriate for all children and are drawn from the chart on the previous page. These strategies are highlighted here as particularly effective ways to promote access and participation when supporting children to understand change over time.

Children with Disabilities

- Provide visual schedules and remove activities as they are completed.
- Present information using a variety of representations, e.g., books, video clips, demonstrations.
- Use time words frequently in conversation (e.g., ”We will be leaving in five minutes”) as well as longer periods of time (e.g., “In this picture grandma was a little girl. That was 50 years ago”).
- Use a timer that has a visual component; use it throughout the day.
- Talk about the future in relation to events, e.g., “You need to sleep three more nights, and then we will go to the beach.”

Children Who are Dual Language Learners

- Provide visual cues when new language is being used to teach content.
- Learn time words in child’s home language to support the concept of change over time.
- Present information multiple times in slightly different ways.
- Describe time in consistent ways; don’t change how you describe the sequence of events (e.g., don’t say, “We wash our hands before snack” one day and say, “We wash our hands after center time” the next day).

Planning individualized supports for children should be a team process that includes families. When children have other professionals supporting their care, education or health, every effort should be made to include them in planning. When planning for children with identified disabilities who have an Individual Education Program (IEP) or an Individual Family Support Plan (IFSP), planning for individual supports or interventions should be done in collaboration with the Planning and Placement or IFSP Team.

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