

# Curriculum Connections

*We believe that honest and frequent communication,  
between the school and the home,  
positively impacts children's success.*

(from CLLC "Core Values")

## 2-K



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*What is “embedded” or integrated learning and why is it important?*

The Integrative Curriculum Model is designed to help students discover cause-effect relationships and comparisons among ideas and concepts using an **organized body of knowledge**, or “topic,” which combines facts, concepts, generalizations, and the relationships among them (Eggen & Kauchak, 2012). This model is most often used by early childhood educators who rely on theme-based learning activities. Using the theme of “Seasons,” for example, children not only about the cycle of seasons, but also about other topics affected by seasonal change, weather, and clothing. Using this model, children would be led to discover, through circle time and center-based activities, such connections as:

Cause and effect relationships: If it’s snowing, what clothing should I wear?

Comparisons: In what seasons could it snow? Be really hot?

Integrative learning, particularly in early childhood, is a “process” rather than a one-time lesson—it takes time to build a body of knowledge, or **schema**. Our Lighthouse C.A.R.E.S.™ activities allow our children to have direct participation in their learning, making connections to each topic across a wide range of activities and content areas. Using the theme of “penguins” as an example, children are provided—through circle time, group instruction, and learning centers--opportunities to read/listen to fiction and nonfiction stories about penguins; sort, count, add, subtract, and measure penguins; draw penguins; explore vocabulary words relating to penguins; locate penguin habitats on a globe; conduct science experiments to see how penguins stay warm, and so on.

The effectiveness of integrated learning is supported by the writings of educators, such as Piaget (1969), Vygotsky (1962), and Bruner (1960), by professional organizations, including NAEYC (2008), and neuroscience researchers, such as Rushton (2011). The overall conclusion is that learning is a highly integrated process which cannot easily be separated into domains, such as cognitive or affective, nor into content areas, such as reading or science. Learning does not occur in isolation, but through active engagement with the learning environment and social interaction with teachers and peers.

**AT HOME:** Be familiar with the themes your child is learning and reinforce theme-related concepts. For example, if your child’s class is learning about apples, point out all the different kinds of apples on your next trip to the grocery store.

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### *What are classroom “learning centers” and how are they used?*

A classroom Learning center, or Discovery Center, is a place where materials and activities are grouped according to a common theme and target special learning concepts. Good learning centers share several characteristics:

- Learning centers are **intentional**, that is, the environment is structured to enhance the child's experience and reinforce desired learning concepts. Although children may appear to be “just playing,” every activity in each Discovery Center is carefully planned to meet specific learning objectives.
- Learning centers are **focused**. Rather than having the child explore everything available in the Science Center, for example, specific topics such as “nocturnal animals” or “magnets” are highlighted each month.
- Learning centers are **clearly defined and well-organized**. While learning centers can take many forms—from a table with two chairs to carpet squares on the floor—each learning area is clearly defined and easily recognized according to its purpose.
- Learning centers are not **stagnant**; the children learn new themes every month and the environment of discovery is changed every month as well.
- Learning centers provide a **variety** of activities and materials. Activities in the centers are a mix of such things as puzzles, play dough, paper, and balance scales. Sensory activities with concrete manipulatives are emphasized at all ages.

Children's Lighthouse uses a combination of both specified rotations and “free choice” as children explore the various centers each day. The rotation schedules ensure that each child has the opportunity to visit every center in the room, and the free choice times allow children to focus on their particular interests. As children move freely through the activities, the teacher also moves through the room, attending to each individual child, according to his or her needs. Discovery Centers not only increase student engagement and excitement, but they also:

Help children organize material and classify information. As children return items to the proper place, they learn responsibility and how to care for materials. As children engage in self-selected tasks, teachers may observe the habits of selection, the nature of the activity chosen and the growth of social skills. Good learning centers provide children with time to cultivate ideas, a place to preserve it, and opportunities to share with peers and other adults. (Tomlin, 2008)

CLLC Discovery Centers include Literacy, Math, Science, Art, Technology, Blocks and Building, and Dramatic Play, as well as a variety of centers that enhance the monthly themes.

#### References

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## *How do active, or hands-on, learning activities impact my child's success?*

"Hands-on learning is an educational method that directly involves the learner, by actively encouraging them to do something in order to learn about it. In short, it is learning by doing." (McKee, 2010). The necessity of "learning by doing" is not a new idea in early childhood education. Although the phrase is most often attributed to Jean Piaget, hands-on learning is an important component in the work of Dewey, Montessori, Bloom, and others.

As students put projects together, create crafts, or use familiar materials in new ways, they're constructing meaning. "Kids learn through all their senses," says Ben Mardell, PhD, a researcher with Project Zero at Harvard University, "and they like to touch and manipulate things." But more than simply moving materials around, hands-on activities activate kids' brains. When you combine activities that require movement, talking, and listening, it activates multiple areas of the brain. "The more parts of your brain you use, the more likely you are to retain information," says Judy Dodge, author of *25 Quick Formative Assessments for a Differentiated Classroom* (Scholastic, 2009). "If you're only listening, you're only activating one part of the brain," she says, "but if you're drawing and explaining to a peer, then you're making connections in the brain."

We know that young children, in particular, learn by using their senses. They see, hear, shake, touch, move, examine, smell, and sometimes even taste things. This type of direct contact with objects and materials helps children understand them. NAEYC author Laura Colker uses the following example:

Think about teaching a concept such as texture. You can tell children, "Cotton balls are soft." But only when children have the chance to pick up a cotton ball, shake it, mush it, and rub it against their cheeks will they begin to understand what soft is. After touching the cotton balls, they can think of other soft things they've touched, like feathers and cat fur. One touch is worth a thousand words.

These types of experiences also impact a child's academic learning. A child who has touched, held, weighed, measured, and cut open a pumpkin has a definite advantage when reading a book about pumpkins.

Of course, the question then becomes: *If hands-on learning is so valuable, why doesn't every school use it?* The answer is that hands-on learning requires meticulous organization and planning, as well as a wealth of available materials. Through our Lighthouse C.A.R.E.S.™ curriculum, the additions designed by our creative teaching staff, and our partnerships with two leaders in early childhood education materials, Kaplan Early Learning and Lakeshore Learning, Children's Lighthouse is committed to providing our children with everything they need to be successful in a hands-on learning environment.

### **References**

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## *How can I encourage my child's reading and language development at home?*

Research has consistently shown that the number one thing a parent can do to increase their child's success in reading is...**READ TO THEM**. The American Association of Pediatrics (AAP) supports this practice in their 2014 policy statement:

Children who are read to during infancy and preschool years have better language skills when they start school and are more interested in reading, according to research highlighted in the (policy) statement. In addition, parents who spend time reading to their children create nurturing relationships, which is important for a child's cognitive, language and social-emotional development. "When I started with Reach Out and Read years ago, efforts were focused on early literacy and school readiness," said Perri Klass, M.D., FAAP, national medical director of Reach Out and Read and contributing author to the policy statement. "Although those are still tremendously important, the bigger picture now is to help parents build interactions with their children into their everyday lives because this can create nurturing relationships, which promote early brain development, early literacy, language development and school readiness." (AAP, 2014)

The policy statement lists several benefits of reading with your young child, including:

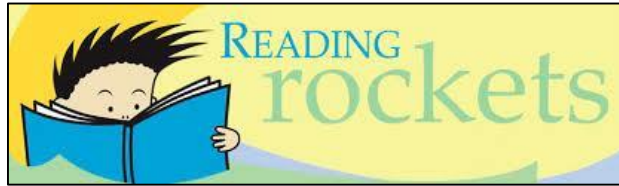
-  **Reading aloud helps children acquire early language skills.** Reading aloud is widely recognized as the single most important activity leading to language development. Among other things, reading aloud builds word-sound awareness in children, a potent predictor of reading success.
-  **Reading aloud helps children develop positive associations with books and reading.** The nurturing and one-on-one attention from parents during reading aloud encourages children to form a positive association with books and reading later in life.
-  **Reading aloud helps children build a stronger foundation for school success.** Reading aloud gives children the opportunity to practice listening - a crucial skill for kindergarten and beyond. Reading aloud in the early years exposes children to story and print knowledge as well as rare words and ideas not often found in day-to-day conversations or screen time.

Reading Rockets, a branch of the Reach Out and Read project, offers several suggestions, included with this note, to help parents establish good "read-aloud" habits with their young child.

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- American Academy of Pediatrics (2014). *Literacy promotion: an essential component of primary care pediatric practice*. AAP Policy Statement
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[www.ReadingRockets.org](http://www.ReadingRockets.org)

## TIPS FOR PARENTS OF PRESCHOOLERS

Read early and read often. The early years are critical to developing a lifelong love of reading. It's never too early to begin reading to your child! The tips below offer some fun ways you can help your child become a happy and confident reader. Try a new tip each week. See what works best for your child.

- **Read together every day.** Read to your child every day. Make this a warm and loving time when the two of you can cuddle close.
- **Give everything a name.** Build your child's vocabulary by talking about interesting words and objects. For example, "Look at that airplane! Those are the wings of the plane. Why do you think they are called wings?"
- **Say how much you enjoy reading.** Tell your child how much you enjoy reading with him or her. Talk about "story time" as the favorite part of your day.
- **Read with fun in your voice.** Read to your child with humor and expression. Use different voices. Ham it up!
- **Know when to stop.** Put the book away for a while if your child loses interest or is having trouble paying attention.
- **Be interactive.** Discuss what's happening in the book, point out things on the page, and ask questions.
- **Read it again and again.** Go ahead and read your child's favorite book for the 100th time!
- **Talk about writing, too.** Mention to your child how we read from left to right and how words are separated by spaces.
- **Point out print everywhere.** Talk about the written words you see in the world around you. Ask your child to find a new word on each outing.

*Visit [www.ReadingRockets.org](http://www.ReadingRockets.org) for more information on how you can launch a child into a bright future through reading.*

Reading Rockets is a project of public television station WETA, and is funded by the U.S. Department of Education, Office of Special Education Programs



## *What kind of math preparation should my preschooler have?*

Although many desired skills fall under the category of “preschool math,” here are a few broad categories, which are illustrated below with activities parents can do at home:



**Understanding Number Sense:** Use a calendar to count down the days to a birthday or special holiday. Help your child see the connection between a numeral like “5,” the word “five,” and five days on the calendar. Play simple board games where your child moves a game piece from one position to the next. Begin teaching your child the address and phone number of your home. Talk with your child about how each house has a number, and how their house or apartment is one of a series, each with its own number.

**Comparing Objects by Measurable Attributes:** The concept of measurement extends well beyond the use of a ruler or scale. Characteristics that may be measured include shape, size, color, height, weight, length, and so on. Similarly, activities that involve comparing and sorting are also fundamental skills that extend to other subjects, such as reading and science. Activities that involve comparing and measuring would include the following:



- ➔ Let your child help you measure ingredients for a simple recipe.
- ➔ Measure your child's height every month or so, showing how you use a yardstick or tape measure. Mark his or her height on a “growth chart” or a mark on a door frame. Do the same with any siblings. Help your child compare his or her own height to previous months and also to his or her other siblings' heights.
- ➔ Help him or her understand and express comparisons like more than/less than, bigger/smaller, shorter/longer, and near/far.



**Identifying Time Concepts:** Use an hourglass, stopwatch, or timer to time short (1-3 minute) activities. This helps children develop a sense of time and to understand that some things take longer than others. Use a calendar to talk about the date, the day of the week, and vocabulary such as “yesterday” and “tomorrow.” Calendars reinforce counting, sequences, and patterns. Mark a special day or event on the calendar and “count down” to it.

**Understanding Spatial relationships:** Play games where you direct your child to jump forward and back, to run far from you or stay nearby. Use songs with corresponding movements to teach concepts like in and out, up and down, and round and round. Work puzzles (with large pieces) together.



Finally, make math a part of your daily life—and make it fun. Take a nature walk together and casually point out ways to **compare** (which tree is taller?), **assess** (how many acorns did we find?), **note similarities and differences** (does the duck have fur like the bunny does?) and **categorize** (see if you can find some red leaves). You can also talk about **size** (by taking big and little steps), **estimate distance** (is the park close to our house or far away?), and practice **time concepts** (how many minutes do you think we've been gone?).

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*Why is music such an important influence on academic learning and success?*

Paul Lehman, past president of the National Association for Music Education, once said that “Music is the chocolate chip in the cookie of life;” but recent research in both neuroscience and early childhood education shows that music is much more than a sweet treat. Our Lighthouse C.A.R.E.S.™ curriculum incorporates music into our daily schedule, not only because it is fun, but because music, when combined with movement, stimulates all areas of the brain, including: vision, balance, hearing, speech, behavior, sensation, cognition (thinking), motor skills, and emotion (Wagner, 2010). Music activities train the brain for more difficult tasks, such as higher level thinking skills, by preparing the brain to work from both hemispheres—with one side working to hear the words and the other working to hear the music.

Music activities are easily adapted to a wide range of developmental levels, and support many areas of preschool learning, including the following:

- ♪ Counting: Many songs, such as “Five Little Monkeys,” introduce numbers and counting. The rhythm and repetition of songs may make it easier for very young children to remember the name and sequence of number patterns.
- ♪ Patterns and sequencing: Songs that are repetitive in rhythm or lyrics help children learn to anticipate patterns and sequences—critical skills in early reading and math.
- ♪ Memory: Music holds a powerful place in our memory. When bits of information are combined into a song with rhythm and movement, the brain is able to process it as one piece (Harman, 2010).
- ♪ Language Development: Music introduces new vocabulary, which is more likely to be retained. In addition, the tempo of songs helps children decode new words by separating sounds and parts of words. A study published by Northwestern University found that “receiving musical training early in life enhances long-term language learning and improves the mind’s ability to decipher sound” (Greenberg, 2007).
- ♪ Social Skills: Singing, dancing, and being silly together builds positive relationships between children and their peers and with children and the important adults in their lives.
- ♪ Motor Skills: Moving along with the tempo of music helps build large muscle skills and balance.

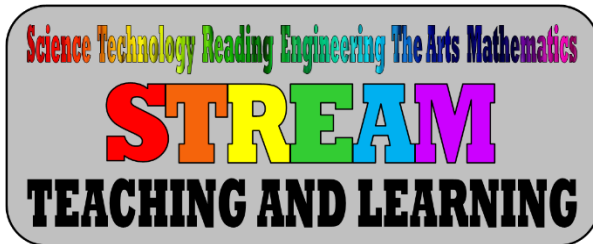
Use of music clearly has a powerful impact on a child’s overall development; so join us in singing with your child!

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## What is **STREAM** learning?



In the 1990s, the National Science Foundation combined Science, Technology, Engineering, and Mathematics to produce STEM learning, which was created to emphasize the knowledge and skills needed to succeed in a global society. In early childhood education, that acronym has been expanded to include the Arts, which is a critical component in the development of higher order thinking

skills, resulting in STEAM. Children's Lighthouse goes one step further, adding the foundational element of Reading. The following examples illustrate how STREAM teaching and learning are used in the CLLC classroom.

**SCIENCE EXPERIMENTS** are a great way for children to actively explore the world around them. We lay a foundation for using the "Scientific Method" by encouraging children to imagine *What would happen if...?* (hypothesis) or *What caused ..... to happen?* (analysis).

**TECHNOLOGY USE** takes many forms, including the use of a **device**, such as a tablet, interactive book, or digital camera, a **program** or **app**, such as Kaplan's *SHINE* software, or a **process**, such as knowing how to look up information on a computer. Technology is most effective when used as one of many tools to enhance and support learning.

**READING** mastery best develops through a varied approach which includes vocabulary and oral language development, phonics instruction, comprehension, environmental print awareness, and more. Although the "A" in STEAM was intended to cover both the creative arts, such as music and art, and the liberal arts, such as language arts and social studies, the development of reading and other literacy skills in early childhood is critical to future success. Lighthouse C.A.R.E.S.™ recognizes that importance by adding the "R" to STREAM.

**ENGINEERING** is an area that may sound challenging for early childhood; yet building a solid program of engineering in the preschool can begin as simply as adding long boards (to be used as ramps) or photos of famous architectural structures to the block area. The CLLC child shown right, for example, is using a photo of the Eiffel Tower to construct his own model.



Research into **THE ARTS**, particularly in regard to creative art and music, shows a strong positive correlation with the development of science, math, and engineering—each of which relies heavily on design, analysis, and evaluation. Just as movement and music have a positive impact in such areas as vocabulary development and memory, creative art projects, which require planning, decision-making, and problem-solving can also increase achievement in the content areas.

**MATHMATICS** concepts, like the rest of the C.A.R.E.S. curriculum, are best learned through authentic experiences. For example, if the focus is on fractions, then cooking a simple recipe that requires measurement would be an "authentic" experience.

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### *What are “brain-based” teaching strategies?*

The value of theme-based learning is validated by ongoing research in the field of educational neuroscience. The human brain is an amazing organ, composed in part of over 100 billion neurons, each one capable of making up to 10,000 connections. Neuroscientists have also discovered that:

- Music, chants, and rhymes increase brain organization; rhythmic patterns “stick.”
- A stimulating environment for a child can make the difference between a 25% greater ability to learn and a 25% lesser ability to learn in an environment with little stimulation.
- Hands-on manipulation increases the chance by 75 percent that new information will be stored in long-term memory.
- Environmental influences—such as safety, emotions, novelty, humor, music, choices, physical movement, and hands-on activities—can contribute to increased alertness and memory. (HW Neurological Institute, 2013; Schiller & Willis, 2008).

The fact that experiences impact the “architecture of the brain” is a foundational element in integrated teaching strategies (Schiller & Willis, 2008). When new information is received, the brain instantaneously sorts, classifies, and categorizes new input according to what is already known. Simply put, these new experiences become physical connections in the brain, as information flows from one neuron to another, resulting in a connection called a “synapse.” The brain of a young child typically makes about 700 of these synapses **every second**. Connections grow stronger as new knowledge and experiences are reinforced—a process that gives rise to the phrase, “if it fires together; it wires together.” During the first three years of life, approximately 1,000 trillion of these synapses will be forged by a child’s experiences (SECA, 2001). Connections that are used will strengthen; those that are unused will fade away.

Effective instructional practice strengthens these early connections by giving the child a variety of activities and experiences related to the instructional theme and learning objectives. Lighthouse C.A.R.E.S.™ components, including integrated learning, monthly themes, daily music and movement activities, classroom learning centers, and hands-on learning activities, are examples of brain-based teaching strategies.

**AT HOME:** “Water is an overlooked food,” says Naomi Neufeld, MD, a pediatric endocrinologist and director of the KidShape antiobesity program, “and kids often run around in a state of relative dehydration.” Recent research suggests that even mild dehydration decreases brain function. Be sure to offer your child water at snack and mealtimes.

#### **References**

- Mahoney, S. (2011). Brain foods your kids need. *Prevention*
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### *What are some guidelines for using technology with my preschooler?*

One of the first steps in establishing guidelines for technology use by young children is to define what is meant by “technology.” A 2014 study of parent perceptions of technology use in early childhood found that parents defined technology in many ways. For example, only 56% of the parents, drawn from private, public, and parochial preschool settings, considered television to be an example of technology; but they considered television-viewing to be a major concern in terms of screen time and inappropriate content (Johnston, 2014). The use of “devices” must also be considered in light of **content**. Watching thirty minutes of the interactive television program, *Mickey Mouse Clubhouse*, is not the same as watching thirty minutes of *SpongeBob*. David Kleeman, of the *Huffington Post* also adds the element of **context**, saying “A PSP to relieve anxiety at the doctor’s office is different from taking pictures with an iPhone on a walk, which is not the same as channel-surfing, which is unlike illustrating a story with ‘KidPix’” (Kleeman, 2010). Even the American Association of Pediatrics, long known for its stance of “no screens under two years of age,” is re-evaluating its position in light of the interactive nature of some screens. Dr. Dimitri Christakis, author of the original AAP statement, now says that he believes interactive screen engagement may have more in common with block play than with passive television viewing (Christakis, 2014).

So what’s a parent to do? Here are a few things parents can do to ensure a positive experience with technology programs and devices:

1. **Watch and play together.** We know the value of having a parent read to his or her child; but recent studies on “joint media engagement” suggest that watching and playing together—whether television or another screen—also has a positive impact on a child’s media/technology experience.
2. **Choose programs and applications wisely.** Early childhood education is “big business,” and there are literally thousands of apps designed for young children. Fortunately, there are several reputable websites that offer reviews that parents can use to judge the appropriateness of a program for their child. Common Sense Media (<http://commonsensemedia.org>) and PBS Kids (<http://www.pbs.org>), for example, both offer reviews, by age, of programs and applications for young children.
3. **Alternate technology use with other forms of exploration and play.** Too much of anything is not necessarily a good thing. Make sure your child also has time to play outside, build with blocks, work puzzles, run and jump, and so on.

Technology, when used as one of many tools, can have a powerful positive impact on a young child’s education by broadening his or her experiences. As a 2012 NAEYC webinar proclaimed, “It’s about the experience, not the tool!”

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