


A Guide  
to Learning in

# Playscape

Discover It Together



**CHILDREN'S**  
**MUSEUM**  
INDIANAPOLIS

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The Children’s Museum of Indianapolis is a nonprofit institution dedicated to creating extraordinary learning experiences across the arts, sciences, and humanities that have the power to transform the lives of children and families. It is the largest children’s museum in the world and serves more than 1 million people across Indiana as well as visitors from other states and nations.



### VISIT THE MUSEUM

The museum provides special programs and experiences for students as well as teaching materials and professional development opportunities for teachers. To plan a visit or learn more about educational programs and resources, visit the Teacher section of the museum’s website at [childrensmuseum.org](http://childrensmuseum.org)





## Introduction

*Playscape* is designed to provide rich and varied experiences that encourage active play and communication for children through age 5. The museum has developed this guide to assist parents and teachers as they interact with young learners in the four major areas of the gallery: **Babyscape**, for babies and toddlers; **The Natural World**; **The Invented World**; and **The World of Art and Music**. The guide includes a section with Extending Experiences for parents and teachers who want to continue *Playscape* learning at home or in the classroom. The guide also lists suggested children's books and provides more tips and resources for adults.

Current research studies show that during the first years of life (newborn to age 5) new connections are being formed in a child's brain. This takes place primarily during rich sensory experiences that are significant in forming the foundation for future learning. Young children cultivate 85 percent of their intellect, personality, and skills by age 5. See the Resources section of this guide for websites and books about the latest research on early learning.

## What the experts say about how children learn

### EXPERIENCE

**is at the heart of all learning and knowledge is built by interacting with our environments.**

*(John Dewey)*

**Learning begins with**

### SENSORY

**experiences of sight, sounds, taste, touch, and smell.**

*(Jean Piaget)*

### SOCIAL INTERACTION

**is the most important element of making sense or meaning of experience.**

*(Lev Vygotsky)*

**Because children have "absorbent minds,"**

**the early years are the most critical for nurturing**

### CURIOSITY

**and for laying the foundation for all future development.**

*(Maria Montessori)*

**All individuals have DIFFERENT WAYS OF KNOWING and understanding their world and sharing what they know.**

*(Howard Gardner)*

**Children are SOCIAL, COMPETENT, AND ACTIVE learners, and they must have endless ways and opportunities to express themselves.**

*(Inspired by the schools of Reggio Emilia, an Italian city known for innovative early childhood education.)*



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# My Early Growth Chart

*Adapted from the Science Museum of Minnesota*

The following behaviors are typical at certain ages but every child is unique.  
Each child grows and develops at his or her own pace.

## Newborn to 3 Months

I can ...

- ✿ search for milk by instinct
- ✿ suck by instinct
- ✿ move jerkily
- ✿ prefer human faces to everything else
- ✿ turn toward voices
- ✿ coo
- ✿ smile in response to you
- ✿ clasp my hands in tight fists
- ✿ cross my eyes
- ✿ startle by reflex
- ✿ grasp by reflex
- ✿ cry to express my needs
- ✿ put my hand in my mouth
- ✿ start to show some neck control



## 3 to 6 Months

I can ...

- ✿ imitate facial expressions
- ✿ sleep on a routine
- ✿ recognize familiar objects and people
- ✿ support my body on my stomach
- ✿ raise my head while lying on my stomach
- ✿ open and shut my hands
- ✿ sleep through the night
- ✿ turn toward a sound
- ✿ start using my hands and eyes together
- ✿ roll over
- ✿ eat on a routine
- ✿ babble
- ✿ follow moving objects with my eyes



## 6 to 9 Months

I can ...

- ✿ point to objects
- ✿ smile in the mirror
- ✿ support my whole weight on my legs
- ✿ explore with my hands and mouth
- ✿ scream when annoyed
- ✿ show first signs of "stranger anxiety"
- ✿ drop and search for objects
- ✿ crawl
- ✿ move toys from hand to hand
- ✿ be aware of my surroundings
- ✿ reach with one hand
- ✿ sit up with a little support
- ✿ grasp things awkwardly
- ✿ use my voice to express myself
- ✿ laugh and squeal happily
- ✿ show attachment to my caregivers

## 9 to 12 Months

I can ...

- ✿ bang objects
- ✿ sit without support
- ✿ throw objects
- ✿ pick up toys
- ✿ roll a ball
- ✿ stand
- ✿ understand simple commands
- ✿ explore
- ✿ walk holding furniture
- ✿ pick up things with my thumb and one finger
- ✿ say my first words
- ✿ protest
- ✿ respond to my own name
- ✿ wave goodbye
- ✿ play side-by-side with others







## 1 to 2 Years

### I can ...

- ✿ sit down on a small stool or chair
- ✿ build towers out of blocks
- ✿ imitate animal sounds and noises
- ✿ drink from a cup
- ✿ wave "bye-bye"
- ✿ play make believe
- ✿ feed myself with my fingers
- ✿ recognize myself in a mirror or photograph
- ✿ find hidden objects
- ✿ dance with music
- ✿ put objects into containers
- ✿ climb stairs while holding on to a rail
- ✿ shake my head "no"
- ✿ speak 6 to 100 words
- ✿ point to body parts
- ✿ be fearful sometimes
- ✿ walk by myself
- ✿ climb on furniture
- ✿ imitate gestures
- ✿ show separation anxiety



## 2 to 3 Years

### I can ...

- ✿ toss and roll a large ball
- ✿ say "I want"
- ✿ be shy or silly around strangers
- ✿ use "me" and "mine"
- ✿ step backward
- ✿ speak 200 to 300 words
- ✿ refer to myself by name
- ✿ solve shape puzzles
- ✿ sort objects
- ✿ treat a doll or stuffed animal as if it were alive
- ✿ listen to one book over and over
- ✿ draw lines
- ✿ take an afternoon nap
- ✿ drink from a straw
- ✿ jump awkwardly
- ✿ say "no" frequently
- ✿ help you dress me
- ✿ use three words together
- ✿ throw temper tantrums
- ✿ ask "what's that?"

## 3 to 4 Years

### I can ...

- ✿ dress myself
- ✿ run and jump
- ✿ speak in 3- to 5-word sentences
- ✿ be understood by others
- ✿ feed myself with a spoon and fork
- ✿ use buttons and snaps with help
- ✿ remember simple rhymes and lyrics
- ✿ stand on my tiptoes
- ✿ draw straight lines and copy a circle
- ✿ open doors
- ✿ tell you my name, age, and sex
- ✿ use the potty
- ✿ identify colors
- ✿ speak 500 to 900 words
- ✿ stand on one foot

## 4 to 5 Years

### I can ...

- ✿ speak clearly
- ✿ skip and hop on one foot
- ✿ have "give and take" conversations
- ✿ count from 1 to 10
- ✿ have my own opinions
- ✿ want to do things on my own
- ✿ wash my hands by myself
- ✿ sing a song
- ✿ climb
- ✿ walk on my tiptoes
- ✿ ride a tricycle or bicycle
- ✿ identify emotions
- ✿ play cooperatively
- ✿ hold and control a pencil or crayon
- ✿ ask questions constantly
- ✿ understand the difference between fantasy and reality
- ✿ speak about 1,500 words



## 5+ years

### I can ...

- ✿ dress and undress myself
- ✿ say the days of the week
- ✿ ask about real facts
- ✿ understand time
- ✿ speak about 2,000 words
- ✿ draw a person with body parts
- ✿ throw a ball overhand
- ✿ understand right and wrong, fair and unfair
- ✿ speak in 6- to 8-word sentences
- ✿ say my phone number and address
- ✿ have bad dreams sometimes
- ✿ understand multiple instructions
- ✿ talk frequently
- ✿ copy simple shapes
- ✿ jump
- ✿ tell a story
- ✿ help with chores
- ✿ brush my teeth



## Ideas for visiting Playscape

*Playscape* was designed to invite adult involvement in every area of the gallery. Your child's learning and enjoyment will be richer and more meaningful if you participate alongside your child and interact as you explore the different areas together.

### For infants through age 2

- ✿ Point out interesting objects like a pinecone, an object from the museum's collection, or a whirling toy for your child to examine and give words to your child's discoveries. (*"You noticed that the wheel spins when you touch it in a certain way."*)
- ✿ Encourage your child to feel the texture and look carefully at the characteristics of objects, such as size, shape, color, and pattern. (*"Look at the stripes on this raccoon. Your stuffed tiger at home has stripes too!"*)
- ✿ Talk with your child about what is happening during everyday activities. (*"We're going up the steps. We do this at Grandma's house when we go upstairs to the bedroom."*)
- ✿ Introduce interesting new words to talk about experiences. This will increase the number of words your child understands and will learn to use later. (*"Listen! That bird says 'tweet, tweet, tweet!'"*)



### For preschoolers ages 3 to 5

- ✿ Share discoveries about the exhibit with your preschooler and build on your child's natural tendency to look for similarities and differences in the world.
- ✿ Ask *what* and *how* questions that require your child to think more deeply about how the world works. (*"What do you think? How did THAT happen?"*)
- ✿ Encourage your child to think creatively by asking open-ended questions that show that there are many possibilities. (*"What do you think about the rabbit? Where do you think it might be going?"*)







## Babyscape

### What can I do with my child in Babyscape?

Each area of Babyscape helps babies and toddlers develop their skills in movement, language, and exploration. Encourage and talk with your child as he or she tries both new and favorite experiences.

#### The Nest

The play activities in the Babyscape Nest are designed for infants not yet moving around on their own.

- ✿ Play With Me! Toy Boxes contain a collection of things like simple puppets, toys and small objects. They are placed in this area so that you and your baby can play in the Nest.
- ✿ Talking and singing to your child while participating in these activities will enhance and stimulate language development.
- ✿ Parents, caregivers, and teachers can build children's attention capacities and vocabulary by talking directly to small babies and toddlers about what is happening.
- ✿ Talk with your child about what he or she is doing in the exhibit. Comment on your child's expressions. "You're smiling. You like the way that feels!"

#### The Crawl-Through Log

This area is ideal for babies who are crawling, cruising, scooting, and pulling themselves up.

- ✿ Encourage your child to try out the crawl-through log. It has a mirrored floor and openings at the top and side where parents and babies can play peek-a-boo.
- ✿ Share words and sounds.
  - Visit the bird houses and encourage children to identify birds and their calls: "Hear the birds, Maddie? That's an owl. You make that sound: Hoooooot!"

- Say the word "worm" as you point to the one in your child's hand.

- ✿ There will be age-appropriate push-and-pull toys, books, and balls for this age group. Let your child lead you to something he or she observes. Say the object's name and use it in a sentence, such as "Let's play with that ball."
- ✿ Help your child explore the wall surrounding the space and discover mirrors, little doors to open and close (revealing photos of babies), and a flip switch that lights up fireflies.
- ✿ Try the **Stack 'n Bloom** experience, where children develop skills in using their hands and fingers as they stack leaves and petals on wooden stems.

- ✿ Encourage your child to explore cause and effect with the **Push and Whoosh!** and **Flutter Fly** experiences.

#### The Treehouse

This is an area for toddlers who are eager to climb and ready to explore a short distance away from their parents.

- ✿ Let your child try different ways to get back up to the top of the slide area by ramps or stairs.
- ✿ Help your child share what he is experiencing. Your child may say something like: "Mommy, I go down." Your response back will encourage further exploration. "Yes! You went down the slide. Try it again."
- ✿ Your child may also enjoy trying on animal costumes, such as an owl, a robin, a dragonfly, or a butterfly. Talk with your child about what the animals do and where they live.
  - "Can you hoot like an owl?"
  - "You look like a happy robin! Robins make their nests in trees."





## The Natural World

### What can I do with my child in the Natural World?

One of the most beneficial things you can do in this area is to talk with your child about prior experiences connected to nature.

#### The Creek

The purpose of this area is to foster caring behavior related to animal habitats and to encourage science inquiry through exploration and experimentation. Water play helps children develop the muscles in their hands and fingers. Manipulating tools, filling, pouring, emptying, stirring, squeezing, pushing, and pulling are all involved in water play.

- ✿ Encourage your child to explore the properties of water with experiences that involve pouring, running, and dripping water.
- ✿ Your child can observe what water toys and other objects do in water and make predictions. Ask your child to predict which objects will sink and which will float.
- ✿ Children can compare the size of containers. Ask your child: "Which one is biggest? Which one holds the most?"
- ✿ Children can practice cooperative play as adults or older children release "fish" and other children use nets to catch them.

#### The Sandbox

Children enjoy sand play and like to repeat their activities over and over. They dig in sand, sift it, build with it, pour it, enjoy the feel and smell of it, pretend with it, and explore how it moves. The play and cooperative activities in this area are simple and age-appropriate.

- ✿ There are two turntables where children can pour sand on the top. Encourage them to trace patterns in the sand with their fingers.
- ✿ At the sifting table children pour sand over the top and the sand falls through holes drilled in the tabletop. Help them discover different patterns from nature, such as a spiral.

- ✿ Encourage your child to dig under the sand and find animal tiles. Help them to identify and say the names of each animal and tell about animal stories they know. Follow up by reading an animal story together in the exhibit or at home.
- ✿ Help your child explore different toys and tools, such as scoops, buckets, and sifters, to see how each one works.

#### What's happening here?

As children play, talk with them about experiences they may have had with sand in nature. "Where else have you played in sand? When we were at the beach last summer, what was right next to the sand?" Encourage them to think about other materials that may behave in similar ways.

"I see you are pouring the sand. What else can you pour?"

"Remember when we baked a cake and you helped me pour in the sugar?"







### Hands Can Table

This sensory table across from The Sandbox will have a changing display of materials that help children develop the small muscles in their hands and fingers. It also helps them refine their sense of touch.

- ✿ On the bottom of the table, children and grownups can discover four clear boxes with tiny objects from museum collections. Help children identify and talk about the objects.

### The Pond

The Pond is designed to enable children to develop skills using their large muscles as they climb through a structure that resembles a pond habitat. The Pond climber allows children to move horizontally or vertically through the habitat. As the children climb to the surface of the "water," they will experience different perspectives. At the top they can sit in sailboats that appear to float on the pond.

- ✿ Invite your child to explore further with questions such as "How high can you climb? I wonder what it will look like up there."
- ✿ Help children try on costumes of fish, frogs, and turtles native to Indiana and imagine what it would be like to live in a pond.





## The World of Art and Music

### What can I do with my child in the World of Art and Music?

At scheduled times there will be guided activities led by museum staff in the Art and Music Studios. You are invited to participate in these experiences alongside your children. Join right in! We promise you will learn as much as your children!

### The Art Studio

The focus of visual arts for children should be on experiencing artworks and the process of creating art. Young children are all about the process. In other words, they have less interest in the product created and are more focused on the sensory experience of creating. Acknowledge their effort and the uniqueness of their work.

- ❁ Notice the current theme of the Art Studio. It may be about nature, patterns, another culture, or other topics. Look for opportunities to connect an artist or an artwork to your child's prior experiences.
- ❁ Special objects in the Art Studio will capture your child's attention. Look around the studio. Talk together about what you think is interesting about a particular object or image. Share your thoughts and enthusiasm but give your child space to discover and talk about his or her preferences.
- ❁ Invite your child to look carefully at the artworks in the Art Studio. Use the artist's name and ask: *What do you think \_\_\_\_ used to create this painting?* (*sculpture, object*)

- ❁ Encourage your child's interest with simple questions. *What do you see in this object, sculpture, or painting?* Let your child explain why the object or artwork is so special. Ask: *What do you think about this object? Does it make you think of anything you have seen before?*
- ❁ Help children look for and name specific features of an artwork, such as colors, shapes, and textures.
- ❁ Encourage children to think critically about their art making. Focus conversations with your child on the choices they make and the process of their creation.
- ❁ Allow for free exploration and creativity when using the materials. Please remind children to be respectful of the materials and the space.

- ❁ Talk with your child about his or her artwork by asking open-ended questions (questions that can't be answered with a simple "yes" or "no") or initiating conversation that shows interest and respect for your child's work.

### Hints and Tips for Conversation in the Art Studio

Ask your child:

Is there something special that you want to tell me about your drawing?

Tell me more about what you chose to do for your painting.

What else can you think of that is the same color as the color you used?

Tell me about the shapes you included in your collage.

### What is the best way to use the objects in the display cases?

Did you know that The Children's Museum has more than 120,000 objects in its collection? This fact helps to make it one of the most extraordinary children's museums in the world. In the new *Playscape*, the objects in the glass cases have been chosen to delight and inspire the museum's youngest visitors. Some of these you won't see anywhere else! Watch your child as he or she looks carefully at the objects in the cases.

Ask: "What do you see? What do you think it is made of? How do you think it was made?" This helps your child begin to see the differences in objects and also helps to develop language and pre-reading skills.







## The Music Studio

Based on research about how to introduce key concepts in music to young children, authentic instruments are placed in the Music Studio. You and your child can be musicians as you explore **rhythm**, **tone**, and **movement** using real musical instruments. On a typical day, the Studio will have three pods that hold percussion instruments, such as a glockenspiel and a xylophone, and hand-held percussion instruments, such as bells, rasps, and maracas, along with a variety of drums. This is a perfect time to observe your child as he or she experiments with the instruments and discovers the source of sounds. Encourage close observation and critical thinking about the instruments. Help your child discover that some instruments are tuned to make pleasant sounds

when played together. Talk about the beat or rhythm as you play. Some of the instruments produce tones that are higher and some are lower. See if your child can identify high tones and low tones.

- ✿ While playing together, ask your child to make sounds with each instrument and talk about the connection between each action—shaking, scraping, or striking—and the corresponding sound.
- ✿ Make a sound pattern with one instrument—rattle, rattle, rattle—and ask your child to copy or imitate your pattern. Change your movement to create a faster or slower pattern for your child to copy. Introduce the word “tempo,” and explain that tempo refers to how fast music is played. Play loudly (*forte*) and then play softly (*pianissimo*). Encourage your child to do the same.

- ✿ Try the different types of drums and ask your child how the drums sound different. Encourage your child to experiment with the drums to create different sounds and rhythms. Can drums produce different tones depending on where you strike them? Can you beat the drum to make sounds that are good for marching? Can you make sounds that remind you of a horse running? Create different rhythms and imagine where you might hear a sound like that.
- ✿ The *amadinda* is a percussion instrument, similar to a xylophone with lots of bars or keys of different lengths. Help your child strike the ends of the keys to make different notes and identify high and low tones. Ask your child what the keys are made out of.
- ✿ Play a rhythmic pattern with an instrument from the pods or sing songs that invite movement. Even very young children respond to the rhythm of music and move their bodies in time to the beat.
- ✿ There will be a music soundtrack playing in one area of the music studio. Families can dance, sing, or play along. Encourage children to become performers and dance or sway to the music.





## The Invented World

### What can I do with my child in the Invented World?

In the Invented World, you and your child can explore, observe, experiment, and build things together.



### Reaction Contraption

Children and adults can try to control balls traveling on many different tracks and ramps using levers that they can manipulate in various ways.

- ✿ **Observe** and **describe** the way balls move through the machine.
- ✿ **Predict** and then **test** the way balls move through the machine.
- ✿ Do **simple experiments** and talk about cause and effect.
- ✿ Practice **problem-solving** to discover how to route the balls to a specific target

#### What's happening here?

When children watch and manipulate balls in the machine, they observe and discover properties of motion, such as force, inertia, and momentum.

The most important question a child can hear is "What do YOU think?"

### Roll 'n Race

In this space, children and adults can explore several physics concepts by constructing ramps and inclines to experiment with gravity, speed, and momentum.

Help your children:

- ✿ **Predict** and then **test** the way objects move over ramps and pathways.
- ✿ **Do simple experiments** to manipulate pathways and determine how to move objects down or across the ramps.
- ✿ **Solve the problem** of how to construct and manipulate the ramps to make objects move farther and faster.

### Whirly Twirly Tower

Step into a custom-made circular room to feel the force of moving air in a whirlwind motion.

- ✿ Encourage your child to explore the airstream's strength and make the invisible visible using scarves that reveal wind patterns.
- ✿ Ask children to think about why the scarves move the way they do. Ask: What made your scarf twirl around and around?

### Blockopolis

A large part of the Invented World is devoted to block play where adults can join in! Young children will play with blocks more readily if there is someone playing beside them. They watch, imitate, and experiment. They are collecting information even though it might not look like it at first!





## Hints and Tips for Questions and Conversations in the Invented World

### Ages 2 and younger

- ✿ "Look at all those rectangular blocks. Can you find a square block for me?"
- ✿ "I'm going to give you this smaller piece for your stack."
- ✿ "That is a long block. Can you find another long block?"
- ✿ "My block has a smooth texture but pointy end. Are your blocks smooth? Can you find a block with a pointy end?"
- ✿ "One, two, three, four, five blocks in my stack! Let's count your blocks together."

### Ages 3 to 5

- ✿ "How may I help you?"
- ✿ "What is going on in your block construction?"
- ✿ "What else do you need?"
- ✿ "May I build a part on your tower?"
- ✿ "What can we do together?"
- ✿ "What did you notice about the ... "
- ✿ "How did you do that?"
- ✿ "Is there another way to ...?"





**Extending Experiences**

The following experiences are designed for parents and teachers who wish to extend *Playscape* learning to the home or classroom. The *Foundations for Young Children* referred to in each experience are aligned with Indiana’s Common Core Standards in a developmentally appropriate way and reflect the types of interactions and experiences early learners need in order to be ready for Kindergarten. The Foundations listed are just a partial representation of the learning involved in each experience. *Foundations for Young Children* may be accessed online by visiting the Indiana Department of Education website. (See the Resources section.)

**Babyscape**  
**Experience 1: Fill and Pour for Early Learners**

**Foundations for Young Children:**

- M.1.7 Communicate when something is empty or “all gone.”
- M.4.4 Put things in and out of other things.
- M.4.11 Move objects from one container to another.
- M.5.6 Pour substances out of containers.
- M.6.4 Purposely move and manipulate different objects.
- SC.1.18 Use words to describe physical attributes of objects (such as size, color).
- SC.1.20 Manipulate a variety of objects and tell about what is observed (such as more than, less than, equal to/same).

**Objectives**

- Children will use fine motor skills to move objects into a container and then pour them back out
- Children will begin to develop a sense of volume as they observe that more or less objects fit into containers, depending on size



**Materials**

- ✱ Different size containers such as a bowl, a pitcher, and a box
- ✱ Different size objects larger than an inch, such as a blocks, toys, and blankets

**Procedures**

- ✱ Model for children how to fill up the same type of objects in one container (for classifying and sorting of different objects). For example, ask them to put all the blocks in the container first and then dump them back out. Use rich language to describe what you are doing and what you see. What do the blocks look like stacked inside the skinny container? What do they look like lying on the floor?
- ✱ Encourage children to follow the activity you modeled by using all the same materials first. Use rich language to describe what you see the children doing. Allow the children to repeat the fill and dump of the same objects a few times in a variety of different containers.
- ✱ Encourage children to try using a variety of objects at the same time to see how different objects fit into different containers. Did more or less objects fit inside the round container? Inside the skinny container?
- ✱ Continue the fill and dump repetitive activity with a trial and error of possibilities. Example: Can we fill the bowl only half way with large objects? Can we fill the bowl to the top with only two objects? Discuss your findings with the children.





## Babyscape

### Experience 2: Hide and Seek for Infants

#### Foundations for Young Children:

- ELA 1.1 Actively attend to things that an adult is showing.
- ELA 8.1 Emulate sounds in the environment.
- M.4.1 Notice objects and purposely move and manipulate different objects.
- M.4.3 Look and feel for an object that has been hidden from view.
- M.4.6 Find hidden objects or sounds.
- M.4.9 Search for something out of sight.



#### Objectives

Children will develop

- a sense of object permanence (an understanding that objects still exist even when they cannot be seen)

- receptive language skills as they follow directions from adults

#### Vocabulary

Hide, find, where, move, cover, blanket, under, toy, see, eyes, touch, grab



#### Materials

- ✿ Multiple objects in a variety of sizes and shapes (round ball, long toy, square block, thin picture)
- ✿ Blanket



#### Procedures

- ✿ Use the object of your choice to play with children (roll the ball, stack blocks, etc.)
- ✿ After a few minutes, place the object underneath a blanket. Tell the children that you are putting the object under the blanket.
- ✿ Use rich language to talk about the hidden object and where it could be. Encourage the children to move the blanket around.
- ✿ If any child is unable to recognize that the object is missing, lift the blanket to show a part of the object. Once the child recognizes the object, cover it again and repeat the conversation.
- ✿ Continue the activity multiple times with a variety of objects.





## The Natural World

### Experience 1: My Square Foot of Nature



#### Foundations for Young Children:

- SC.1.10 Express ideas and share observations with others.
- SC.1.11 Observe and describe properties of objects.
- SC.1.17 Label and describe familiar objects.
- SC.1.18 Use words to describe physical attributes of objects (e.g., size, color).
- SC.1.22 Investigate and talk about the characteristics of matter.
- SC.1.25 Describe how the physical environment affects the living environment and vice versa.
- SC.1.30 Participate in discussions related to their findings.
- SC.1.41 Use familiar materials to measure things (e.g. hand, foot).
- SC.1.42 Investigate the physical surroundings by digging in dirt, collecting and classifying rocks, recognizing changes in weather.
- SC.1.44 Look at things within the environment.
- SC.1.48 Sort and match objects by more than one attribute.
- SC.1.49 Classify objects by different attributes.
- SC.1.55 Sort things by attribute or characteristic.



#### Vocabulary

measure, square, soil, rocks, stones, magnifying glass, insect names (if appropriate), plant names (if appropriate), size, color



#### Procedures

- ✿ Using marker or crayon on construction paper or cardboard, trace around each child's foot or assist children hand-over-hand to trace around feet.
- ✿ Help children (if necessary) cut around outline of foot.
- ✿ Find an appropriate outside location that has a variety of natural specimens, such as rocks or stones, leaves, various plants or grasses, sticks or bark.
- ✿ Using the foot cut-out, help each child measure out three foot-lengths.
- ✿ Put masking tape down to mark three foot-lengths.
- ✿ Do the same procedure three more times to create a square (3 foot-lengths X 3 foot-lengths).
- ✿ Invite children to investigate what specimens from nature can be found inside the masking tape square, using magnifying glass if available
- ✿ Talk with children about why it is important not to disturb or injure plants or animals that they may find.
- ✿ Talk with children about the attributes of each specimen.
- ✿ Invite children to sort non-living specimens by one or more attribute, such as color, size, or shape.
- ✿ Discuss with children the other ways the specimens can be sorted and classified.
- ✿ Remove and dispose of masking tape.



#### Objectives

- Measure a section of ground outside using an outline of foot
- Explore the area for different natural specimens
- Sort and classify the specimens according to one or more attribute



#### Materials

- ✿ Construction paper or cardboard
- ✿ Marker or crayon
- ✿ Scissors
- ✿ Roll of masking tape
- ✿ Magnifying glasses if available
- ✿ Container to collect specimens

#### Extension

If the natural items can be removed from the area, you and your children may want to create a collage by gluing down the small items on a piece of cardboard.







## The Natural World

### Experience 2: Food and Nature Investigation



#### Foundations for Young Children:

- SC.1.17 Label and describe familiar objects.
- SC.1.18 Use words to describe physical attributes of objects (e.g., size, color).
- SC.1.44 Look at things within the environment.
- SC.1.47 Explore objects with various properties (e.g., color, sound, texture, shape).
- SC.1.48 Sort and match objects by more than one attribute.



#### Objectives

- Children and families will explore the parts of fruits and plants.



#### Materials

- \* Apple, orange, or clementine; bell pepper, lemon, or avocado (or other fruits or vegetables).
- \* Flowers and leaves. (Ask a florist for clippings of flowers that are past their prime or search in your yard for some).
- \* Washable stamp pad or paint and paper.
- \* Plastic knife and cutting board/surface.

#### Vocabulary

leaf, imprint, seed, inside,  
fruit, vegetable



#### Procedures

- \* Select a fruit or a flower. Encourage children to identify the details in its shape. Have them look at it from the very top and trace its shape along the sides and all the way to the bottom.
- \* Peel or cut the fruit. Model how to cut safely with the plastic knife if children are ready to use this tool.
- \* Encourage children to look at and touch the peel and smell the citrus fruit. Have them look inside the bell pepper at the seeds and ribs. Cut the avocado in half to show the seed. You can peel the avocado skin from the flesh if it's ripe enough. Ask children: How do these items feel and smell? Let them eat the fruit or squeeze the juice into a container to use later.
- \* Show children how to remove the stem from a flower and gently pick off the petals. Ask them to sort the flower parts into piles of petals, centers, and stems. You can use the flower clippings as mulch in your yard or press the parts in a book.
- \* Show children how to make a leaf print by gently pressing the leaf into a stamp pad or some paint. Remove excess ink or paint on a paper towel.
- \* Help children press the painted side of the leaf onto paper. Let them do this several times with different leaves. Ask them to describe the details of each leaf, such as the leaf shape and its veins.



## The World of Art and Music

Take a walk around your neighborhood to find visual artworks. Many communities have sculptures in parks or other public places. Look for murals on walls or paintings inside buildings. Used bookstores are often good places to find books with full color images of artworks in many mediums. Look for opportunities for children to experience original artworks of all kinds.

Look for naturally occurring opportunities to expose children to all types of music. Encourage children to listen for and discuss the instruments and sounds they hear. Whenever possible, enable them to experience live music. Public concerts in the park are a wonderful way to enjoy music in a natural setting. Not only does music bring pleasure to life, but it also contributes to learning and strengthens basic skills, particularly in the areas of mathematics and reading. Just as important, children can express their emotions in a positive way through music.

**Vocabulary**

White, black, shape, scissors, straight, curved, corner, zigzag, background arrangement, negative shapes, positive shapes, half, whole



### Objectives

While practicing the art of cutting, young artists will:

- Examine a reproduction of a Matisse collage and discuss how it was made
- Discover what they can do with scissors
- Create straight and curved edges, and negative and positive shapes
- Practice composition
- Communicate with shape and color



### Materials

- \* Art books or Internet sources with images of works by Matisse, including collage
- \* Black and white pieces of construction paper
- \* Scissors
- \* Glue stick (optional)



### Experience 1: Black and White Cut Paper Art

After the French artist Henri Matisse (1869–1954) became confined to a wheelchair it was difficult for him to paint. Instead, he began to create cut-paper collages with scissors, paper, and other materials. He called this “painting with scissors.” His works inspire the following experience.





Detail from a mixed media collage by Henri Matisse.

## Procedures

- ✿ Introduce an example of a Matisse collage and give children a chance to examine it.
- ✿ Ask children what they see in the artwork and how they think it was made.
- ✿ Explain that the artist, Henri Matisse, cut out paper shapes and arranged them to make the artwork. An artwork that is made with pieces of paper and other materials is called a **collage**. They can use scissors and paper to make a collage too.
- ✿ With hand-over-hand assistance if necessary, help children cut straight-edged shapes from a piece of black construction paper that is approximately 4 by 6 inches. Folding the paper in various places makes it easier to cut shapes from the middle.
- ✿ As children cut, talk with them about whether the shape is straight or curvy. You can also compare the size of the cut shapes. Be sure to save the cutout shapes and the piece of construction paper they were cut from.
- ✿ When finished cutting the black shapes, fold a 9-by-12-inch piece of white construction paper in half, then open it up to lay flat.
- ✿ Ask children to arrange the black shapes on one half of the white paper.
- ✿ Ask children to position the 4-by-6-inch piece of black paper from which the shapes were cut on the other half of the white paper.
- ✿ The side with the cutout pieces contains the positive shapes. The side with the paper the cutouts were taken from shows the negative shapes.

- ✿ Children can rearrange the shapes or affix them with a glue stick if desired.

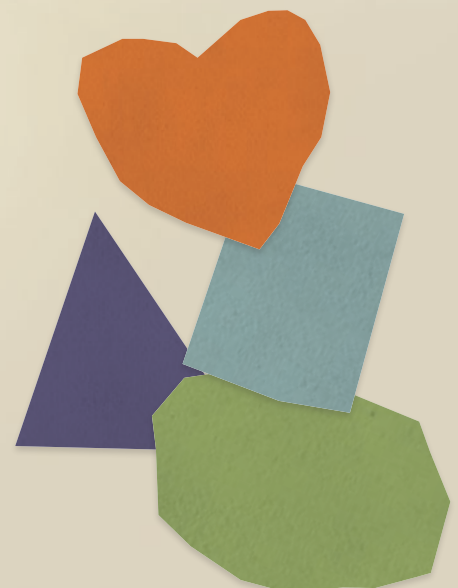


## Extension

Give children the opportunity to examine reproductions of other works by Matisse in art books or on the Internet and discuss the shapes and colors he used. This may inspire them to create more artworks in other mediums.

## Foundations for Young Children:

- F.A.1.23 Describe art work and interpret potential intentions of the artist.
- F.A.1.55 Show individuality in artwork.
- F.A.1.67 Use different colors, surface textures, and shapes to create form and meaning.
- F.A.1.69 Use a variety of materials (e.g., crayons, paint, clay, markers) to create original work.
- F.A.1.81 With various media, use shapes, lines, and color.
- F.A.1.82 Make patterns on their own.
- F.A.1.88 Demonstrate increasing skill in using different art materials (e.g., paper, paint, clay, scraps, buttons).
- F.A.1.89 Mimic art works and forms by various artists.





## The World of Art and Music

### Experience 2: Let's Play with Sound

In this experience, children will experiment with making sounds and creating rhythms with musical instruments and household objects and begin developing musical concepts and vocabulary.



#### Foundations for Young Children:

- F.A.1.1 Produce rhythmic patterns to familiar songs.
- F.A.1.5 Create sounds by singing and making music.
- F.A.1.35 Clap hands in glee; begin to clap in rhythm.
- F.A.1.36 Dance/sway/tap toes/jump/hop to music alone or with others.
- F.A.1.46 Make rhythmic patterns with objects.
- F.A.1.47 Follow repetitive patterns of movements.



#### Procedures

- ✿ Sit with the children close enough to work together.
- ✿ Begin the activity without the instruments first. Play the music and demonstrate the beat by patting your hands on your legs. This will show children that there is a steady beat. Ask them to join in with you.
- ✿ Tap different body parts (shoulders, toes, head, ears, etc.). Ask children for ideas about where to tap on their bodies.
- ✿ Pass out the instruments or other objects that can be used to make a sound. Tell the children that everyone will have a turn. You will use a rhythm stick to signal when to start playing and when it's time to pass the instrument to the next person.
- ✿ Practice playing together and trying to keep the same rhythm.



#### Objectives

Children will:

- listen to hear that different objects make different sounds
- explore their own sound-making abilities
- make many sounds with their bodies
- understand that music has a beat
- practice keeping that steady beat using their bodies and/or instruments



#### Materials

- ✿ Instruments such as sand blocks, shakers, castanets, or tambourines
- ✿ Household items that make sounds, such as pans and lids, chopsticks, bells, containers of breath mints (taped shut), pairs of wooden spoons, etc.
- ✿ CD player or iPod with music: "Thunder and Lightning Polka" by Johann Strauss or another classical work that has a strong beat. (Children love the "thunder" sound in the Strauss piece). Marches, such as "The Stars and Stripes Forever" by John Philip Sousa, also have a prominent beat.





## The Invented World

### Experience 1: Shape Find



#### Foundations for Young Children:

- SC.1.4 Make representative drawings of familiar objects and people.
- SC.1.10 Express ideas and share observations with others.
- SC.1.17 Label and describe familiar objects.
- SC.1.50 Observe shapes and look for objects that are the same shape.
- SC.1.52 Participate in activities using materials with a variety of shapes and patterns.
- SC.1.55 Sort things by attribute or characteristic.
- M.6.16 Identify attributes of objects.



#### Procedures

- ✿ Review some of the basic shapes with the children. Have them draw a circle, a triangle, a square, and other shapes using paper and pencils. Discuss what special attributes each shape has. Use rich language such as sides, points, lines, curve, round, and angles.
- ✿ Take children to an environment where they can see architecture, such as a town or city center. A teacher or parent can start to point out details such windows, doors, bricks, signs, or sidewalks and help children identify shapes. When possible, help children touch objects and trace shapes with fingers.
- ✿ Ask children: What shape does this remind you of? Prompt them by asking: Is the object round? Does it have points? Do you see any lines or other interesting characteristics?
- ✿ Ask the children to record their findings. Have them draw that shape by slowly looking back and forth between the object and their drawings. When possible, display the object or a photo next to their drawings.



#### Objectives

Children will:

- identify, label, and classify attributes of different geometric shapes in the “built” environment
- use observational skills to examine houses, buildings, bridges, fences, and other structures built by people and record findings
- develop a sense of appreciation and curiosity for investigating the invented world around them
- compare and contrast human-made objects by discussing their similarities and differences



#### Materials

- ✿ markers
- ✿ paper
- ✿ optional—for book making
  - camera
  - glue
  - scissors
  - markers
  - stapler and staples

#### Vocabulary

observe, shapes, circle, square, oval, triangle, rectangle, lines, octagon

#### Extension

- Encourage older children to practice spelling by writing the name of the shape or object below their observations.
- Help older children use a camera to take pictures of their drawings. You can then create a book of the photos showing the children’s illustrations.



## The Invented World

### Experience 2: Constructing Your Own Roll 'n Race

#### Foundations for Young Children:

- M.5.11 Make choices based on size.
- M.5.27 Choose an object based on function.
- SC.1.3 Interact and explore a variety of objects, books, and materials.
- SC.1.36 Follow a moving object or person with eyes.
- SC.1.74 Follow objects.
- SC.1.75 Look for a toy that has rolled out of sight.
- SC.1.80 Activate simple machines or cause and effect toys; take toys apart

#### Objectives

Children will:

- manipulate familiar objects to build and shape different inclines through the process of construction
- develop awareness of experimental processes such as hypothesize, infer, experiment, and observe, and apply their findings in an experiment
- use problem-solving skills to adapt, edit, and manipulate materials to change the course of the experiment through trial and error
- experiment with basic physics concepts, such as force, motion, and interactions between objects and materials

#### Materials

- \* Assortment of different size boxes (such as cereal boxes, packing boxes, and shoe boxes)
- \* Assortment of paper towel and toilet paper rolls
- \* Masking tape
- \* Various size toy cars or balls (be aware of choking hazards)



#### Procedures

- \* Introduce materials to children by individually discussing the characteristics and attributes of each one. Let children become curious about the different sizes, shapes, and textures by asking what they see. Optional: Children can categorize these materials by size, height, shape, color, texture, and/or use.
- \* Model for children how materials can interact with each other. Then, working together, stack boxes or connect paper towel rolls with tape to make ramps and tunnels. Ask children to describe how each box could be stacked differently before deciding on a final structure.
- \* Model for children how objects (toys or balls) can interact at various inclines. Ask: Does the ball go up or down if you hold the ramp or tunnel at a certain angle?
- \* Let children start constructing tunnels, ramps, or even a town with the assortment of boxes and rolls. While the students are constructing, encourage them to stop, think, and wonder. Invite them to test what will happen at different angles and inclines. Encourage students to adapt and change their plans based on their findings.

#### Vocabulary

tunnel, ramp, slope, fast, slow, connect, construct, incline, decline, force, motion, movement





## Resources for Parents and Teachers

### Picture books for children

Enjoy these selections with children before or after visiting *Playscape*

#### Babyscape

Roger Priddy's board books

Marion Billet's *Noodle* board books

*Kaleidoscope* by Salina Yoon

*Flaptastic Colors* and *Flaptastic Shapes*,  
DK Publishing

*Touch and Feel: Animal Colors*, DK  
Publishing

*That's Not My . . . (Truck, Dinosaur, Frog,  
Pirate, etc.)*, Usborne board books

#### The Natural World

*Jo MacDonald Saw a Pond* by Mary  
Quattlebaum

*Would You Rather be a Pollywog?* by  
Bonnie Worth

*At the Beach* by Alexa Andrews

*The Wide-Mouthed Frog* by Keith  
Faulkner

*Water in the Park: A Book about Water  
and the Times of Day* by Emily Jenkins

*Where Is the Frog?* by G. Raldine Elschner

*Looking Closely Around the Pond* by  
Frank Serafini

*Life in a Pond* by Craig Hammersmith

*Baby Animals of Lakes and Ponds* by  
Carmen Bredeson

#### The World of Art and Music

*Mousterpiece* by Jane Breskin Zalben

*The Dot* by Peter H. Reynolds

*Ish* by Peter H. Reynolds

*Lumpito and the Painter from Spain* by  
Monica Kulling

*The Museum* by Susan Verde

*Scribbles and Ink* by Ethan Long

*The Artist Who Painted a Blue Horse* by  
Eric Carle

*Art & Max* by David Wiesner

*Bertha and the Frog Choir* by Luc

Focroulle

*The Ant and the Grasshopper* by Rebecca  
Emberley

*M is for Music* by Kathleen Krull

*Zin! Zin! Zin! A Violin* by Lloyd Moss

*A is for Alliguitar: Musical Alphabeasts* by  
Nancy Raines Day

*Passing the Music Down* by Sarah  
Sullivan

#### The Invented World

*Building our House* by Jonathan Bean  
(building)

*If You Give a Mouse a Cookie* by Laura  
Numeroff (cause and effect)

*Bedtime is Canceled* by Cece Meng  
(cause and effect)

*When the Leaf Blew in* by Steve Metzger  
(cause and effect)

*The Wind* by Monique Felix (wind)

*1-2-3 Va-Va-Vroom!* by Sarah Lynn (cars  
and trucks)

*Everything Goes: On Land* by Brian Biggs  
(cars and trucks)

*Speed* by Nathan Clement (motion)

*Goodnight, Goodnight, Construction Site*  
by Sherri Duskey Rinker (building)

*Wendel's Workshop* by Chris Riddell  
(building)

*Awesome Dawson* by Chris Gall

#### Resource Books for Adults

*The Preschool Scientist: Using Learning  
Centers to Discover and Explore  
Science* by Robert A. Williams

*50 Fantastic Things to do with Babies* by  
Sally and Phill Featherstone

*125 Brain Games for Babies* by Jackie  
Silberg

*125 Brain Games for Toddlers and Twos*  
by Jackie Silberg

*First Art for Toddlers and Twos* by  
MaryAnn F. Kohl

*The Budding Scientist* by Stephanie  
Roselli

*The Budding Builder* by Laura Laxton

*First Steps in Music for Infants and  
Toddlers* by John M. Feierabend

*First Steps in Music for Preschool and  
Beyond* by John M. Feierabend

### Websites

For the latest research on how young children develop and learn, see these resources:

Children Now—Early Learning and  
Development  
[www.childrennow.org/index.php/learn/early\\_learning\\_and\\_development/](http://www.childrennow.org/index.php/learn/early_learning_and_development/)

Harvard University – Current research  
on development in early childhood:  
<http://developingchild.harvard.edu>

Indiana Department of Education  
— Foundations to the Indiana  
Academic Standards for Young  
Children from Birth to Age 5  
[www.doe.in.gov/site/default/files/curriculum/indiana-foundations-february-2012-2.pdf](http://www.doe.in.gov/site/default/files/curriculum/indiana-foundations-february-2012-2.pdf)

National Association for the Education  
of Young Children – There is a  
membership fee of access to the full  
website. See the Family Page for  
helpful hints:  
[www/naeyc.org](http://www/naeyc.org)

Wisconsin Council on Children &  
Families—Brain Development and  
Early Learning  
[www.wccf.org/pdf/brain\\_dev\\_and\\_early\\_learning.pdf](http://www.wccf.org/pdf/brain_dev_and_early_learning.pdf)

Zero to Three – Current research on  
children from birth to age three:  
[www.zerotothree.org](http://www.zerotothree.org)



## Playscape Tips

### The Invented World

#### What vocabulary should I use?

Use accurate terms and keep talking. Don't hesitate to use the bigger words to describe concepts right from the start.

#### Perimeter

"I like the way you have built the perimeter of the building! The perimeter is the outside edge of the shape. Let's trace the perimeter together with our fingers."

#### Construct

"Let's see what we can construct, or build, together."

#### Symmetry

"Wow, your design has symmetry – both sides match up!" or "If you put the same blocks on each side of your design, you will have symmetry."

#### Cause/Effect

"Did you see how that lever made that ball go up in the air? The lever caused the ball to shoot up. What happened to the ball after that?" or "Did you observe what happened when we placed the last block on top? What happened when we did that?"

#### Fun words for "fall" or "shake"

You will hear these words a lot when a tower gets too tall! Try new words like **collapse, topple, crash, tumble, drop, bobble, plunge down, teeter, wobble, totter, tremble, jiggle, balance, rock, shiver, twitter, vibrate, or wiggle**. You might make up a word of your own like "jobble!"

#### Stages of Block Play

The interesting thing about block play is that children go back and forth between the stages at different points in their development. Whatever the stage, give your child plenty of time to play with blocks. Block play isn't just for early learners. So get down on your knees with children and start building!

#### Stage One: The Carrier and Picker-Upper (ages 1 to 3)

They will move blocks from one end of the table to the other, pick up a block and put it down a few inches away. They will drop blocks, pick them up, and do it over and over again.

#### Stage Two: The Stacker (ages 2 to 4)

The Stacker begins to explore what happens to the blocks when they are arranged either vertically or horizontally. Children usually begin with blocks the same size and shape on the floor or start building a small tower.

#### Stage Three: The Bridge Builder (ages 3 and 4)

When a child discovers what two short blocks and one long one can turn into, a whole new world is ready to be explored.

#### Stage Four: Engaging Enclosures (ages 3 to 5)

In this stage, the young inventors arrange the blocks to make a closed shape, such as a square or a rectangle. At first, the shape might be too long on one side and too short on the other.

#### Stage Five: The Decoration Maker (ages 4 and 5)

The Decoration Maker will add more blocks to expand on the aesthetics or beauty of the structure.

#### Stage Six: The Namer (ages 3 to 5)

Is it a space station, a veterinary clinic, a mansion, or a farm? In this stage the buildings children invent comes to life with characters, specific named spaces for each "room," and lots of details that support their imaginative stories!

#### Stage Seven: The Dramatic Player (ages 4, 5, and beyond!)

Children may add new structures to enhance their work, such as gardens, a space capsule, a car, a horse—or anything that might give more detail to their vision.

## The World of Art and Music

### Stages of Children's Drawing

Child development experts have studied the artistic expression of thousands of children at different ages and have compiled a description of how children move from scribbles on a page to writing and drawing. Here are some general findings.

#### The Scribbling Stage [ages 18 to 36 months]

At this stage, art making is probably closer to joyful physical exercise as children get caught up in the pleasure of moving their arms and making marks on a surface. As children experiment with their movements on paper, marks become more orderly and scribbles gradually represent objects in the real world.

#### The Preschematic Stage [ages 3 to 5]

Drawings become more intentional, in that children are creating marks that represent things they know in the real world. For example, a circle becomes a sun, or a square with a triangle on top becomes a house.

#### The Schematic Stage [ages 5 to 6]

Landscapes appear in pictures drawn by most 5- and 6-year-olds—a blue line at the top of the paper for sky and a green line or base line near the bottom representing the grass or ground. As children mature, they strive for greater accuracy in their drawings and pay particular attention to details—the scales on a dinosaur, the stripes on a zebra, the facial features on people.