Welcome to IP Ed!

We at Imagination Playground believe in the opportunities and possibilities when Play is made a priority in children's lives. Play is the work of children.

Block play is a foundational learning experience for young children. Providing opportunities for holistic development, including spatial awareness, fine and gross motor development, community building, determination, cognitive development, (and more!). The benefits of block play extend to all content areas while addressing wide-ranging standards and skills within early childhood education. The unique design of Imagination Playground Blocks invites children to build differently, making new connections, collaborating more, and creating bigger, more ambitious open-ended constructions.

Over the years we've observed teachers using the Imagination Playground Blocks in creative ways, making block play a central learning tool in their classrooms. Inspired by the work of innovative educators, we are offering IP Ed, showcasing lesson plans and resources to help teachers, community developers, and home-schooling parents envision and enact the rich opportunities offered through block play.

We've designed the lesson plan modules in IP Ed to spark ideas for cross-curricular connections with block play. Our lesson plans all include the following components:

Foundations. Each lesson plan begins with a brief introduction to the foundational skills offered by focused block play.

Invitation(s) to Play. As educators we can set up our blocks and classroom environments in ways that provoke thought, spark conversation and collaboration, and ignite new ideas! We suggest a variety of ways to create engaging opportunities for play.

Provocation. In our Pre-k lessons we include provocations, or possibilities for mini lessons when gathered for circle time or meeting to create a common focus for the classroom community, focusing on specific content area connections and going deeper into the foundational skills.

Responding to Children's Play. During free play children often make rich connections and

Welcome to IP Ed! (Continued)

engage in a variety of inquiries as they express their stories, wonderings, thoughts, connections, and curiosities through their constructions. Our responses to play can shape the children's understandings and foster further connections. We suggest optimal times and ways to enrich your students' play.

Extensions and Adaptations. The learning doesn't stop once children leave the block area. We highlight possible connections encouraging holistic learning and a variety of cross curricular opportunities.

Supporting & Challenging Learners. We recognize all children learn at different paces and in different ways. To support our all of our learners we suggest ways to scaffold the children's block play as it connects to the specific curricular areas to support each child an appropriate level of challenge.

Teacher Tools. We know children learn best when they make connections, so we include supporting resources, such as glossary of terms, materials lists, resources, and lists of suggested book titles to further enrich your explorations as a community, and more. Please visit our Learning Library for even more resources!

Paper Playground. In many of our lessons we refer to our Paper Playground, a resource of Imagination Playground learning materials including our Alphabet Sheets and Number Line, all specifically created to support foundational learning.

We love to hear from educators! Our IP Ed is ever growing and we'd love to hear more about how you use Imagination Playground Blocks in your classroom. Connect with us using the information below and share your children's constructions and block play using #ImaginationPlayground!

Happy Building!

Heather J. Pinedo-Burns, Ed.D.
Columbia University-Teachers College's Hollingworth Preschool, Director

We Transform Children's Minds, Bodies, and Spirits through Play!

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Language & Literacy – Constructing Letters PreK

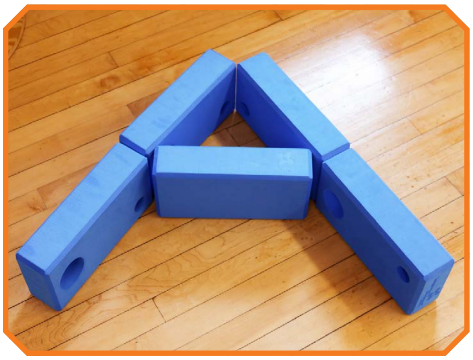
Preschool is a time of wonder about the world, joy in learning, making meaningful connections, and remarkable holistic developmental growth. The experiences of early childhood create foundations for young children's ongoing education. We at Imagination Playground believe in the rich academic opportunities afforded by dedicated time for block play. Math, science, literacy, community building and social emotional development are all woven benefits of block play. Educators, parents, and community members can support the integration of foundational skills and block play through intentional planning and pedagogical actions using Imagination Playground Blocks*. Interested in learning more? There are more lessons and ideas in our IP-Ed section of our website, or get in touch using the information on the last page!

**Don't have Imagination Playground Blocks? Use alternative materials readily available in your own classroom.*

Learning Thread: Letter Recognition

Foundations:
Letter recognition and formation are key early literacy skills, supporting reading proficiency, decoding text, and applying the alphabetic principal. Use the Imagination Playground Blocks to support your students' explorations of the alphabet, focusing on specific letters.

Invitation to Play:
Set up the blocks to visually create A B C, leaving D, E and F semi formed with potential materials easily accessible. If you have alphabet cards, set out a few alphabet cards corresponding to the letters created using Imagination Playground blocks. Or, use the Paper Playground Alphabet Sheets to inspire your letter formations. Either work to match the creations or create your own designs!



Provocation:
In a mini lesson or during circle time model how might you be able to create the letter A (or any other letter) using the blocks. There are many possible ways to construct the letter A.

Share that today during work time each of the children will have the opportunity to also create at least one letter. Assign or ask each child (or a groups of children) to create a letter of the alphabet, photographing a letter individually with the child(ren) who constructed it. You may want each child to create their first letter of their name and/or assign each child or group of children a different letter to best support each child's individual academic needs. Consider offering the Paper Playground Alphabet Sheets to the students as reference prompts for the students.

Then print for your own homemade Imagination Playground Alphabet Cards. You can hang them on your wall and/or add them to your writing-literacy desk or area.

Language & Literacy – Constructing Letters PreK

Responding to Children's Play:
Children will often notice letters in everyday life. They will also happily point out letter connections when they see them. As children say, "I made an I!" or "It's the letter L!" Acknowledge this and encourage your students to go further: "I see the letter L! I wonder if you could make the first letter of your name?" Or if a child makes a T, you can share, that you can also easily make the letter L or I!

Extensions and Adaptations:

If you print two sets of alphabet cards they can become matching cards for a homemade classroom game.

Consider handwriting each letter on the back of the cards and/or including a photo of the child(s) or persons who constructed the corresponding letter. If you create two sets, this can then become a matching game to build community and support early literacy.

Create a class alphabet book. Using the Imagination Playground Blocks, have each child create one letter with the blocks. Take a photo of the block construction and the child. Then, ask the child to dictate a story about their selected letter and/or create a phrase that states, "B is for Book" or "B is for Baby." There are lots of possible book inspirations – the children could create a name book, with each child creating a page for their first letter of their name.

Everyone binds his or her books differently. A simple, easy way is to use a hole punch and a ring binding, twine, or ribbon. If using the ring binding, consider using a ribbon to add a bow to the top of the book for an added touch.

Most children know the alphabet song, sung to the same tune as Twinkle, Twinkle, Little Star. What other songs do you and your students know that feature the alphabet?

Supporting Learners:
Using tape on the ground and a selected group of blocks, scaffold the construction of specific letters. Some students will need to see many sample alphabet books as models to better understand and participate in the prompt.

Challenging Learners:
Most children will create the letters flat on the ground, making 2D shapes. Offer a provocation to the children to see if they make the letters three-dimensional. For children who are spatially adept add an element of challenge, encouraging the students to construct the letters together to create a 3D structure. Consider giving children who find this activity engaging, more difficult letters to create, such as K or R.

Language & Literacy – Constructing Letters PreK

Teacher Tools

Glossary of Terms:

Alphabetic Principle – understanding the relationship between letters and the sounds they represent

Materials:
Imagination Playground Blocks
Optional: Tape
Camera
Printer
Card Stock/Paper

Possible Resources:
The Essentials of Early Literacy Instruction – NAEYC

Alphabet Book List – No Time for Flashcards

Whatever Happened To Developmentally Appropriate Practice in Early Literacy? – NAEYC

Preschool Language and Literacy: A Child's Passport to Lifelong Learning – National Association of Elementary School Principals (NAESP)

Potential Literacy Connections:

- *Alphabet City* by Stephen T. Johnson
- *Chicka Chicka Boom Boom* by Bill Martin Jr. and John Archambault
- *Eating the Alphabet* by Lois Ehlert
- *Letters: Building an Alphabet with Art and Attitude: ABC – Do you Dot a D?* by Peter Liptak and Lynn Tsan
- *LMNO Peas* by Keith Baker
- *The Alphabet Tree* by Leo Lionni
- *The Letters are Lost!* by Lisa Campbell Ernst

Learning Through Play:

Skills & Standards: Letter Awareness & Recognition

- Recognize letters of the alphabet
- Knowledge of letter names
- Notice printed text and letters have meaning
- Understand and apply of letter-sound correspondence

Holistic Learning:

Cognitive: Engagement in Play, Making Connections

Fine Motor: Finger Play

Gross Motor: Core Strength, Crossing the Midline

Language & Communication: Engaging in reciprocal communication with adults and peers

Social Emotional: Community Building and Participation

Paper Playground:

Use the 2-D Uppercase Alphabet Sheets as a guide or print out to use as an alphabet wall in the classroom.

Language & Literacy – Pretend Play Toddlers

Toddlerhood is all about learning while playing. At Imagination Playground we believe in the power and potential of play. As educators, parents, and community members there are specific actions we can take to support open ended toddler play. First, we must observe and respond to the work of children. What are your toddlers exploring and how can we best support their inquiries? Second, we can offer toddlers invitations to wonder and learn through engaging provocations with Imagination Playground Blocks*. Interested in learning more? There are more lessons and ideas in our IP-Ed section of our website, or get in touch using the information on the last page!

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Learning Thread: Symbolic Language Development

Foundations:

Language development and pretend play are linked, flourishing in young children as they explore the use of symbols through play—and of course, the work of toddlers is play! Pretend play is an important facet of toddler development providing young children the opportunity to explore, test out their ideas and working theories, and have fun! Pretend play is an important element in early language development for toddlers as it encourages storytelling while children learn and use new vocabulary words, grow socially and emotionally.

Pretend play often begins with babies repeating daily activities, like pretending to go to sleep, saying, "Night! Night!" or feeding their baby doll and saying, "Eat!" As pretend play and language develop in toddlerhood, you will notice more complex scenarios emerge as children to use the Imagination Playground Blocks in their pretend play. For example, children will use everyday objects symbolically playing house or telephone, assigning roles for peers and adults to play.

Invitation to Play:

Set up the blocks to visually create recognizable materials reflective of recent pretend play themes. For example, if the children are enjoying playing house, set up the Imagination Playground Blocks to form a sofa, a writing desk, or a bed, or perhaps even a house! Consider offering a few dolls in the block area to foster these connections.

If the children are enjoying things that move, create a vehicle like a train or perhaps a shopping cart. Offer specific props for students to use to encourage pretend play related to the themes your children are exploring. Adding open ended items and loose parts such as animal figurines, sea shells, river rocks, scarves, recycled paper towel tubes, or recycled Styrofoam or packing materials can serve as sparks for language rich play.

Responding to Children's Play:

Encourage pretend play by engaging with toddlers. When a child picks up a primary block and holds it to her ear, follow the child's lead and do the same, saying, "Ring, ring! Hello! Is Elizabeth there?" Or, if a child holds

Language & Literacy – Pretend Play Toddlers

up two primary blocks to form a book and begins to tell a story, respond by asking the child about the story, or asking, "Read it again!"

If your group of children have specific themes they like to revisit, add signs to spark conversation, such as GROCERY STORE accompanied with materials that support these explorations.

Extensions and Adaptations:

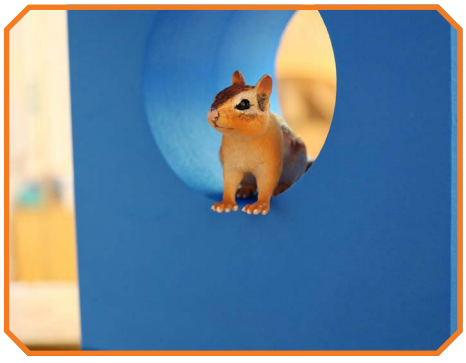
Print photographs of each child sized to fit on the primary blocks. This can spark all sorts of imaginary play while promoting the social emotional growth of individuals and community collaboration.

Supporting Learners:

For some toddlers they are still quite grounded in the concrete. Encourage pretend play by pretending yourself in a variety of ways. If you recently read *The Three Little Pigs*, consider making the houses with the Imagination Playground Blocks and retelling the story acting it out. Or, set up materials to create a Bakery Shop, making muffins with the nickels or primary pieces. Consider adding song to support language development and pretend play, singing "Patty Cake" or the "The Bakery Shop Song" as you bake with the Imagination Playground Blocks.

Challenging Learners:

Encourage children to engage in multi-step process play documenting their play and constructions. Print the photographs and ask the children to tell or re-tell the story.



Language & Literacy – Pretend Play Toddlers

Teacher Tools

Glossary of Terms:

Pretend Play – also known as creative play, imaginary play, symbolic play and make believe.

Materials:
Imagination Playground Blocks
Loose parts, scarves, & other open ended materials

Possible Resources:
Block Building and Make Believe for Every Child by Janis Strasser and Lisa Mufson Koeppel in NAEYC

Effect of Block Play on Language Acquisition and Attention in Toddlers by Dimitri A. Christakis, MD, MPH; Frederick J. Zimmerman, PhD; Michelle M. Garrison, PhD

The Land of Make Believe: How and Why to Encourage Pretend Play by Lauren Lowry - The Hanen Center

The Need for Pretend Play in Child Development by Dr. Scott Barry Kaufman, Dr. Jerome L. Singer, & Dr. Dorothy G. Singer

Parts as Furniture from "Imagination Playground's Guidance to Play" by George E. Forman, PhD

Potential Literacy Connections:

- *Big Red Bath Board book* by Julia Jarman & Adrian Reynolds
- *Each Peach Pear Plum* by Janet and Allan Ahlberg
- *Huff & Puff* by Claudia Rueda
- *Pete's a Pizza* by William Steig
- *We're Going on a Bear Hunt* by Helen Oxenbury & Michael Rosen

Learning Through Play:

Skills & Standards:
Vocabulary Acquisition & Use

- Use new vocabulary in the context of dramatic play, daily routines and classroom conversations.
- Understand & use conventional words for objects, actions, & attributes in both real & symbolic contexts.

Speaking & Listening

- Retell a story in sequential order using various materials.

Holistic Learning:

Cognitive: Organizing and Understanding Information, Applying Knowledge, Engaging in Associative Play

Creativity, & Imagination:
Exploring real or make-believe scenarios through dramatic play, Using objects purposely in acting out familiar scenarios

Language & Communication:
Using new vocabulary introduced in readings, inquiries, or conversations, Using gestures to reinforce the word meanings in play acting

Social Emotional: Engaging in Cooperative Play

Science – Exploring Ramps PreK

Preschool is a time of wonder about the world, joy in learning, making meaningful connections, and remarkable holistic developmental growth. The experiences of early childhood create foundations for young children's ongoing education. We at Imagination Playground believe in the rich academic opportunities afforded by dedicated time for block play. Math, science, literacy, community building and social emotional development are all woven benefits of block play. Educators, parents, and community members can support the integration of foundational skills and block play through intentional planning and pedagogical actions using Imagination Playground Blocks*. Interested in learning more? There are more lessons and ideas in our IP-Ed section of our website, or get in touch using the information on the last page!

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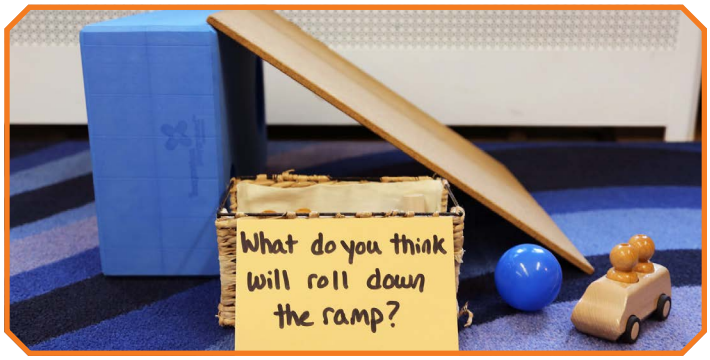
Learning Thread: Physics – Simple Machines

Foundations:

Simple Machines are found in our everyday environments and make life easier for us. Use the Imagination Playground Blocks to support students' exploration of simple machines such as inclined planes. Inclined planes are simple machines, such as ramps that help us move objects to a raised surface. From slides at the playground, to ramps to run up and down, to dump trucks, inclined planes and other simple machines are part of children's everyday lives and play.



Invitation to Play:

Set up the blocks to make a sturdy tower with a ramp formed by using a large flat panel, a floor board, poster board, or recycled box to form a ramp. Have nickels, balls, connectors, and other materials available for students to roll down the ramps.

Provocation:

Draw a ramp on the board or using chart paper, and then create one using the Imagination Playground Blocks.
Ask the children to predict what will happen when you put a ball, connector, or nickel at the top of the ramp. During work time, invite the children to create their own ramps and explore what happens when they put the nickels, balls, and connectors at the top of the ramps.

Responding to Children's Play:

Making ramps and letting objects roll down the ramps often happens quite naturally with Imagination Playground Blocks. Encourage these explorations asking children, "What do you think would happen if you made a taller ramp?" or "If you made your ramp higher, what do think will happen?"

Extensions and Adaptations:

Go on a Discovery Walk Ramp Tour seeking out inclined planes, encouraging children to notice the inclined planes in their everyday life -- from playground slides, to dump trucks, to the ramps at entrances to buildings. Bring a camera and document the ramps you see on your walk to print out and use in the classroom.

Construct a long ramp leading to a sturdy tower with the Imagination Playground Blocks and other materials. Place a banker's box or basket with handles or ties with a few heavy objects, such as books or wooden unit blocks on the

Science – Exploring Ramps PreK

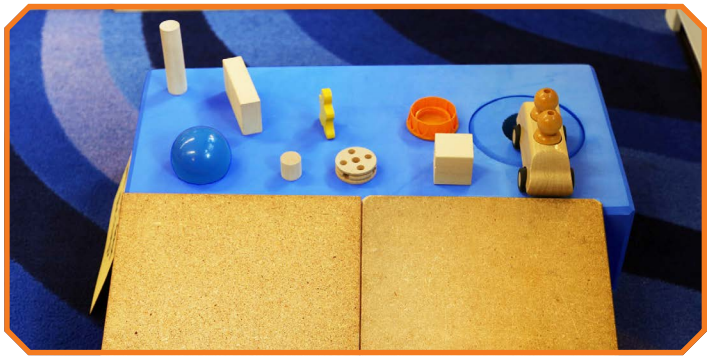
floor near the bottom of the ramp, with an invitation to the children asking, “Can you lift the box to the top of the tower?”

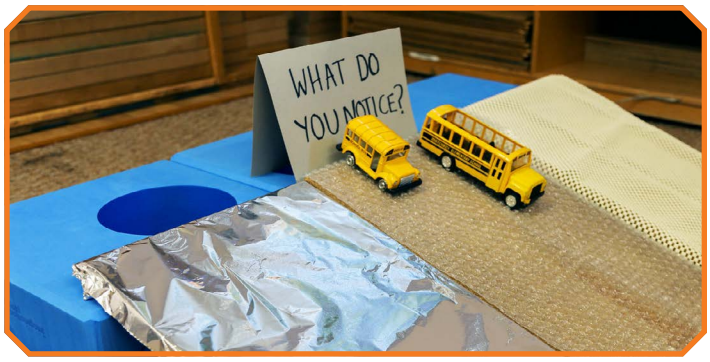
Supporting Learners:
Using the primary blocks as a base, lean a long block to create a gentle ramp. Or, set up the blocks with a variety of ramps at different heights. Have nickels, balls, and connectors available for students to roll down the ramps. Leave a note for the students asking, “What do you notice?” or "What do you think will roll down the ramp?"

Sliding and rolling are two related but different concepts. Offer students an opportunity to explore objects that roll and don’t roll. Provide the students a variety of objects that will roll (cylinders, balls, wheeled-vehicles) and objects that won’t roll but slide (squares, triangles, stuffed animal, books).

Challenging Learners:
There are many factors that influence how fast objects will travel, such as the slope, or the steepness of a ramp as well as friction.

Explore friction by adding different materials to the ramps. By adding a layer of bubble wrap, sandpaper, shelf liner, tin foil, or waxed paper, encourage the children to observe the differences in the textured ramps. Encourage the children to make predictions about how each texture will influence the motion of the objects traveling down the ramps. Then, ask the students to share their observations, "What do you notice?"





get in touch +1.678.604.7466 contactus@imaginationplayground.org
www.imaginationplayground.com

Science – Exploring Ramps PreK

Teacher Tools

Glossary of Terms:

Friction – the action or resistance when one object rubs on another
Inclined Plane – flat surface with one end higher than the other, such as a ramp
Roll – moving by turning over and over
Slide – moving while always touching the surface
Slope – a surface that slants up or down

Materials:
Imagination Playground Blocks
Flat panels
Misc materials for rolling and sliding

Possible Resources:
Ramps and Pathways: Developmentally Appropriate, Intellectually Rigorous, and Fun Physical Science – NAEYC

Moconomi offers a short video explaining how ramps help people lift heavy objects.

Potential Literacy Connections:

- *Dreaming Up: A Celebration of Building* by Christi Hale
- *Push and Pull (Rookie Read-About Science)* by Patricia J. Murphy
- *Ramps and Wedges (How Toys Work)* by Sian Smith
- *Roll, Slope, and Slide: A Book About Ramps (Amazing Science: Simple Machines)* by Michael Dahl and Denise Shea
- *Simple Machines (Let's-Read-and-Find-Out Science 2)* by D. J. Ward and Mike Lowery
- *Simple Machines: Wheels, Levers, and Pulleys* by David A. Adler and Anna Raff
- *When I Built with Blocks* by Niki Alling

Learning Through Play:

Skills & Standards:
Force and Motion

- Explore the physical science of nonliving matter and energy
- Observe the nature of motion, force, and energy

Holistic Learning:

Cognitive: Critical Thinking, Making Predictions, Problem Solving

Fine Motor: Grasping objects to roll

Gross Motor: Core Muscular Strength

Language & Communication: Articulating ideas with peers

Social Emotional: Taking Turns

Science – Water Play Toddlers

Toddlerhood is all about learning while playing. At Imagination Playground we believe in the power and potential of play. As educators, parents, and community members there are specific actions we can take to support open ended toddler play. First, we must observe and respond to the work of children. What are your toddlers exploring and how can we best support their inquiries? Second, we can offer toddlers invitations to wonder and learn through engaging provocations with Imagination Playground Blocks*. Interested in learning more? There are more lessons and ideas in our IP-Ed section of our website, or get in touch using the information on the last page!

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Learning Thread: Scientific Inquiry

Foundations:

Most children are drawn to water. Use the Imagination Playground Blocks to invite toddlers to learn and play with water affording young children the opportunity for sensory play while engaging in the roots of the scientific method and the language of early scientific inquiry.

Invitations to Play:

Outdoors

Using the chutes and channel pieces create a water park with Imagination Playground Blocks. While it can be fun to have the water flow through the channels with a hose, consider turning the hose off and having the children fill buckets to dump water down the chute and into the channels. This will allow the children a different experience, affording the opportunity to experience the water flow, disperse, and empty before the next bucket of water.

Indoors

Integrate Imagination Playground Medium and Small Blocks into water play areas in the classroom, such as the sink or your water-sensory table. A large plastic tub also works! In addition to the Imagination Playground Blocks, offer the children simple tools such as scoops and cups to gather the water and funnels for play. Not only will the blocks float in water but you can create a mini-water park at the base of an empty tub or sink and invite the children to pour water to flow through the chutes using small cups, buckets, or spray bottles.

Responding to Children's Play:

Observation is an important aspect of scientific inquiry. As children are playing encourage their observations of the water by narrating what you see. "Wow! That was a big splash!" or "Look at the water flowing down the chute."

Questions are roots of scientific inquiry. Model questions for toddlers. It is important to wonder with children and not always provide an answer. "I wonder, why is the water all gone?" or "It looks like the water traveled fast. I wonder, why does water flow?" When children notice water in a bucket is displaced when you put a noodle inside, wonder

Science – Water Play Toddlers

with them, "Wow! When you put the noodle in the bucket, the water overflows! I wonder what happens if you push the noodle all the way down?"

Investigate together. As children have ideas about pouring more water from a bigger bucket or adding water to a different section, encourage these explorations. This is early scientific theorizing, respond by saying, “Yes! Let’s do that!” or “What do we need?” Position the children as inquirers guiding the exploration.

Extensions and Adaptations:

Offer the children ice. You can add ice to the water, or perhaps on a warm and sunny day, just offer ice with the chutes. Encourage the children to play with the ice as it melts and observe the changes in the state of matter.

Consider adding other sensory stimuli to the experience, by adding scents, bubble solution or food coloring to the water.

Offer the children different items that will sink and float in the Imagination Playground Block channels. Encourage the children to predict what will sink and float and then ask the children, “Why?” Use scientific language such as, “I see the ducky stays on the surface of the water but stone sinks to the bottom.”

Supporting Learners:
Not all toddlers enjoy getting wet. Some children prefer to study and explore water from afar. Provide materials for children such as handled buckets or large turkey basters that allow the children to engage in the water play within their own level of comfort.

Challenging Learners:
Respond to the toddlers' ideas. If the children are puzzling over how the chutes were constructed to hold water, encourage them to take it apart and rebuild.

Science – Water Play Toddlers

Teacher Tools

Glossary of Terms:

Sink – when something goes to the bottom of the water or liquid
Float – when something stays at the surface or the top of the water or liquid

Materials:
Imagination Playground Blocks-Channel Blocks
Water, buckets, cups & funnels
Spray Bottles

Possible Resources:
Promoting Children's Science Inquiry and Learning Through Water Investigations by Cindy Hoisington, Ingrid Chalufour, Jeff Winokur, and Nancy Clark-Chiarelli

Learning Through Water Play – NAEYC

Science Concepts Young Children Learn Through Water Play by Carol M. Gross – *Dimensions of Early Childhood* – Southern Early Childhood Association

Transforming a Reggio-Inspired Documentation Assignment Using VoiceThread, an Online Collaborative Tool by Vicki Bartolini and E. Patrick Rashleigh – North American Reggio Emilia Alliance

Potential Literacy Connections:

- *All the Water in the World* by George Ella Lyon & Katherine Tillotson
- *Float* by Daniel Miyares
- *Water* by Frank Asch
- *Water Can Be...* by Laura Purdie Salas and Violeta Dabija
- *Water Dance* by Thomas Locker
- *Water Is Water: A Book About the Water Cycle* by Miranda Paul & Jason Chin
- *Yellow Umbrella* by Dong Il Sheen and Jae-Soo Liu

Learning Through Play:

Skills & Standards:
Scientific Thought, Inquiry, and Processes

- Make observations of objects and happenings in their environment
- Demonstrate curiosity, making simple questions based on observations
- Make predictions based on observations of events and objects in the environment

Demonstrate ability to investigate and compare characteristics of natural materials such as water, sand, rocks, and air.

- Observe the properties of non-living materials, noticing the characteristics and physical properties of liquids
- Predicts if objects will sink or float in water

Holistic Learning:

Cognitive: Observing, Predicting, & Practicing a Flexibility of Mind

Fine Motor: Utilizing hand-eye coordination

Language & Communication: Exploring new vocabulary

Social Emotional: Engaging in soothing sensory play, Taking turns

Mathematics - Early Addition PreK

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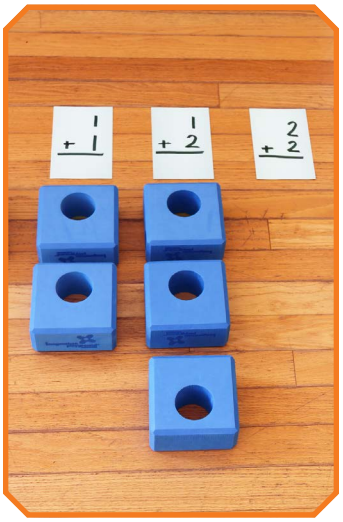
Learning Thread: Counting & Cardinality

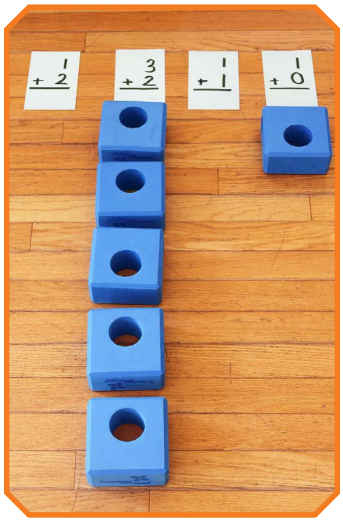
Foundations:

Each time a child expands their Imagination Playground Block construction with "one more piece" they are engaging in the mathematical practice of addition. Counting and one-to-one correspondence are foundational to addition. Foster students' comprehension and practical application of this foundational mathematical concept using the Imagination Playground Blocks.

Invitation to Play:

Create addition cards inviting the students to work through the answers using different shapes offered by the Imagination Playground Blocks.





Set out a model of how to complete this task by completing the first and second cards while leaving the remaining cards incomplete. Once students gain a better sense of the task mix up the cards so you have a better sense of their comprehension. Using different types of blocks helps students better understand the concept that the total number of objects does not change if the blocks are different.

Provocation:

At meeting, read the book, *12 Ways to Get to 11* by Eve Merriam & Bernie Karlin to spark conversation and create a common foundation. The book explores the many ways we can add different numbers together to get the same final number. For example, 2+4=6 or 3+3=6 or 1+5=6.

Mathematics - Early Addition PreK

Share the plan that today everyone will have the opportunity to explore how many ways they can create a specific number. Give students cameras to document their many solutions and many constructions.

Responding to Children's Play:
During free play, before or when taking apart your constructions, ask the students to estimate how many blocks were used, then count how many blocks were used. Take a photo of the building before deconstruction, then print it to post with your final count. You can organize the photos chronologically or by the number of blocks used creating a number line. It is amazing how buildings with the same number of blocks can look vastly different!

Extensions and Adaptations:

Create a math wall or number line using the Paper Playground Math Sheets, or create your own with the children. Give each child a number, a camera and the question, Where do you see one (or two, or three, etc.)?

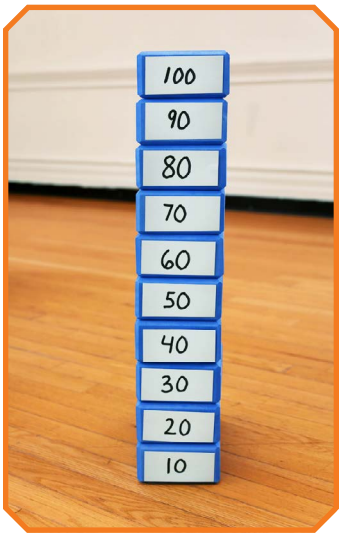
If your students enjoy creating class books, consider making a counting book. Using the Imagination Playground Blocks, you can form different numbers and/or show the different numbers in representational form. Students can create the different pages in small groups or individually.

Incorporate math into your classroom routines. For example, when making a clean up plan, consider offering the children the option, "Do you want to clean up in 1+2 or 1+3?" making early addition part of the everyday life of the classroom.

Supporting Learners:
Before students can add, they need a strong sense of counting and cardinality. Provide students opportunities to explore these concepts with specific invitations. For example, create a space for long flat construction, placing

Mathematics - Early Addition PreK

4-5 placards on the ground with different numbers. Invite students to organize the primary blocks in rows corresponding with the specific numbers. To add complexity, do not place the numbers in order, for example, the invitation might include: 7 10 4 6 12.



Challenging Learners:
For students who are beginning to explore counting by 10s, consider labeling a set of the primary blocks with the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90, & 100.

For more complex early addition, create construction prompt cards suggesting students use addition a spark for their constructions.

For example, the card might show the numbers, words and drawing of each type of block:

3 square blocks + 3 nickels + 3 primary blocks = ?

OR

6 blocks with holes + 2 long blocks + 2 long noodles = ?

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Mathematics - Early Addition PreK

Teacher Tools

Glossary of Terms:

Addition – to add objects to get a total number
Counting – to add numbers in order
Cardinality – the total number in a group

Materials:
Imagination Playground Blocks
Paper Playground Math Sheets Number Line

Possible Resources:
The Idea of an Exact Number: Children's Understanding of Cardinality and Equinumerosity by Barbara W. Sarnecka and Charles E. Wright in Cognitive Science

Mathematics for the Curious Pre-K-K: Counting and Cardinality-National Council of Teachers of Mathematics

Math Related Children's Books – NAEYC

Potential Literacy Connections:

- *100 hungry Ants* by Elinor J. Pinczes & Bonnie MacKain
- *Million Dots* by Andrew Clements & Mike Reed
- *Only One* by Marc Harshman & Barbara Garrison
- *This Plus That: Life's Little Equations* by Amy Krause Rosenthal & Jen Corace
- *12 Ways to Get to 11* by Eve Merriam & Bernie Karlin

Learning Through Play:

Skills & Standards:
Operations & Early Algebraic Addition

- Demonstrate an initial understanding of numerical operations.
- Add to and take apart sets.

Holistic Learning:

Social Emotional: Taking turns, Problem Solving

Fine Motor: Grasping and ordering objects

Language & Communication: Using new words to identify object groupings

Cognitive: Spatial Reasoning, Making Connections

Mathematics - Recognizing Shapes Toddlers

Toddlerhood is all about learning while playing. At Imagination Playground we believe in the power and potential of play. As educators, parents, and community members there are specific actions we can take to support open ended toddler play. First, we must observe and respond to the work of children. What are your toddlers exploring and how can we best support their inquiries? Second, we can offer toddlers invitations to wonder and learn through engaging provocations with Imagination Playground Blocks*. Interested in learning more? There are more lessons and ideas in our IP-Ed section of our website, or get in touch using the information on the last page!

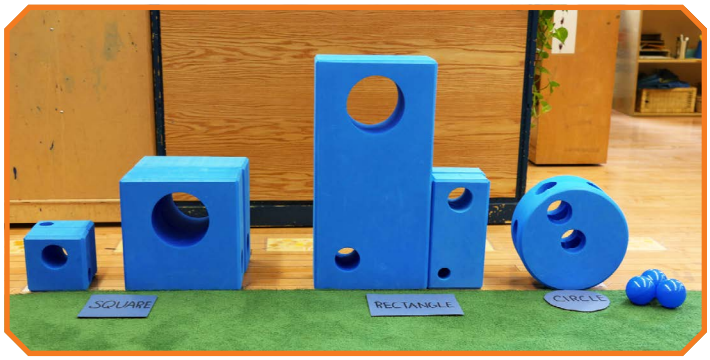
**Don't have Imagination Playground Blocks? Use alternative materials readily available in your own classroom.*

Learning Thread: Geometry

Foundations:

The world is made of shapes. Use the Imagination Playground Blocks as the starting point for supporting children's early explorations with shapes. Toddlers need tactile explorations with different shapes as they learn to recognize the different attributes of shapes, supporting shape recognition. Give your toddlers the opportunity to explore shapes in everyday life using the Imagination Playground Blocks.

Imagination Playground Blocks include the foundational shapes: Square, Circle, and Rectangle.



Invitations to Play:

Organize the blocks into groupings of different shapes, by placing all of the squares together, all of the circles together, and all of the rectangles together.

On the floor, use removable colored tape to create the silhouette outlines of each of the shapes. The children can then match the Imagination Playground Blocks to the tape silhouettes around the room.

Or create a Shape Scavenger Hunt. Making shape stations, using Imagination Playground Blocks, everyday classroom materials, and the Shapes Sheets Paper Playground. Place one rectangle Imagination Playground Block with the Rectangle Shape Sheet, and one or two everyday objects, such as a book, an index card, or an empty box of crackers. Every teacher will approach this differently, as some teachers will focus on one specific shape to look for on different days. Other teachers will have the children go around the classroom for interesting objects and then sort them into their specific shapes identifying rectangles, squares, and circles as the children play.

Mathematics - Recognizing Shapes Toddlers

Children will all approach the Shape Scavenger Hunt differently. Some children will often bounce around between shapes, searching around the classroom for interesting objects and then try to match them with the specific block shapes. Other children will focus their attention to one shape and work steadily find as many matching objects. Take photographs of the many shapes the children collect and organize. Then display these photographs with labels: Circles, Squares, and Rectangles.

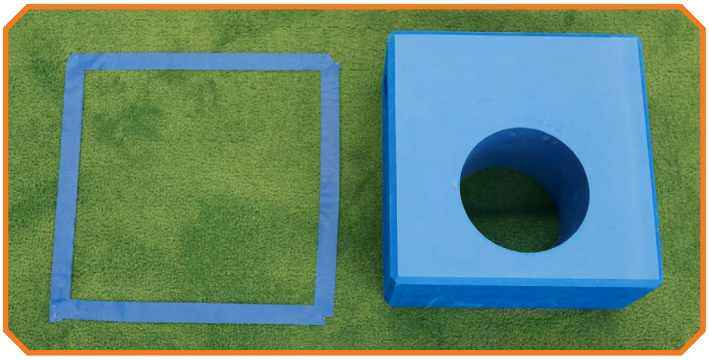
Responding to Children's Play:
Toddlers learn through their play. As they are exploring the blocks, building, stacking, channeling, and connecting, narrate their work. For example, "That is a square in your hands." Encourage their verbal articulations of their work, saying, "I see you built a square. Are you going to add another block on top of the square?" Or, "Which ones are the squares?" or "Are there more squares on the floor?"

Encourage children's connections, sharing, "You found a square! The scarf of the ground is also a square." Or, "I see you have circle in your hand. I see another circle on the wall" and point to the clock, or other objects of similar shapes.

Extensions and Adaptations:

Create a label for the different organizational groupings of blocks with a sketch of the shape and the word written in all caps to further connect the students' work to early literacy development and printed texts. At cleanup time, reference the labels, saying, "Let's put all of the rectangles here," pointing to the sign and saying, "The word rectangle begins with the letter R."

During outdoor play, bring sidewalk chalk and draw the basic shapes on the available pavement creating a 2-D shape maze or a shape graph. Give each child a challenge to only step on the squares or rectangles or triangles or circles.



Supporting Learners:
Create templates for students who are still learning their shapes. Templates could be made from cut cardboard, a outline made of tape on the floor, or even photographs blown up to life-size images.

Challenging Learners:
For children who have mastered the basic shapes, offer them a challenge of combining different shapes to create new shapes. Ask, "What happens when we put two squares together?" or "What shape did we make when we put the two rectangles together?"

Mathematics - Recognizing Shapes Toddlers

Teacher Tools

Glossary of Terms:

Square – a shape with four equal sides
Circle – a complete curved shape with no straight lines
Rectangle – 4-sided shape with straight lines

Materials:
Imagination Playground Blocks
Optional: Tape, Paper, Cardboard, Photographs

Possible Resources:
Matching and Sorting are Early Stages of Math Development – Michigan State University Extension

Children's Ideas About Shapes – Graduate School of Education at University at Buffalo

Potential Literacy Connections:

- *I See Shapes* by Marcia Fries
- *Mouse Shapes* by Ellen Stoll Walsh
- *Red Bear's Fun with Shapes* by Bodel Rikys
- *Shapes, Shapes, Shapes* by Tana Hoban

Learning Through Play:

Skills & Standards: Explore, recognize, and identify different shapes and sizes; sort items into groups

Holistic Learning:

Cognitive: Spatial Reasoning, Making Connections

Fine Motor: Grasping objects, Stacking objects

Gross Motor: Core Strength

Language & Communication: Using new words to identify objects

Social Emotional: Taking turns, Problem Solving

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