Spring 5-12-2018

Facilitating a Block Program in Kindergarten and First Grade: A Manual for Kindergarten and First Grade Teachers

Hannah Rau
Bank Street College of Education, hrau@bankstreet.edu

Follow this and additional works at: https://educate.bankstreet.edu/independent-studies

Part of the Curriculum and Instruction Commons, Early Childhood Education Commons, and the Educational Methods Commons

Recommended Citation

This Thesis is brought to you for free and open access by Educate. It has been accepted for inclusion in Graduate Student Independent Studies by an authorized administrator of Educate. For more information, please contact kfreda@bankstreet.edu.
Facilitating a Block Program in Kindergarten and First Grade:

A Manual for Kindergarten and First Grade Teachers

By

Hannah Rau

Early Childhood Education

Mentor: Sal Vascellaro

Submitted in partial fulfillment of the requirements of the degree of

Early Childhood General Education

Master of Science in Education

Bank Street College of Education

May 2018
Facilitating a Block Program in Kindergarten and First Grade:
A Manual for Kindergarten and First Grade Teachers
Hannah Rau

Abstract:

Many preschool classroom have unit blocks. Unfortunately, not as many early primary classrooms incorporate blocks into their programs. This paper discusses the power of using unit blocks in a Kindergarten and first grade. The first three sections of the thesis focus on the importance of a unit block curriculum in early primary classrooms by discussing the developmentally-appropriate ways blocks invite problem solving and mathematical and scientific thinking. The final section is a teacher’s manual designed as a guidebook to support teachers who are starting a block program in their Kindergarten and first grade classroom. In this manual, critical components of a block program, such as setting up a block center, creating pick-up routines, and connecting blocks to a social studies curriculum are discussed. Overall, this paper and manual demonstrate that blocks are an invaluable tool that integrates learning in numerous ways.
Acknowledgements:

The completion of this undertaking could not have been possible without my thesis advisor Sal Vascellaro. His contributions are sincerely appreciated. Without his valuable assistance and encouragement, this work would not have been completed. I would also like to mention the block experts I interviewed. Without their guidance, this paper would not have been possible.
Table of Contents

Introduction........................................................................................................p. 5

Literature Review..............................................................................................p. 7

Benefits of Unit Blocks in a Kindergarten and First Grade Classroom.............p. 17

Blocks in the Classroom....................................................................................p. 19

Resources...........................................................................................................p. 27

Appendix A: Email Consent Form from City and Country School .................p. 28

Appendix B: Permission Form ...........................................................................p. 29

Appendix C: Teacher’s Guide for Unit Blocks in Kindergarten and First Grade Classrooms ........................................................................p. 30
Introduction

Within a typical American classroom, teachers are constantly forced to justify the place for play and discovery as our country emphasizes the common core and standardized testing. The prominence of testing pressures leads teachers to emphasize a test based curriculum, creating a restrictive one size fits all educational system where independent thinking is often stifled. As a new educator, I believe in the freshness of our students’ creativity, as it offers both social and cognitive advantages (Cohen, 1972). Building with blocks can be considered an art form. Art, based on personal experiences often leads to involvement and these art experiences become embedded in their memory (Shapiro and Nager, 1996). In this paper, I focus on the power of unit blocks in the Kindergarten and first grade classroom. Block building can be a means of investigating, hypothesizing, and discovering. This material stimulates independent and shared thinking, it encourages socialization and offers a range of experiences that foster social, emotional, physical, and cognitive development.

In the Fall of 2016, I was first introduced to Caroline Pratt’s unit blocks in a Kindergarten classroom at Bank Street School for Children. As a student teacher, I observed how rewarding such a flexible material is to young students. I wanted to learn more about the possibilities offered by such a material so I enrolled in the Bank Street College of Education course, “Block Building and Dramatic Play as an Integral Part of the Early Childhood Curriculum” where I learned techniques to implement a block program. I also had the opportunity to student teach in a first grade classroom at City and Country School, founded by Caroline Pratt over one hundred years ago. To this day early childhood and early primary teachers use blocks as the core material in the social studies
curriculum. At City and Country, I observed a class of fourteen work collaboratively to create scaled, representational structures of their city, where the students had to articulate their vision to each other and negotiate any problems that arose. Within a year, my passion for unit blocks stimulated me to research this material and create a teacher’s manual for schools to incorporate such a program in the Kindergarten and first grade classroom.

I begin this paper by reviewing the benefits of a unit block program in an early primary classroom. Next, I will describe the 3 interviews that I conducted with teachers who incorporate a block program within their social studies curriculum. Then, I use my findings from literature and my interviews in a manual designed to help teachers integrate blocks into their curriculum. Ultimately, this paper demonstrates the limitless potential of blocks in an early elementary classroom.
Literature Review

Building with unit blocks challenges children by inspiring creativity, developing social skills and responsibility, and enriching a child’s intellectual, social, and physical development (Hirsch, 2006; MacDonald, 2001). When a teacher incorporates an experiential, active curriculum, students are more likely to learn and grow through such experiences (MacDonald 2001). A social studies curriculum revolving around unit blocks stimulates children to, “Express [their] increasing understanding of self and world” (Cuffaro, 1995, p. 80).

Historical Context

Unit blocks were designed by the progressive education pioneer Caroline Pratt over a century ago. Her blocks can be found in classrooms throughout the United States and in countries such as Iceland, India, United Arab Emirates, Ethiopia and others. Pratt (1948) was troubled when she witnessed children, “[losing] a desire to learn” (p. 6). She sought an educational material through which children learned by thinking, planning, and doing. Pratt desired something adaptable, where children could learn through play. In Pratt’s words, “I wanted to see them build a world; I wanted to see them re-create on their own level the life about them, in which they were too little to be participants, in which they were always spectators” (p. 27). Pratt’s wooden blocks invite children to discuss, plan, and experiment by bringing their thinking to life physically. In effect, blocks become the students’ textbook, which meets the children where they are developmentally, supports their total development and bring their thinking to life physically.
Once Pratt (1948) introduced the blocks in her school, today called City and Country School, she witnessed, “students being so deeply absorbed” in the material (p. 30). Pratt’s school, located in Manhattan, continues its founder’s philosophy by centering the preschool through second grade curriculum on her blocks. This open-ended material continues to be a sought-after experience for early primary children.

**Learning Embedded in the Use of Unit Blocks**

The physical nature of block building provides a unique arena to problem solve and to think critically in a kinesthetic way. The fluid material offers infinite opportunities for students to discover, invent, and better understand their own experience and the world around them. Hirsch (2006) maintains that block building “challenges the whole child” by offering a full range of opportunities for growth (p. xi).

**Math**

Pratt’s blocks provide a tangible material for students to comprehend theoretical mathematical concepts, thus building a strong foundation for future learning. The prominent psychologist, Jean Piaget, argued that mathematics cannot be “taught.” Instead, our mathematical understanding is gained through physical explorations (Lee-Lundberg, 2006). Pratt’s unit blocks invite such exploration of “patterns, geometric shapes, part-whole relationships, fractions, adding, dividing, and subtracting…in the process of building” (Cuffaro, 1995, p. 38). From building to unbuilding to putting-away, students are exposed to mathematical concepts.

When students are engaged with Pratt’s blocks, major aspects of mathematics, such as the seeing and creating of patterns are established. It is common to see a tower or a fence built using a specific pattern. Kristina Leeb-Lundberg (2006) expresses that,
“mathematics is a study of structures and systematic patterns of relationships” (p. 36).

Understanding patterns is key to understanding abstract mathematical concepts. A child’s ability to create patterns offers a means of sequencing, making predictions, and of problem-solving. Creating patterns is a stage in block building, one that all builders seem to experience.

At first glance, Pratt’s blocks may look like simple, geometrical, smoothly sanded play materials. When time is dedicated to this material, a child can see that the blocks are all fractional units, meaning that most of the blocks are all multiples of one another.

Pratt’s blocks were inspired by a basic construction material, a brick. Her blocks are calibrated based on the standard unit blocks that measure 1 3/8 inches x 5 1/2 inches. As a result, there are only a handful of blocks in the set which cannot be made by using the basic rectangular shapes (these tend to be curved unit blocks). By creating different shapes, the child develops an understanding of equivalent volumes in a natural context.

Almost all of Pratt’s blocks are all fractional units. It is a natural way for students to learn fractions.
Images: homegrownfriends.com
Furthermore, since almost all of the blocks can be created from the standard unit block, this can form the basis for addition, subtraction, multiplication, and division. The part-whole relationship motivates students to build larger units with two or more smaller blocks. It is common for Kindergarteners and first graders to explore three-dimensional shapes and their properties, such as rolling a cylinder.

The builder also learns about her/himself in space. When provided with a particular space to build, such as a designated block area, a student is in a position to take note of the height and length of his/her structure within the designated space, and the structure’s proximity to other buildings and the shelves. Walking through this space forces a child to carefully negotiate his/her surroundings. Additionally, as I will discuss below, many teachers find it successful to “unbuild” a structure in a systematic way, starting from the top of the structure. In this process, students can stack blocks by categories and reshelve them on a designated shelf. This process reinforces classification as the child has to group the blocks and then find their specific shelf. As students build, they intuitively learn essential math facts.

**Science**

Unit blocks become tools that invite scientific thinking. “As they play with the blocks, they are naturally using the scientific processes of inquiry, observation, exploration, and invention” (Scholastic, 1997, p. 41). Blocks offer a medium to test a hypothesis, such as, will this larger block balance on the smaller block? While testing this balance and stability, students are exposed to physics, specifically the law of gravity, such as when their larger block is not stable and falls to the floor (Cuffaro, 1995). Exposure to blocks enables children to learn that a broader base will provide the structure
with greater stability (Moffitt, 2006). With time, children can take an educated guess of how their tower’s height will affect its stability. “They learn where to place a block so that it will support another block, or they learn the necessity of moving a block slightly to obtain better balance. Gradually children perceive…a broader base will provide greater stability” (p. 30).

Many teachers turn to manipulative materials such as the ancient Chinese tangrams or puzzles to explore concepts of spatial relations. Unit blocks, however, naturally test spatial relationships. As discussed in the above math section, building with unit blocks in a designated space enables students to think about their current space in relation to their selection of blocks. A child will test how two or more blocks fit together when different faces or edges are touching. After extensive experience with blocks, a child can perceive through logic, not merely through speculation which blocks to use and how many blocks are needed for a designated space (Moffitt, 2006). Expert block builders use this skill throughout their entire life to perform organization task, such as, how to store cooking ingredients in a pantry, how to arrange furniture in a living room, or even deciphering if your car will fit in a tight parking spot. Each child moves from trial and error to intuitively understanding balance and spatial properties.

**Language Arts**

A significant benefit of using blocks is that the child gains a foundation in oral and written language. Expressive language flourishes as one describes his/her structure, asks for additional materials, converses with peers, and negotiates any problems that arise (Cuffaro, 1995 & Hirsch, 1996). This fluency in oral expression is a precursor to writing and reading. Teachers should urge students to write signs for their creation, so classmates
and visitors can identify their structure. Teachers may also ask students to write stories about their buildings. Sharon MacDonald (2001) asserts that “putting letters together to make words, is similar to putting blocks together to represent a real-life object” (p 44). While planning, organizing, building, and conversing, “students will learn pre-reading and writing skills” (p. 44).

**Social Studies**

In a Kindergarten and first grade classroom, students can observe, question, and represent the world around them using unit blocks. According to Megan\(^1\), a first grade teacher at a small private school in downtown Manhattan, “when kids are two, three, and four their block building is very play based, like building a home or a bed for a baby. [Then, in Kindergarten and first grade,] building is based on research…it is a great way for the kids to apply their knowledge of their world, their observations, and their experiences. It is a way to take trips, to go out, to come back and recreate it. This material opens up so much for [the students]” (personal communication, October 28, 2017). By carefully selecting field trips and books, students begin to notice details in the world around them and become more aware of their community.

Discussed in further detail below, most five, six, and seven-year-olds live in the here and now (Wood, 2007). For instance, a social studies curriculum can begin with the school community, move to the school’s neighborhood, and expand to the wider community (Brody and Hirsch, 1996). Such topics enable students to better understand their community, it’s people and their work by examining and representing their observations with unit blocks and accessories.

\(^1\) The school names and teacher’s names in this paper have been changed for confidentiality.
Brody and Hirsch (1996) point out that blocks stimulate “activity-based thinking” (p. 71). Block building naturally lends itself to dramatic play. Through the building and play, children examine their world from both a third-person and a first-person perspective. By researching, taking field trips and building, students are looking upon their building space through an outside perspective. Dramatic play, “enables children to enter that environment” (p. 71) by examining the social roles of other citizens through small “block people.” Play allows children to process information about their world. Franklin (2000) in interpreting theorist John Dewey argued that dramatic play is beneficial when playing a realistic scene, not fantasy. Focusing the social studies curriculum on the children’s world, the dramatic play should naturally lead itself to everyday themes and scenarios. Children build on their previous knowledge and observation to represent it in their structures and dramatic play, therefore extending their knowledge in a developmentally appropriate approach.

**Social and Emotional Development**

Creating block structures can enhance students’ feelings of success, promote autonomy, and require cooperation and respect towards classmates. While building, students discover that their ideas can be created, unbuilt, and then re-created. This autonomy and self-confidence empowers children. Around first grade, the egocentrism associated with early childhood is gradually replaced with the child’s ability to grasp different points of views (Cole et al., 2005). Block play helps children move from the egocentric viewpoints of preoperational thinkers to concrete operational thinkers as, “acceptance of individual differences is facilitated by cooperative block play. Block play stimulates appreciation of the ideas of others, even though these ideas may be different or
even conflict with one’s own” (Brody & Hirsch, 1996, p. 63). In the block center, children develop social skills of collaborating and compromising to become responsible members of the classroom community. The benefits of block building are not limited. Integral to the building process is the role of first-hand experience. When students work together, it is often an exciting and rewarding learning experience in which they share and learn from each other.

**Physical Development**

Building with unit blocks requires active, physical participation. Moving around the block center challenges one’s visual perception and ability to negotiate space. Here a child begins to develop their self in space. As a child reaches for, lifts, and moves the dense wooden block, his/her fingers, hands, and even arms build strength. As the child reaches for a block, he/she often squats, building lower body strength. Throughout the building process, a child trains his/her hand-eye coordination, a skill that requires much practice.

**Developmental Stages of Five to Seven-Year-Olds**

According to Almy and Genishi (1979), “The years from two to eight bring enormous changes in the ways children think. Not only does thinking become more organized and logical from the adult view, but the content of the concepts also changes” (p. 55). Kindergarteners and first graders are beginning to approach the world logically. At this time, children learn best through sensory activities, by engaging with the physical world kinesthetically (Cuffaro, 1995).

In Kindergarten, students are gaining control over their feelings and starting to use words instead of emotional outbursts. Nevertheless, young children still “prefer to
run, not walk, to climb, not sit, to do, not watch” (Cohen, p. 59). As active students, they prefer, “to do, to build, and to make things” (p. 53). Chip Wood (2007) asserts, “Learning is at its best for five-year-olds when it is both structured and exploratory: structured through a clear and predictable schedule; exploratory through carefully constructed interest areas where children can initiate their own activity” (p. 57). Furthermore, this age enjoys repetition, so a material like unit blocks is often a passion for students (p. 63).

Around first grade, many children are transitioning from Piaget’s preoperational stage to his concrete operational stage. Here, children’s thinking becomes more organized. They can combine, separate, transform, think more abstractly and possess reversibility (Cole and Lightfoot, 2005, p. 278; Mooney, 2000, p. 78). During this stage of development, the egocentric views of early childhood are replaced with a grasp of different points of view (Cole et al., 2005).

According to Erik Erikson (in Mooney, 2000) around six-years-old children are moving from the Initiative versus Guilt to Industry versus Inferiority stage. During the Initiative versus Guilt phase, many children acquire a sense of purpose. However, if this feeling of purpose is not achieved, Erikson argued that children feel guilt. In the Industry versus Inferiority stage, children feel a sense of competence when partaking in activities valued by peers and adults. If competence is not gained, children may feel a sense of inferiority.

Cole and colleagues (2005) states that six-year-olds know between 8,000 to 14,000 words. This extensive vocabulary supports their expressive language (p. 236). Wood (2007) explains that sixes enjoy explaining things and have strong passions and dislikes. Throughout first grade, there tends to be a movement away from the family as
the center of the child’s world, toward a larger world, including school and having a “best friend” (Wood, 2007, p. 79). Six and seven-year-olds live in the here and now and “find history difficult unless it is closely associated with the present” (p. 81).

Chip Wood (2007) describes first grade classrooms as “industrious,” as students are busy, noisy, curious, driven, and ambitious (p. 75). It is common for sixes to be more interested in the process, not the final product. Sevens take the process a step further, by specifically exploring how things work. For instance, it is not uncommon for this age group to take things apart and try to put them back together. They are also intrigued by symmetry, such as building symmetrical unit block structures (Wood, 2007).

Towards the end of first grade, Piaget maintains that Concrete Operational thinkers, around seven to twelve-year-olds show a new flexibility in their thinking. This allows children to, “add, subtract, and multiply in their head” (Mooney, 2000, p.78). Developmentally, Kindergarteners and first graders benefit from block building as it is an active exploration that lends itself to reflecting the here and now.
Benefits of Unit Blocks in a Kindergarten and First Grade Classroom

Since World War II, American Kindergarten classes steadily have become more academic (Cohen, 1972). Initially, Kindergarten was the child’s first experience of school, often for a half day program. Today, many parents and schools expect Kindergarteners to be reading and writing by year-end. This switch from a play-based learning environment to a structured classroom with an academic, not a social focus, does not suit young children. As discussed in the previous section, five-year-olds enjoy being active and initiating their own activities. It is not until six, seven, and eight-years that children’s thinking becomes more logical and organized, and able to perform academic demands, such as mental math.

In Cohen’s (1972) words, “Without exposure to unstructured materials a child can easily become, and remain, a mechanical decoder of a symbol system…Insufficient experience in symbolizing through play… is one of the phenomena repeatedly associated with poor reading in large numbers of children” (p. 93). Incorporating a malleable material like Pratt’s unit blocks helps extend the student’s learning through play. A five-year-old’s world revolves around themselves and their family and their immediate world. Building realistic, relevant structures with Pratt’s blocks helps young children expand their horizon to see themselves within their community.

For young builders, blocks are socially, physically and emotionally rewarding. Social studies topics for fives, sixes and sevens, include here and now themes such as their family, school, and the work done in their community and the people who do the work. Unit of studies for seven-year-old can lead children out to the broader community and to leaning about how things work. A structured block program, focusing on such age-
appropriate topics can be researched and built by early primary students. In the Teacher’s Manual, I will discuss how teachers can implement a structured, social studies based, unit block program.
Blocks in the Classroom

This section is based on three semi-structured face-to-face interviews with experienced teachers. The interviews focused on the participants’ impressions of their unit block program. These public and private school teachers were selected as each devotes a significant portion of their school day to Pratt’s blocks. The teachers interviewed all taught in Kindergarten or first grade. Two of the teachers teach kindergarten, one in a public school on the lower east side of Manhattan, and one in an independent all-girls school on the upper east side. I also interviewed a first grade teacher in an independent school in downtown Manhattan. The interviews were conducted from October 2017 through March 2018 and ranged from 30 minutes to 50 minutes. Informed consent was sought and participants were guaranteed confidentiality. If the participant agreed, the interviews were audiotaped and later transcribed. Two of the three participants agreed to be audiotaped. The interviews took place in the teacher’s classroom after school, where I was able to see the block center and the current block structures. I began the interviews by asking the teachers to tell me about their block program. Based on their responses, I later asked them more specific questions.

Blocks in the Kindergarten Classroom

The two Kindergarten teachers interviewed, Leslie and Emma have unique approaches to incorporating blocks into their classroom. Leslie teaches at an all-girls preparatory Kindergarten through twelfth grade school on the upper east side of Manhattan. This school prides itself on their academically rigorous curriculum. Because Kindergarten is the first class children enter in Leslie’s school, the students are new to each other. Given this and their young age, she tries to focus a great deal of her
curriculum on social-emotional growth. According to Leslie, “my block program is connected more to social-emotional learning, not to social studies. Since the block center is small, students build in assigned groups of three for one week. Groups of three tends to be harder than pairs because the students have to learn to listen to their peers and to take turns” (personal communication, 3/8/18). Leslie begins the year with the block center closed. During this time, the class discusses safe ways to explore and use the blocks. During these discussions, Leslie asks her students, “what can we build?” This year, her students came up with their school, the Taj Mahal, a hotel, and the Empire State Building. Once Leslie and her associate feel their class is ready, Leslie opens the block center to assigned groups of three students per week. Leslie provides pictures of the structures her class came up with as a “safe haven… in case a group struggles to determine a structure” (personal communication, 3/8/18).

Leslie feels her current class has struggled to find new topics to build. She said that many groups have built their school, but each group focuses on a different floor and/or room. For instance, “after a practice lock down drill, the girls built our room during the lockdown. The blocks offered a way to replicating this experience” (personal communication, 3/8/18). Lock down drills can be emotionally troubling to Kindergarteners, Leslie’s block area created a space for her students to work through this experience.

After three forty-minute periods for building, Leslie interviews the trio. This interview is to prepare the students for the class tour and to create a Block News Bulletin. During the interview, Leslie asks: (1) what did you build? (2) Who built what? (3) What do your signs say? (4) What was challenging? and (5) What was your favorite part?
(personal communication, 3/8/18). This interview prepares the students for the class tour and encourages the group to think about how they worked as a team to overcome challenges and build a unique structure.

Emma’s (the second Kindergarten teacher interviewed) block program seamlessly integrates unit blocks into the demands of her public school’s curriculum. Many of the teachers at this public school were educated through Bank Street College of Education and believe in “progressive” education. The teachers have adopted a school-wide program called Responsive Classroom, which places a strong value on social-emotional development. Additionally, Emma explains that many classes have a rich social studies curriculum and she has inspired both pre-kindergarten and kindergarten teachers to incorporate unit blocks into their curriculum.

Before building, Emma introduces her students to the blocks by having them clean the blocks and discuss the difference between 2D and 3D objects. Emma then offers time for free building in small groups. Before building, the groups are required to draw a picture of their structure. She explained that this year, “There were a lot of castles and rockets. Fictional characters were made. Some of the girls wanted to be knights and boys princesses, so that was a great discussion!” The students’ free building paved the wave for a vital discussion about gender norms (Personal Communication, 11/17/2017).

Once the students became familiar with the blocks, they began the first unit, “All About Me” where each student built a tower. The towers are identical in structure, but the tower’s height is that of the student who built it. The students are encouraged to decorate their tower with items important to her/him. On the child’s birthday, a timeline is created with six pictures, from birth to five-years-old, which is hung on the side of the tower.
Emma felt that “The structures then start to become sculptures that represent them…It is balancing creativity and using blocks in a different way. The blocks support the [About Me] study and teach them that if you build a certain way, it can last a long time” (Personal Communication, 11/17/2017). Though the towers were similar in structure, on a closer look, I noticed different accents such as, stuffed animals, sea shells, photographs, rocks, and jewelry. To incorporate more math, students cut a strip of paper as tall as their tower. With a partner, the groups discover how many pencils and cubes tall she/he is. This paper is saved in an envelope and added to their individual memory book. Within this book, the students also write about the objects used to decorate their tower.

Following the winter holidays, the towers are unbuilt, and the next unit focuses on families. In groups, students build apartment buildings. Individually, each student makes his/her own apartment and enhances the home using accessories to make items such as beds, pillows, food, tiled floor, small mailboxes, and the people who they live with. The tiny mailboxes directly support the class’s writing program because children write letters to each other’s mailbox. At the end of the year, the class explores a community. During block meetings, discussions occur focusing on what is needed in a community. Students often say a hospital, grocery, library, playground, and school. Then, the students work in groups to build a community. As a public school, with a heavy academic focus, Emma’s class does not have the schedule flexibility to build every day. Nevertheless, she finds time for her students to work with the blocks every week and complete at least three rich block schemes a year, which strengthens her social studies program.
Blocks in the First Grade Classroom

Before teaching Kindergarten, Emma taught first grade and she briefly explained that her class studied communities all year long. The following illustrates her community building projects.

In First Grade, we studied community all year. We started off with our neighborhood community. We discussed what buildings keep us safe and well cared for. We underlined the important buildings that keep us safe, the police and fire station, we discussed where we can get food from, how the public library is where we can get free books etc. In groups, they researched what they needed for building. I developed a research page with a checklist. They would look through books to see what they needed. So, for the fire house, they saw that they needed a hose, a fire truck etc. After researching, they built with blocks and then used accessories…[For another block scheme], we made island communities. I brought a large blue tarp and covered the floors. Then, they cut island shapes out of brown paper. The islands were built on top of the brown paper. It was a what do we need to survive study…[then,] each island made something to sell to the other islands (personal communication, 11/17/2017).

Similar to the programs discussed above, Megan, a first grade teacher at The Maple Leaf School uses blocks in service of her social studies. This school defines itself as a ‘progressive school.’ On the website, keywords and phrases include experiential learning, learning as a social process, inquiry-based learning, purposeful experiences, and use of open-ended materials. The Maple Leaf School stresses the importance of a child-centered curriculum that focuses on the process, not the final product.

Through listening to Megan describe her block program and observing her students, I began to appreciate the power unit blocks have through years of exposure. Megan, like Leslie, allocates time daily for her class to build as blocks are a focal point of her curriculum. Most of Megan’s students have attended The Maple Leaf School since they were two-years-old. Now, in first grade, the students have used the unit blocks almost daily for over four years. The students not only know the names of all of the blocks but also know which smaller blocks can be used in place of a larger block.
Within a few weeks, Megan’s students begin to internalize the block building schedule. Her building projects last from one to three weeks. For a block scheme that lasts one week, the students begin the first day, typically a Monday, gathering for a block meeting. They discuss what realistic structure they will be building and are grouped into building teams. If time permits, students start building. The class continues building their structures on Tuesday and Wednesday. On the third day, students start adding details, using materials such as model magic, pipe cleaners, carpet samples, and paper. On Thursday, part of the time is allocated to dramatic play. Then, on Fridays, the students work together to unbuild their structures, saving any of the decorations they wanted for future building.

During dramatic play, students use pretend block money to buy a ticket to visit their classmates’ structure. Once the ticket is purchased, the student can visit. Students then save this money for future ticket purchases. Emma, the public school teacher, also incorporated a monetary system in her first grade class. The pretend money was used to buy items, such as an apple at the grocery or firewood at the hardware store. At the end of Emma’s block play, one student has the role of the banker and deposits her/his classmate’s money into the bank. Emma and Megan both found a monetary system a valuable method to incorporate numeracy directly into blocks.

At the start of the year, Megan and the Assistant Teacher often modeled realistic block play with their students. Megan stressed the importance of a realistic structure and play,

From day one, we talked about…what realistic meant…we discussed how they have to be realistic. For the social studies purpose, it is things that they have observed, something they know, something they can research. That way, everyone in the group [is] on the same page. It is not something that is imaginative, in one person’s head, everyone will know it and can research it (personal communication, October 28, 2017).
Allocating time for block accessories and dramatic play adds another element to the structure, encouraging students to explore how the building functions. For instance, the students spent over two weeks building Grand Central Terminal, Metro-North Stations, and their train cars out of wood at the carpentry table. The purpose of this scheme was to understand how Grand Central Terminal functions. In Megan’s first grade class, the students study New York City, specifically public transportation and their surrounding neighborhood. To begin the Grand Central study, the class reads books related to the terminal. Then, they took a field trip with parent chaperones to Grand Central where they explored all of the hidden secrets, such as the whispering wall and the tennis court. Returning to school, the students began to build the terminal. The students decided which level they wanted to build and which Metro-North station they wanted to include. This structure involved learning new building techniques, such as a round staircase. Megan was able to allocate approximately four weeks to the study of Grand Central Terminal since this required more time.

Many of Megan’s block projects are based on a class field trip. For instance, she began the year building their school. The students mapped their school and chose which rooms to construct. Other field trip based projects included a trip to the Union Square farmers market. This enabled each student to create his/her own food stand, differing from most of her block schemes which are worked on in pairs or groups. Although many block projects are based on personal observations from class field trips, Megan also found time for free building and what she refers to as “challenges” such as, creating a symmetrical structure, building a camp on the river or mapping and building their bedroom.
Although the programs discussed vary in structure, each teacher incorporates age-appropriate block work. Allocating sufficient space and time to their unit block program shows teachers respect for the material and has a profound impact on the children. As a public school teacher, Emma cannot guarantee her students will build every day, yet she feels her students gain so much from her program. This shows that young children do not need to build daily to benefit from Pratt’s blocks. Meagan incorporates blocks as a way to recreate learnings in social studies, unlike Leslie who uses blocks for students to learn cooperation and responsibility. The goals of these programs are to offer a world of excitement, discovery, exploration, while students learn essential skills.
Resources


Appendix A: Email Consent from City and Country School

This chart is found on page X in the Manual.

**Lisa Pineda**  Mon, Mar 12, 2018 at 12:42 PM

To: Hannah R

Hi Hannah,

You can use the chart for your thesis.

Thank you,
Lisa

--
Lisa Pineda
Assistant to the Principal
City and Country School
**146 West 13th Street**
**New York, NY 10011**
212.506.5957 x222
[www.cityandcountry.org](http://www.cityandcountry.org)
Appendix B: Permission Form

BANK STREET COLLEGE OF EDUCATION INFORMED CONSENT FORM

Faculty Supervisor: Salvatore Vassellaro  
Student Investigator: Hannah Rau  
Research Project: Unit Blocks in Kindergarten and First Grade Classes

I acknowledge that on ____________, I was informed by Hannah Rau of Bank Street College of Education of the following research project, the way it will be conducted and the conditions of my participation in it:

As a participant, you will be interviewed in person by Hannah Rau. Participation in the interview is voluntary. Interviews will not exceed 60-90 minutes. Any information provided will be held strictly confidential, and a fake name will be used in place of a real name in the reports of this study.

If you have any questions or concerns about the research project, please contact Hannah Rau by email at hrau@bankstreet.edu.

I consent to the audio recording of this interview. Yes ________  No ________

Name (print): __________________________________________________________
Signature: ____________________________ Date: ________________________
Teacher's Guide for Unit Blocks
In Kindergarten and First Grade Classrooms
Table of Contents:

Building Trajectory.................................p. III
Setting up the Block Center..............p. VII
How Many Blocks...........................................p. X
Incorporating a Block Program........p. XIII
The Importance of Block Meetings......p. XV
Effective Unbuilding Strategies.......p. XVI
The Power of Play.................................p. XVIII
Literacy and Language Arts............p. XVIII
Block Schemes...........................................p. XIX
Additional Resources.....................p. XXII
Parent’s Building Night .................p. XXII
Many children find it nearly impossible to sit in front of a pile of blocks without putting them into some type of order—perhaps stacking from largest to smallest or building a farm. Unit blocks are essentially pieces of naturally colored, lightly finished wood cut into a variety of calibrated shapes and sizes to stimulate students’ natural tendency to build. Through unit blocks children grasp the intricacies of their world, while gaining an intuitive understanding of the mathematical and scientific properties of the blocks.

Building Trajectory:

How do I identify the stage of my students’ building?

Being able to identify the stages of students’ block play helps teachers support their students. Sharon MacDonald (2001) has identified six stages of block play as follows.

Stage One: Discovering Blocks, Age 2-3

In the first stage of building, children become familiar with unit blocks. They are not necessarily building, but moving the blocks from one position to another, and experiencing the weight of each block.
Stage Two: Stacking Blocks, Age 3

According to Harriet Johnson (1996), repetition is very common in this stage. Children often start building stacks and rows (MacDonald 2001). A child will place blocks on top of one another again and again to build a simple tower. Johnson (1996) believes that this is an easier process for children compared to laying blocks one next to another to form a row. These processes represent the beginning of building repetitive patterns. Children discover that a series of rows can make a floor and that their stacks lined up next to one another creates a wall.

Stage Three: Bridging Space, Age 3-4

Bridging is often one of the first problems children face, the setting up of two blocks, with a space wide enough to place a block horizontally over this space. Once students have mastered bridging, they often build more elaborate structures (Johnson, 1996 and MacDonald 2001).
Stage Four: Making Enclosures, Age 4

An enclosure is placing blocks together so that there is an open space inside. Similar to bridging, once enclosures are mastered, this new style of building is often repeated. MacDonald (2001) points out that children in this stage “discover and begin to understand the meaning of inside, outside, perimeter, and boundaries” (p. 34). Such understandings ground children physically.

Stage Five: Using Patterns and Symmetry, Age 4-5

Once children are comfortable building with unit blocks, they begin to focus on arrangement and design (Johnson, 1996). Patterns and symmetry within a structure become more intricate. The builders often name their structures at this stage. However, this does not mean that the name directly correlates to the building (MacDonald 2001).
**Stage Six: Designing, Planning, and Constructing Elaborate Structures, Ages 5 and older**

This stage involves working cooperatively with classmates to design and construct buildings that function, such as a home, a post-office, or a train station. These structures become arenas for dramatic play. Planning verbally, or drawing a map, requires complex building and verbal skills in addition to a commitment, as these structures can be worked on for several days (MacDonald 2001).

Older children who have not been exposed to unit blocks at a young age seem to still exhibit a similar building trajectory, though they move through the stages quickly (Hirsch, 1996). During interviews with teachers about block building, many suggested techniques to encourage more intricate structures. One method is taping a specific space off, which often leads students to build up instead of out. To encourage a structure with height, the teacher can demonstrate how to make an elevator using a string, pulley system, and a cup (see Figure A). Or, the teacher may challenge students to build a staircase to reach every floor (see Figures B and C). These activities may help Kindergarteners and first graders develop skills and build elaborate structures.
Setting Up the Block Center:

How do I best utilize a small space?

As teachers, we know that the arrangement of the classroom will define the activities, the noise level, and our ability to effectively manage the space. The arrangement of the block center is directly related to the teacher’s goals for the area. The key to creating a warm welcoming collaborative block center is an open layout where students who are not building can observe peers. A closed off block center, with high shelves, is often less enticing, as it creates a barrier. Some teachers define a building area using tape. A designated boundary may help children negotiate the space.

How do I organize the shelves?

Once you have found a corner or side of the room that can have an open block center, you will need specially designed block shelves. Manufacturers of classroom furniture sell a variety of such shelves. If the quantity of blocks allows, it is useful to store the same block in different shelving units. This gives students ready access to a variety of shapes. The heavier, bigger blocks should be stored on the bottom of the shelf, ensuring shelf stability (MacDonald, 2001).

Many teachers find it useful to label the shelf, showing children exactly where each block is stored. This can be done by using colored contact paper, tracing around each block, then cutting the stencil and sticking it to the bottom front of the shelf. Taking the time to label each shelf ensures an efficient pick-up.
**What accessories should be incorporated?**

Block accessories can motivate children who are more interested in the design aspect of blocks, not the structural building. Accessories can be made from almost any material. The key is not to utilize all of the accessories at once. By adding accessories when they support children’s building, the work can be extended and children’s interest sparked.

Adding people and animals to your block center may support dramatic play. There are two different types of block people, one that has full features and clothing and one that is a silhouette. The company Lakeshore sells affordable block play people. These people are great as they represent a variety of ages, ethnicities, various occupations, and people with specific physical needs, such as a person with a walker. Or, you can purchase wooden silhouettes of adults, children, and farm animals. These block people become a blank canvas on which students cultivate their creativity to design their own block person or animal. As you can see in the images below, the students can cultivate their creativity to design facial features and clothing for their own block person.
When students devote time to their accessories, it can be helpful to save these materials for future buildings. To store the materials, students can stash their accessories in file folders. Once the folder is filled, add more file folders by hole punching and binding with metal rings. The class could also store their pieces on a classroom wall, by tacking the accessory directly to the wall. The accessories can be organized by categories, such as signs the students create. During block pickup, encourage students to keep the accessories they want by taping them to the folder or tacking on the wall. If the accessories are 3D, a labeled Ziploc bag is a low-cost storing option.

**Additional accessories:**

- Fabric and carpet samples
- Variety of colored paper and crayons
- A set of 1 inch cubes, in a variety of colors
- Pipe Cleaners
- Yarn
- Model Magic, in a variety of colors
- A simple elevator made from a pulley, a cup, and yarn
- Straws
- Paper Cups
- Cardboard
- Excess laminator paper
- Masking tape in a variety of colors
- Blueprints
- Magazines
## How Many Blocks?

<table>
<thead>
<tr>
<th></th>
<th>Two-Years</th>
<th>Three-Years</th>
<th>Pre-Kindergarten</th>
<th>Kindergarten</th>
<th>First Grade</th>
<th>Second Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Half Unit</strong></td>
<td>98</td>
<td>150</td>
<td>170</td>
<td>170</td>
<td>220</td>
<td>200</td>
</tr>
<tr>
<td><strong>Unit</strong></td>
<td>160</td>
<td>204</td>
<td>340</td>
<td>558</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td><strong>Double Unit</strong></td>
<td>48</td>
<td>216</td>
<td>317</td>
<td>405</td>
<td>405</td>
<td>405</td>
</tr>
<tr>
<td><strong>Quadruple Unit</strong></td>
<td>132</td>
<td>102</td>
<td>158</td>
<td>163</td>
<td>163</td>
<td>163</td>
</tr>
<tr>
<td><strong>Half Pillar</strong></td>
<td></td>
<td></td>
<td>40</td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td><strong>Pillar</strong></td>
<td>31</td>
<td>108</td>
<td>164</td>
<td>205</td>
<td>205</td>
<td></td>
</tr>
<tr>
<td><strong>Small Triangle</strong></td>
<td></td>
<td></td>
<td>93</td>
<td>102</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td><strong>Large Triangle</strong></td>
<td></td>
<td></td>
<td>62</td>
<td>80</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td><strong>Small Column</strong></td>
<td></td>
<td></td>
<td>42</td>
<td>112</td>
<td>123</td>
<td>123</td>
</tr>
<tr>
<td><strong>Large Column</strong></td>
<td>6</td>
<td>36</td>
<td>43</td>
<td>93</td>
<td>102</td>
<td>102</td>
</tr>
<tr>
<td><strong>Ramp</strong></td>
<td></td>
<td></td>
<td>85</td>
<td>100</td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td><strong>Elliptical Curve</strong></td>
<td></td>
<td></td>
<td>26</td>
<td>46</td>
<td>51</td>
<td>51</td>
</tr>
<tr>
<td><strong>Circular Curve</strong></td>
<td></td>
<td></td>
<td>30</td>
<td>46</td>
<td>51</td>
<td>51</td>
</tr>
<tr>
<td><strong>Large Switch</strong></td>
<td></td>
<td></td>
<td>20</td>
<td>15</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td><strong>Small Switch</strong></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td><strong>Large Buttress</strong></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

Table provided by The City and Country School, 1990
**Which unit blocks should I use for each grade? How many of each type of block?**

A varying selection of sizes and shapes of unit blocks is imperative, as each builder requires a sufficient quantity of blocks. As the above chart shows, the City and Country School thoughtfully crafted a block program for ages two through seven, with different quantities and shapes of blocks throughout. As you can see in the chart above, the quantity of many of the blocks either increase or decrease each year. At two, the blocks are mostly basic and rectangular to give children experience using the basic building shapes. At three, the quantity increases, but almost all of the shapes remain rectangular, ensuring the practice of building with the basic building shapes. In Pre-Kindergarten, ramps and some curved shapes are introduced. Additionally, the number of units increase. A few shapes are not introduced until Kindergarten, guaranteeing students gain a foundation with the rectangular blocks. Adding curves, triangles and buttresses in Kindergarten stimulates students to test the new shapes and learn about the building capabilities of a curve. The added shapes enable students to construct more realistic structures, such as a railroad for dramatic play. In first and second grade, all of the blocks are provided and the quantity remains almost identical. Changing the quantity and the blocks provided yearly ensures practice and experimentation throughout the ages.

---

A common naming system is beneficial to ensure a common knowledge of the blocks. Students can refer to the blocks using the names given by manufacturers. Some schools have created their own naming system. For instance, at City and Country School the pillar is referred to as a buttery and the half pillar is a half-buttery. A child-friendly naming system such as this may be appealing to children. On the following page, the technical term for each block is provided.
Pratt thoughtfully designed her blocks based on the unit block. A basic block set contains blocks that are all the same width and thickness as the unit. Additionally, many sets have arches, circles, curves, and switches.
Incorporating a Block Program:

*How long should we spend on each block scheme?*

In today’s rigorous school climate, it is hard to find the time for social studies, let alone block building. Ideally, students should build a few times a week, for the very least thirty-minutes. If this is not possible the structures may have to stay up for a longer period in order for the students not only to build, but to add supplementary details and to play with their structures.

There is no right or wrong answer on how long a build should last, it all depends on the flexibility of your classroom schedule and the class’ interest in the current structures. At the start of the year, opening the center to free building enables you to take note of students’ interest. These structures can last a day and be picked up at the end of each period. After some time, you can begin connecting the blocks schemes to your social studies curriculum. At the start of Kindergarten, the blocks should be picked up daily. Once students are captivated in the building scheme, you can start to leave the structures up for a night and gradually expand to a week. As a general rule the structures can stay up for a longer period of time starting mid-year in Kindergarten and at the start of first grade.

When you devote a few weeks to the block center, students build incredible structures. Such as a first grades building of Grand Central Terminal, as shown in the photos.
What is the teacher’s role?

As the facilitator, a teacher must support, guide, and extend the students’ building. The presence of the teacher may serve as a catalyst to inspire a child to venture into the block center and build. Teachers can influence the child to participate by (1) placing a few simple blocks together on the floor, as many children cannot leave an unfinished piece in the center of the block area (2) be the students’ partner for group building or (3) encourage the child to work on supplementary details, as the child may be overwhelmed by the students and noise in the block center. This option allows the child to participate from a distance.

The presence of the teacher is necessary throughout each stage of the building process. While the students are building, teachers can ask open-ended and specific questions to extend their students thinking, such as:

- Tell me about your building.
- How do you know this is a ____?
- Can you think of a new way to ____?
- How do you make your structure accessible to a person in a wheelchair/ with a baby stroller?
- How will a customer know when you are open?
- How will a customer know what you are selling?
- How will people get from one floor to the next?
- How do people get into your building?

Teachers can help students negotiate where structures can be built, until students feel comfortable mapping the area themselves.
The Importance of Block Meetings:

How do I run a block meeting?

An integral aspect needed to grow a block curriculum from free buildings to a block scheme that may require research is facilitated by discussions with the builders. Beginning each building scheme with a meeting allows time for students to converse. At this time, students can discuss the structures needed in the scheme. The teacher can ask, “what can we build in blocks this week?” (Make sure you create a list of the children’s thoughts on chart paper). Then divide into groups for the structures. For each new building scheme, you can vary the method of forming groups. For instance, students can choose their partner or the teacher can assign teams. After the meeting takes place, the teacher should encourage the groups to plan in advance. Beginning in Kindergarten, children are capable of working as a full group to discuss and plan their buildings. Block meetings foster collaboration and will support a longer building process.

Rules:

Why should I create block building rules?

Conflicts and accidents are inevitable in the block area. To help alleviate such problems, block rules should be discussed at the start of the school year. Such a discussion will ensure children feel safe and comfortable in the loud, sometimes rambunctious center. Below, is a list of rules to consider implementing with students at the start of the year.

1. Blocks are for building. If a student throws, walks on, or purposefully knocks over a structure, gently remind students “blocks are for building.”
2. Limit the height of the structure- the structure can be as tall as the tallest person in your building group.
3. Children build within a designated space. You can use tape to distinguish the building area.
4. All students participate in an orderly pickup.

Making the rules clear will ensure that all students know what is expected of them in the block center before they start building. If specific problems arise, additional rules can be developed through discussions with the children.
Effective Unbuilding Strategies:

Why do I need routines for unbuilding?

Block pickup can be a satisfying educational extension of block play. There are many options for pickup, one will certainly be a right fit for your class. It is critical to remember that pickup at the start of the year with young students takes time. Furthermore, the teacher should contribute to the pickup as she/he is a member of the community and all members must have a role. The following activities occur once the structures have been unbuilt and the blocks are stacked with similar shapes, five or fewer blocks per stack works best for children’s small hand size.
Pickup based on the shape and size of the block. Use descriptions such as:

- “Pick up anything that is round.”
- “Pick up anything that has 4 corners.”
- “Pick up all the triangles.”
- “Pick up a block that is twice as big as this one.” Hold up the block that you are referring to.
- “Pick up a block that is half the size of this block.” Hold up the block that you are referring to.

In these activities, students experience new concepts and learn mathematical terminology. Activities like this do not need to be played during each pick up. You can always include a multi-step pickup as described.

When putting away supplementary materials and accessories, you can either (1) have each student put his/her materials away or (2) assign students specific jobs such as, “place the signs in our sign box” or “put away the block people.”

Pickup based on numbers. Use descriptions such as:

- “Pick up more than ___ stacks.”
- “Pick up less than ___ stacks.”
- Ask students, “How many blocks do we each need to pick up to be done?” Once an estimated number is voted on, students will pick up that number. If there are still more blocks to be shelved, ask the question again. This encourages students to estimate based on grouping the stacks of blocks.
The Power of Play: Should I allow students to play with their structures?

In one word, YES! Five, six and seven year olds learn best through play. Providing ample time for dramatic play encourages students to step outside their persona and play their concepts of the people, places, and events in the world around them. Students externalize and make public their concepts of reality and their thoughts and feelings, revealing their understanding of what they are building. Encouraging dramatic play in the block center recognizes students who are not as captivated in the building aspect, but may especially enjoy dramatic play. Through block play, children develop important social, emotional skills such as negotiation, compromise and cooperation.

The number of children who can play in the block center is determined by the size of the area. In Kindergarten and first grade students often want to keep the structures up for more than one day. Their interest in their block structure, and the addition of supplementary materials often leads to a desire to play.

Literacy and Language Arts: How can I incorporate literature and writing into block building?

It is easy to appreciate how math and science naturally unfold in the block center, but literacy and language arts may not be as apparent. On the first day of a new block scheme, go to the library with your students to check out books on the current topic. Have children look through the books for inspiration and be sure to read them during read-aloud. Once students are close to finishing the construction of their building, ask them to create a sign for their structure. When buildings are put away, you can store the signs either tacked to the wall or stored in a sign box. Students now have access to the correct spelling. Signs can be stimulated by teacher questions. If the student is building a grocery store, a question could be, “Will a customer know when the grocery is open?” If a student is building a school, “Where are the books?” If a restaurant is being built, “What is on the menu?” At the end of the building process, you can encourage students to write about their structure. Furthermore, students develop a richer vocabulary by using language to express their building process and product.
Do I need to encourage ‘real’ buildings?

There is not a definitive answer as to whether the block creations should be based on real buildings. With that said, in order to connect the block center to your social studies curriculum, the students’ structures must be representative of real buildings. When the structure is based on something concrete and researchable, the students share a common vision that will help them recreate a scaled, representational structure. Their realistic structures reveal their growing knowledge about the building and its place in its environment.

Why should I take the time for field trips?

Nothing stimulates block building like an enriching field trip. Field trips do not need to be daunting; they can be simple trips to your school cafeteria, a bus station, or to the dry cleaner around the corner. By diving deeper into aspects of the neighborhood, aspects that are often taken for granted, children gain a sense of belonging to their neighborhood. Encouraging children to ask questions to the ‘expert’, such as the owner of the dry cleaner, gives the message to children that their questions are important and that they can find answers. Beginning a social studies unit with a field trip is an opportunity for the students to be a part of their surrounding world and encourages the joy of discovery. Children will be eager to reconstruct the rich experience of the field trip in the block center.
What are age-appropriate block structures?

The possibilities for Kindergarten and first grade block building is limitless! At five, six and seven-years, children’s interest expands outward. Age-appropriate schemes must take advantage of this expanding viewpoint by taking field trips, researching at the library, and reflecting and culminating the study in the block center. Topics that relate to the students’ neighborhood, their school, and the wider community would be met with much enthusiasm. An interesting school study for Kindergarteners could include members of the school who remain in the background, such as learning more about the security guard, the person who keeps the school safe. Visiting the kitchen and speaking to the cooks is another good option. This study easily lends itself to building the school as a culmination.

In first grade, the walking field trips can be extended to the wider community, such as to a local farmer’s market where the students will learn about the interesting fruits and vegetables of the current season. Afterwards, have the students return to school to create a farmer’s market of their own! Does your city have an interesting bridge? You can study the bridge and the two communities it connects. Discuss what a landmark is. Visit and build the landmarks in your own community. Is there a body of water near your school? Take field trips to observe from two different vantage points. Encourage the students to sketch what they see and return to school to build both locations. If structures involve bodies of water, the water can be designated in a number of ways. You can paint the outline with a thin solution of tempura paint. Another option is to use color tape or a sheet of oil cloth can serve as the water. Bodies of water can stimulate the construction of bridges, tunnels, and boats!

Challenge your students to build:

- A symmetrical structure
- A maze
- Their bedroom
- A building they most enjoy
- An airport
- An island surrounded by water
- Grab __(quantity) of blocks and build a structure with all __ blocks
As part of the "All About Me" study, Kindergarteners built towers to symbolize themselves.

As part of their Hudson River study, first graders observed the river from downtown Manhattan and across the river in Hoboken, New Jersey. Upon returning to school, they built their observations, including the numerous boats they saw and researched.
Additional Resources:

*Airport* by Byron Barton

*Albert’s Alphabet* by Leslie Tryon

*Block City* by Robert Louis Stevenson and Dawn Heston

*Castles and Palaces* by Sally Lee

*Changes, Changes* by Pat Hutchinson

*How a House is Built* by Gail Gibbons

*If I Built a House* by Chris Van Dusen

*Iggy Peck Architect* by Andrea Beaty

*Kindergarten Diary* by Antoinette Portis

*Look at That Building: A First Book of Structures* by Scott Richie

*When I Build with Blocks* by Niki Alling

Consider displaying the children’s books (listed on the left) in your block center to promote curiosity, inspiration and literacy!

Parent’s Building Night:

**How can I get the parents on board?**

Send a letter home to invite the parents/guardians to attend a building night (see sample letter below). During this program, challenge groups of parents to build a structure with more than one-floor. Once the buildings are complete, each group must share a few thoughts about their building. After the share, have an intentional unbuilding, such as estimating how many blocks each person must put away in order for all of the blocks to be re-shelved. Once the pickup is complete, ask the parents to share what, if anything, was challenging and what they learned in this process. The goal is for parents to learn firsthand the benefits are not confined to any one academic discipline.
A sample letter can be sent to parents to foster their interest and understanding in block building:

Dear Parents,

While your child may tell you (s)he is playing in the block center, they are actually learning critical ___-year-old skills.

The blocks are called unit blocks, as they are proportional in size to help your child naturally explore mathematical concepts. But, the benefits are not confined to any one academic discipline. Let me briefly explain how.

- Writing and reading naturally unfold in the block center. Your child is encouraged to research and plan the structure (s)he is building. Then (s)he writes signs so a visitor knows what the building is. Additionally, your child will be asked to write about their structures during Writing.

- Children develop their vocabulary as they learn to describe the positions, shapes, sizes, and function of their blocks and structures. As they work with others to clarify and express their ideas.

- Math occurs naturally as the unit blocks are all fractional units. Your child starts to develop an understanding of shapes, counting, estimating, patterns, symmetry, sorting, and fractions-- all while building.

- As your child builds with blocks, (s)he test a hypothesis and learns about the nature of balance and gravity.

- When your child shares a small space with fellow peers, it helps your child learn the art of taking turns, problem-solving and working through the problems that may occur.

- Building in the block area promotes the development of fine and gross motor skills.

I invite you each to attend The Block Workshop for Parents on ____. Here, you will join me on the floor to explore the countless learning opportunities of unit blocks.

Sincerely,