THE BENEFITS OF BUILDING
The month of January was devoted to building! The children loved this unit because we had so much fun exploring and constructing.
The teachers loved the unit because, within all the fun, there was a lot of learning happening!
- Block play promotes self esteem.
- Block play promotes cooperation and social development.
- Block play promotes language development.
- Block play promotes fine and gross motor skills.
- Block play promotes creative, divergent problem-solving.
- Block play promotes spatial skills.
- Block play promotes math skills.
BUILDING EXPLORATION

To begin our building experience, we spent the first week exploring the building materials that we have in the classroom. We added some everyday materials such as cups, popsicle sticks, marker caps and stones. Enabling the children time to really explore the materials allowed for more complex structures and in depth questioning.

TOWERS: BUILDING UP

The class spent an entire week building up and out. We set up the tables with a variety of materials and gave the children a marked ruler, asking them to build as high and/or wide as the mark. “When children build up, the forces of gravity, compression, and tension affect their structure’s stability in dramatic ways. By working with different materials in various ways, children can experience and control the degree to which towers wobble and fall over. But children don’t always have opportunities to think about how their choice of building materials and designs affect their structure’s stability. So the focused exploration offers them opportunities to revisit, represent, and discuss their work. They are encouraged to reflect on evidence to support their developing theories about how building materials and design affect a structure’s stability.” (Building Structures With Young Children)
ARCHITECTURAL ELEMENTS

The children learned some architectural elements that we use in building. We started simply by becoming columns and then beams. Adding wooden blocks to our arms allowed the children to feel the difference in the weight of the block when using just a column or a combination of columns and beams. We experimented with tension by joining hands and leaning backwards. We were able to support each other. In contrast, we used force to support each other by pushing our hands together. We built arches with our arms and combined them into domes and tunnels. We talked about the strength of columns. We built a tower using paper cups and trays. We added our weight to the tower to demonstrate the strength of a column.

SPECIAL GUEST SPEAKER: EMMY’S GRANDFATHER

The kindergarten class was lucky to have a special visit from Emmy’s grandfather, who managed large construction projects before he retired. He worked primarily on hospitals and medical centers. He explained the process of building. He described, step by step, the process of drawing the plans to make sure it includes all the details that the client wants. The friends eagerly asked questions, made connections, and shared their own building experiences. Grandpa was impressed with their knowledge of architecture.
COOPERATIVE BUILDING

During our unit, we focused on building relationships. The friends participated in a two-day cooperative building challenge. The children were grouped to work as a team, building their own kindergarten city. After spending two days building and creating, they presented their completed structures to the class. Each child then had the chance to describe their building and its purpose within the city. As the friends detailed their structures, they incorporated theme-related vocabulary into their descriptions.

Lucy, Cheryl, Wilder and Isaac building together.

We used one Friday morning for building relationships. The children participated in cooperative building activities. One activity was the Mirror Building. The children were paired so that one child was the builder and the other was the mirror. The “builder” used the given materials to build. The “mirror” had to build the exact same structure. The children really worked together, helping each other to build exact duplicates of the structures.

Cecilia and Maggie playing copycat.

Ayumu and Ruthie playing copycat.

Jayden, Ellen, Ayumu and Ruthie building together.

Isaac builds with Ariana while Emiah builds with Lucy.
SIMPLE MACHINES
Simple machines make work easier for us. We tested the lever by trying to pull nails out with our hands versus using a hammer. We explored inclined planes by building ramp systems and comparing the speed of vehicles. We screwed and unscrewed screws into wood. We tested a wedge by trying to hammer a bolt into a piece of wood compared to using a nail. We explored pulleys by hoisting buckets of blocks up and down.

Since the city of Pittsburgh has 446 bridges and many children drive over a bridge every day we spent time learning about them. The kindergarten learned the different types of bridges: beam, truss, suspension, cantilever and arch. We were very interested in how bridges were built, especially those that go over water.

We used a variety of materials to build bridges over “water” in the classroom. This was a good lesson in perseverance since it was hard to build a bridge that would expand the distance.
DESIGNING, TESTING AND BUILDING PLANS

We talked with the children about how to bring an idea of a building to life. A drawing of the design allows us to plan our building and work out any problems before we begin to build. Mrs. Bizman worked with the children to demonstrate the importance of planning and testing their model before they built. Using foam blocks, the children thought of a design and stamped it onto paper. We then attempted to build the design using the blocks. Several children had to rethink their designs in order for the structure to stand. Once we had a stable structure, the children then drew the blueprint in order that others could follow their plan to build.

Neil and Ariana stamping their idea.

Claes building his structure.
Wilder with his structure.

WOODEN SCULPTURES

We ended the unit by constructing our own unique, wooden sculptures or buildings. The children were given a wooden base with the open-ended instructions to build on the base. We provided a variety of scrap wood pieces, ribbon spools, corks, popsicle sticks and marker caps for the children to use on their sculpture. The children worked for several days, first on gluing the sculpture together, and then painting their creation. The final days were spent embellishing their artwork with beads, pom poms, sequins and gems. The final products are a great demonstration of their creativity and perseverance.

Ellen, Ayumu and Mariia working on their sculptures.