Pittsburgh & Building
A study of our homes, mapping, Pittsburgh landmarks and neighborhoods, building up and out, the bridges and tunnels, and building around the natural landscape.

Ava tests her bridge, making sure it is strong enough for a lego person to get across. Nicolas uses watercolor to paint the cityscape that he drew on Flagstaff Hill. Brandon successfully builds a stable structure up to the line on the ruler.

The month of November was devoted to Pittsburgh and building! Block play promotes self esteem, cooperation, and social development, enhances fine and gross motor skills, and engages creative thinking, problem solving, and spatial skills. As we used a variety of blocks and different materials to learn how to build, we used the examples of our surroundings as a case study. Pittsburgh’s downtown skyscrapers, development along natural resources, and different forms of transportation, like the incline, provided a tangible example of how building impacts our everyday lives.

Max and his Andy Warhol inspired pop art portrait.
Our Homes & Mapping

We began the unit by plotting our homes on a map of Pittsburgh, walking around the classroom to make a map of the Kindergarten, drawing a map of the playground by looking at a birds’ eye view of it, and building a map of our bedrooms. We practiced navigating a map as we meandered through mazes.

We read Me On The Map, which introduced the major parts of the map, and made Me on the Map Rings to help the friends understand the different circles they’re a part of: home, Pittsburgh, Pennsylvania, the United States, and planet Earth.

We also read The Once Upon a Time Map Book to understand labeling and identifying locations. We used what we learned to locate key items on a map using a coordinate grid.

To help with directions and orienting ourselves on maps, we learned about the cardinal directions on a compass rose. We discussed where things are in relationship to one another and practiced using positional words like: over, above, under, below, besides, next to, and around.
Our Pittsburgh box cityscape. The friends painted the boxes, stacked them, and decorated them like various Pittsburgh landmarks. The friends also painted the skyscrapers behind them.

Pittsburgh Landmarks and Building Up & Out

We spent a week learning how to build up and out. To do so, we examined various architectural elements, like columns and beams, and implemented them in our structures. We used what we learned to create a box cityscape of Pittsburgh with replicas of famous landmarks.

Each friend participated in a cooperative building project. Groups of friends were tasked to work together and build either a zoo or a park. They presented their completed structures to the class and each friend described how he/she contributed.
Bridges & Tunnels and Building Around the Natural Landscape

To conclude the unit, we became engineers. We took the problems the natural environment imposes on building and figured out how to navigate around them. Pittsburgh’s rivers and hills provided a great case study. We compared and contrasted arch, suspension, and beam bridges. And we learned how tunnel-boring machines create underground tunnels.

Throughout the week, the friends built paper sculptures, attempting to build up as high as they could with a flimsy material. Their engineer minds came up with great solutions as how best to reinforce and enhance the structural integrity of their sculptures. Additionally, the week was filled with lego bridge building and ramp exploration. For each bridge, the friends were tasked with testing it to ensure a lego person could safely walk across it and a boat could safely navigate under it. For each ramp, the tennis ball had to make it across the given distance without touching the ground. In each of these exercises, the friends were given the opportunity to navigate the given constraints, explore different ideas, and execute designs that effectively dealt with the problem at hand.
**Outdoor Explorations**

*Flagstaff Hill* - What better way to learn about Pittsburgh than out and about in Pittsburgh? We ventured out to the top of Flagstaff Hill with our clipboards and pencils to sketch the Oakland skyline, complete with the Cathedral of Learning.

*Pittsburgh Mural & Architectural Elements Around Carnegie Mellon’s Campus* - We visited Doug Cooper’s Pittsburgh mural (Archie and Kipton pictured with it below) and went on a hunt for bridges, tunnels, cantilevers, columns, and beams around campus.

**Iconic Pittsburgh**

*Andy Warhol* - In honor of the Pittsburgh born and CMU trained artist, we studied Andy Warhol’s famous pop art style. We took what we learned and implemented the technique to make our own pop art portraits, pop art cats, inspired by the book *Uncle Andy’s Cats*, and pop art pinwheels.

*The Tastes of Pittsburgh* - We tasted our way through Pittsburgh this month. Our taste tests included dill and gherkin pickles, French fries with Heinz ketchup, pierogies, and Klondike bars which were invented in the early 1920s at Isaly’s, an iconic Pittsburgh deli.

Pictured left to right, Sylas and Felix work on their pop art portraits.

Pictured left to right, Kipton and Camden give Klondike bars and pickles a big thumbs up!