

Strand: Investigation Architecture	Ohio Early Learning and Development Standards: Pre-Kindergarten Investigation: Architecture
<p><u>Cognitive</u></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Communicate about past events and anticipate what comes next during familiar routines and experiences A1 <input checked="" type="checkbox"/> With modeling and support remember and use information for a variety of purposes A2 <input checked="" type="checkbox"/> Recreate complex ideas, events/situations with personal adaptations A3 <input checked="" type="checkbox"/> Demonstrate understanding that symbols carry meaning and use symbols to represent thinking B1,2 <input checked="" type="checkbox"/> Participate cooperatively in complex pretend play, involving assigned roles and an overall plan B3,4 <input checked="" type="checkbox"/> Demonstrate ability to solve everyday problems based upon past experience C1 <input checked="" type="checkbox"/> Solve problems by planning and carrying out a sequence of actions C2 <input checked="" type="checkbox"/> Seek more than one solution to a question, problem or task C3 <p><u>Math</u></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Count to 20 by ones with increasing accuracy A1 <input checked="" type="checkbox"/> Demonstrate one to one correspondence when counting objects up to 10 A4 <input checked="" type="checkbox"/> Collect data by categories to answer simple questions E1 <input checked="" type="checkbox"/> Measure length and volume using non-standard or standard measurement tools D3 <input checked="" type="checkbox"/> Create shapes during play by building, drawing, etc. F5 <input checked="" type="checkbox"/> Combine simple shapes to form larger shapes F6 <input checked="" type="checkbox"/> Demonstrate understanding of the relative position of objects <input checked="" type="checkbox"/> Sort and classify objects by one or more attributes C1-2 <input checked="" type="checkbox"/> Count to solve simple addition and subtraction problems with totals smaller than 8, using concrete objects B1-2 <p><u>Science</u></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Make careful observations A2 <input checked="" type="checkbox"/> Record observations using words, pictures, charts, graphs, etc. A6,7 <input checked="" type="checkbox"/> Describe, compare, sort, classify, and order A5 <input checked="" type="checkbox"/> With modeling and support, explore the properties of objects and materials C1 <input checked="" type="checkbox"/> With modeling and support, explore the position and motion of objects C2 <p><u>Language & Literacy</u></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> With modeling and support, print letters of own name and other meaningful words with mock letters and some actual letters C3 <input checked="" type="checkbox"/> With modeling and support, use words acquired through conversations and shared reading A19-20 <p><u>Approaches Towards Learning</u></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Develop, initiate and carry out simple plans to obtain a goal A4-5 <input checked="" type="checkbox"/> Use creative and flexible thinking to solve problems C2 	<p>Children Observed: Avery</p>  <p>As part of our architecture investigation, we focused solely on bridges. The children were shown pictures of bridges in the block area where they then worked with the blocks to create their own bridges using eye/hand coordination. Using paint and brushes the children used their small motor skills to write words that dealt with bridges and construction: bridge, build, architect, construction. Using the iPad the children observed various pictures of bridges and using their expressive language they discussed their ideas for how bridges are used, and their answers were recorded. With photographs as a guide, the children drew a picture of a bridge using pencils. Using their fine motor skills the children then painted over their pencil bridge drawings with white glue, following as closely to their pencil lines as possible. The children then sprinkled a mixture of sand and glitter over their paper to give their work a 3 dimensional appearance. We focused on the four main types of bridges: beam, arch, suspension, and truss. The children drew and wrote each type of bridge and then proceeded to build the bridges with different materials including construction paper, blocks, dominoes, sticks, yarn, clay, and pipe cleaners.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Use imagination and creativity to interact with objects and materials C1 <input checked="" type="checkbox"/> Focus on an activity with deliberate concentration despite distractions B1 <input checked="" type="checkbox"/> Carry out tasks, activities, projects or experiences from beginning to end B2-4 <p><u>Social Emotional</u></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Show confidence in own abilities and accomplish routine and familiar tasks independently A10-11 </div>

Cognitive

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- Solve problems by planning and carrying out a sequence of actions C2
- Seek more than one solution to a question, problem or task C3

Math

- Count to 20 by ones with increasing accuracy A1
- Demonstrate one to one correspondence when counting objects up to 10 A4
- Collect data by categories to answer simple questions E1
- Measure length and volume using non-standard or standard measurement tools D3
- Create shapes during play by building, drawing, etc. F5
- Combine simple shapes to form larger shapes F6
- Demonstrate understanding of the relative position of objects
- Sort and classify objects by one or more attributes C1-2
- Count to solve simple addition and subtraction problems with totals smaller than 8, using concrete objects B1-2

Science

- Make careful observations A2
- Record observations using words, pictures, charts, graphs, etc. A6,7
- Describe, compare, sort, classify, and order A5
- With modeling and support, explore the properties of objects and materials C1
- With modeling and support, explore the position and motion of objects C2

Language & Literacy

- With modeling and support, print letters of own name and other meaningful words with mock letters and some actual letters C3
- With modeling and support, use words acquired through conversations and shared reading A19-20

Approaches Towards Learning

- Develop, initiate and carry out simple plans to obtain a goal A4-5
- Use creative and flexible thinking to solve problems C2

Children Observed: Avery



The children studied architecture further by using tools such as magnifying glasses and creating rubbings to explore materials used to build. They used a tally system to discover the materials used to build the Bombeck Center. Through this experience the children demonstrated their ability to count by ones and record data/observations. Also, the children began investigating blueprints and planning design. They discussed their observations of blueprints and traced blueprints. They used architectural tools to create a plan for a structure. Then used blocks with notches in them to follow through with their plan and construct the structure. During a writing experience the children practice forming letters by making a list material words and discussed the materials used to build structures. The children worked on the work bench and through this experience the children demonstrated their ability to make precise movements with their fingers and wrists and extended their investigation by using tools including hammers, nails, wrenches, and screws.

- Use imagination and creativity to interact with objects and materials C1
- Focus on an activity with deliberate concentration despite distractions B1
- Carry out tasks, activities, projects or experiences from beginning to end B2-4

Social Emotional

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Architecture**

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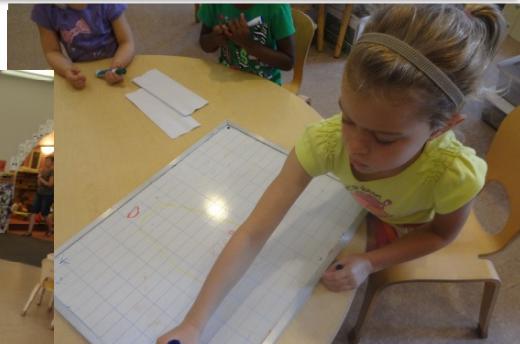
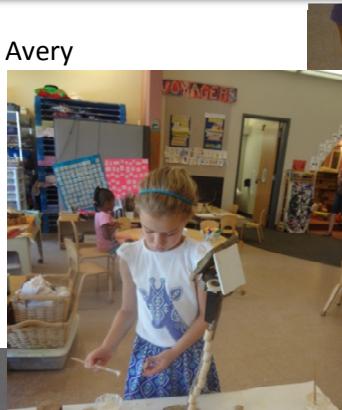
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**Ohio Early Learning and Development Standards: Pre-Kindergarten
Investigation: Architecture**

Children Observed: Avery



The children investigated blueprints and planning design. Through this experience the children were able to demonstrate their ability to use a three finger grasp and use spatial thinking skills to understand that a blueprint represents an actual place. They used architectural tools to create a plan for a structure. Then used blocks with notches in them to follow through with their plan and construct the structure. The children also created a blueprint or plan with architectural tools and pencils. They used small blocks to create a model of their structure. While investigating planning and creating structures, the children made a blueprint for a structure made of cups. During our architect investigation, the children planned and created structures with various sized marshmallows, gum drops, tooth picks, and twizzlers. Through this experience the children demonstrated their ability to use imagination and creativity in interactions with materials and objects. The children used straws and fabric to build structures together in groups. Through this experience the children had the opportunity to use their imagination with materials to make creations and use appropriate interactions with peers to complete a task. They also worked in teams to choose a purpose for a structure and create a plan for that structure. Through this experience the children had an opportunity to develop a simple plan to obtain a goal while also working cooperatively with peers. The children worked in groups to gather their materials to construct their buildings with recycled materials. They demonstrated the ability to negotiate with friends to complete a task and follow through with a simple plan to reach a goal. The children followed through with their plan to design a structure. They used their materials that they gathered to build their structure. They also worked on an architectural design for a tree house they would like to build. Using the iPad, they viewed pictures of different tree houses and decided which they would like to draw and build. The children used their tree house blueprints to gather materials and glue them on their tree to make a tree house.

- Use imagination and creativity to interact with objects and materials C1

- Focus on an activity with deliberate concentration despite distractions B1

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Children Observed: Avery



During the beginning of our architecture investigation, the children refined their fine motor skills by cutting out pictures of structures from magazines. The children drew on their past experiences and made a representational drawing of what a building looks like to them and gave a definition of architecture/building design. While looking through pictures of famous buildings the children discussed similarities and differences of the aesthetics of the structures. During group time the children discussed the people that are involved in building structures. They also compared and contrasted the job of a construction worker versus an architect. The children further investigated the purpose of structures by constructing their own structures with blocks and then adding the appropriate doll furniture items add purpose. The children further investigated purpose of design by constructing buildings and adding Barbie materials. Through this experience the children were able to demonstrate their ability to use imagination to make three dimensional work.

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The children discovered that each row of blocks must go a different direction to make a strong tower. They found that removing a block from the middle was a safe move, but then it made it more difficult later because the building could not stand on one block that was on either end. The children also created a blueprint or plan with architectural tools and pencils. Then they used small blocks to create a model of their structure. The children planned and created structures with various sized marshmallows, gum drops, tooth picks, and twizzlers. Through this experience the children demonstrated their ability to use imagination and creativity in interactions with materials and objects. The children drew a blueprint for a straw structure and constructed the structure with building straws. The children also used marshmallow fluff as mortar to build structures with graham crackers. They discovered that mortar helps holds materials together so they do not fall down. They also used water and sand to make mortar for wooden blocks to create a standing wall. They found that if they offset the bricks it makes a stronger wall. They also worked in teams to choose a purpose for a structure and create a plan for that structure. Through this experience the children had an opportunity to develop a simple plan to obtain a goal while also working cooperatively with peers.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Use imagination and creativity to interact with objects and materials C1 <input checked="" type="checkbox"/> Focus on an activity with deliberate concentration despite distractions B1 <input checked="" type="checkbox"/> Carry out tasks, activities, projects or experiences from beginning to end B2-4 <p><u>Social Emotional</u></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Show confidence in own abilities and accomplish routine and familiar tasks independently A10-11 </div>