

Math

- Sort and classify objects by one or more attributes C1-2
- Recognize, duplicate and extend simple patterns using attributes such as color, shape, or size. C3
- Describe and compare objects using measurable attributes D1
- Demonstrate understanding of the relative position of objects F1
- Create shapes during play by building, drawing, etc. F5
- Combine simple shapes to form larger shapes F6

Science

- Explore objects, materials and events in the environment A1
- Make careful observations A2
- Pose questions about the physical and natural environment A3
- Engage in simple investigations A4
- Describe, compare, sort, classify, and order A5
- Record observations using words, pictures, charts, graphs, etc. A6,7
- Make inferences, generalizations and explanations based on evidence A11
- Share findings, ideas and explanations through a variety of methods A12
- With modeling and support, explore the position and motion of objects C2
- With modeling and support, identify physical characteristics and simple behaviors of living things D1,2
- With modeling and support, identify and explore the relationship between living things and their environments D3
- With modeling and support, demonstrate knowledge of body parts and bodily processes D4

Approaches Towards Learning

- Seek new and varied experiences and challenges A1
- Develop, initiate and carry out simple plans to obtain a goal A4-5
- Carry out tasks, activities, projects or experiences from beginning to end B2-4
- Use imagination and creativity to interact with objects and materials C1
- Use creative and flexible thinking to solve problems C2

Child/Children Observed: Ellie, Sydney



Anecdotal Record: After talking with the children about what they knew about robots the children had an opportunity to draw a picture of what they thought a robot looked like. Many of the children drew pictures of very stereotypical squareish looking robots. Some of the children began to think about what their robots would do and talked about that as they drew their robots

January 2014

Language & Literacy

Demonstrate understanding of increasingly complex concepts and longer sentences A3-4

Use language to communicate in a variety of ways with others to share observations, ideas and experiences; problem solve, reason, predict and seek new information A6-10

Describe familiar people, places, things, and experiences A12

Use drawings or other visuals to add details to verbal descriptions A13

Understand and use question words (interrogatives) A16

With modeling and support, use words acquired through conversations and shared reading A19-20

With modeling and support explore relationships between word meanings A22

With modeling and support follow typical patterns when communicating with others A23-24

With modeling and support, describe, categorize and compare and contrast information in informational text B8

With modeling and support, participate in shared research and writing projects using a variety of resources to gather information or answer a question C 11-12

Social and Emotional

Manage the expression of feelings, thoughts, impulses, and behaviors with minimal guidance from adults A7

Show confidence in own abilities and accomplish routine and familiar tasks independently A10-11

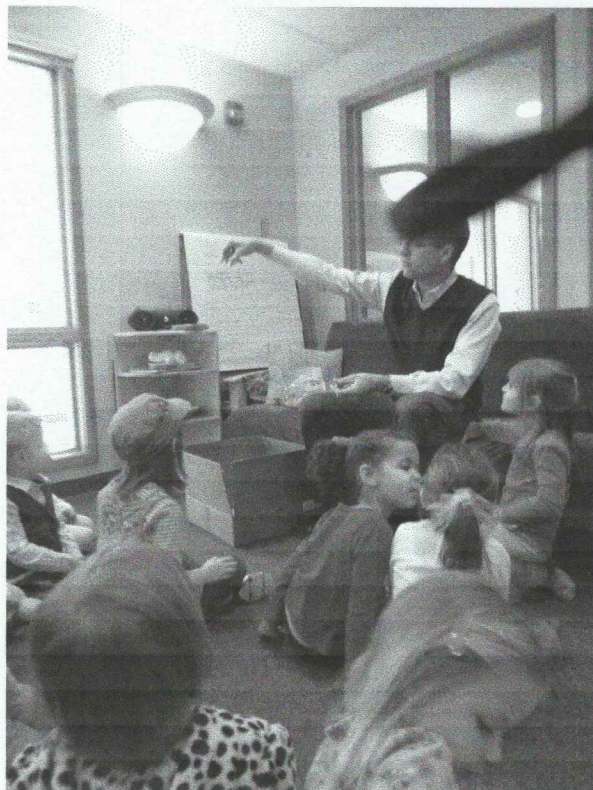
Physical Health

Coordinate the use of hands, fingers and wrists to manipulate objects and perform tasks requiring precise movements B1-2

Identify and describe the function of body parts C6

Demonstrate basic understanding that eating a variety of foods helps the body grow and be healthy D1

Child/Children Observed: Seth, Nina, Tori, Sydney, Bria, Ellie, Eloise, Noelle, Dominic, Reese, Nova, Oliver



Anecdotal Record: To learn more about how robots move and what they do we asked some guest speakers to come into our classroom. Noelle's father works at a company that makes robotic hands and fingers and he came in to tell the class about these. Noelle's dad showed the children the different types of fingers that can be added onto robotic hands. He showed us how some bend and some scoop. The item that caught the children's attention the most was a claw that is made to specially pick up muffins. Noelle's dad brought in a muffin and demonstrated how the claw picks up the muffin without hurting it. The children passed around the different robotic fingers and experimented with how they move.

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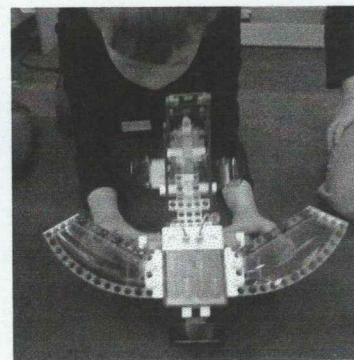
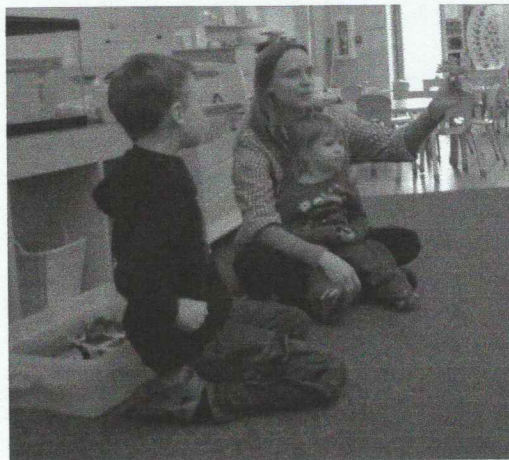
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Child/Children Observed: Nova, Rocco, Grant, James, Eli, Ben, Seth, Coen, Dominic Melodie, Sidney, Bria, Eloise, Noelle, Eloise, Reese, Jackson, Anna Oliver, Nina,



Sydney

Anecdotal Record: Nova's big brother is in a robot league and he and his mom came in to demonstrate to the class how his robots work. Nova's brother Ori talked about how he built the robots. They showed the class how some of their robots had sensors and could sense how close they were to large objects. Some of the robots could be controlled by their phone. Ori explained also how the robots get energy from batteries and that is what makes them move. The children watched as Ori had the robots move around in front of them.

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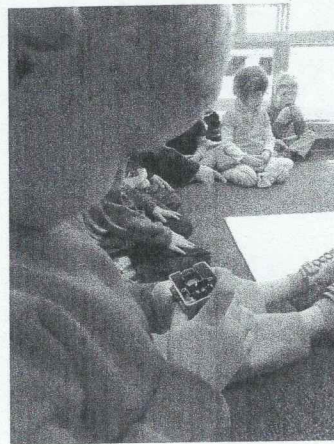
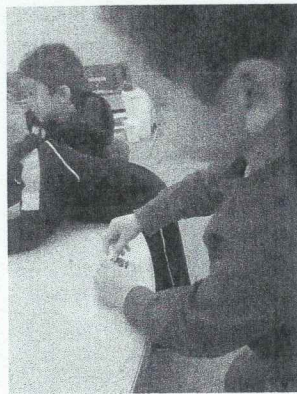
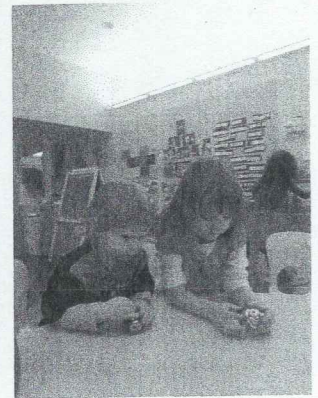
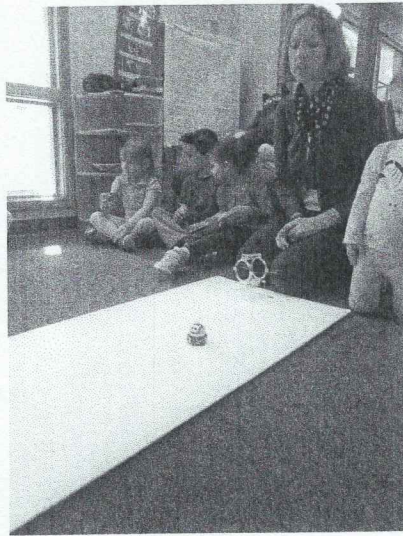
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Child/Children Observed: Noelle, Eli, Ellie, Sydney, Nina, Coen, Rocco, Anna, *Sydney*
Eloise, Melodie, James, Seth, Dominic, Bria, Tori, Nova, Grant



Anecdotal Record: During circle time the children had the opportunity to view different types of robots. One robot looked like a bug and vibrated around. The other robots were wind up robots that drove around. The children passed these robots around the circle. Later at the table the children had the opportunity to try their hand at winding up the robots and moving them around the table. The children also worked together to take one of the small robots apart to see what was inside. Inside the robot the children found lots of gears.

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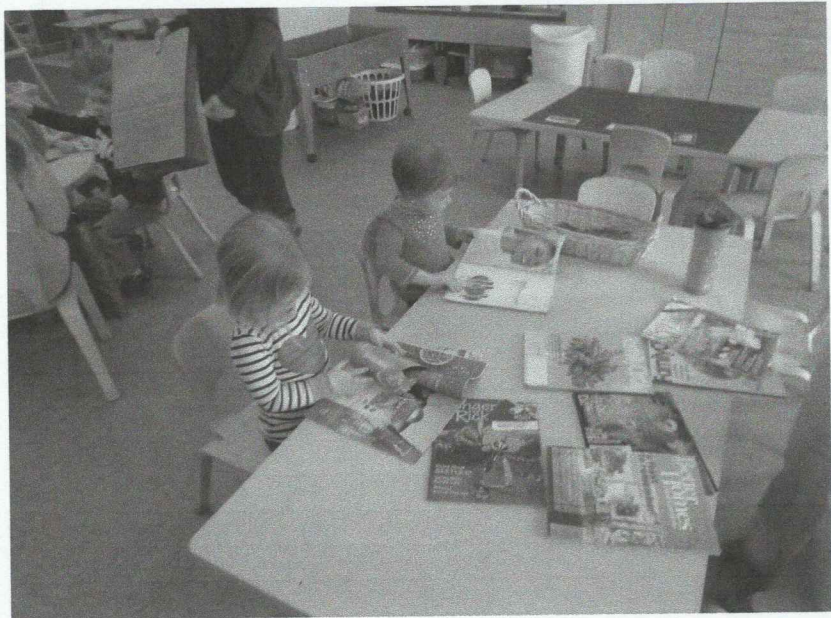
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Child/Children Observed: Sydney, Tori

Sydney



Anecdotal Record: While talking about robots we decided to look at how robots get energy. To look more closely at the idea of energy the class also looked at how people get energy. After a few experiences and many discussions during circle we decided to make a chart to see where different items get energy. The different types of energy were sun, batteries, electricity or outlets, and food. The children had the opportunity to look through different magazines and pick out different items and cut them out. Once the children had chosen different items they then had to decide how that item gets energy and put it on the chart.

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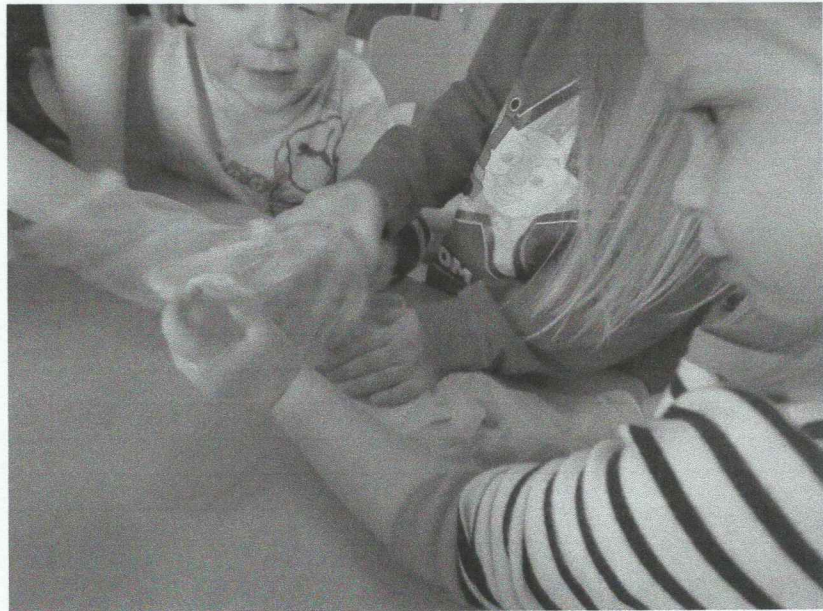
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Child/Children Observed: Sydney



Anecdotal Record: While looking at movement and how robots move we wanted to also look at joints. To help the children better understand what joints are and how they help us bend we looked at how our arms and hands would look if we didn't have joints. The children had the opportunity to put a big tube on their arm and try to use their arm to do things. The children experience how difficult it was to use their arm without a joint. The children also worked with two different types of hands, one with joints and one without joints. The hands were made out of plastic gloves, the one without joints had popsicle sticks. The children tried to bend the fingers and investigated how the hand without joints would not bend well

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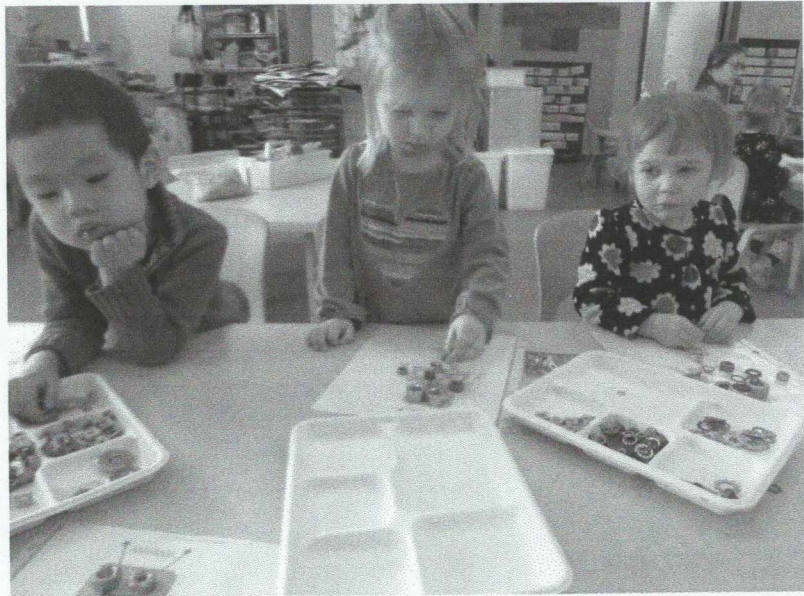
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Child/Children Observed: Grant, Sydney, Tori



Anecdotal Record: While looking at nuts and bolts and after sorting them to look at the different sizes and shapes they come in the teachers wanted the children to look at how they can be put together. The children had the opportunity to put together a robot by using nuts and bolts. The children chose a robot and then used one to one correspondence to count and then add nuts and bolts on the empty spaces on the robots. The children were able to create their own robot using the different nuts and bolts

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Child/Children Observed: Sydney



Anecdotal Record: To get a better sense of how robots can move the children played the Goldieblox spinning machine game. During this game the children created a spinning machine that moved the different characters. After looking at this spinning machine the teachers helped the children create their own spinning machine using nuts and bolts and spools and ribbon. The children chose where they wanted the nuts and bolts to be and then put the spools on top. They then used Velcro to attach the ribbons to the spools and wound them up. The children then took the end of the ribbon and wove it around the other spools on the board and made multiple spools spin.

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Child/Children Observed: Eloise, Bria, Tori, Oliver, Sydney, Grant, Jackson,

James

Sydney



Anecdotal Record: After completing building our robot, and then working together to choose which sensors to add and building them, and then charging the battery in the robot for energy we were ready to program it. Using the Lego book the children helped Ms. Caroline follow along and punch in the right buttons. The children took turns putting in the program and using different sensors and then running their program.

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Child/Children Observed: Sydney



Anecdotal Record: While learning about robots we also wanted to look at circuits and allow the children the opportunity to build one. During table work the children were able to use wires, batteries, a switch and a light bulb to create a circuit. The children began with just the light bulb and batteries and then added the switch. The children worked on creating their circuits for a week and then were given a pencil and paper so they could draw how the circuit worked.

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Child/Children Observed: Eloise, Bria, Tori, Oliver, Sydney, Grant, Jackson,
James, Nova

Sydney



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Child/Children Observed: Tori, Bria, Sydney, and Nova

Sydney



Anecdotal Record: While learning about robot sensors, we looked at our own sensors, our sense. We looked at our sense of smell. To explore our sense of smell we had the children play a smelling game. There were different smelling cotton balls in little jars and the children had to try to guess what type of smell they were smelling.

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Child/Children Observed: Nova, Tori, Sydney, Bria, Eloise, Melodie, Dominic,
Oliver



Anecdotal Record: To learn more about real life robots and see them in action we scheduled a trip to see the UD Robotics Lab on campus. During our field trip we got to see 4 different types of robots. There were 3 different robotic arms that used different sensors. One robots traced objects, one tracked objects, and one had pinchers. The last robot was more humanoid and it was tall and had huge arms. We were able to see this robot move its arms around.

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