

Science in Prekindergarten is about Exploration and Questioning *submitted by Dr. Robin Hooper*

"Children are naturally curious about the world and want to find out as much as they can. They want to know what makes the wind blow, how trees grow, why fish have fins, and where turtles go in the winter. But they don't want adults to give them the answers... They don't want science to be something that is imparted to them; they want it to be something they do."

- Ruth Wilson

As science and math have gained greater emphasis through the current Science, Technology, Engineering and Mathematics (STEM) initiatives currently being implemented in Kindergarten through grade 12 education, science in our Universal Prekindergarten Programs has also experienced an increased focus in terms of learning centers, classroom activities, learning materials and classroom libraries. In this month's issue of our newsletter, our readers will see examples of how science is being addressed in our pre-kindergarten classrooms using the High Scope Preschool Curriculum.

Young children frequently ask "why" questions during the preschool years. They are seeking knowledge about how the world around them has developed and what factors made it develop that way. These are the questions that scientists seek to answer in their experiments and scientific explorations. The prekindergarten program seeks to involve students in seeking answers to their questions through exploration and research using technology and books in their classrooms as well as "field trips" focused on specific topics or questions. For example, students studying insects may look at books about different kinds of insects explore a children's website with photographs and information about insects and take a walking "field trip" in the area around their program to see real life insects. The pursuit of information about a specific "real life" topic is definition of a scientific study. Our youngest learners engage in scientific studies of areas of interest when they participate in these activities. Most importantly, our students learn that they have the capacity to seek and find answers to their questions themselves with help from adults. These experiences assist in fostering in our preschool students a desire to learn and the confidence to pursue topics of interest, skills they need to be successful in science and other areas throughout their school careers and beyond.

Reminder!
 Transition to Kindergarten
 Family Event
 Saturday, May 4, 2013
 10:00 a.m.— 2:00 p.m.
 # 33 School and the
 Ryan Center
 500 Webster Avenue



Worms at #33 *submitted by Pat Swedrock and Sheila Murphy*



How does it feel to hold a squirming worm?



Wow! Look how long this worm is!

Growing and Learning in Pre-K

submitted by Joie Markham, The Community Place of Greater Rochester



Studying Dandelions



"Writing" Dandelions



Planting Seeds

The children have been interested in the dandelions that are growing outside near our playground. They pick them regularly for their families. I decided to bring them into the classroom for a small group. The children were given a piece of paper, a dandelion, and some tweezers. We explored the flowers and talked about the different parts- petals, stem, leaves, and roots. They shared experiences with flowers from their own yard. We discussed how they grow and what they need to grow. They were able to pull them a part, open them up, and explore the flowers. I had placed the paper down originally for an easy clean up, but they noticed that the flowers could write. One child said "this write like our yellow crayons". The following day we planted our own seeds. We talked about what they needed to grow, where we should put them in our room, and predicted how long it will take them to start growing.

NYS Prekindergarten Foundation for the Common Core Learning Standards: Domain 5: 1. a-c, 2. d, 3. e

Recycling Expedition with Pre-K Families

submitted by Debra Keifer and Jessica Shapira, # 08 School

The preschool children have been learning about air, land and water vehicles. As a culmination the children worked at our vehicle factory , creating vehicles with recycled products. Thanks to donations made by other teachers and our Pre-K families, we were able to collect different-sized boxes and containers made from metal, cardboard, plastic and wood. This was a very successful expedition!

NYS Prekindergarten Foundation for the Common Core Learning Standards: Domain 4: Communication, Language and Literacy Representing. 4.Demonstrates his/her ability to express ideas using a variety of materials. Domain 5: Cognition and Knowledge of the World. Scientific Thinking: Earth &Space Demonstrates ways that each is responsible for protecting our planet, for example, recycling.



Exploration of Worms *submitted by Sakiyna Wilson, Caring and Sharing Child Care Center*

In preparation for Earth Day, the students in the Grasshopper Classroom at Caring and Sharing Child Care Center have been exploring live worms during Large Group, Work Time, and Outside Time. In addition, to exploring live worms, our class has read 2 stories about worms during Small Group Time called ***An Earthworm's Life*** by John Himmelman and ***Garden Wigglers: Earthworms in Your Backyard*** by Nancy Loewen. These two books have great illustrations and provide useful information about the life cycle of an earthworm and how they help plants to grow by enriching the soil underground. For example, the kids were amused to find out that a worm's waste is called "castings" and it is used to help a plant grow.

During our community walks on mornings after a good rainfall, students have observed many earth worms lying on the ground on sidewalks. Students are amazed at how many worms of different sizes are outside on the ground and are careful not to step on the worms. Also, when needed we look for dead leaves to bring back for our worms. Since the worms have been in our classroom, we have noticed that the students are treating them like class pets. Students love to help saturate the soil a little with water so the worms don't dry out and can breathe in the soil. They also really enjoy adding dead leaves or old cabbage to our compost bin and they remind each other to be gentle when holding them in their hands. Some students enjoy putting the worms across their hands or arms because they like how it feels having the worm move softly across. Also, while students are exploring their worms, words like "stretching," "wiggle," and "curling" are commonly heard to describe what they see the worms doing. Many kids like to compare how long or short their worms are with other students or count how many worms they have collected as well.



Sadly, we have had a few worms die and had to discuss what may have made these worms die. Some kids think the worms got sick or just too tired to move anymore. The students are learning in a basic sense that the dead worms are still helpful to our environment by providing nourishment to our class fish and algae eater in order to help support the food chain. Indeed, the worms have been an exciting part of our Science Area and are an important part of our environment.

Three Bears Extension *submitted by Suzie Haglund-Carney*



Concentrating on work

and plastic saws and let the kids discover how to get the bears out of the ice. The kids also got to see how water becomes ice-in the freezer of course! The kids loved this activity so much they asked to do it again the next day.

Our class loved the book The Three Bears. In addition to making porridge and acting out the story, we took clean milk cartons and froze our counting bears inside them to "Excavate the Bears". Then we gave the kids various tools to free the bears from the ice. We used hammers, screw drivers, wrenches



What's the best way to get the bear out?

Putting Things Together

submitted by Tony Costa



The children at Jefferson Ave. Head Start worked long and hard using nuts and bolts to put paint stirrers (with holes drilled in them) together.



Rochester City School District
 Department of Early Childhood
 131 West Broad Street
 Rochester, NY 14614
 Phone: 585-262-8140 / Fax: 585-262-8273
 www.rcsdk12.org/prek



Family Science Days *submitted by Bonny VanDerMeid*



Scientists at work

The Family Science Days, where parents and children interact with community scientists, teachers and materials, have been collaboratively sponsored by the Rochester Public Library, XXI, community scientists and the Rochester Pre-school Parent Program. This year they were held on three different Saturdays at the following Rochester Public Libraries: Lyell, Winton and Maplewood.

Here are some of the Common Core Learning Standards addressed in these activities:

CCLS 1b: Manipulates and observes objects in his or her surroundings to develop conclusions.

CCLS 3b: Identifies cause and effect relationships.

CCLS 4b: Investigates and identifies physical properties and characteristics of water (solid, liquid and gas).

CCLS 6h: Explores and discusses simple chemical reactions with teacher assistance.

CCLS 6e: Uses a variety of tools to explore the world and learn how things work (magnifiers, microscopes, balance scales).

CCLS 6g: Describes and compares the effects of common forces on objects, such as those caused by magnetism.



Using tools



What do you see?



How do things fit?



Wow! How did that happen?



←
Comparing things—Which is heavier?
→



How does that feel?



Young scientists at work: observing, comparing, investigating and describing