

BRINGING STEM TO PRESCHOOLERS REMINDS US THAT EVERYONE IS A SCIENTIST

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Imagine the sound of pebbles being shaken in a jar and sticks being hit on a table.

Conjure up the smell of orange, lavender, and lemon essential oils.

Picture a table with a big, messy pile of pinecones, leaves, rocks, and flowers.

This is the ambience of preschoolers learning STEM.

Through the award-winning STEM Starters program, WCS partners with three schools to provide outreach and field trips to 3–4-year-olds. As an Adjunct Conservation Educator at the Prospect Park Zoo, I’m in the classroom, interacting directly with the students to facilitate the activities. When we had our first outreach, we introduced ourselves to the students as scientists from the Prospect Park Zoo who heard that they were all scientists as well. “Is that true? Are you all scientists?” We would ask, and almost all the little voices would respond with a resounding “Yes!” If you ask any adult that question, you’ll probably get a different answer unless you’re speaking to someone who works in the research field.

When most people think of STEM (Science, Technology, Engineering, and Math) learning, they tend to lean towards more advanced imagining. They think of coding robots, engineering complex structures, math equations, and beakers of chemicals. Adults tend to forget what young children know inherently:

EVERYONE IS A SCIENTIST AND STEM IS EVERYWHERE IN OUR LIVES.

Renowned chemist, Rosalind Franklin said “Science and everyday life cannot and should not be separated.” This is the foundation of the STEM Starters program, which builds confidence in STEM learning through the context of the familiar, using things like kitchen utensils and items from nature.

Every class starts with the “mystery bag”. Inside is an object relevant to the lesson, and students are chosen to come up, reach inside, and describe what they feel. Items that I use every day without thought like a sponge or a measuring cup, become incredible discoveries to these kids who describe them in ways I’ve never even thought of. (A melted ice pack does feel kind of creamy now that you mention it.)

What I love most about teaching STEM Starters is that there is no right or wrong way for the kids to interact with the lessons. We simply present them with materials and vocabulary and let them guide us through their learning. We are able to teach the scientific process by stating observations out loud and then asking questions. For example, “I see you’re making a noise by shaking the cup with pebbles in it. I wonder what it would sound like with shells instead?”

Magic happens when we as adults let their imaginations lead the way. Sure, we’re exploring sound, but if you want to stir the pinecones in a cup and “make noodles,” that’s great too. I wonder what we can use to make the sauce?

As it gets warmer, I encourage you to use all your senses to observe your surroundings when you go outside.

Marvel at the flowers blooming.

Wonder where a squirrel is hurrying off to.

Compare the difference between how two cars sound.

Ponder these things out loud to your child, and see how contagious embodying our inner scientist can be.