



## What We Can Continue to Learn from Fred Rogers



### STEAM for All Ages, even infants and toddlers!



I recently had a great opportunity to watch a scientist at work. She was studying an empty plastic water bottle, turning it over and over, staring at it, squeezing it – and then she let it drop from her highchair, studying the effect of gravity. And yes, she was just 11 months old!

No wonder they call babies and toddlers little scientists. That baby's explorations with the bottle reminded me of so many of the things -- observing, exploring, experimenting -- that I talk about in STEAM (Science, Technology, Engineering, the Arts, and Math) workshops for preschool and elementary school teachers. Children of all ages, even the youngest infants and toddlers, are involved in some way with STEAM concepts because they're constantly working on understanding the world around them.

While Fred developed the *Neighborhood* series primarily for preschoolers, he knew from his graduate work in child development that the earliest experiences set the stage for all that comes later. You can see the full mix of ages in this video – look particularly for the way the toddler studies the spiny starfish, the boy investigates the Jello on the highchair tray, and the baby learns about her feet.



Here are some ways we build the foundation for STEAM learning -- for children of all ages, especially for infants and toddlers.

### **Basic trust in the world**

What makes babies want to look carefully, explore, experiment? It all starts with a sense that the world is a safe, trustworthy, good place. Without that basic trust, children just might close down and shut out the world. And how do they develop that basic trust in the world? It grows out of all the warm, nurturing caregiving they receive, right from the start.

So if you work with infants and toddlers, think about how much you're doing for their future STEAM learning, when they trust they can count on you to consistently, caringly and predictably respond to their needs -- diapering, feeding, and helping babies be comfortable and warm. Building trust isn't just for social-emotional development – it's for all learning, for all ages!

### **Warm and responsive interaction**

STEAM concepts are built on questioning – *What is this? What can it do? How*

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*big is it? How can I make it better?* For preschoolers we know how much we inspire STEAM learning through our open-ended questions...and how important it is to encourage them to ask questions. So think about how much it means when you respond to infants' babbling or to toddlers' efforts at communicating – and show that you care about what they have to say. You're building their confidence in their own thoughts and ideas, so that later on they'll want to ask questions and let people know what they're noticing or wondering about.

### **Sensory exploration**

While scientists explore and experiment using sophisticated, often high-tech tools, babies and toddlers work with more primitive tools – their senses. Watch what they do when you offer safe and simple things to explore and experiment with, like a small box with a lid that opens and closes, a toy car with wheels, an empty plastic bottle to squeeze. They use their eyes, hands, and ears, to learn about “spatial relations” like in and out, “force and motion,” “cause and effect.” In the last scene on the video, you saw an example of how babies lie on their back and bring up their feet to touch or even suck on. They're working on a basic science lesson about living things, that their own feet and hands feel different than their playthings do – “what's me and what's not me.”

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So let's give a big thank-you to those of you who work with the very youngest babies and toddlers. You're not just “caregiving” – you're truly “early childhood professionals” -- introducing babies and toddlers to the world in such a welcoming way that makes them want to explore, experience and experiment now – and keep on doing that as they grow.

Thank you for being our neighbor,



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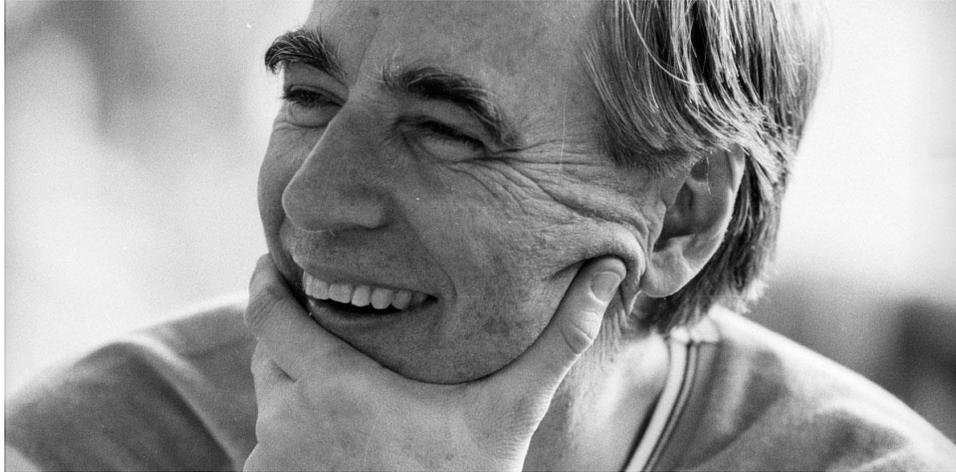
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## Timeless Wisdom from Fred Rogers



"...toward the end of the first year of life, healthy babies seem to become engaged in a "love affair with the world." This strong urge to explore, to try out, and to understand has grown out of the infant's first relationships -- that with the beloved mother or other primary caregiver....We may not usually think of curiosity as having emotional roots, but it does. If it is nurtured and it flourishes, it is one of the most valuable tools a child can bring not only to the early learning process but also to all learning throughout life."

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