

What We Can Continue to Learn from Fred Rogers



Fred Rogers' Approach to STEAM



Most people associate Fred's work with social-emotional development. It certainly had that at its core, but I always thought of it as dealing with not only that, but the whole child -- or should I say "the whole neighborhood" including people, places and things. In fact, I would often say that *Mister Rogers' Neighborhood* offered three basic messages: "helping children feel good about themselves, get along with others and *appreciate the world around us.*"

I like to think of "*appreciating the world around us*" as Fred's way of helping us feel comfortable with STEAM (STEM with the A for the Arts). He helped us see those concepts through a young child's eyes and through their everyday experiences. Here's how I would translate his approach to STEAM:

SCIENCE – Science is about nurturing a sense of wonder and curiosity. It's about asking questions, investigating, exploring, experimenting. In early childhood, science is about everyday experiences, like ice melting, shadows, seeds growing

into plants, where different animals live and what they eat.

TECHNOLOGY – Technology is just a fancy word for “tools.” We tend to think of technology as digital equipment like cameras and computers or sophisticated machines in factories. But crayons and pencils are tools, too. So are rulers, scissors and paper clips.

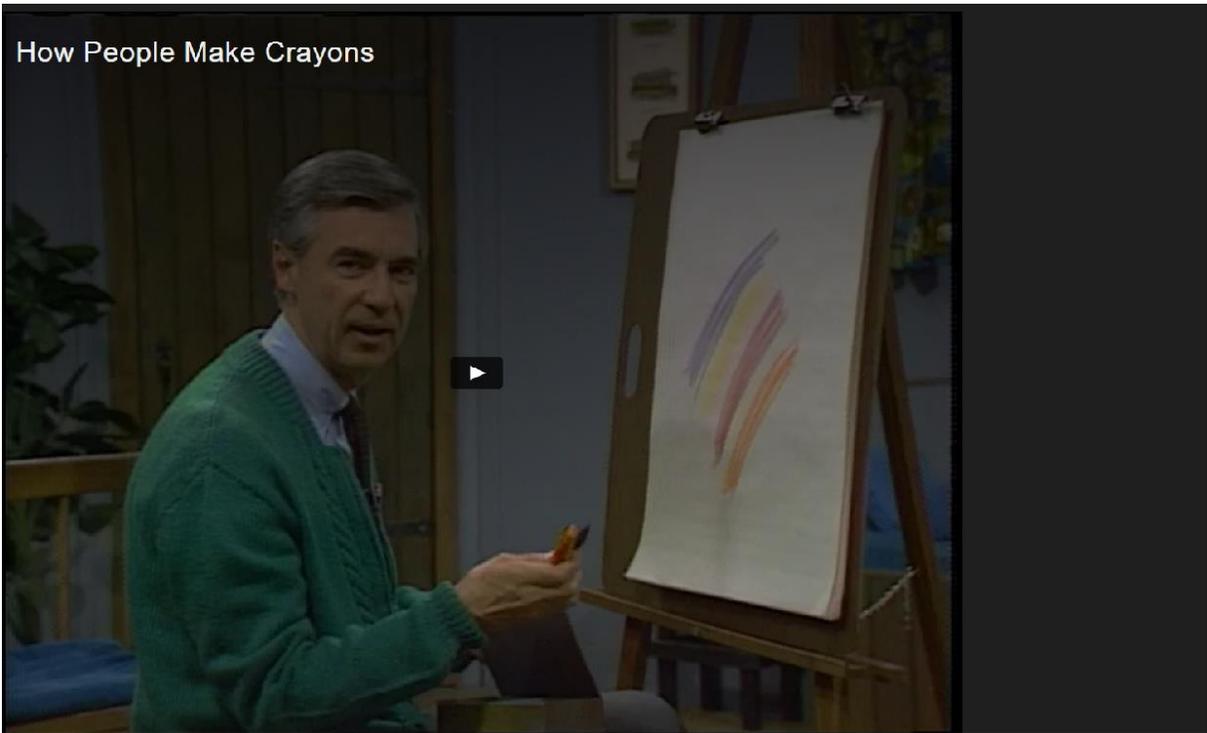
ENGINEERING – Engineering is about identifying a problem, thinking about solutions and trying them out. Haven’t you seen children do that when they’re trying to figure out how to make a stronger foundation so they can build their blocks higher? Or when they’re making a tin-foil boat that will float at the water table?

ARTS – The arts give us ways to illustrate concepts, by drawing, describing with words, or experiencing them through music and dance. Creativity and imagination play a big role in problem-solving and inventing.

MATH – Math is much more than counting. Mathematical thinking includes comparing, sorting, patterning, identifying shapes. Language, too, plays a big part in math, for example using words like *bigger, smaller, higher, lower, farther, closer*.

When you think of STEAM in those ways, you can see that you’re providing children with those kinds of learning experiences all the time. One of the obvious ways that Fred encouraged an interest in the world around us is through his factory tours. Here’s the one most people remember -- the crayon factory. Watch how he introduces it and narrates it to bring out the STEAM elements.

How People Make Crayons



Here are two ideas that can help you with STEM conversations:

1) Create a meaningful context. Before showing the crayon factory video, Fred was drawing with crayons. That's what gave him a meaningful context for the video. I spoke with a kindergarten teacher who uses this crayon video in his classroom. He creates the context by putting out lots of different kinds of crayons. Then he asks *what the children know* about crayons and *what they notice* about them. After writing a list of their ideas, he asks *what they want to know* about crayons...and *if they have an idea of how people make them*. And he remains nonjudgmental, even when the ideas are outlandish (which they can be because young children are such concrete and magical thinkers!). After the video, they talk about *what they've learned* and *what else they'd like to know* about crayons. They might even watch it again. Then he offers hands-on activities with crayons that match the children's interests. With those kinds of discussions and activities, you're putting STEAM learning into a context that's both personal and relevant for the children in your care.

2) Build on everyday moments. I saw an early childhood teacher start a STEAM conversation during an everyday moment. It was an exceptionally hot morning, and the four-year-olds had been out on the playground. When outdoor time was over, they came inside the center and lined up to be counted. That's when

she asked, “Do you feel a difference between the air outside on the playground and the air inside here in the center? Several children answered that it was hot outside and cold inside. Then she added a great follow-up question, “Do you know why?” A child called out, “Air-conditioning!” When you turn an ordinary moment like that into a teachable moment, you’re focusing the children’s attention on a simple but meaningful Science (hot/cold) and Technology (air-conditioning) concepts in their environment.

Now that I think of it, an Engineering concept could be added to that conversation. We could say something like, “Do you know how air-conditioning gets invented? It starts with a person who says, ‘We have a problem -- it’s too hot inside. I wonder how we could make it cooler? Let’s try to figure it out.’ That’s what an engineer does. Maybe it’s a woman. Maybe it’s a man. Engineers work on all kinds of problems to make our lives better.”

Children are like little scientists trying to figure out how the world works. Their ideas may be way off-base or their questions might be distracting when you’re focused on a different idea or lesson plan. But remember that your interest in their ideas nurtures their curiosity -- and children who are curious will be eager learners -- learners who want to put their energies into finding out more about the world around them.

Thank you for being our neighbor,



Hedda Sharapan

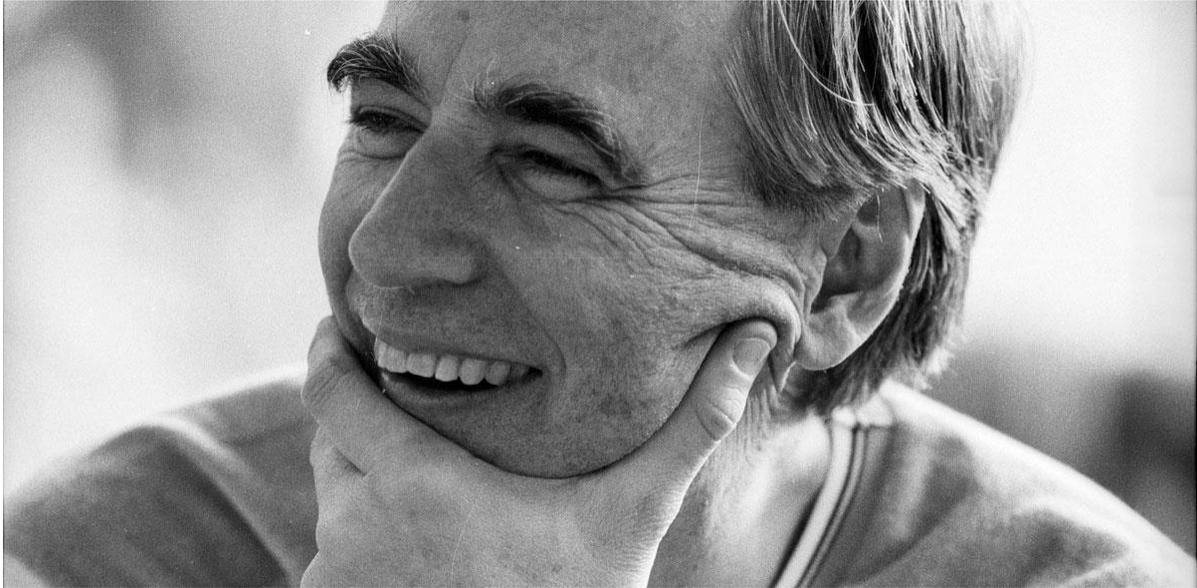
M.S. Child Development

PNC Grow Up Great Senior Fellow

hedda.sharapan@stvincent.edu

P.S. Here’s a link to our legacy [website](#) where you can find a number of *Mister Rogers’ Neighborhood* factory videos -- how people make crayons, balls, towels, wagons, sneakers, and macaroni. They can be a wonderful tool to stimulate STEAM discussions with the children in your care.

Timeless Wisdom from Fred Rogers



"Marveling, wondering, asking questions -- for young children, those are the things they'll need for learning, about science or about anything."

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**Fred Rogers Center for Early Learning &
Children's Media**

Saint Vincent College
300 Fraser Purchase Road
Latrobe, Pennsylvania 15650-2690