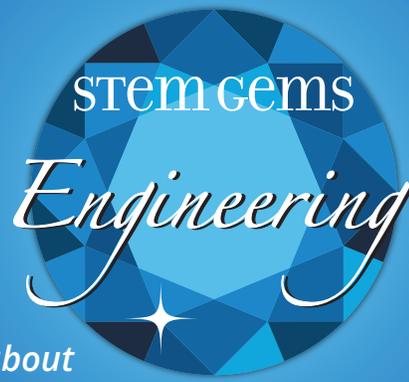


STEM Gem Career:
MECHANICAL AND FIRE ENGINEER

STEM Gem:
SARA MCALLISTER

"I went from being the little girl handing my dad tools while he was under the car to being the one under the car. I wanted to know more about combustion because, well, that's what make cars work."



Is a career as a Mechanical and Fire Engineer in your future? Are you curious about how the everyday things around you work? STEM Gem Sara McAllister is a mechanical engineer specializing in fire engineering. Her research explores how biomass ignites and fuels forest fires; her ultimate goal is to reverse engineer the spread of fires. Watch one of her videos. Then, with your STEM Gems Tribe, **discuss, explore, reflect,** and **act.**

DISCUSS

1. How do Mechanical and Fire Engineers like Dr. McAllister make a difference in the world?
2. What experiences did Dr. McAllister have that led to her pursuit of a career as a Mechanical and Fire Engineer?
3. What is Dr. McAllister's educational background?
4. What are some of the challenges that Dr. McAllister faced along her journey?
5. What are some of Dr. McAllister's key accomplishments?
6. What inspired you most about Dr. McAllister's story?
7. Dr. McAllister says: *"I went from being the little girl handing my dad tools while he was under the car to being the one under the car. I wanted to know more about combustion because, well, that's what makes cars work."* How did Dr. McAllister's curiosity about cars lead to her interest in mechanical engineering? Where has your curiosity led you?

EXPLORE

1. To pursue a career as a Mechanical and/or Fire Engineer, what college majors should you consider? What colleges and universities have programs in these areas?
3. What companies hire Mechanical and/or Fire Engineers? What is the salary range for a Mechanical and/or Fire Engineer?
4. What classes should you take in school to prepare for college and a career as a Mechanical and/or Fire Engineer?
5. Name at least two other women Mechanical and/or Fire Engineers. How are they similar to Dr. McAllister? How are they different?
6. What professional organizations support women in Mechanical and Fire Engineering? Do they have programs available for middle and high school students?

REFLECT

Dr. McAllister says that at some point in your education, you may be one of few girls in your class. But, don't let the boys intimidate you and keep you from excelling. What can you do to embrace every environment you find yourself in, even those where the girls in the room are severely outnumbered by the boys?

ACT

It's time to step outside your comfort zone. Name one concrete thing you will do before your next meeting that will have you one step closer to becoming a STEM Gem. Blog about it. Include it in your written or photo journal. Hold yourself accountable.

Work hard. Be brave. Stay curious.

BE A GEM!

Stephanie Espy

P.S. I'd love to hear about your journey. Share on Facebook, Twitter, or Instagram and tag @STEMGemsBook #STEMGemsTribe, or email me at tribe@STEMGemsBook.com.