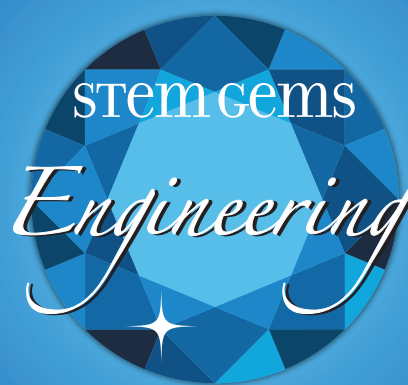


STEM Gem Career:
MATERIALS ENGINEER

STEM Gem:
AINISSA RAMIREZ

*“Using science, tech and math, you
have the tools to change
the world.”*



Is a career as a Materials Engineer in your future? Have you ever heard of this branch of engineering? STEM Gem Ainissa Ramirez holds more than six patents – all for inventing materials that make things stronger. The technical term is called dispersion hardening. She’s also a mega STEM evangelist and author of *Save Our Science* and *Newton’s Football*. Watch one of her videos. Then, with your STEM Gems Tribe, **discuss, explore, reflect,** and **act.**

DISCUSS

1. How do Materials Engineers like Dr. Ramirez make a difference in the world?
2. What experiences did Dr. Ramirez have that led to her pursuit of a career as a Materials Engineer?
3. What is Dr. Ramirez’s educational background?
4. What are some of the challenges that Dr. Ramirez faced along her journey?
5. What are some of Dr. Ramirez’s key accomplishments?
6. What inspired you most about Dr. Ramirez’s story?
7. Dr. Ramirez says: *“Using science, tech and math, you have the tools to change the world.”* How do STEM careers make a difference and impact the world?

EXPLORE

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

REFLECT

Dr. Ramirez believes that American culture is largely to blame for the low rates of girls' participation in STEM. How has your interest in STEM (or lack of) been shaped by culture? Do you now have sufficient female role models in STEM careers to inspire and encourage you? Do you have sufficient support from your friends/family/teachers?

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.