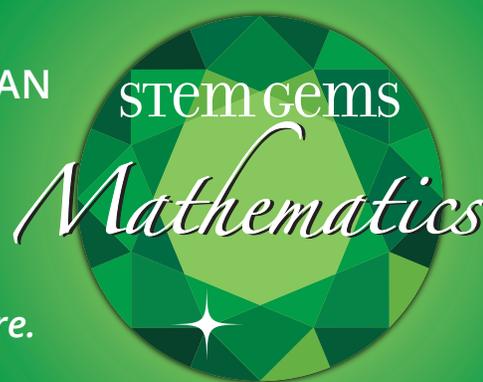


STEM Gem Career:
DYNAMICAL SYSTEMS MATHEMATICIAN

STEM Gem:
BRYNA KRA

"I asked a lot of questions. Maybe my peers thought I was dumb, but I didn't care. There is no question in math that's too stupid to ask."



Is a career as a Dynamical Systems Mathematician in your future? STEM Gem Bryna Kra makes predictions about the long-term behavior of various systems. Her contributions have opened up new questions and techniques and cracked open a new area of study. Her findings don't always have applications for the real world – yet. Read her story and digest. Watch one of her videos. Then, with your STEM Gems Tribe, **discuss, explore, reflect,** and **act.**

DISCUSS

1. How do Dynamical Systems Mathematicians like Professor Kra make a difference in the world?
2. What experiences did Professor Kra have that led to her pursuit of a career as a Dynamical Systems Mathematician?
3. What is Professor Kra's educational background?
4. What are some of the challenges that Professor Kra faced along her journey?
5. What are some of Professor Kra's key accomplishments?
6. What inspired you most about Professor Kra's story?
7. Professor Kra says: *"I asked a lot of questions. Maybe my peers thought I was dumb, but I didn't care. There is no question in math that's too stupid to ask."* Are you comfortable raising your hand in class? Do you speak up when you are confused to get clarification? Remember, there is no such thing as a dumb question.

EXPLORE

1. To pursue a career as a Dynamical Systems Mathematician, what college majors should you consider? What colleges and universities have programs in these areas?
2. What companies hire Dynamical Systems Mathematicians? What is the salary range for a Theoretical Mathematician?
3. What classes should you take in middle and high school to prepare for college and a career as a Dynamical Systems Mathematician?
4. Name at least two other women Theoretical Mathematicians. How are they similar to Professor Kra?
5. What professional organizations support women in Mathematics? What programs available for middle and high school students?

REFLECT

Professor Kra thinks the reason people get intimidated by math is that they're afraid to look a little bit silly or unknowledgeable so they don't ask questions. Have you ever felt this way? Knowing that even the most proficient mathematicians like Professor Kra asked lots of questions, what can you do to overcome your fear of asking?

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.