ISB Systems Education Experiences

BOEING

SYSTEMS THINKERS IN STEM

A CONVERSATION WITH:

AMY BERGIN

WATCH AMY'S VIDEO AT bit.ly/STIS_ab

EARTH SCIENTIST & SMALL BUSINESS OWNER

Which systems thinking skills do you use?

#3: Effectively Respond to Uncertainty and Ambiguity
Running a business is complex. When I first started, I wasn't exactly sure what the end product would look like. I break things down into bite size pieces so I don't get overwhelmed.

#9: Identify Relationships
Branches of physical, life, space, and Earth sciences can all be used together to estimate the history of the Earth. Rocks and Minerals are a product of all these things.

#13: Describe Past System Behavior
As a geologist, I have to know the history of the Earth to understand how different types of rocks were formed. This knowledge can be applied to things like climate trends, ecology, and plate tectonics.

1. **What is your role within the STEM community?**
   I'm a Science Educator and Founder of Rock Solid Science, a small business dedicated to inspiring a deeper interest in the geosciences by exploring earth science topics in fun, meaningful ways.
2. **What complex problem do you address in your work?**
   Kids need access to learning opportunities beyond what the schools can offer; they need to be inspired and learn what STEM professionals do. We need to create opportunities to strengthen STEM learning opportunities for all students.
3. **What elements do you need to consider when addressing this problem?**
   When working with students I've found exploring rocks, minerals, earth cycles and systems is a natural place to connect cross cutting concepts. Kids are engaged and want to do more. There is need for advocacy and legislative outreach to help fund STEM enrichment programs in all schools, especially if we want to encourage students to pursue science courses in high school and beyond. Rock Solid Science is a mobile business - I load up the trailer and bring the mining experience and materials directly to the students.
4. **How did you get where you are today?**
   I've always had a passion for earth science. It all started with a family trip panning for gold in the Colorado river. I had wonderful teachers in school, and when I took my first geology class at western Michigan University I knew I wanted to be a scientist. After receiving my earth science degree, I moved out west and started my career working for environmental firms, life science companies and research institutes. On the side I was teaching classes on rocks and minerals and eventually took the steps to start my own business. Reconnecting with my passion for geology and education is how Rock Solid Science came about – combining my experience in business and education to create a company that supports activity based STEM learning and the value of being a good steward of the planet. I'm learning every day and having a rockin' good time!
5. **What advice do you have for becoming a systems thinker?**
   The most challenging piece of being a small business owner is wearing many hats. I encourage aspiring entrepreneurs to take time building relationships. Surround yourself with people and resources to challenge you, help you get to the next step, and take risks. Becoming a systems thinker is about collaboration and being open to multiple perspectives.