

Workshop Tips!

Preparing a workshop for a room full of middle school girls can be a daunting task for even the most seasoned of teachers. The following are some general suggestions that may help you to run an educational, successful, and extremely memorable workshop that will leave the girls buzzing for weeks.

The key?

Draw on girls' existing values!

Girls love doing hands-on activities.

Having a hands-on activity and encouraging student collaboration can really grab students' attention, and it will generate more interest in the workshop. Offer a mini-project that requires participation by all. Consider letting students work in small interactive groups.

No one likes being lectured at.

Girls like being active, they like working together, and they like communicating. Try not to talk for more than 3 to 5 minutes at any given time without engaging the girls. Avoid making a Power Point or slide presentation the focus of your workshop, have some kind of collaborative activity. Interact with the girls; if you have fun doing the activity in the workshop, they will too.

Girls want you to relate to them.

Showing the girls that you understand something about them will often lead to girls being more interested in learning about you. Simple, pertinent references to pop culture like TV shows or music can often be an easy bridge. Girls are more attentive to what you are saying if you show them that you are someone with whom they can identify. Be honest with them, be positive, and enjoy yourself. If you have fun, they will have fun too.

Girls want to help people.

Make sure you emphasize how your career adds value to the world, talk about some of the most rewarding aspects of your career. The things that you enjoy about your career are likely things that the girls will see themselves enjoying too.

Girls are curious and explorative.

Girls want to learn new things. Make sure you mention what skills you use on a daily basis in your career, and make sure you tell them why you do what you do. Tell them about how those skills are essential for an important, high paying job.

Girls want to express themselves.

Talking about the ways in which you express yourself in your career can really help the students identify with you. Try talking about the different things you create in your job. Better yet — use a hands-on activity to show them.

Everyone communicates non verbally.

Be expressive physically when talking, and make sure to show a lot of enthusiasm and excitement. Monitor the non-verbal clues you receive from the girls and engage them if they look bored.

Previous Successful Workshop Examples

Workshop: Eggstraordinary Lander

Host Organization: Lockheed Martin

STEM Career or Concept: Mechanical & Aerospace Engineering

Activity Description: Students worked in small teams to design, build and test a system for protecting an egg from a 10 foot fall using the principles of aerospace and mechanical engineering used to safely land vehicles on the moon and Mars. They designed and built a lander using materials such as cardboard, tape, straws, etc. At the end of the workshop each team got to test their lander to see if their design was successful.

Why it Works:

- **Students are active through the entire workshop.**
- Workshop organizers offered encouragement and allowed the students to work together to choose their own design approach and implement it.
- The students then fabricated their design to protect their egg.
- Testing the designs at the end of the workshop gave students the opportunity to see how their approach worked and see how other designs perform.
- Workshop organizers bring posters, models and decorations for the room which show real space technologies that use the principles they're learning.

Workshop: The Brownie Factory

Host Organization: Terumo BCT

STEM Career or Concept: Industrial Engineering and Lean Manufacturing

Activity Description: At the start of the workshop, students are given individual roles in a manual assembly line to assemble mason jar brownies; flour, chocolate, m&m's, baking powder, baking instructions, etc. To start the process is chaos; the assembly line is out of order, the distribution of roles leaves some people overwhelmed and others not doing anything, and few if any completed products are produced. Over the course of the workshop, the organizers lead the students through a reorganization of the assembly line using the principles of lean manufacturing and industrial engineering, creating a well functioning assembly line.

Why it Works:

- **Students are up and active through the entire workshop.**
- Workshop organizers lead students through the process of redoing the assembly line by asking them why it didn't work the first time instead of telling them.
- Students wore aprons, hair nets and gloves which made it feel more realistic and added another layer of participation.
- Guides (adult STEM volunteers assigned to each group of 10 girls) were active in the workshop
- Students and guides took home a completed brownie mix at the end of the workshop