

Tips for Leading the Club

- Practice “Wait Time.” New teachers have to practice this, and you will too. Try to wait at least 15 seconds (count them in your head) before calling on a girl. Look around the room during this time. Let them see that you are waiting for all girls to process the question.
- After the comment or answer by one girl, wait again. Ask if anyone has something to add. Wait and listen to them.
- Look around and give eye contact all the time. It is easy to fall into the trap of calling on the first or loudest hand up, but give each girl a chance to think.
- Practice some conversation helpers such as, “Tell me a little more.” Tell me what you mean.” “You are saying that _____. Can you expand on that?”
- Understand that there will be mistakes and misunderstandings in the concepts you are trying to share. Always have chart paper or a white board so you can write as the girls talk—writing their ideas on a board gives them value and sometimes they will see a mistake as it goes up, and they correct themselves. Your goal is to create an atmosphere of trust, in which girls can risk making a mistake without fear of shame or ridicule.
- Connect what they are doing for the activity to the real world or to a career. I never start the session with a video of a real person, but I like to end it or use a short clip as a transition so that the girls are always thinking that real people do these things.
- Model for the girls that it is OK not to know everything, but that you will help them find out or will find out and bring it back to them. For example, one meeting we were working on designing cars and making changes on small Matchbox™ cars to see if we could speed them up. We started to talk about “spoilers” on the backs of cars, and no one, including the leaders knew exactly why they were there. It seemed counter-intuitive as we made our experiments on the small cars we were racing. As leaders, we made an assignment to ourselves that we would find out and bring it back to the next meeting, and we did. It made for a much more effective discussion when we reviewed it at the following meeting, because most of the girls had been watching out for cars with spoilers and had theories to offer.
- If you start to plan an activity and can’t get excited about it, then don’t do it. No matter how important the concept is that you want to teach or explore, it won’t be fun if you can’t even find the excitement in it as you plan. The best meetings come when you have thought about the activities for nights beforehand.
- Science and math and engineering are all around us. See if the school will let you have some bulletin board space or room in their newsletter to place articles or cartoons or interesting information. There are many funny examples of math and science in cartoons every day—in the paper, in *The New Yorker*, and on the Internet. Find these for the girls and help them stretch their thinking.

- Remember, the point is to make it fun. If the experiment doesn't work as planned, talk about what happened. Figure it out with the girls. If it is too hard, stop and talk about it. Be ready to roll with whatever happens—and tell them that science and engineering are like that--problems occur and you figure out what to do. Relax! Providing a good place to explore STEM is the goal, not creating the perfectly controlled experiment.
- Model and talk about making mistakes as discovery. Engineering and science in particular are about problem-solving. Design some of your sessions as identifying problems to be solved, and use this as a springboard to exploring engineering and scientific problems that have been solved. Good resources for this kind of exploration can be found in [Family Engineering](#).