Survival Tips from Veteran Mentors

These are some points to consider as you begin to run a BEST team, whether as a teacher or mentor. These were provided by three veteran mentors and, while the information is directed at mentoring, the information is just as applicable for teachers.

- **Safety first.** Mentors are ideal for covering this with the students because they're likely to be around when construction is in progress and can relate industry safety practices to the students and also act as safety officers.

- Establish your role up front.

- **Support the teacher.**

- Match your skills to the needs of the team; **don't force fit.**

- Involve others where possible. Leverage their skills.

- **Get connected.** You are probably not at the school so you are not in the local communications loop. Find a contact method.

- Find a space. Your team needs help in finding operating space and equipment. You and parents may be able to help. **Do this early!**

- Go on-line and find lots of help and information—it's there. You don't have enough time to start from scratch.

- Make a binder of information.

- **Document** every brainstormed idea, every design attempted, every decision made, what worked and didn't, troubleshooting steps taken, testing results, etc.

- **Set boundaries.** Discuss where and how mentors should limit their involvement such that the students have the bulk of responsibility.

- **Make it the team's responsibility to succeed or fail!** They should feel the heat if they are running behind schedule or if things are not working as planned (This is real life!).

- Make sure the team is willing to put in the hours to complete the tasks that are assigned.

- **Make the team members run the sessions** and keep notes, rotate this for experience.
- **Make an agenda for each meeting** no matter how small; this helps keep on schedule and forces decisions when necessary.
- **Developing and maintaining a schedule is huge**. Make a schedule with the team. Have the students define the milestones and dates and commit to achieving them. Focus on what has to happen next.
- **Define the plan.** Replan. Replan. Replan. Always **update the schedule when something changes.**
- Work on **what to do** before **how to do it**.
- Estimate how many points you expect to score with each strategy considered.
- **Force an agreed to strategy for the team**; make it a slogan to drive it home: "Going for 'xzy'!"
- Have part of the team or someone else build a section of the playing field for practice.
- If you have more than one mentor, divide responsibilities, robot, notebook, etc.
- **Find something to build.** Storage box for robot, box for controls, field. This gets the students used to working with tools and designing practical things.
- Build a simple robot or just assemble R/C components to gain knowledge on how the R/C work and to learn what doesn't work. Build it again and again. **Drive something!**
- Have a working robot at least one week before necessary to practice.
- **Practice, Practice, Practice!**
- Let them break the robot and make them repair it.
- Utilize effective brainstorming strategies to get students to generate ideas.
- Explain and incorporate the Engineering Design Process to the students and coach them to follow a methodical derivation of machine performance requirements.
- Act as an enabler, helping the students realize their concepts and solutions in a physical machine.