



Team Design Notebooks and Team Journals



What is the Difference?

The Engineering Notebook is intended to be the place where teams document their design process. The format of the notebook is discussed below. The Engineering Notebook is the document that the Judges use to evaluate teams for the Design Award. A Team Journal is where a team tells the story about itself to others.

Engineering Notebooks

One of the primary missions of the VEX Robotics Competition is to help students acquire real world life skills that will benefit them in their academic and professional future. The Engineering Notebook is a way for teams to better understand the engineering design process while also practicing a variety of critical life skills including project management, time management, brainstorming, and teamwork.

Each Engineering Notebook is created through a concerted effort by a team to document their design decisions. Teams should start their notebooks early and update them often.

Engineering is an iterative process whereby students recognize and define a problem, brainstorm and work through various stages of the design process, test their designs, continue to improve their designs, and continue the process until a solution has been identified. During this process, students will come across obstacles, encounter instances of success and failure, and learn many lessons. It is this iterative process that students should document in their Engineering Notebook.

The Engineering Notebook provides an opportunity to document everything a team does during the design process and should include: a table of contents, team meeting notes as they relate to the design process, design concepts and sketches, pictures, notes from competitions regarding observations that should be considered in the next iteration of their design, team members' observations and thoughts on their design, team organization practices as they relate to their design process, and any other documentation that a team finds useful as related to their robots design.

The team should document their project management practices including their use of personnel, financial, and time resources. The notebook should also include notes on the robot's computer code, how it is designed to interact with the robot's mechanical systems to create an overall integrated system. Placement of sensors for software feedback systems and algorithms used for the control of the robot should be clearly documented. A good notebook would allow a person who is unfamiliar with the team's work to take over the robot design/construction based on a team's detailed documentation.

The Engineering Notebook provided by the REC Foundation with team registrations includes hints on good notebook practices and gives examples of good practices. A bound quad-ruled notebook is the preferred format. The notebook should never be edited. The team number should be on the cover. The notebook should be written in ink with errors crossed out using a single line. Pages should be numbered and entries should be dated in chronological order with each page signed or initialed by the students. Additional materials such as computer code or CAD drawings should be glued or taped into the notebook. Pages should never be removed from the Notebook even if they contain errors.

Note to Teams: Judges will not accept Electronic notebooks on lap tops, thumb drives, or cloud-based servers.

Team Journals

A Team Journal (or album/scrapbook) is an opportunity to document everything a team does so that it can serve as a historical guide of lessons learned and best practices. It is not a design notebook, but rather a place for teams to tell their team story (a team historical timeline, team meeting notes, pictures, student biographies, notes from competitions, team members' observations and thoughts, team organization practices, and any other information that a team finds useful). Teachers may choose to use the journal as a collaborative writing exercise, however journals are completely optional and will not be collected by Judges. It is a way for teams to tell how the VEX Robotics Competition experience has helped them to develop as better students.