



# Build Season Guide

Compiled by:  
*FIRST 5125*  
Hawks On The Horizon

Welcome to this year's build season! Even though every year brings a new game with a different objectives, on FIRST Team 5125 Hawks on the Horizon, we run through the build season almost identically every year. Throughout the first week of build season, we ensure the following actions are taken:

- **Check through the Kit of Parts (KOP)**
  - One of the essential things to building a robot is having the kit of parts. AndyMark and multiple different donors give a handful amount of materials and vouchers. On the FIRST website is a checklist of materials within the KOP. You can access the links here - <https://www.firstinspires.org/robotics/frc/kit-of-parts>. Your team needs to check the list in order to ensure that you were given everything. If your team is missing any materials, contact [frcparts@firstinspires.org](mailto:frcparts@firstinspires.org) and send a Replacement Parts Request by noon of January 12th.
- **Go through the game animation**
  - Going through the game animation a couple times may spark questions. During this time, your team should create a document of all the questions and concerns you have with this year's game. Once you have all your questions written....
- **Read the game manual**
  - In order to even understand the game fully, it's very important to read the manual. Look at the game manual and try to determine the answers for the questions you came up with. If you have any questions unanswered, please ask in the "Question and Answer System", which will open on January 10th.
  - Make sure that you read this 3-4 times before designing and strategizing.
- **Determine what the best strategy is**
  - The way we determine our strategy on FIRST 5125 Hawks on the Horizon is by making one consistent strategy and keeping it throughout the build season. In order to come to that verdict, we split our team into 4-5 groups and try to determine what would be the best strategy. Our team uses a decision matrix and uses the factors of: Time Efficiency, Point Efficiency, Difficulty of Completing the Task, and Difficulty to Create Mechanism. After deciding on a strategy in groups, we come back together as a team, and have a large group discussion on one complete strategy as a team.
  - This is what a a decision matrix looks like - [https://www.mindtools.com/pages/article/newTED\\_03.htm](https://www.mindtools.com/pages/article/newTED_03.htm)

- **Time to Design!**
  - Once your team has created a strategy, it's time to design a robot! Once again split back into groups. Each group should now design a robot. These designs should abide to all the rules in the game manual, and to the strategy chosen by the team.. Once every group has a design, you can choose a final design for the robot of that year. We then recommend a similar strategy of having a large group discussion to ensure that pros and cons of every design are concerned. After discussion we usually come to a conclusion on a design.
- **Create a Gantt Chart**
  - A gantt chart will allow your team to be organized over the next six weeks. The following link shows you how to create a gantt chart to ensure that your team will stay organized - [https://www.mindtools.com/pages/article/newPPM\\_03.htm](https://www.mindtools.com/pages/article/newPPM_03.htm)
  - This is our 2018 Build Season Gantt Chart - <https://docs.google.com/spreadsheets/d/1fWqDF6cGVTW2RImwBpvWTapfdtEHyifdBfWYIYue2ms/edit?usp=sharing>

At this point, the rest of the process is really up to you. You might want to shoot cubes, or you want to play defense, this is up to your team! You may start off to prototyping or sticking to one certain way of doing that objective. Once you find out what you want to do on your robot, you need be able to fit it all into the robot, find a way to wire everything up and determine a way to program those actions,

The last week consists of testing and modifying and practicing the robot and ensuring that it goes into the bag with the least of amount of errors.

Good Luck on this year's build season! If your team has any questions, please contact:

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