1. **Jackson**

I’m going to start our robot presentation by telling you about our great strategy! At the start of the season, we took a look at the new game board and ranked each mission by points, difficulty, motions needed to solve them, and the fun factor.

We used this ranking process to determine the missions that we wanted to prioritize like the Coral Nursery because it had a high fun factor and gave us lots of points. We also group missions by location, dividing the board into four neighbourhoods, and assign each of us to one of them. Everyone builds and codes.

We all love building and programming robots so much that we do it all year round!!!! We attended an 8-week spring training this past spring and learned more about Python. We improved our problem-solving skills.

A few of us also competed in an intense summer sumo robot competition where we built robots designed to stay on a tabletop while pushing others off. WE LOVE SUMO (All together)!

1. **Madeleine**

At the beginning of the FLL season, we reviewed the engineering design process and used it as we worked on our robot. We meet, plan, design, test, and then evaluate. We do this over as many times as needed to make things better so that they work all the time.

We also used Jira. It is an engineering planning tool to keep track of project tasks that helps us create a digital checklist to organize our to-do’s. We prioritized tasks that would make our team work better together like using one single computer per neighbourhood team to code, and a system to keep track of who was using which computer. This helped to avoid coding confusion.

1. **Lydia**

Our robot is an original and innovative design created by our team three years ago and updated every year to make it even better. We used Lego CAD Studio 2.0 to create a 3D version of our robot and step-by-step instructions that we posted publicly on Github as well as video instructions on YouTube. This year we made instructions 2.0 to include recent updates. At other competitions, you may have seen a couple of versions of our robot on the playing field because at least four other teams used our design last year. Our team has 4 identical versions of our robot to use during practices. Meet. Megladon, Wobbegong, Great White, and Hammerhead

Our robot is a box bot that allows us to use different kinds of attachments. It has 2 medium motors that power 6 attachment ports, allowing us to use multiple gears that take up small space. This year we changed our robot to include four gyros, allowing us to move straighter. This also created redundancy in our design so that if one of our gyros failed, we didn’t end up like the Hubble telescope and Boeing aeroplanes. We removed the colour sensors because the board this year is all blue and does not have lines to follow. We use big wheels so that we can go faster by going farther with each revolution. Our bot’s flat front and back allows us to square up on walls and flat surfaces. We use pegs to mark where to put attachments in the heat of competition. This helps with accuracy and precision problems we had in past years.

1. **Kyle**

Everyone on the team uses their creativity to make unique attachments that quickly and efficiently solve missions. One of our most innovative solutions is the attachment we use to solve the boat push mission. It has a very long arm with a precision pusher that can push the boat without the boat going rogue, and the attachment has counterweights to keep it on the bot.

(SHOW ATTACHMENTS) Of all our cool attachments this year, we think the most mind-blowing one is the team’s first-ever Slam, Bam, Kerthwack crab puzzle solver. It uses this arm to slam the artificial habitat in half, and on the side port, another arm is attached to bam the mission up, then push it forward with just the right leverage to kerthwack the mission over to complete it.

1. **Katherine**

When we all code, we add lots of comments along the way so that everyone on the team can understand what we did and why we did it. One of our codes has a crab embedded in it for fun using ASCII art. See if you can find it on our board. One of our favorite coding tricks is the gyro tank turn shown here. It uses the gyro to make precise turns.

When testing the robot at our multiple weekly meetings, we have a reliability rule. A mission needs to work three times in a row, doing 100% of its mission components. We keep track of how our robot performs in testing on our mission board.

To help motivate us to keep testing and improving our robot we create a point thermometer every year (POINT TO VISUAL ON POSTER). This year we worked to earn a game break, a shark minifigure, and a pizza and ice cream party. Every year we hope to earn a team trip to Legoland. Maybe this will be the year!

1. **Wesley**

We have continually upgraded our program and robot to pass the reliability test. We’ve added or changed over 100 lines of code this season and are still counting. Our team strategy often leads to changes. (SHOW VISUAL OF CODE) For instance, this code started with 4 lines of code and after tens of iterations, it ended with 10 lines of code.

Poster 9:

We enjoy speaking and sharing about FLL with others. Some of us attended Water Fire in Rhode Island and a local farmers market to share about FLL with people in the community. One of us mentors a Jr. FLL team, and we all presented at a Junior FLL expo to share with kids and parents about FLL.

In everything we do, we always hope to inspire others to love robotics and FLL as much as we do!

Thank you for listening. Do you have any questions?