## The Progression of Team 30526C

In the past, STEM fields, such as engineering, have been dominated by Caucasion males in the United States. As of today, 33.9% of post secondary schooling degrees earned by women are any kind of STEM. Our team defies this stereotype with not only being girl powered, but a Caucasion and African American all girls team. Our team consists of four girls, each with valued positions. Our names are, Lora, Journee, Aenye and Kimberly (Kim). Hopefully, with our story we can show you why girls should be in STEM fields.

In the beginning our team was 50% boys and 50% girls. Kim and Lora have been on the team since it was thought of. They had plans with two boys to be on their team. Since then another four girls were added. The first to leave the team was Craig, one of the boys, and then next was River, the other boy. Laynee was the next to leave and at this point we had the team we have now. We were told a girl named Syrria wanted to join and our team would be a good fit, but her mom later said she couldn't join before all of us had the chance to meet her. This all happened over the stretch of a few months.

During our first few weeks we focused heavily on notebook to guarantee we would be prepared.

Jounee and Aenye found the criteria and constraints while Kim drew the field. This backfired a little when we forgot to do journal entries of finding the criteria and constraints. In small talk, we fell behind on daily entrees. We managed to catch up thanks to our note book keeper Lora and her heavy devotion to robotics. We also found designs during this time period, most of which were drawn by Kim. We had three chassis, three arms, and three claws.

Kim became our programmer and strategist because of her creative thinking and had done well with

the subject in classes. She was a builder on her team 30526D the previous year, but she wasn't very good at it often disappointing her team so that was not an option. Lora had great handwriting and an impressive memory. She could recall details others would forget which paired with her social skills for gaining knowledge makes her a great scout. Journey enjoyed video games and helped out where she could aiding Lora with notebook and giving us an aggressive driver. Aenye enjoyed working on programs with Kim and could get the job done when it came to building. She came in when she needed to and was always

ready to help. She became our builder and secondary programmer. Aenye was also far more level headed than Journee. This let her do better in skills when she didn't have the stress of going against an opponent.

We began building on our chassis and it was going okay. We had to add sheet metal so we could attach our cortex and one of our wheels was messing up. The wheel was messed up and sat too high off the ground. To find out this was the problem we had to move the wheel and look at it with a level to find the problem. We first tried moving the wheel to different holes in the metal. Then we tried to level the metal that the supports were attached to after using the level. The wheel, to our disappointment, was still to high off the ground. We found that widening





the circumference with rubber band was a good way to solve this problem. It made the wheel large enough to touch the ground. We have to fix them before every round though because there's a rule the prevents us from glueing them on.



For scoring we tried making a clawbot originally when we didn't have enough

metal for our design. Sadly the arm we made couldn't pick up our claw and turned out to be a waste of time. We had to discard it in exchange for a quicker solution. We put a wall on the front of our robot that allowed us to score up to three points per stack by pushing already stacked cubes. We tend to play more defence in matches to help our teammates focus on scoring anyway but it comes in handy when we're paired with a push bot. Not many people had thought to do something like this. We could score six in driver and one in autonomous without using stacked cubes.



The worth of our programmer was shown when she came up with the first consistent (or at least in the classroom) 2 point middle school autonomous in Arkansas. She had one other code that got discarded when making it. She had tried to make a code that was compex but was proved the simpler the better. While coding she saw the bot would drift along if you coded one wheel to move and didn't reverse the other one. She used this to make the robot go in a large circle using the wall to her advantage when scoring. It pushed two blocks to the wall then pushed them both in the score pit.

We have been to a total of four competitions. We didn't win anything at our first competition. We stayed close to the middle as far as rankings go and were dropped in the quarter finals. In our second competition we did a little better even winning the design award qualifying us for state. We made a few friends at this competition though we lost in the quarterfinals, but we were expecting it. We didn;t do very well in our third competition. We came in last (23) and barely got someone to pick us for the alliance rounds. We actually won the round of 16 for this competition unexpectedly,



but lost in the quarterfinals. In our fourth and final state qualifying competition we got the excellence award with our two point autonomous qualifying us for nationals and state.We were ranked 12 but because of multiple ties in the higher rankings we were in the running for excellence. We made it to



the quarter finals but in this tournament there was a round of 16 where they basically just had to eliminate people because there were so many teams there. We aren't competing again until state.

As a girl powered team there are definitely challenges we face that you don't always think about. People don't always think the girl powered

teams are as capable as other teams, especially when they're all girls. We've seen this in all male teams who got a little too cocky before a match. To us being a girl powered team means to be a group of strong girls who communicate while working and implementing ideas together in an environment where we are able to perform. It's what we hear in girl powered. Our robot's affected by our different thought processes and so is our teamwork, but the more we practice and pollish our skills the better we become and let each other take the lead and mold our ideas together. We don't go looking and comparing ourselves to many people. Those we do idolize tend to be closer to home such as teachers and parents who support and show

us what it means to work hard. We've won an excellence award to prove our place and we hope to be seen as equals on the field.





Aenye





( Journee & Aenye practicing field reset )



(Building the chassis & working on programming)

Sources:

"Women in Science, Technology, Engineering, and Mathematics (STEM): Quick Take". Catalyst. June 14, 2019.

https://www.catalyst.org/research/women-in-science-technology-engineering-and-mathematics-st em/ (statistics in first paragraph) November 10, 2019 Entrants: Lora, Kim, Aenye, Journee Team #: 30526C Title: The Progression of Team 30526C