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Girl Power: Focusing on the Positive

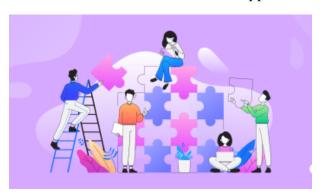
When I hear the phrase "girl power" I think about the successful women who have overcome various narrow-minded people and burned their way through the barriers inadvertently or intentionally created by them. The impact that truly comes from a group of intelligent and creative women is incredible. This is the way that new achievements are accomplished, new views on things are discovered, and how they shape generations of alike minds interested in a similar field. Unfortunately, some like to think that girls won't or are not capable of working



well in the STEM field which creates a whole new struggle that many come to face. (5) To me, the definition of girl power means pure equality between two genders as they both produce the same quality of work, but effort and determination set one or the other higher. There is no predisposition to being good or bad at something, due to your gender before the factor of your effort and skill even comes into action.

Source: 1 Woman and Man Working Together for a Common Goal

We directly reflect and mirror these ideas onto our robotics team by making an all-girls team in which we all take different approaches to the various aspects of STEM and encourage one



Source: 2 Overcome Team Building Challenges To Handle Your Team Better

another. This eventually leads to a curiosity about a STEM field and the solid foundation received on the team tremendously comes in clutch later on in the pursuit of the STEM field they choose. Even if somebody chooses not to pursue a STEM career, the knowledge and open-minded insight learned on the team is impeccable and can be used in other settings.

Our team takes strong and explicit actions towards making sure that everyone feels included and that the environment is welcoming to everyone by having many different people who excel in different avenues on the team. For example, we have members who take on building, some who find an interest in coding, some who enjoy driving the robot with precision at competitions, and even some who enjoy writing can work on the engineering book throughout the entirety of the season. This encourages a diversity of talents in people since

there is no cookie-cutter mold that everyone needs to fit into. Successful members on the team possess talent and skill of many different kinds and people are assured that even if they don't find a certain thing intriguing, there will surely be something else they can do that they will find success in. This draws people in since the atmosphere is welcoming and diverse. Our team motto is, "We focus on the positive". This original artwork is on the back of our team shirts and represents a glimpse into the culture of our team.



Additionally, another thing that we have incorporated into the team to support our take on diversity is that the 8th graders mentor the 7th graders in order to help them find where their strengths lie and where their faults intersect. By using this method, it helps us to help the team members to step out of their comfort zone and try new tasks. For example, we help them try out every role to see which one they feel comfortable pursuing for the season and expanding their knowledge on. This technique helps to round out the team as we can "fill in" a task whenever a team member is absent since everyone has an understanding of each task on the team.

The deep diversity incorporated into our team directly affects our team's success in many avenues. For example, since we have people who have deep insight into their main areas of focus, they can contribute a unique perspective that benefits when building the robot. Someone may see something different than the next person, and due to this, we have new, fresh and complex ideas from different people. This helps when building the robot greatly since one may not see what another can. The input gained



Source: 3 Teamwork No Background

from a diverse group is beneficial when it comes to the factor of communication as well. People can become more understanding and open-minded when introduced to new ideas from their peers. This also boosts the individual who is receiving the information's knowledge on the subject. The team's performance also improves as a result of good communication, again this correlates to our team motto on how "We focus on the positive".

Additionally, role models whom you find it easy to relate to, are important when it comes to ambition in almost any field. Particularly in the STEM field since many like to look up to another individual who has gone through what they have and succeeded immensely. This creates a lot of inspiration as you can see that the success brought by the person was driven by a set of factors that you also possess. It encourages you to polish them up and practice them.

A role model that I personally look up to is Katerine Johnson. In the past, there was a metaphorical barrier that was in place for her to break, and she made sure to shatter them. Her ambition and perseverance lead to a tsunami of women like her to chip away at the barrier as well and succeed. She was one of the three African American students to attend a West Virginia school and faced discrimination on a daily basis, but nonetheless, she never let it stop her. She inspires me in many different ways as she made the highly precise calculations necessary to send the first person to the moon, her critical numbers were always on point, and she made the appropriate calculations to send someone orbiting around

the Earth a whopping three times. (6) She did all of this while being downed with strong doubt that she couldn't do it from her male peers, solely due to her gender. Discrimination to women in the STEM field was at an all-time high during Johnsons time and was nowhere near the intensity we still face today. Regardless, she did it and proved many wrong, leaving them dumbfounded and in awe of her success. If Katherine Johnson, a woman with a brilliant mind performs well in the STEM field whilst having so many disadvantages, why can't another girl with an equally brilliant mind perform equally as well?



Source: 4 St. Fleur, Nicolas

To conclude, our team operating as solely girl-powered means a great deal to us. We are constantly trying to be the best versions of ourselves and trying to make improvements to the team. One day ultimately, any one of us could be a role model to others, just like Katherine Johnson is to us now. The impact caused by girl power and diversity in the STEM field will directly impact future industries and will inspire many more to join the wonderful field based on insight and prespective. Inclusive participation in STEM from a young age plays a pivotal point in inspiring many other like-minded girls to delve into the wonders of STEM. The

impact caused by girl power in STEM is truly immeasurable and will only lead to amazing new approaches to things, different perspectives, and new avenues being explored thoroughly. With this said, we should be excited for the future because that is when this all starts coming into play and our youth starts making astute differences of great impact.

## Pictures Used:

- (1) Verprev, Aleksei. (2018). Woman and Man Working Together for a Common Goal <a href="https://www.istockphoto.com/illustrations/two-roads-joining">https://www.istockphoto.com/illustrations/two-roads-joining</a>
- (2) Sikder, Tarun. (2021). Overcome Team Building Challenges To Handle Your Team Better <a href="https://wperp.com/78530/overcome-team-building-challenges-to-handle-it-better/">https://wperp.com/78530/overcome-team-building-challenges-to-handle-it-better/</a>
- (3) Teamwork No Background <a href="https://www.nicepng.com/ourpic/u2q8y3y3i1u2a9o0\_teamwork-no-background-team-work-no-backgr
- (4) St. Fleur, Nicolas. (2020). <a href="https://i.natgeofe.com/k/0b478a6e-b828-4751-be32-64177727d7a3/katherine\_johnson\_working.jpg?w=636&h=515">https://i.natgeofe.com/k/0b478a6e-b828-4751-be32-64177727d7a3/katherine\_johnson\_working.jpg?w=636&h=515</a>

## Information Sources Used:

(5) Gibbs, Kenneth Jr. (2014). Diversity In STEM: What it is and Why it Matters <a href="https://blogs.scientificamerican.com/voices/diversity-in-stem-what-it-is-and-why-it-matters/">https://blogs.scientificamerican.com/voices/diversity-in-stem-what-it-is-and-why-it-matters/</a> (6) Shetterly, Margot. (2020). Katherine Johnson Biography <a href="https://www.nasa.gov/content/katherine-johnson-biography">https://www.nasa.gov/content/katherine-johnson-biography</a>