VRC High School - Girl Powered Online Challenge

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TEAM ORION

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As an all girls team, with every one of us coming from a different ethnic background, we believe girl power is at the core of how we work. Going to an all girls school, we are surrounded by examples of clever, strong and truly inspirational women that we look up to and aspire to be like. We are pushed to believe in ourselves, be independent and reach for our goals, whatever they may be, and that is a privilege that we shoulder with care.

But how do we define "girl power"?

Dictionary

Search for a word

girl power

noun

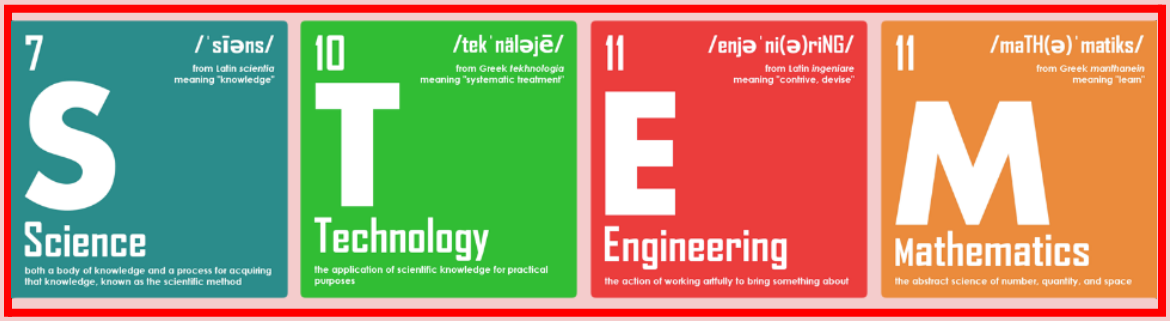
noun: **girl power**; noun: **girlpower**

used in reference to an attitude of independence, confidence, and empowerment among young women.
"she still writes all the songs, plays most of the instruments, and produces the album (talk about girl power!)"

The idea of girl power is simple and yet entirely nuanced. The mind goes to examples of powerful women we see today : in the music industry, politics, on the billboards that we drive past daily. Undoubtedly, it has been difficult for women to even get to decide what they want for themselves autonomously. Even that is still not a right that every girl across the world has. So, it makes sense that the faces of the girl power movement are women exuding confidence and power, often with an awe striking quality about them. They have overcome so many obstacles, and yet they have powered through and made it to the top, and that sends a message to us; perhaps we can do the same.

However, these women are not the only people leading the movement. For the general public, the road to success does not look like being a renowned celebrity, but instead being well educated, especially in the realms of the STEM subjects.

A vast amount of jobs and economies rely on the skills that these subjects provide. Girls, it seems, have been led away from STEM by as many means as possible.



If the story is told in relation to a girl's life, this habit can be dated back to being handed dolls and kitchen sets to play with from the earliest age possible. Every kids store would involve a blue and a pink section, with tools, work-belts and cars on the boys' side and a varied selection of houses and gowns on the girls'. The issue was never these toys being played with, but that babies and fairies and cutlery were the ONLY options girls were given. In turn, girls weren't likely to be familiarised with remote control cars or planes so when the time came, the choice of stepping into STEM paths would be much more difficult than need be.

And therefore, the term girl-powered means to us not only being strong and powerful or being in STEM or working at NASA, but having **the choice** to be able to do whatever it is we want; whatever it is that we love and excel at. And for my team, designing and building robots provides a feeling of pride and achievement nothing else does and we find ourselves so lucky to be in the position to explore these subjects, where so many girls are denied the opportunity.

Even if a girl does manage to take up a STEM route, the lack of diversity can often create a hostile environment. It is no secret that the subjects are dominated by men, and often when girls don't find anyone to relate to in their classes, the idea of 'breaking the norm' can get overwhelming.

Inclusivity is so very important in encouraging girls to be confident enough to take that step forward in STEM, leading by examples of people like them who have already accomplished so much.

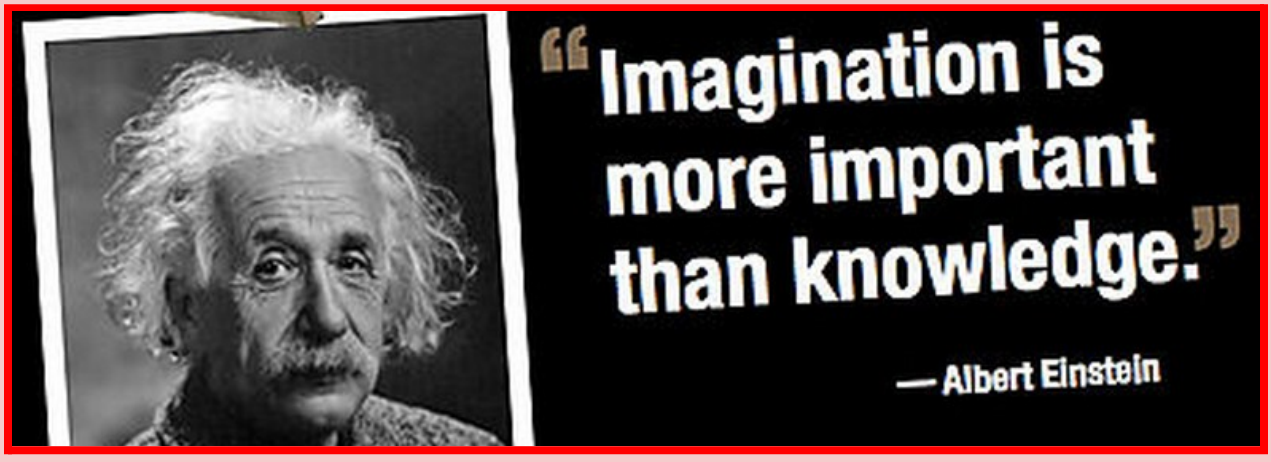
Role models are people we can look up to and one day hope to be like. Furthermore, they provide hope that one's goals can in fact be achieved. The introduction of figures like Supergirl and Black Widow in popular media where women are being presented as strong and powerful has already been having an effect on young girls and their goals. The feeling of being constricted down a set path is a lot less prominent and planting these ideas at a young age will give girls the tools to fight for what they want

That is a clear example of how significant representation is. Women, especially women of colour, are represented few and far in between. And often when they are,

stereotypes and limits weigh them down. Similarly in the STEM world, it has been difficult for girls, especially of a minority background, to relate to most of the topmost achieving people. For our team, one of the most inspirational figures is Lynn Ann Conway.

Lynn Ann Conway is a decorated American computer scientist, electrical engineer, inventor, and transgender activist. Some of her most notable works include the invention of generalised dynamic instruction handling and the design revolution of the large scale integrated microchip design. And although these two inventions have helped advance computer technology in numerous ways, it is most inspiring how she overcame the discrimination she faced for being not only a woman but a transgender one. She got fired from her job at IBM despite her work being so vital, simply for her identity. Years later an apology was issued, but her struggles in reaching her success do not go unacknowledged.

Our team sees her story as one of many that show that pushing for a diverse environment to work in is crucial. In our team, we believe that we create an inclusive environment to make everybody feel as welcome and comfortable as possible. As earlier mentioned, we appreciate that every single person on our team is unique. Every one of us has a different story to share and a different skill set to offer. Diversity is strongly encouraged; each time there is a design process, we believe the more ideas the better. Innovation relies on creativity.



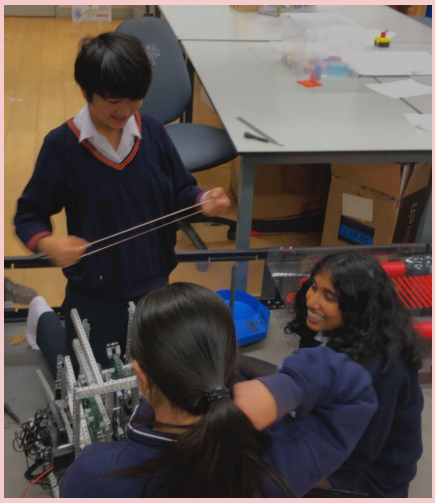
Nothing fuels the imagination more than a different perspective and outlook. "A fresh perspective" is a saying heard often, usually implying that it would be a good idea to have an outsider give an unbiased opinion on whatever the subject matter may be. This is a common and truly beneficial method; it is much easier to criticise and problem-solve when approaching a puzzle in a new light.

We use the fact that we all have different perspectives to our advantage. When first introduced with the task of designing a robot to play the game of Tipping Point, we began researching independently and decided to bring all of our different ideas together the next session and make a huge moodboard to generate as many possibilities as possible. Doing this process and then refining the design gave us an opportunity to explore and find creative solutions even if everything wasn't used. The diversity of ideas itself fuels an enthusiasm to design and figure out the most efficient solution. Using different perspectives from our diverse team increases our chances at being successful and achieving our goals of creating a well rounded robot to help us win.

Other ways we actively incorporate inclusivity into the way our team works is by simply working with other teams. Our program at school hosts multiple teams and talking to them and helping each other out teaches us new skills and introduces us to new ideas. We strive to work as a community and push each other to achieve our highest, which encourages new students interested in robotics to join and helps the people already in the program to enjoy themselves to their fullest. Hearing about other people's great experiences is one of the reasons my team started robotics!

When we started out as a team, most of us were really keen to try out multiple roles and see which ones fit best. We felt that since we were all new to robotics this season, we should see what each of our strengths were. Initially, we all pitched in with research and design - and further along, we all helped build and code. As of now, we are more settled into our positions with some designated builders, coders, designers and bookkeepers but we still help out with other aspects of the project that are not our own regularly. Since we all started off by trying every job, we picked up skills along the way so that now, we are all capable of performing various tasks in case we're needed. It is safe to say that these skills will be valuable as we move on through our lives with whatever field we choose to explore. Even writing the pieces to take part in the awards competitions is something that we are all working collaboratively on, and that goes to show just how much robotics has boosted our teamwork capabilities.

Overall, "girl powered" are words that we strongly associate with our team. We believe in diversity, inclusivity and empowerment and try to implement those policies in everything we do. The robotics process has made us out to be independent and confident girls that have learnt so many valuable lessons since our journey started and we cannot wait to carry on, grow even further, and make our mark on the STEM world..



Girl Powered

Redefining the face of STEM.