

# Girl Powered

Breaking Barriers

Team 1069E Critical Mass



# Meet the Team

# Team 1069E



Matthew  
Rottinghaus  
  
Senior



Lily Burtis  
  
Junior



Julian Kaiser  
  
Junior

# Team 1069E



Andrew  
Rottinghaus  
  
Junior



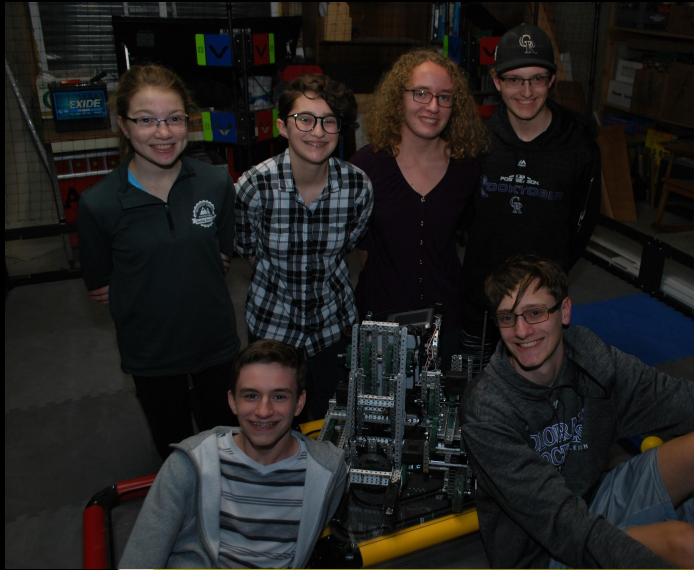
Emily Franks  
  
Sophomore



Ellie Sundheim  
  
Sophomore

# Our Story

# Who We Are



We are 1069E Critical Mass: a hardworking and dedicated team from Berthoud, Colorado. We strive to be the best we can in all aspects of VEX, ranging from competition performance to volunteering in our community. We had a blast when we attended the VEX World Championship last year, and we have goals of returning this year. As a team, we value cooperation, novel ideas, trying new things, and enjoying the experiences we have. Over the years, we have collected many interesting stories, but one of our favorites remains the multiple times we have (accidentally) twisted VEX shafts into spirals resembling drill bits. This year, we hope to have a successful and fun season filled with surprises and new experiences.

# Our Approach to Girl Powered



Our team has a unique approach to Girl Powered. To us, Girl Powered means having girls be a driving force behind our operations. We as girls refuse to sit on the sideline and let the boys on our team do all the work. It's up to us to take initiative, and that's exactly what we did. We inserted ourselves into design discussions, and we took up roles in a variety of fields. We didn't allow ourselves to be background characters in the story of our team. We were in the foreground, powering our team through ups and downs.

# Encouraging Diversity



Our team promotes and celebrates the diversity of its members. We aim to provide a safe and inclusive environment in which everyone can feel comfortable being completely themselves. We understand the important role that representation has in the media. We want other girls who aspire to be in robotics to see themselves represented and take the leap to join. We want other teams to take the same approach, and help build a more encouraging and diverse environment.



# Contributing to the Team



As girls, we each provide different perspectives and ideas that compliment the perspectives of our male teammates. Working alongside our male teammates presented its advantages and challenges. One of the challenges we faced was the lack of an organization method. Nuts and bolts were strewn on the floor, and scraps of metal were tossed aside. We were able to develop an organization method with the help of our male teammates that benefited everyone. We had labeled bins for specific parts, along with organized mess bins that held a jumble of parts for the object being designed.

# Challenging Stereotypes



Being a girl in STEM isn't always easy sailing, however. We must constantly battle the preconceived notion that men are more capable than women. Our goal is to shatter stereotypes, along with the barriers holding us back. We want to prove that we are just as smart as boys, and just as hardworking. We took on challenges that were perceived as "masculine," such as cutting metal, programming, and building the robot. We didn't let traditional gender roles keep us from achieving our goals and helping our team.

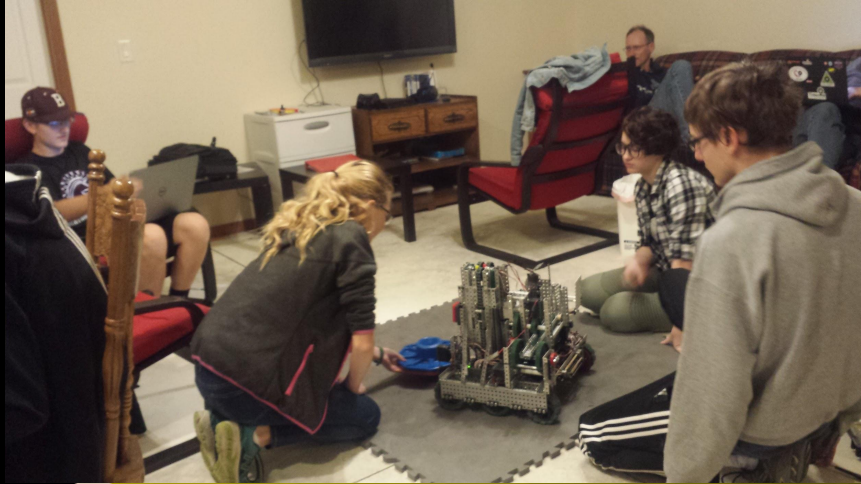
# Paving the Way



While our team may have embraced the ideals of Girl Powered, we recognize that other teams might not have. To encourage more diversity in STEM fields, we convince younger girls in our community to join robotics. Each summer, our team volunteers at Walt Clark STEM camps in hopes of inspiring more girls to join STEM programs. We hope those girls will observe the successes we've had, and have the courage to work hard and achieve the same things we did.

# Team Success

The unique combination of characteristics each team member possesses allows our team to be successful. Some members have strengths where others don't, and this allows us to have a more balanced team. We celebrate these differences instead of shunning them. We also try to challenge ourselves in fields we aren't necessarily comfortable in. This leads to different ideas being presented that experts in the field may not have thought of. This helps us flourish at competitions, and stand out from the pack.



# Our Role Models

Representation in the media is a critical step in encouraging diversity.

Seeing people like you succeed in fields you are interested can inspire you to work even harder. Each of the girls on our team picked a STEM role model that helped them feel empowered.



"I chose Mae Jemison because I think it's interesting how she balanced both her love of science and the arts, which is something I strive to do."

--Emily Franks



"Hypatia of Alexandria was my choice for a role model because she was one of the very first Renaissance women before the actual Renaissance."

--Lily Burtis



"I chose Margaret Hamilton because she is an excellent model of what women can achieve. Because of her programming, NASA was able to get humans to the moon and back."

--Ellie Sundheim



# Credits

## **“Breaking Barriers”**

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**Other Team Members:** Matthew Rottinghaus, Andrew Rottinghaus,  
Julian Kaiser