



We Have Lift-Off!

When we started the Broomfield Robotics Club in June of 2022, we couldn't have imagined how fast the program would grow. As we toured the community with the club's first team, the BroomBots, we discovered quickly that there is a deep desire in and around the Broomfield community for substantive, extra-curricular STEM education. We found so many kids that love to build, code and explore concepts in science, technology, engineering and math (STEM), that in January of 2023 we started the process of founding a 501(c)3 non-profit organization, called Broomfield STEM, to expand our small club into a program that could welcome an increasing number of students in grades K-12. Our final tax-exempt document arrived in June, and in July we launched our FIRST Lego League (FLL) and Early Engineer programs. Within a month all of our programs were full, and we currently have a waiting list. We are so grateful to everyone who has joined us on this adventure: donors, volunteers, mentors, students, parents, and cheerleaders. We want to take this opportunity to thank our gracious host, Holy Comforter Episcopal Church, who has given us the use of their basement for our workshop. We also want to thank First RF Corporation for their generous donation that has allowed us to launch this non-profit, and our new teams. We are excited to be off the ground, and can't wait to see what happens next!

[Visit our website at broomfieldstem.org](https://broomfieldstem.org) to learn more about Broomfield STEM and the Broomfield Robotics Club, and find us on Facebook, Instagram and Linked In for news and updates.

EARLY ENGINEERS (K-3RD)



The Early Engineers, our BroomBits, meet monthly to practice being engineers. They have been using the scientific process to solve problems presented to characters in books such as,

- Those Darn Squirrels by Adam Rubin
- Rosie Revere Engineer by Andrea Beaty
- Robot Rumpus by Sean Taylor

They have built marshmallow catapults, whirligigs that fly, and their first robots using Cubelets blocks. The BroomBits also have enjoyed time during each meeting experimenting with a wide variety of building toys with the help of our FIRST Tech Challenge team, the BroomBots. Thank you to everyone who purchased toys for the team off our Amazon wish list. We have been amazed by all of the clever things the students have built, and it has been a joy to watch them explore. If you would like to donate learning materials, please visit our website for the link.



Coming Up

The BroomBits have two more meetings before we take a break for the winter holidays. They will be learning about electrical circuits and simple machines before starting basic coding after the break. We hope that all of our Early Engineer families will join our Broomfield Robotics community on Monday, October 9th for our pizza fundraiser at iPie, as well as for Trunk-or-Treat on Sunday, October 29th in front of Holy Comforter. We also encourage families to come down to CU Denver after lunch on Saturday, November 11th to cheer on our FLL teams as they compete in their first tournament. Please watch your email for more details on all of these events.

Meet the Mentors



We are so fortunate to have Megan Heier as the Lead Mentor for our Early Engineers program! Megan is passionate about STEM education, and spends her days teaching science and robotics in her middle school classroom in Jefferson County. Megan brings a wealth of expertise and creative ideas to the program, and is looking forward to spending more time with our youngest members.



INFINITUS PIE
Artisan Personal Pizzas!

Join Us for iPie Gives Day

All Day Monday, October 9th

31.4% of proceeds
will be donated to Broomfield STEM!
(Includes Take-Out Orders)

Infinitus Pie
145 Nickel St.
Broomfield, CO

Invite your family, friends and neighbors to
support a great cause and join
Broomfield STEM Robotics Students
for Pizza, Community, and FUN!

Robot Demonstrations 5:00 - 7:00 pm by
the BroomBots FIRST Tech Challenge team

FIRST LEGO LEAGUE (4TH -7TH)



Students on our FIRST Lego League (FLL) teams, known as BroomBlocks (Monday) and the BroomBricks (Friday) have been hard at work learning how to build and code Lego robots. They have been practicing line following, and using sensors such as gyros and distance sensors to move their robots around the field. Both teams are excited about this year's challenge. Titled "Masterpiece", the 15 different missions highlight how STEM and the arts go hand in hand. In addition to building their robot, students on both teams are focusing on the FIRST Core Values of *Discovery, Innovation, Impact, Inclusion, Teamwork, and Fun*. These values guide how they interact as a team, how they solve problems together, and the decisions they make about their projects.

Coming Up

Throughout October both teams will continue work on their robot missions, as well as their Innovation projects. Starting on October 8th, the teams will meet together on Sunday afternoons to help each other, share their project ideas, hear from experts in the field, and practice their *Gracious Professionalism* and *Co-opertition*, the core principles of FIRST that encourage students to be kind and helpful to one another while still competing like crazy. Both teams will showcase their robots, projects and presentations for their families on Sunday, November 5th at 4:00 pm before heading to their tournament at CU Denver on Saturday, November 11th.



Meet the Mentors

We are excited to introduce Julia Brown, one our lead FLL mentors. Bringing a wealth of FIRST mentoring and robotics experience with her from teams in Longmont and Illinois, Julia has guided our mentor team through creating a season plan that incorporates student skill development, core values practice, and a lot of fun. She looks forward to helping Broomfield STEM build and expand a community centered around a passion for STEM. Outside of robotics, Julia is a Senior Software Engineer at Medtronic. We are so grateful to have Julia on our team!





ORDER YOUR SPIRIT GEAR!

All proceeds go to the Broomfield Robotics teams

Deadline to order is October 15th

Order online at broomfieldroboticsclub.org or [click here](#)

Show your robot team spirit and support our teams with Broomfield Robotics t-shirts and hoodies to wear to school, work, robot events and team activities.

T-shirts: \$20 Sizes Available: Youth XS - Adult 6X

Hoodies: \$35 Sizes Available :Youth S - Adult 5X

Please Note: Each student and mentor receives one free team-specific shirt to wear to competitions and team activities. Students and mentors are encouraged to buy and wear these club shirts as well, but purchase is not required and team specific shirts should always be worn at competitions.

FIRST TECH CHALLENGE (8TH - 12TH)



The BroomBots, our FIRST Tech Challenge (FTC) team, are coming off a busy summer and diving straight into their build season. They spent their off season playing together, touring local tech companies, and sharing STEM opportunities with the Broomfield community, all while learning how to build new robot systems and dramatically improve their autonomous robot code. The season kick off was September 9th, and three of the team members gave an hour long presentation called FTC 101 to new teams in Colorado before gathering with other teams to see the new game reveal. Everyone is excited about the tasks for this year's challenge, especially the one where their robot has to launch a paper airplane!



Coming Up

All attention is now turned to the team's robot in preparation for their first scrimmage on Nov. 4th. The team will follow the engineering process as they work to build and code a robot that will implement their game strategy, documenting their progress and learning along the way. The team will also continue to mentor the students on our younger teams, as well participate in a few more outreach opportunities this fall. We hope everyone will mark their calendars for Jan. 6, 2024 to help us host the qualifying tournament at Regis University, and Jan. 20, 2024 to cheer on the team at their tournament in Broomfield.



Meet the Mentors



After watching his oldest son compete in FTC for 4 years, Ian Rumsey is enjoying being the Lead Mechanical Mentor for the BroomBots headed into their second season. Ian has a Ph.D in Electrical Engineering, and is the Chief Engineer at First RF Corporation. He hopes to continue to build a team that likes to learn, have fun together, and build good robots. Broomfield STEM is grateful for the deep commitment, technical expertise, and sense of humor that Ian brings to the team.



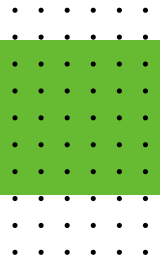
MARK YOUR CALENDAR

These events are open to everyone, and we encourage all of our Broomfield Robotics students and families to join us for community, robots, and fun!

- iPie Gives Day for Broomfield STEM Monday, October 9th**
11:00 am - 8:00 pm at Infinitus Pie 145 Nickel St. in Broomfield
- Trunk-or-Treat on Sunday, October 29th**
11:00 am - 1:00 pm on Holy Comforter Front Lot
- FIRST Lego League Qualifier Saturday, November 11th**
8:00 am - 5:00 pm at CU Denver
- FIRST Tech Challenge Qualifier Saturday, December 2nd**
8:00 am - 5:00 pm at Chatfield High School in Littleton CO
- HOSTING FIRST Tech Challenge Qualifier Saturday, January 6th**
7:00 am - 7:00 pm at Regis University in North Denver, CO
*** Volunteers needed. Please contact Jamie for more information.

[Visit firstinspires.org to learn more about FIRST competitions.](http://firstinspires.org)

VOLUNTEER OPPORTUNITIES



Team Parents

We value creating fun, team building activities and events for our students, and we need your help! Please email Clara at clara@broomfieldstem.org if you'd be willing to help plan and implement a social activity for your student's team such as a trunk for Trunk-or-Treat or a post-competition or holiday celebration. All of the mentors are volunteers, so your help with special events takes some of this important work off of mentors' plates so they can focus on their students.



Tournament Volunteers

The Broomfield Robotics Club is hosting the FIRST Tech Challenge Qualifier at Regis University on Saturday, January 6th and we need your help! Many roles require no technical knowledge at all, such as registration and team queing, and others require a few hours of online training, such as robot inspection and judging. Volunteering is a great way to get a front-row seat for the action while getting to meet a lot of incredible STEM students from across Colorado. Please contact Jamie at jamie@broomfieldstem.org to learn more.



Mentors in Training

We now have wait lists for all of our teams, so we are working to expand the number of teams we sponsor for the '24-'25 season. Well trained mentors are the foundation of each team, so we are now recruiting new mentors who will begin working with the new teams in the spring. Please help spread the word, visit our website for more information, and contact Jamie to discuss details and possibilities.

HELP US MAKE AN IMPACT

Have You Heard?

Many employers will match the qualified charitable gifts of their employees, or they will donate a dollar amount for each hour an employee volunteers. Does your company do this? If they do and you would like to extend their generosity to Broomfield STEM, please contact Kevin at treasurer@broomfieldstem.org for the necessary documentation.



Broomfield
STEM Amazon
Wish List

Send Money with **zelle**
Scan in your banking app to pay
BROOMFIELD STEM



zelle

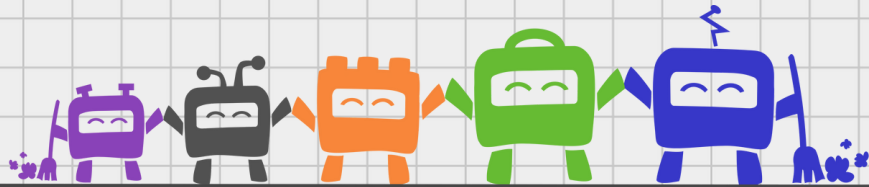
Connect Us with Sponsors

Broomfield STEM is an official 501(c)3 non-profit organization, and in order to maintain and grow our programs we rely heavily on tax-deductible sponsorships from small businesses, service organizations, and corporations. Please consider sharing this newsletter and our website with possible sponsors, and connecting them with Karoline Jarr at president@broomfieldstem.org to begin a relationship.

Donate to Broomfield STEM

We believe that big things can happen when we all contribute a little, and the growth of our program is a perfect illustration. The Broomfield Robotics Club was started with donations from many individual donors, and we continue to rely on those donations to help us keep the cost of participation from being a barrier for our students. Please consider making a tax-deductible donation to support our mission in the community. Use the QR codes on the left to donate with Zelle, shop our Amazon Wish List, or write a check payable to Broomfield STEM and mail it to 1700 W 10th Ave. Broomfield CO 80020.





BROOMFIELD ROBOTICS

Watch Us Grow!

In Numbers & In Impact

Total # of Teams - 4

- Early Engineers - 1
- FIRST Lego League - 2
- FIRST Tech Challenge - 1

Total # of Students

Engaged - 56

- New in 2022 - 9
- New in 2023 - 47
-

Current # of Students - 54

- # of Girls - 21
- # of Boys - 33

Current # of Volunteers - 25

- # of Women - 15
- # of Men - 10
- # of Dogs - 1

Current # of Paid Staff - 0

Total # of First Languages Spoken - 7

Total # of Schools Represented - 26

Total # of Cities Represented - 8

Current # of Meeting Hours/Month ~ 54

- FIRST Tech Challenge ~ 36
- FIRST Lego League ~ 16
- Early Engineers - 2

Total # of STEM/Community Outreach Events - 8

Total # of Team Building Events - 8

Total # of STEM Field Trips - 3

Total # of Competitions Attended - 5

Total # of Individual Donors - 46

Total # of Sponsorships - 4

Total # of Grants Received - 1

Total # of Yearly Scholarships Funded - 10

Growth Observed in Participants - Beyond Measure

Broomfield
STEM

1700 W 10th Ave. Broomfield, CO 80020
info@broomfieldstem.org
www.broomfieldstem.org

Thank you to our sponsors!



FIRST RF
CORPORATION



HOLY COMFORTER
EPISCOPAL CHURCH

