

Key:

Note: FINALIZED DO NOT TOUCH (except for stats)

Each answer has a 500-character limit

**1. Describe the impact of the FIRST program on team participants within the last 3 years. This can include but is not limited to percentages of those graduating high school, attending college, in STEM careers, and in FIRST programs as mentors/sponsors. [491]**

FIRST inspired 97% of our members to take a high school, Des Moines Area Community College, or Iowa State University (ISU) STEM class, with 86% of students continuing to pursue STEM in college, already prepared with a set of technical skills. Our members also develop soft skills including communication, leadership, and professionalism that set them up for success. Every team member has graduated high school, with 8 alumni in the last 3 years continuing in FIRST as a mentor or volunteer.

**2. Describe your community along with how your team addresses its unique opportunities and circumstances. [487]**

Proximity to ISU provides opportunities to work with researchers and student mentors in university labs and classrooms. 8 of 19 mentors study or work at ISU. This past year, we spent over 3,840 hours on campus as a team during build season. Meeting at ISU provides students with a stable, sustainable, and professional learning environment that serves as a springboard for giving back to the community, and allows us access to facilities to improve our efforts to broaden STEM education.

**3. Describe the team's methods, with emphasis on the past 3 years, for spreading the FIRST message in ways that are effective, scalable, sustainable, and creative. How does your team measure results? [497]**

We meticulously track our outreach initiatives through a comprehensive spreadsheet that includes the number of events, outreach/mentoring hours, mentored teams, and people reached. In the last 3 years, we've reached 35,846 people sharing the FIRST message at 75 state-wide events like CelebrAsian, a cultural festival, and RAGBRAI, a bike race across Iowa. We presented at the Iowa Technology & Education Connection conference, sharing creative strategies and student insights for STEM engagement.

**4. Please provide specific examples of how your team members act as role models within the FIRST community with emphasis on the past 3 years. [498]**

We uphold FIRST in our community, running the annual Ames FLL Scrimmage and supporting 24 FIRST events for the past 3 years. In 2022, we were invited by Pat Barnes from John Deere to share our FIRST experiences at the Quad Cities FLL Kickoff where we relayed FLL strategy and navigation advice to an audience of 130 students, mentors, and coaches. Since 2015, we've hosted an annual regional Impact exchange that provides FRC teams with an opportunity to present and share feedback with each other.

**5. Describe your team's initiatives to Assist, Mentor, and/or Start other FIRST teams with emphasis on activities within the past 3 years. [497]**

In the past 3 years, we've mentored 35 FLL teams, guiding 271 kids over 998 hours. Each FLL team we mentor has 2+ student mentors who attend every practice, scrimmage, and competition. Alongside parent coaches, mentors use their FIRST experience to provide a strong foundation for local programs; this allows schools to sustain FLL for future generations. We've also supported the Ames FTC League Meet annually since 2021 alongside 18050 Team Photon, an FTC team we started at a local high school.

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**6. Beyond starting teams, what initiatives have you done to help inspire young people to be science and technology leaders and innovators? What results have you seen from your efforts in the past 3 years? [498]**

We inspire youth, demonstrating our robot and sharing STEM activities at events like local elementary school Science Nights, the Science Center of Iowa's Mini Maker Faire, and the Story County Fair. In the past 3 years, we've led 11 weeks of summer STEM classes at Enrich Empower Excel (EEE) for elementary students. Last summer, we taught 50 students at EEE through hands-on activities like bottle rockets and Snap Circuits, with a vast number of students expressing their engagement and learning.

**7. Describe the partnerships you've created with other organizations (teams, sponsors, educational institutions, philanthropic entities, etc.) and what you have accomplished together with emphasis on the past 3 years. [499]**

Our Story County 4-H partnership has allowed us to reach over 2,800 people at 4-H events like STEM Day at the Iowa State Fair and 4-H Open House since 2020. In 2022, we initiated a continued partnership with the Ames Public Library (APL) to air our TV show, Full STEAM Ahead (FSA), preceding other APL partnerships such as Technology Tuesday. FSA also fostered collaboration with local organizations like Reiman Gardens and the Webster City Rocketry Club to create content for students, by students.

**8. Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, FIRST, and your communities. [492]**

We are affiliated with 4-H as a county team, bringing together members from 4 schools over the past 3 years and providing widespread access to FIRST. We provide a safe and inclusive environment where everyone, regardless of their background, is encouraged to learn and engage with FIRST. Our subteam structure allows students to pursue their interests across all areas. We have an associate role that allows flexibility for students with time constraints to continue contributing to the team.

**9. Explain how you ensure your team and the initiatives you have created will continue to run effectively for the foreseeable future. [490]**

We foster sustainability by preserving knowledge in an online 'timeless' folder with how-to documents and tutorials. At our 8 off-season training camps this year, subteam managers trained new members to ensure knowledge was passed down with hands-on experience with CAD, programming, etc. Returning members are encouraged to pursue off-season advanced projects to improve technical skills and join Leadership Core, allowing emerging student leaders to get involved in team decision-making.

**10. Describe your team's innovative strategies to recruit, retain, and engage your sponsors within the past 3 years. [491]**

Our fundraising subteam recruits sponsors, writes grants and emails, and uphold relationships, sending 10+ team newsletters each year and initiating sponsor visits. These relationships extend to a personal level: a team alumnus was hired for an internship at Frontline BioEnergy; another alumnus founded a current sponsor. Since 2022, 10 of our 38 mentors have worked for team sponsors such as John Deere and Workiva, with 13 of our current sponsors having been with us for the past 2 years.

**11. Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements. [498]**

Last off-season, returning members were encouraged to pursue advanced projects; this addressed the limitations of previous years where they did not have the opportunity to gain

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experience beyond intro-level training camps. In 2023, advanced projects provided the necessary time, resources, and support for members with varying levels of experience to further explore their subteams. 25 out of 28 returning members participated in projects like vision systems, swerve drive, and a new button system.

**12. Describe your team's goals to fulfill the mission of *FIRST* and the progress you have made towards those goals. [489]**

We develop professional leaders that exemplify Coopertition. In 2023, our pit crew helped out FRC Team 6455 with their climber at Champs, and our awards team guided FRC Team 1764 on how to start forming an essay, executive summary, and presentation for the Impact Award. At the 2023 Iowa Regional, our controls manager aided FRC Team 8737 with their software. This past October, we lent one of our extra batteries to FRC Team 6419 when one of theirs broke during an off-season competition.

**13. Briefly describe other matters of interest to the *FIRST* Judges, including items that may not fit into the above topics. The judges are interested in learning about aspects of your team that may be unique or particularly noteworthy. [498]**

This year, team members proposed multiple passion projects aimed at engaging the team and benefiting the community. We chose to host an off-season FLL summer camp, driven by our passion for STEM education and a local need for summer camps. Student leaders have discussed a potential ISU partnership with the NASA Iowa Space Grant Director and collaborated with the 4-H Youth Outreach Coordinator to secure a location. We are excited to announce two pilot weeks of the FLL Blastoff camp this summer.