



How to Kickstart Your FTC season

By Almond Robotics
Team 12518

follow our social media @almondrobotics



Workshop Agenda:

1. Introduction
2. Why do we participate in FTC? Why is it so important?
3. Differences between FLL and FTC
4. FTC Structure Overview
5. How can you succeed?
6. Q & A

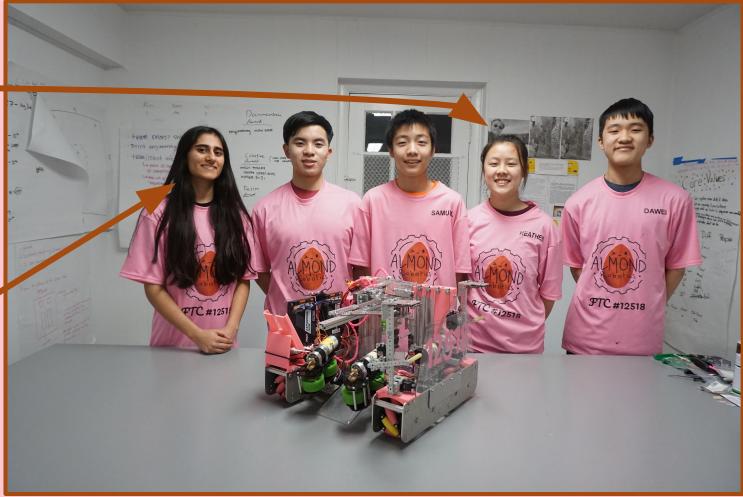
About Us

Heather (11th grade):

- 4 years in FLL
- Mechanical Design Lead
- Dean's List Finalist

Aiesha (10th grade):

- 3 years in FLL
- Engineering Notebook Lead
- Dean's List Semi-Finalist





Zoom Meeting ID: 828-131-316



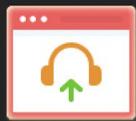
Chat

Zoom chat room
is for technical
questions only



Meeting Topic: Zoom Tutorial Meeting
Host Name: Samuel Lin
Invitation URL: <https://zoom.us/j/828131316>
[Copy URL](#)
Participant ID: 33

Please make sure
you are muted
and video is off



Join Audio
Computer Audio Connected



Share Screen



Invite Others



Unmute
Start Video

Invite

Manage Participants

Share Screen

Chat

Record

End Meeting

To: Everyone

Type message here...

File ...

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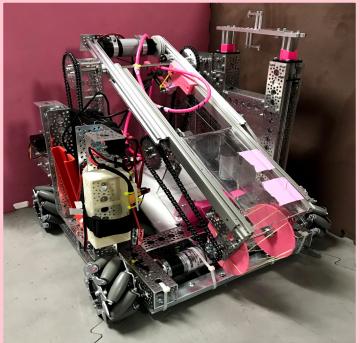
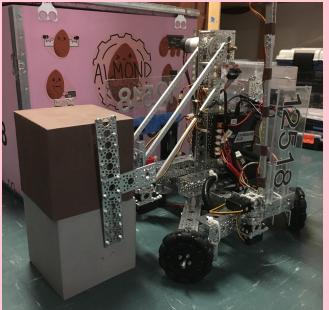


sli.**do**

Event Code: Q470
Event Link: <https://app.sli.do/event/murppwqg>

Robot skills acquired

Qualified for World Championships



1st Place Inspire Award

2nd and 3rd Place Inspire Award

- Complete blank slate

- Started to use VEX kit parts
- 3D printing
- Finalist alliance

- Completely customized robot
- Winning alliance
- CNC machining

2017 - 2018

2018 - 2019

2019 - 2020



Why FTC?



**FIRST®
TECH
CHALLENGE**

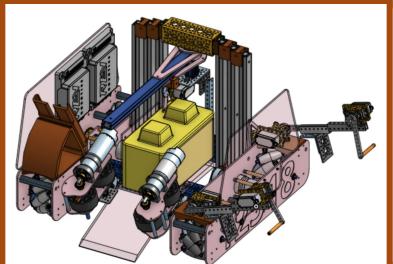
→ Public Speaking



→ Problem Solving



→ Engineering Skills



→ Entrepreneurship



Share fun and memorable moments



The feeling of success is inspiring and long-lasting





But most importantly...

ANYONE can be successful in FTC



**TECH
CHALLENGE**

14 - 18 Years Old



9 - 14 Years Old

- Teamwork
- Communication
- Gracious Professionalism
- Connecting with the STEM community
- Innovation
- Design
- Strategy
- Competition

Core Values

Project

Robot



FTC Overview

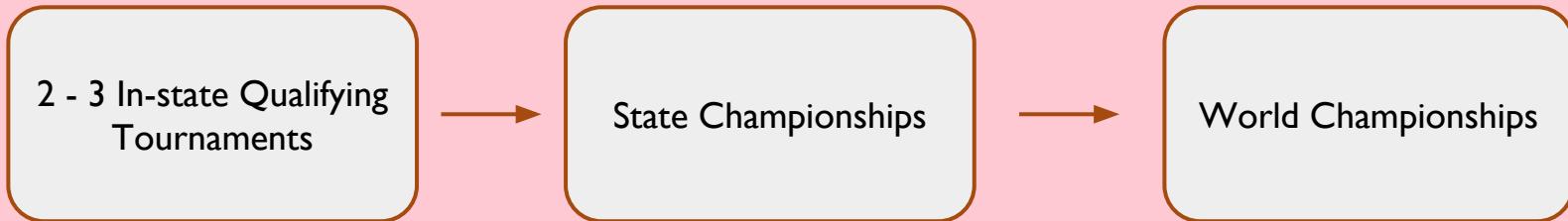
- Two main aspects: Outreach and Robot Design

Two ways judges assess a team's outreach and robot design

1. Engineering Notebook
2. Robot Performance



FTC Structure Overview



- Three types of awards: Engineering Notebook Awards, Robot Awards, The Inspire Award
- Can advance through EITHER robot or Engineering Notebook

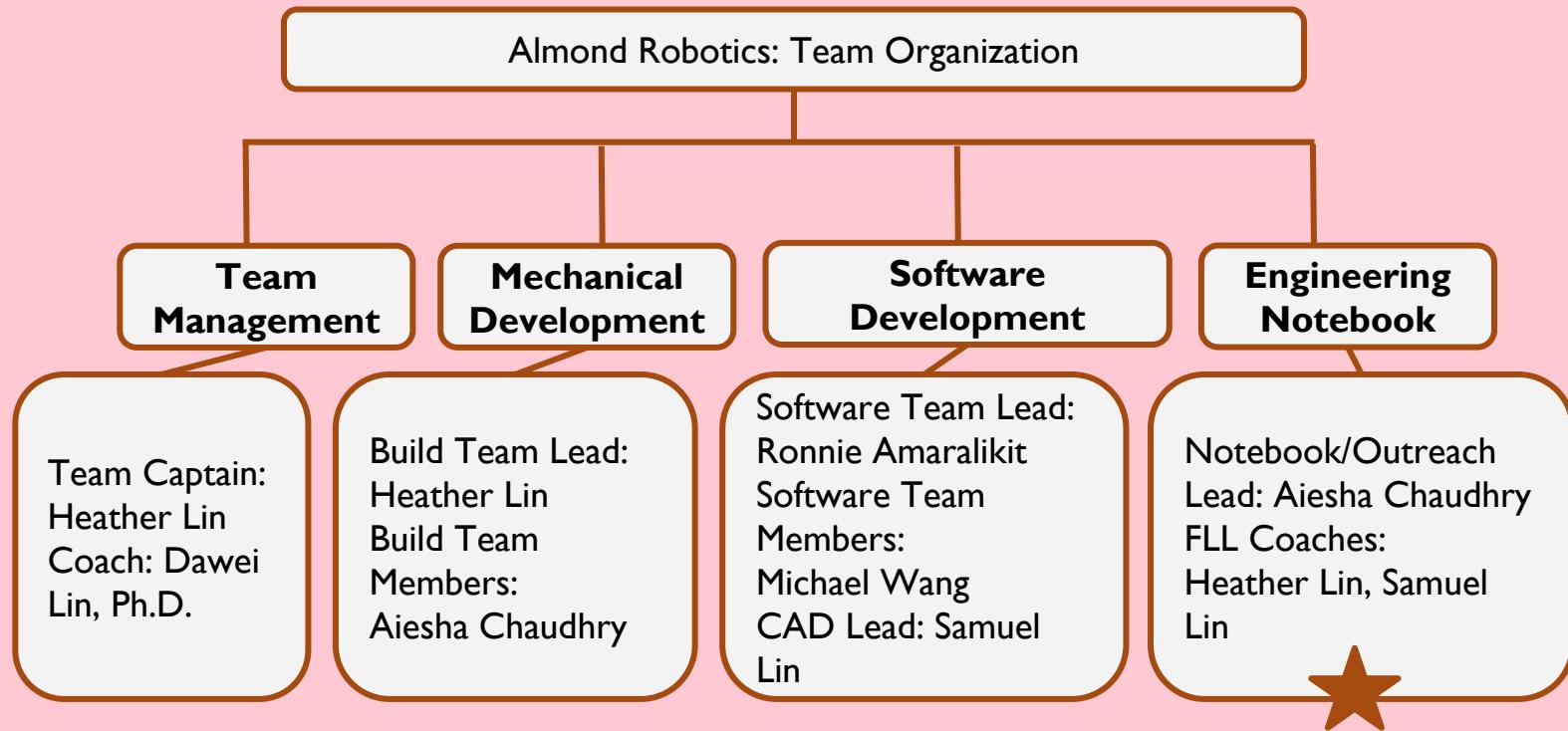
1. Optional – Qualifier Host Team (NOTE: Each region's Affiliate Partner decides if this advancement opportunity will be offered, and if so, when the host Team must be identified. The Team MUST compete at one other Tournament within the region and must meet the criteria set forth by the Affiliate Partner in the agreement. This advancement applies to Qualifying Tournament hosts only, and does NOT apply to host Teams of Meets, League Championships or Championship Tournaments).
2. Inspire Award Winner
 3. Winning Alliance Captain
 4. Inspire Award 2nd place
 5. Winning Alliance, 1st Team selected
 6. Inspire Award 3rd place
 7. Winning Alliance, 2nd Team selected
 8. Think Award Winner
 9. Finalist Alliance Captain
 10. Connect Award Winner
 11. Finalist Alliance, 1st Team selected
 12. Rockwell Collins Innovate Award Winner
 13. Finalist Alliance, 2nd Team selected
 14. Design Award Winner
 15. Motivate Award Winner
 16. Control Award Winner
 17. Highest Ranked Team** not previously advanced, from the Winning Division.
 18. Think Award 2nd Place
 19. Highest Ranked Team** not previously advanced, from the Finalist Division.
 20. Connect Award 2nd Place
 21. Highest Ranked Team** not previously advanced, from the Winning Division.



How can you succeed?



Organization





Mentorship

Other FTC Teams

- Socialize
- Stay in contact
- Other teams are always extremely happy to help!
- Remember to always show your appreciation!

From the Expert Community

- Meet with monthly or twice a year
- Can help you connect to other mentors
- Examples to reach out to:
 - Engineering
 - Communications
 - Marketing
 - Outreach

Anyone can be a mentor

- We have mentors with PHD degrees, and mentors that haven't graduated high school

Participate in STEM events

- Meet people in person



Outreach

Connecting with the local STEM Community



Hello Robot, Lectures, Tours

Promoting FIRST



Collaborating with other FIRST Teams



FLL Jr and FLL Teams

Scrimmaging, Volunteering



Funding your FTC Season

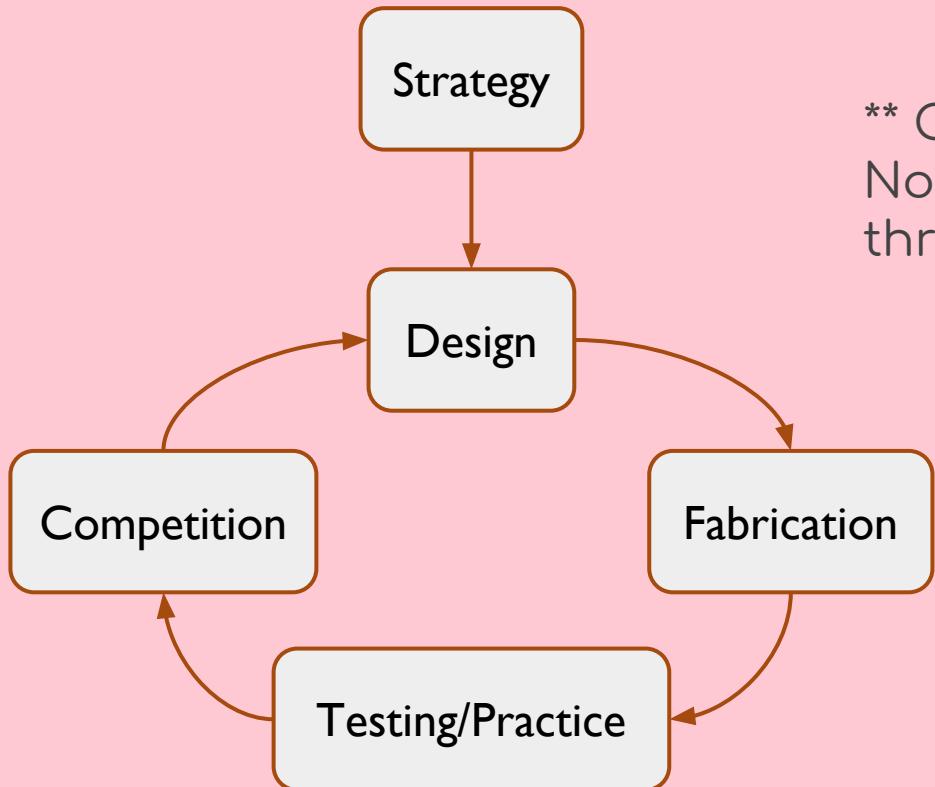
Earning money

- Teaching paid classes
- Coaching FLL

Sponsorships/grants

- Keep a good reputation
- Stay updated on social media/website
- Rookies should take advantage of rookie grants from companies affiliated with FIRST

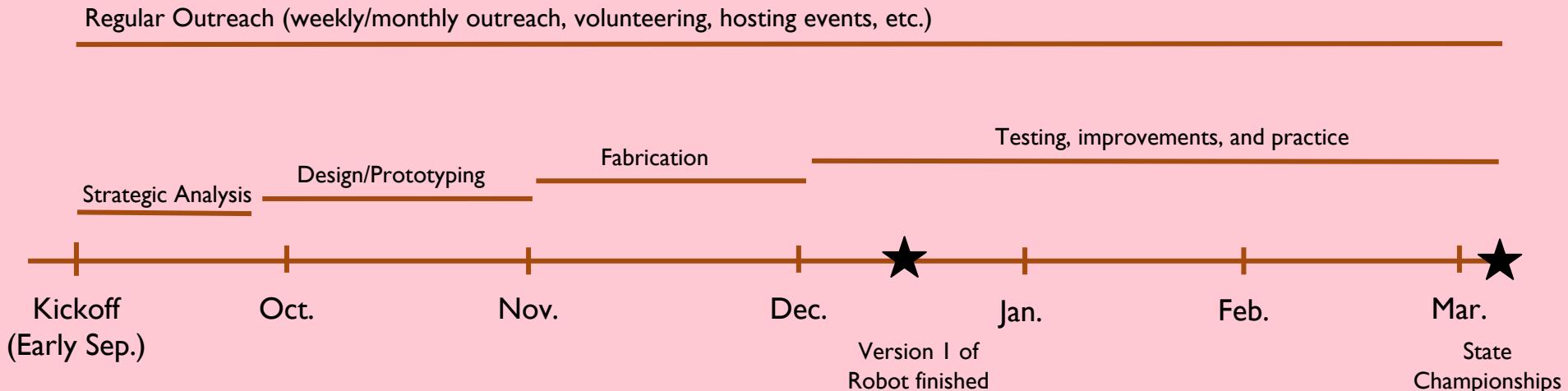
Season Structure



** Outreach and the Engineering Notebook should be worked on throughout the entire season.



Recommended Season Timeline



Offseason:

- Learning new things
- Outreach
- Recruitment



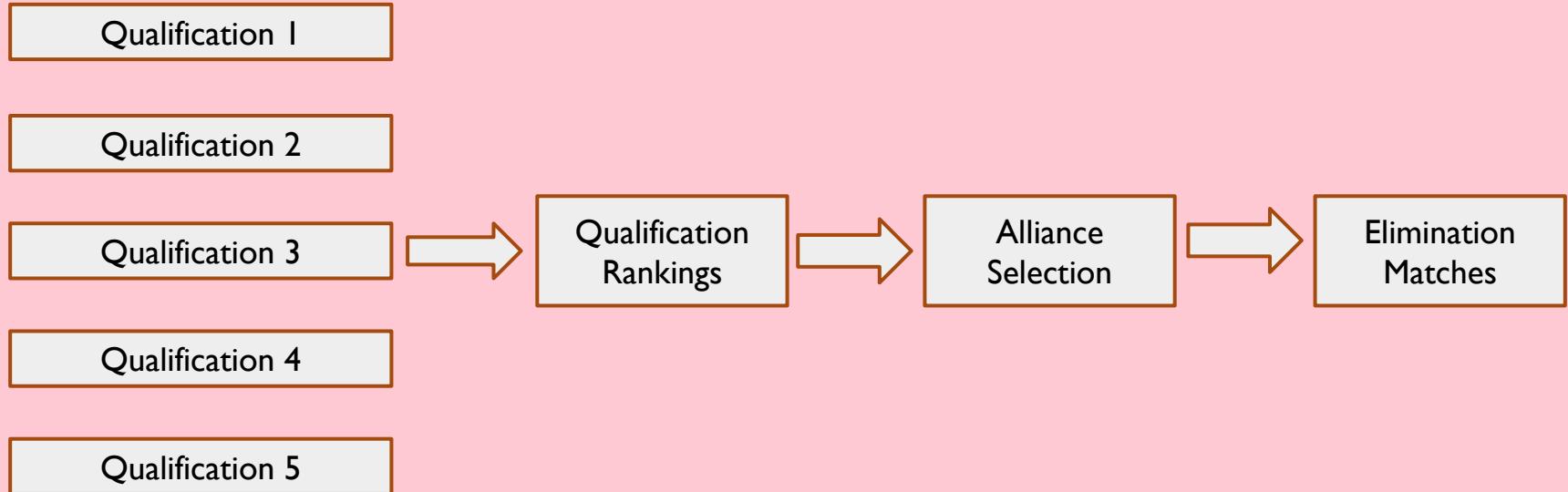
How an FTC Game works

<https://www.youtube.com/watch?v=Cuk7bMwVIQ4>

1. Autonomous Period
2. Driver Controlled / Tele-op Period
3. End Game
 - Alliance Partners



Brief Overview of Robot Competition





Approaching the robot game

What is scoring the most points?

- Autonomous vs. tele-op
- There is always one repeating task (less points)
- One final task during endgame (more points)

Autonomous Period Scoring:

Repositioning Foundation to Building Site.....	10 points
Delivering Skystones	10 points/Skystone
Delivering Stones under Alliance Skybridge.....	2 points
Placing Stones on Foundation.....	4 points
Navigating under Skybridge.....	5 points

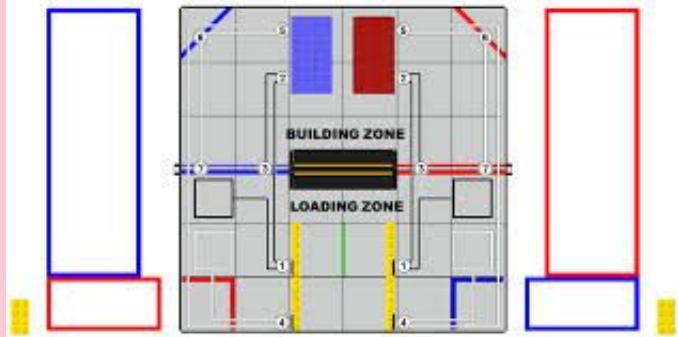
Robot Driver-Controlled Period Scoring:

Delivering Stones under Alliance Skybridge.....	1 point
Placing Stones on Foundation.....	1 point
Skyscraper Bonus.....	2 points/Level

End Game Scoring:

Capping Bonus	5 points
Capstone Level Bonus	1 point/Level
Moving Foundation from Building Site	15 points
Parking in Building Site.....	5 points/Robot

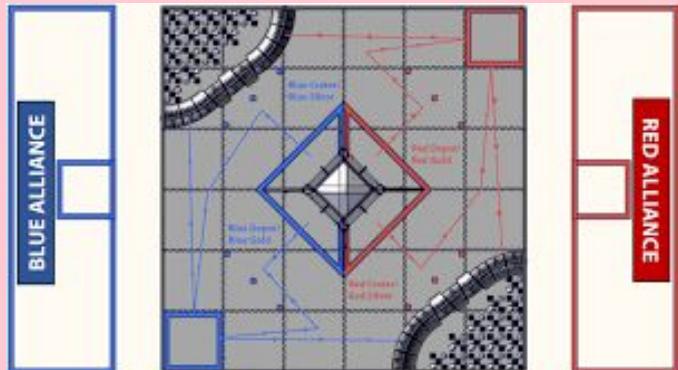
Strategy



Two very clear positions to play on the field
(ex. Stacking vs. delivery robot)

Great example of two completely different robots working together

<https://www.youtube.com/watch?v=hL4nYgLUceg>



Takeaway: You do not have to be the best robot to win.
Play smart.
If you can't be the best robot, be the best robot's partner



Extra Tips

- Out of state competitions
- Offseason competitions (MTI)
- Parts and Tools
- Public workspaces
 - Free use of 3D printers, CNC machines, meeting rooms



Acknowledgements

Thank you to all who came together during this time of a global pandemic

USRA STEMaction: Michael Lyden

FTC Teams:

- Mechanical Paradox 7182, Wizards.exe 9497, electron Volts 7393, Minerva's Mechanics 11525

FIRST Online Coordinators:

- Almond Robotics

FIRST Online Roster

https://docs.google.com/document/d/1qgl6GFzh9tjprgpRoceTBRxyY7gqxoySAkrD9ME_MAo/edit?usp=sharing

Stay safe and enjoy the rest of the workshops/discussions prepared later this week!

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