



FIRST[®] LEGO[®] League (FLL) and FIRST Tech Challenge (FTC) Robotics

Information Night

sponsored by

Young Innovators' Society

ZOOM CALL

June 12, 2026 6:30-7:30PM

- Young Innovators' Society Contact Information
- General Email: YIS4STEM@gmail.com
- Team Formation Email for 2026: YIS4STEM+TEAM2026@gmail.com
- Website: www.solonstem.org
- Facebook: Young Innovators' Society
- *FIRST* www.firstinspires.org and Young Innovators' Society are separate non-profits





A GLOBAL ROBOTICS COMMUNITY PREPARING YOUNG PEOPLE FOR THE FUTURE

What is *FIRST*? *For Inspiration and Recognition of Science and Technology*

- An international not-for-profit organization (501(c)(3)) founded by accomplished inventor Dean Kamen in 1989. FIRST has a proven impact on STEM learning, interest, and skill-building well beyond high school.
- Core Values emphasize friendly sportsmanship, respect for the contributions of others, teamwork, learning, and community involvement
- Corporate sponsors and alliances
- Global robotics competitions
 - YIS is participating in FLL and FTC
 - YIS is not currently active in *FIRST* Robotics Competition (FRC)
- Visit their website

<https://www.firstinspires.org/about/vision-and-mission>

What is Young Innovators' Society (YIS)?

"Think Gracious Professionalism"



YIS is a local non-profit that inspires grades K/1-12 students to pursue STEM (Science Technology Engineering Math) and entrepreneurship



YIS teaches students to become gracious, professional leaders



Most of the students are from the local community around Solon



Focus is on competing in FIRST competitions but there are also other STEM events





What is the relationship between YIS and *First*?

YIS makes sure you are not going it alone

YIS is here to help Coaches and Students form teams and compete in *FIRST* Lego League (FLL) and *FIRST* Tech Challenge (FTC)

YIS is not affiliated with *First*. YIS provides a community of mentors, coaches, and students to make you successful and get more out of FLL and FTC

Registration is separate for YIS and *FIRST*

**FIRST is global and can be overwhelming.
YIS is local!**

YIS Registration is for local support and to create the team T-shirts.

FIRST Registration is to attend official festivals and tournaments

Historical Season Themes

Each new
season brings
relevant
topics

- 2010 Body Forward (Biomedical)
- 2011 Food Factor (Food Safety)
- 2012 Super Seniors (Improving Seniors' lives)
- 2013 NATURES FURY – DISASTER BLASTER
- 2014 World Class (Improve learning)
- 2015 Trash Trek (Recycling)
- 2016 Animal Allies
- 2017 Hydro Dynamics (Water quality)

- 2018 Into Orbit (Living in Space)
- 2019 City Shaper
- 2020 Game Changer
- 2021 Transportation
- 2022 Energy – FLL SUPERPOWERED and FTC POWERPLAY
- 2023 MASTERPIECE (Art)
- 2024-2025 SUBMERGEDSM
- 2025-2026 UNEARTHED
- 2026-2027 [CANOPY](#)

FLL



FTC



Let's take a look at what students will learn about for the 2026 -2027 season



2026-2027 ROBOTICS SEASON

Engineer a thriving planet with *FIRST*®

Nothing on Earth thrives alone. Every gene, species, and ecosystem is part of a rich web of biological diversity that powers clean air, fresh water, and food.

With STEM as their tool and nature as inspiration, today's boldest innovators are finding new ways to strengthen the connections that protect our shared home.

Building. Problem solving. Growing stronger through teamwork.

Welcome to our 2026-2027 biodiversity-themed robotics season, *FIRST*® CANOPY™.

FLL Explore K-4th

FLL Challenge 4th – 8th

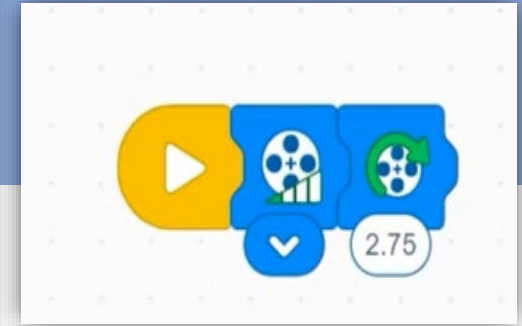


FTC 8th-12th



FLL Explore

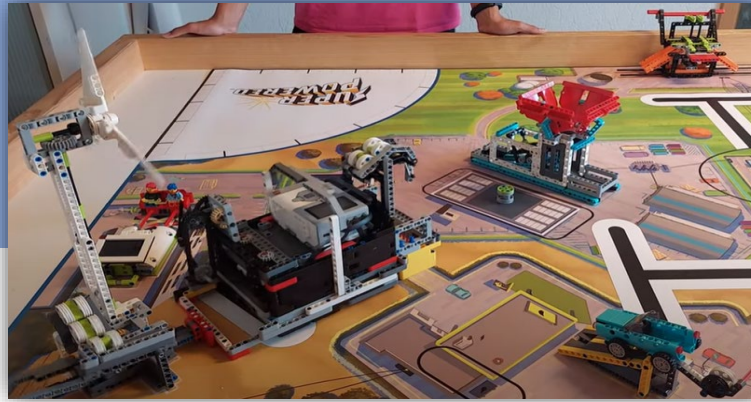
Ages 6-9 years
Grades K-4th



- Team size: 4 to 6 students
- Season: August – January typically
 - Season length depends on your own goals
- Time: 1.5 hours per week
- Cost: approximately \$700 per team minimum
 - YIS dues are \$35 each student, which is included in above estimate. Pays for T-shirt and practice Festival rental, pizza, water
 - (FIRST season specific and robot cost breakdown available on subsequent slides)
- After about 3 months of weekly team sessions, students can register with *FIRST* ‘festivals’ in near by cities to share what they have learned in front of Admirers and see what other teams have done
 - Create a Team Poster about the season theme
 - Create and program Motorized LEGO model
 - Demonstrate *FIRST* Core Values
- **Festivals are non-competitive**

FLL Challenge

Ages 9-14 years
Grades 4th-8th

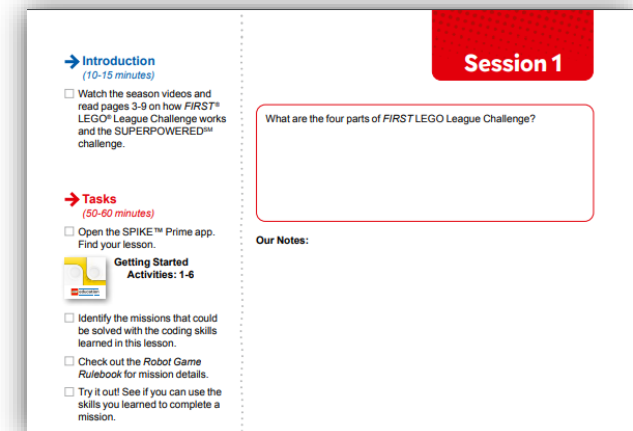
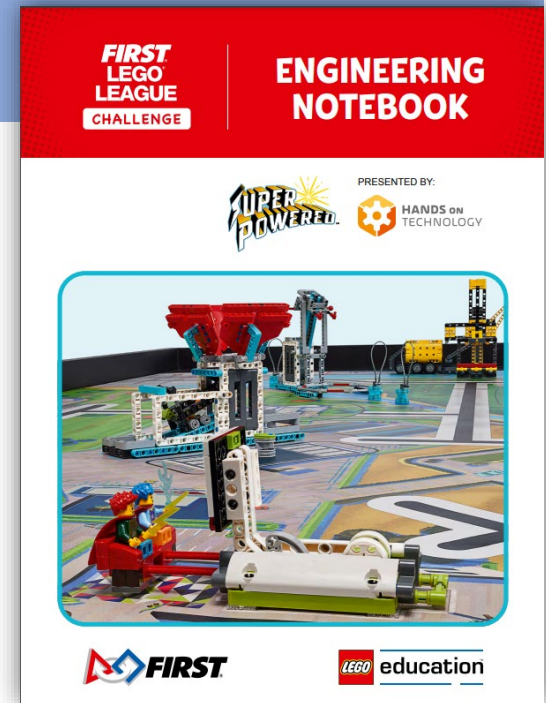


- Team size: 3 to 10 students
- Regular Season: August – November
 - Competitions November – June depending on tournament results
- Time: 3 - 6 hours per week
- Cost: approximately \$1500 per team minimum
 - YIS dues are \$50 per student which is included in above estimate. Pays for T-shirt, scrimmage, presentation night to prepare for competition.
 - (FIRST season specific and robot cost breakdown available on subsequent slides)
- After about 3 months of weekly team sessions, students can register with *FIRST* 'tournaments'
 - A panel will judge team on their Innovation Project, LEGO robot design, Core Values
 - Teams will compete in solving LEGO robot missions both head-to-head and as allies
- Tournaments are competitive from Regionals to Worlds

Typical FLL Team Meeting might be ...

Much depends on the level and age of students

- Coaches study the session plan from the FLL Engineering Notebook before the meeting
- Start with a game or fun event to encourage students to attend and arrive on time
- Coaches review the session plan with students
- Execute the session plan
 - For FLL Explore, students can follow the session plan and LEGO step-by-step instructions
 - Take turns building the LEGO models and programming
 - For FLL Challenge, students can split into pairs for programming, building, brainstorming attachments

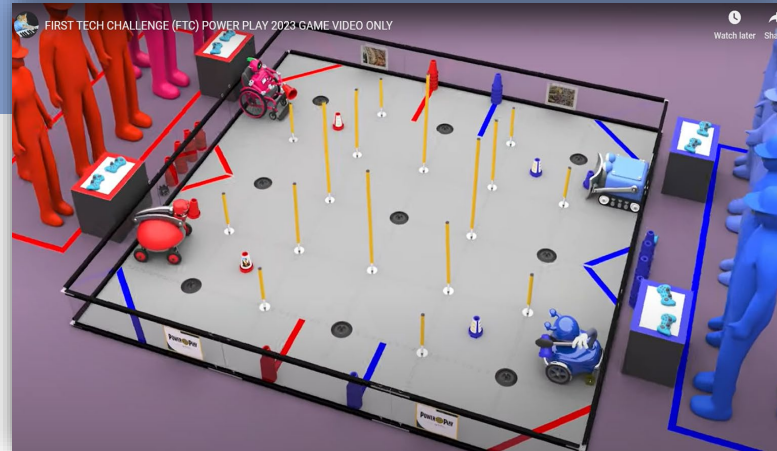


FIRST Tech Challenge Robotics

Ages 12-18 years

Grades 7th -12th

- Team size: 3 to 10 students
- Regular Season: September - October
 - Competitions October – June depending on tournament results
- Time: 4 - 6 hours per week
- Cost: approximately \$3000 per team minimum
 - YIS dues are \$35 which is for the T-shirt and outreach event rental and assistance
 - (FIRST season specific and robot cost breakdown available on subsequent slides)



- Non-LEGO Robot kit
 - Build a robot
 - Help others – outreach, outreach, outreach!
 - Program using OnBot Java (or other tools)
- Tournaments are competitive from Regionals to Worlds



At this point, you should have in mind for your student...

FIRST Lego League Explore



FIRST Lego League Challenge



FIRST Tech Challenge

How does YIS enhance *FIRST Lego League*?



- YIS starts with Parent Info Night and Team Forming Events
- Then YIS improves your chances of success at festivals and competitive tournaments
- YIS has group events so you can practice and scrimmage as if it's the real *FIRST* event
 - Get to know what your team needs to improve upon by observing other teams and getting feedback from experienced coaches
 - Have your team do their presentations in front of judges
 - Have your Challenge team go head-to-head on official competition tables
- YIS FLL Explore Practice Events
 - **Presentation and feedback with all YIS teams present (like a real festival)**
- YIS FLL Challenge Training and Practice Events
 - Robots & Research
 - **Scrimmage (pre-tournament practice!)**
 - **Presentation Night (pre-tournament practice!)**

How does YIS enhance *FIRST Lego League*?



- YIS schedules Field Trips and/or Speaker Panels related to the annual theme that you will need
- YIS Coaches Roundtables (Q&A and support for coaches)
 - Especially useful for first time coaches
- **YIS sponsored *FIRST* FLL Explore Festival in Solon area**
 - **YIS teams can participate in a *FIRST* Discover festival – priority registration for YIS teams**
 - Event is near Solon which is great for the younger kids so they don't have to travel very far
- YIS People Resources: coaches, mentors, “kid” mentors, former judges are all part of YIS



How does YIS enhance *FIRST Technical Challenge?*

- YIS helps with the team forming
- YIS has many coaches and students who graduated from FLL to FTC
- YIS helps provide community outreach events that will help qualify you for awards
 - FIRST Dean's List
 - Inspire Award
 - Think Award
 - Connect Award
 - Innovate Award sponsored by RTX
 - Design Award
 - Motivate Award
 - Control Award
 - Compass Award (optional)
 - Judges Choice Award (optional)



Community Outreach Solon Summer Fest and Parade



Many Success Stories over the Years



The screenshot shows the Providence House website header with the logo and navigation menu. The main content area features a section for 'Loose Screws (Team 11095)' with two paragraphs of text and a photograph of the team at a competition.

providence house
EVERY CHILD IS YOUR CHILD™

about us | services | outcomes | admissions | donate **EAST CAMPUS**

Loose Screws (Team 11095)

We are a team of six 11th graders from Solon, Ohio. Most of us have been a part of the FIRST organization for 9 or more years, and this is our 5th year of competing in FTC. Our team strives to improve our community by supporting those around us and to increase awareness of STEM opportunities.

Throughout the years, our team has received donations from many companies, and we would like to in turn give back to the community by asking our friends and families to support Providence House, an organization which protects at-risk children, keeps families together, and provides crucial assistance to those who are in need during crises.



<https://www.instagram.com/loosescrewsftc/>

Breakdown of 2026-2027 YIS Membership Fee

	FLL Explore	FLL Challenge	FTC
T-Shirt	\$20	\$20	\$20
Various Events and Overhead	\$15	\$30	\$15
* Two team Formations Events - flyers, rented facilities	Included	Included	Included
* YIS Overhead for website, email, insurance, ZOOM	Included	Included	included
* Community Outreach - Solon Parade and Summer Fest	Included	Included	included
* Practice Festival with pizza, water rented facilities	Included		
* Practice Presentation Night		Included	
* Scrimmage with pizza, water and rented facilities		Included	
* Robots and Research		Included	
* Introduction to FTC – FTC Outreach opportunities at FLL events			included
TOTAL	\$35 per student	\$50 per student	\$35 per student

* All costs just estimations for upcoming year. Actual costs are higher but offset by donations

FIRST Lego League Explore Team Cost Estimation Breakdown

	Cost
Registration and Theme Map and Lego model – required every year	\$150
Lego Essentials Robot Kit – required for first year	\$375
TOTAL	\$525 new team minimum

<https://www.firstinspires.org/programs/cost-and-registration>

FIRST Lego League Challenge Team Estimation Breakdown

	Cost
Registration and booklets – required every year	\$285
Lego Mission Models – required every year	\$105
Lego Spike Prime Robot Kit – required for first year	\$650
TOTAL	\$990 new team minimum

<https://www.firstinspires.org/programs/cost-and-registration>

FIRST Tech Challenge Team Cost Estimation Breakdown

	Cost
Registration – required every year	\$350
Robot Kits starting at \$1000 – required for first year	\$1500
Additional robot parts – required for first year	\$375
TOTAL	\$2225 new team minimum

<https://www.firstinspires.org/programs/cost-and-registration>

Additional Costs Depend on Team

	Cost
Registration for Festivals and Tournaments	Typically free or <\$50
Travel and Lodging for State Finals for Challenge and FTC	State finals are in Troy over 3 days
Snacks and drinks	Could be significant if you have big snackers
Extra Robot Parts	Could be significant buying extra robots and parts
Arts and Crafts Material, poster boards	Depends on how fancy you want to get
Field Trips	Could be free or paid



Coaches and
Co-Coaches
needed.

Volunteer
parents are
the coaches

- FLL and FTC are formed around a Coach with Co-Coach and Mentor
- An example team formation might be
 - Volunteer parent as Coach to organize the team, register team with YIS and *FIRST*
 - Volunteer parent as Co-coach to assist with execution of meetings
 - Mentor can be a parent, YIS, co-worker, etc. to help technically
 - Other parent volunteers to help with hosting meetings, snacks, T-shirt design, Table Design (Challenge only)
- WE NEED COACH VOLUNTEERS!
 - Without new coaches, we can not form new teams to replace teams that are graduating to the next level



Opportunity for Budget and Grants

As the level
increases from
FLL Explore to
FTC, the cost
increases

- The firstinpires.org website contains useful information with sample budgets, grant information and fundraising
- Funding becomes more important for FLL Challenge and especially FTC Robotics as costs and supporting equipment are necessary
- Your company may provide grants and even donate money to non-profits such as YIS for volunteer time
 - For example: Rockwell Automation is one of many *FIRST* sponsors and provides grants for FLL (Explore and Challenge) and FTC for employees as either coaches and/or mentors

Next Steps for *FIRST* Lego League

Time to form a
team and
starting
meeting when
school starts!

- Look helpful events on the [YIS Facebook](#) page
- Attend In-Person TEAM FORMATION NIGHT Aug 28th 6:30pm–8:00pm at Orchard Middle School
 - Individuals looking for a team can rally together to form a team. Designate a coach and co-coach. Find volunteers who can host the meetings.
 - Teams that have already started to form can add students – No need to wait for this meeting.
- Team formation considerations
 - Age, grade, and school affiliation
 - Neighborhood and existing friends
- If you can't attend, send an email to YIS4STEM+TEAM2026@gmail.com and make sure to fill out the survey
- **YIS is not responsible for forming the teams, your action is needed!**
- **YIS cannot guarantee placement on a team but we are here to help!**

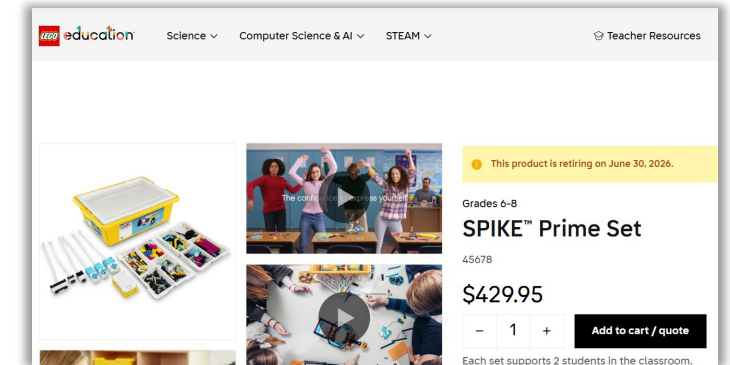
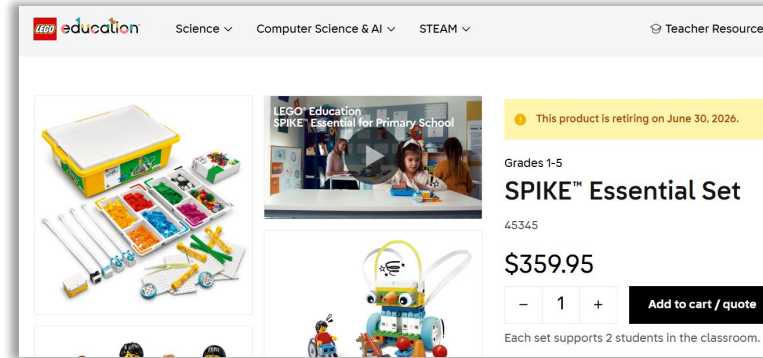
IMPORTANT!

Possibly last
chance to order
a LEGO Spike
Essentials and
Prime robotics
kit is June 30,
2026

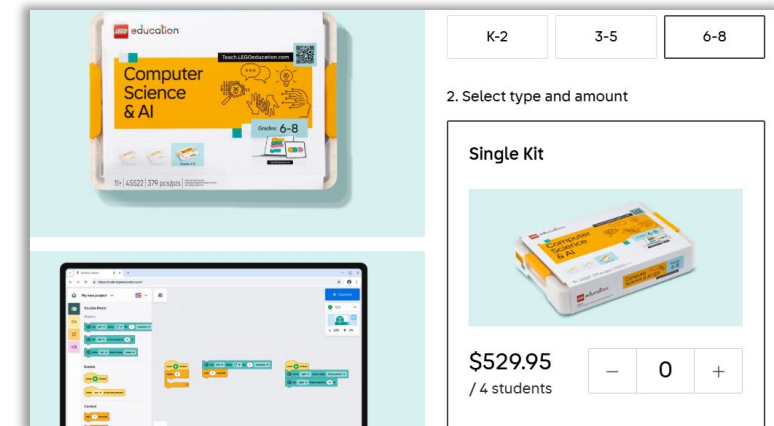
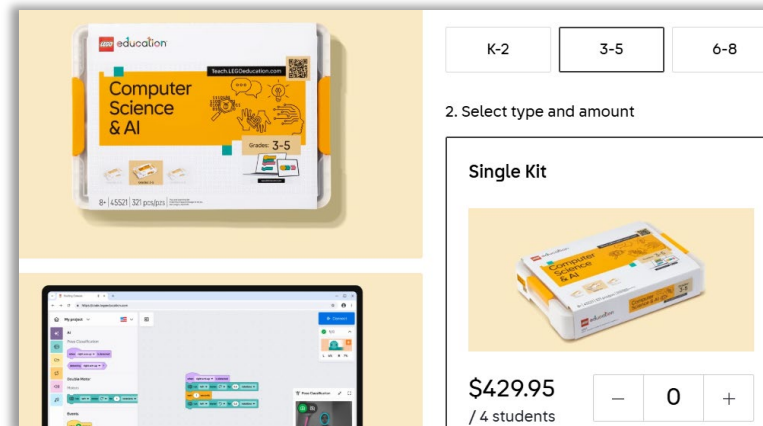
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 - The partnership will be ending
- Consequently LEGO Education **may stop selling** the current Spike Prime Essentials and Prime robot kits (Founders Edition) on **June 30, 2026**
 - LEGO Education is already selling a new Computer Science & AI kit to replace Spike Prime
 - *FIRST* will announce a new robot kit for use after this season
- New Teams have two options to get a Spike set
 - Buy a new Spike set before the deadline
 - Buy a previously owned Spike set
- Individuals may choose to join existing Teams from previous years who already have robot kits

Overview of LEGO Founders and Future Editions

LEGO Founders Edition SPIKE Essentials (Explore)
and Prime (Challenge).
Will be used for the 2026-2027 BIOGLOW Season



LEGO Future Edition with Grades K-2 (Discover),
3-5 (Explore), 6-8 (Challenge).
Will NOT BE SUPPORTED BY Ohio FIRST and YIS



Next Steps for *FIRST* Technical Challenge

Deciding
whether to do
FLL Challenge
or FTC?

Form a Team!

- Look for Introduction to FTC events on the [YIS Facebook](#) page
- Attend In-Person TEAM FORMATION NIGHT Aug 28th 6:30pm–8:00pm at ~~Orchard Middle School~~ **Check YIS website for new location to be announced – [SOLOSTEM.ORG/EVENTS](https://solonstem.org/events)**
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Scan with your
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- Scan the QR code with your phone so we have a record of why you are attending
 - <https://forms.gle/sLsibfEpHeAafuFH8>
 - Also helps communications and sharing
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FIRST[®] LEGO[®] League (FLL) and FIRST Tech Challenge (FTC) Robotics

Information Night Part 2

sponsored by

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ZOOM CALL

June 12, 2026 7:30-8:30PM

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Welcome back to another *FIRST* Robotics season

- The teams that go far in tournament are teams that have been together for several years in most cases
- Each year you and our team grow and gain from the previous year's experiences
- That continues regardless of the robotics set you use
- Changes are coming in 2027-2028 for FLL and FTC
- That won't stop you from having another fun and challenging season participating in



together with YIS



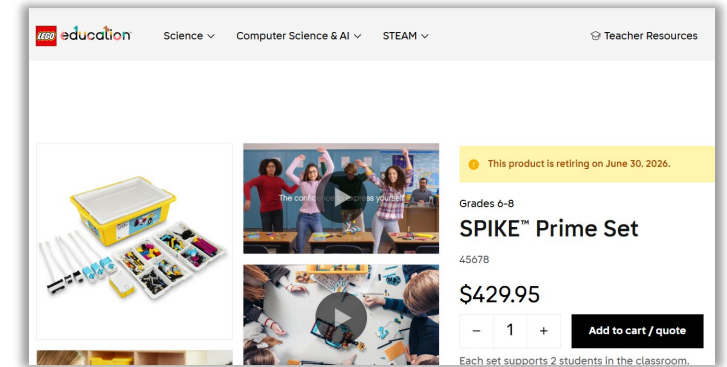
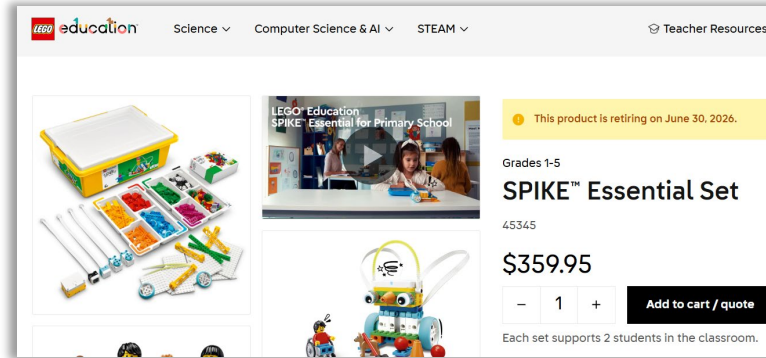
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Last chance to
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Spike
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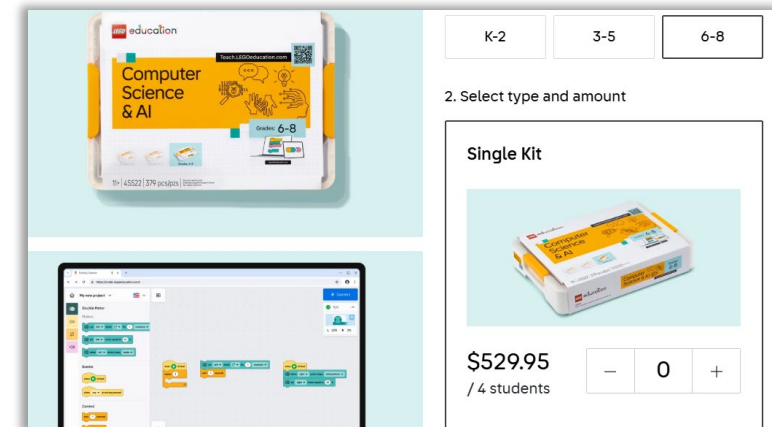
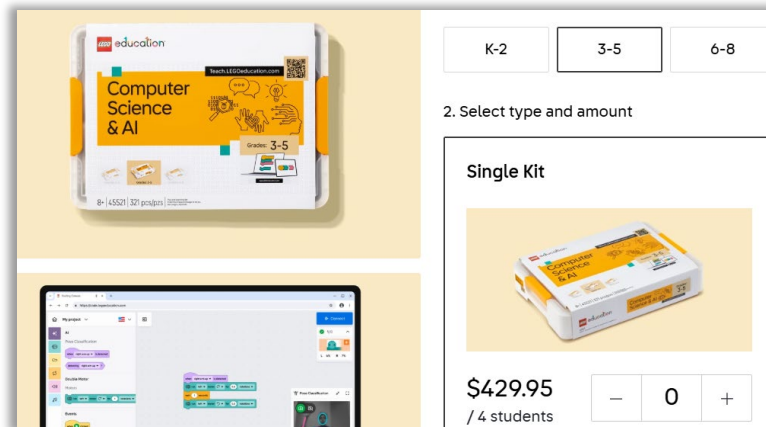
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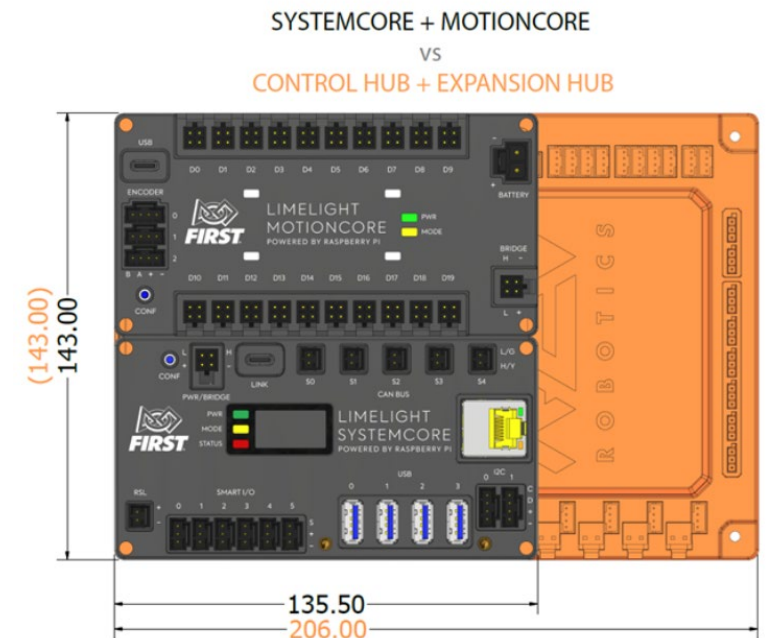
Nothing has changed for the upcoming FLL BIOGLOW 2026-2027 season!

- For LEGO League Explore
 - Returning teams typically have no need to buy additional robot kits so are unaffected for this season
 - Just buy the BIOGLOW season materials same as last year and reuse the same robot kit
 - If you want to buy the new Computer Science & AI robot kit, it is possible as Explore does not have competitive tournaments
- For LEGO League Challenge
 - Ohio *FIRST* (Tara Dore) has announced that Ohio will stay with the “Founders Edition” LEGO kits (Spike Prime) for the 2026-2027 Challenge tournaments
 - LEGO “Future Edition” is NOT supported in Ohio for Challenge tournaments
 - If you want an additional robot, teams can purchase additional new Spike sets from LEGO Education possibly only until June 30, 2026

Nothing has changed for the upcoming FTC BIOBUZZ 2026-2027 season!

- But changes are coming for the 2027-2028 season
- Systemcore + Motioncore
 - 600W almost twice the previously available system power
- Must use the FIRST A301 Actuator
- Standard 18V batteries
- Legacy control systems can be used until 2030-2031

- <https://community.firstinspires.org/control-system-update-first-tech-challenge-edition>



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