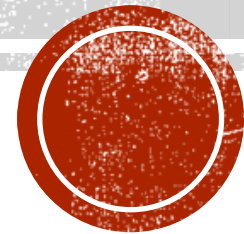


NEBRASKA *FIRST* LEGO LEAGUE

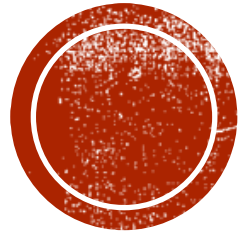
VIRTUAL COACHES MEETING, OCTOBER 13, 2020



AGENDA

- New Branding from *FIRST*
 - Explore (FLL Jr.) and Challenge (FLL)
- Qualifier Schedule
- Registration Timeline
- Event Overview for Hybrid Model Format
 - Judging Format *Brief Overview*
- Coach Resources
- Innovation Project Ideas and Brainstorming





NEW BRANDING

Brandy Schulze, Affiliate Partner for FIRST LEGO League and UNL
Educational Engagement Coordinator

DISCOVER-EXPLORE-CHALLENGE

**FIRST
LEGO
LEAGUE**
DISCOVER

AGES
4-6

GRADES
PreK-1



**FIRST
LEGO
LEAGUE**
EXPLORE

AGES
6-10

GRADES
2-4

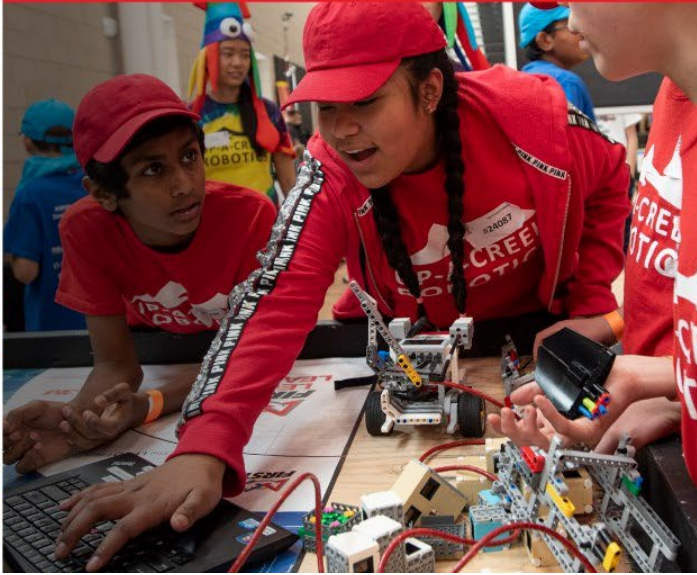


**FIRST
LEGO
LEAGUE**
CHALLENGE

AGES
9-16*

GRADES
4-8

*Ages vary by country.



PROGRAMS IN NEBRASKA

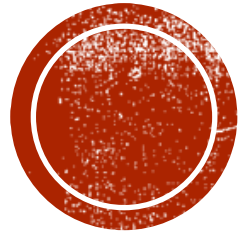
EXPLORE

- **FIRST LEGO League Explore - Grades 2-4:**
In Explore, teams of students ages 6-10 focus on the fundamentals of engineering as they explore real-world problems, learn to design and code and create unique solutions made with LEGO bricks and powered by LEGO Education WeDo 2.0.

CHALLENGE

- **FIRST LEGO League Challenge - Grades 4-8:**
Friendly competition is at the heart of Challenge, as teams of students ages 9-16* engage in research, problem-solving, coding and engineering – building and programming a LEGO robot that navigates the missions of a robot game. As part of Challenge, teams also participate in a research project to identify and solve a relevant real-world problem.





2020-2021 SCHEDULE

Brandy Schulze, Affiliate Partner for *FIRST* LEGO League and UNL Educational Engagement Coordinator

ROBOT SEASON IN NEBRASKA

- Early November-Early January: Nebraska Event Registration
- February-March: Qualifier Season
- Late March-Early April: Nebraska Championship
- August: World Festival in Detroit, Michigan





2020-2021 *FIRST* LEGO LEAGUE CHALLENGE SCHEDULE

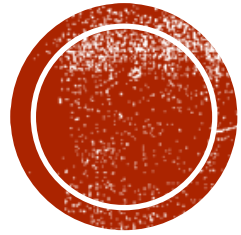
- February 6, 2021-Bellevue
- February 20, 2021-Columbus
- February 27, 2021-Henderson
- March 6, 2021- Sidney
- TBD: Virtual Event
- TBD: Championship (must have qualified to participate)
- August 2021- World Festival, Detroit, Michigan (must have qualified to participate)



HOW DO I REGISTER FOR A QUALIFIER?

- On Monday, November 2 all *FIRST* registered coaches will receive an email with the link to register for the qualifiers in Nebraska
- The qualifier registration will close on Monday, January 4, 2021
- Fees: \$75 for in person events
- Tournament registration will be on a first come, first serve basis





COMPETITION EVENT OVERVIEW

Brandy Schulze, Affiliate Partner for FIRST LEGO League and UNL
Educational Engagement Coordinator

EVENT FORMATS

VIRTUAL JUDGING AND IN PERSON ROBOT GAME

- Teams will be asked to record their presentations and submit their videos prior to the event
- Teams will be interviewed live for Q & A prior to the event
- Teams will compete at a live event the three official robot rounds as well as perform their practice round
- Modified Awards Ceremony will be held

100% VIRTUAL JUDGING AND ROBOT GAME

- Teams will be asked to record their presentations and submit their videos prior to the event
- Teams will be interviewed live for Q & A prior to the event
- Teams will submit their robot game rounds virtually
 - Additional information to follow on the procedure of submission for robot game rounds



BRIEF JUDGING PRESENTATION OVERVIEW

- For the RePLAY Season, teams will be asked to submit a *YouTube* video of their Innovative Solution and Robot Design Presentations. Consider this video presentation to be the same kind of presentation you would give to the judges in the room at a local qualifier. This will need to include all members of your team with no additional outside participation. No special effects or video editing.
- Your video presentation will be reviewed by the judges that will then be interviewing your team in a live video conferencing session.
- **NEW in 2020-2021:** Core Values will be observed through your team's presentations. All team members should be demonstrating the Core Values in everything they do. Review the Core Values rubric and consider how you can incorporate some of the Core Values into your presentations. Teams will be asked Core Values questions during both judging Q&A sessions.

Teams are welcome to submit electronic files of any material they would like to share with the judges. Please also include a Team Information Sheet. All material will need to be sent to the local Tournament Director prior to the event. Contact information will be shared closer the event.

- Nebraska *FIRST* will provide teams with some of these resources in the upcoming months-
 - How to create a YouTube video
 - Guidance on how to video your Robot Design Judging
 - How else can we help you?

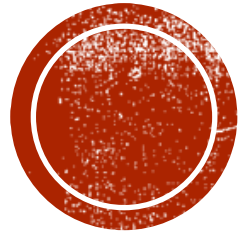




JUDGING OVERVIEW- TIMELINE

- Teams will be asked to record their presentations and submit their videos prior to the event
 - *Approximately the week before the event*
- Teams will be interviewed live for Q & A prior to the event
 - *Approximately the week of the event*
- More details to follow!



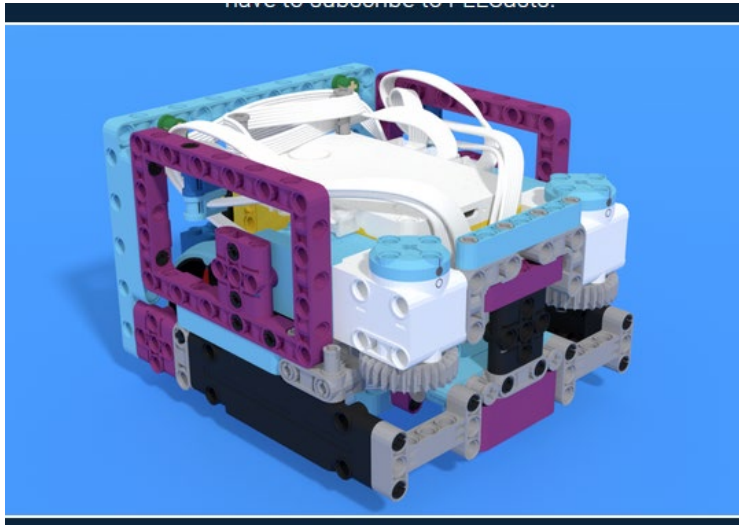


COACH RESOURCES







Melissa Mracek and Michael Eskelson, UNL Extension Educators

ROBOT DESIGN RESOURCES (WEBSITES)

- EV3 Lessons- <https://ev3lessons.com/en/RobotDesigns.html>
- LEGO Engineering-Legoengineering.com
- FLL Cast <https://www.fllcasts.com/>
 - It is a subscription service. Has lots of builds and lessons on sensors.
 - They will have solutions for the last years challenges but not for current year.
 - <https://www.fllcasts.com/competitions/first-lego-league#you-start-with-learning-how-to-build-a-robot>



Bill of materials (Parts list)

Part	Number	Description	Quantity
	54675	Electric Spike Prime Large Motor	2
	3705	Technic Axle 4	2
	39367p01	Wheel 56 x 14 with 4 Spokes with Integral Medium Azure Tyre	2
	2780	Technic Pin with Friction and Slots	64
	39793	Technic Connector Block 3 x 3 with 9 Perpendicular Holes	3
	37308	Electric Spike Prime Colour Sensor	2



ROBOT DESIGN RESOURCES (YOUTUBE)

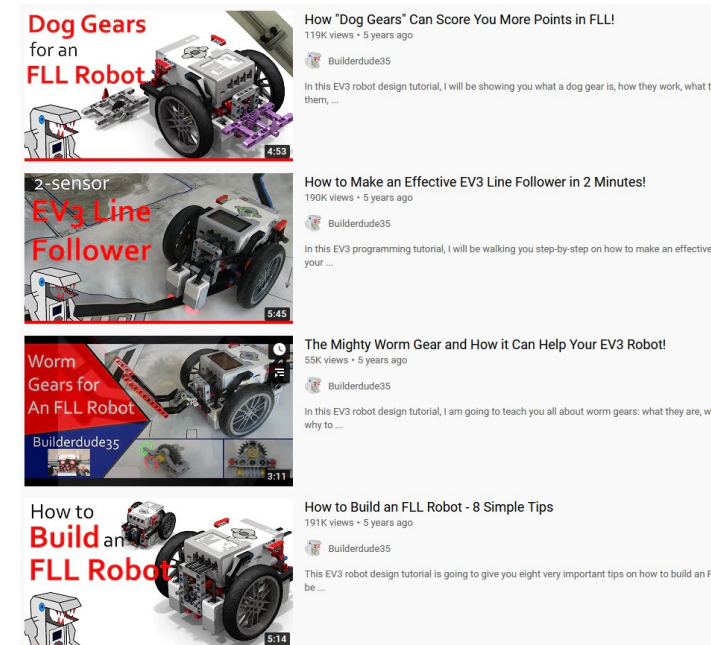
LEGORobotics Mr. Hino

- Video tutorials
- Coaching tips
- Has a FLL schedule
- Trouble shooting
- Has the educator build robot do all the missions for the current set



BuilderDude35

- Video tutorials
- Concepts of programming and engineering
 - Such as worm gears, line following, linear actuators, etc



ROBOT DESIGN RESOURCES (YOUTUBE)

[Quick Pinless Attachments for LEGO EV3 Competition Robots \(Part 1\)](#)

You think that you can quickly change the attachments of your LEGO Mindstorms EV3 competition robot? Are you sure? In this first episode of the series you will see how to create and attach attachments without using pins and how faster and easier this could be. You will see the design logic of a few attachments and how they work on the field.

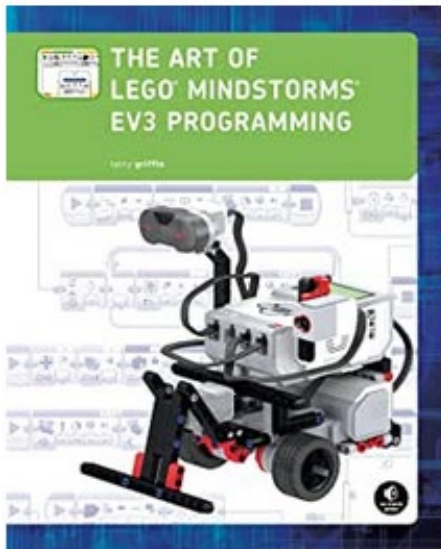
[FLL RePLAY Starter Robot with Instructions-Rebel Robotics](#)

Tap into the many resources available online but ensure teams are building their own unique bot with attachments!

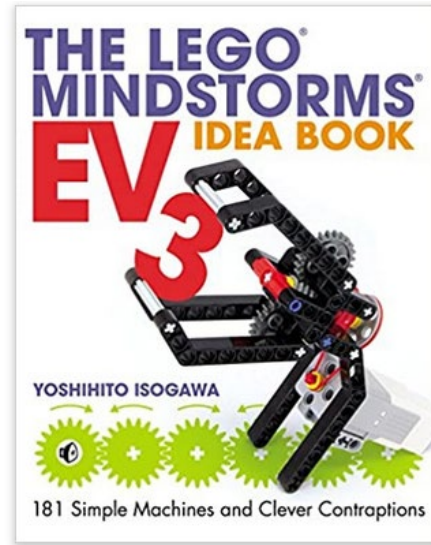


BOOKS

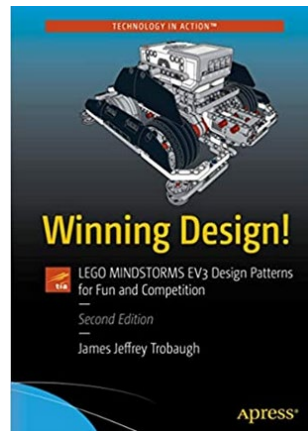
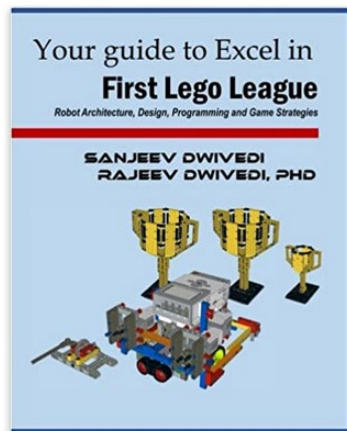
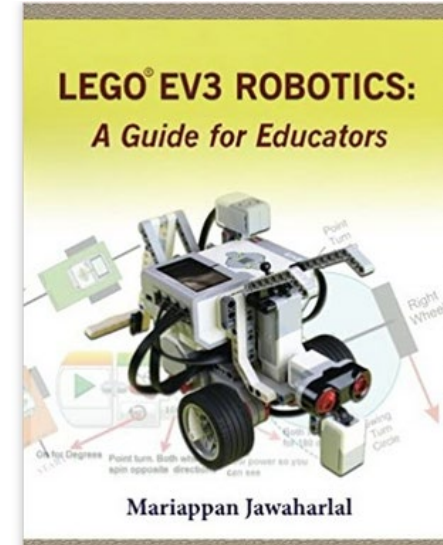
Programming



Simple machines



Teaching Lesson
Basic learning



Tips on Lego League challenge day, programming, game strategies.



LEGO SOURCES

- LEGO Education website : <https://education.lego.com/en-us/shop>
- Amazon
- eBay
- Facebook Groups
- Brink Link: <https://www.bricklink.com/v2/main.page>
 - All things LEGO
 - Helpful to know the part number
 - Many of the sellers have a minimum amount to purchase.
 - Sellers are from all over the world, you can filter to have only U.S. sellers.


All Item Search: Results for "3705"

Keyword Search: 3705 Condition: All Min Qty: Min Price: Max Price: Available Items Only Search

More Options ▼

1 Item Found Showing prices in US Dollar (USD) (more info) Sort: Best match ▼

Overview (1) Part (1)

Part (1 out of 1)	Condition	Qty	Sellers	Price
 Technic, Axle 4 Technic, Axle : 3705	New	649,777	2,864	US \$0.005+
	Used	789,450	4,050	US \$0.0008+

See All Parts

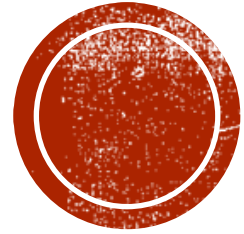




**COMMUNITY
RESOURCE PAGE-
SHARE YOUR
RESOURCES HERE**

**2020-2021 GOOGLE
DOC-RESOURCE
PAGE**





INNOVATION PROJECT

IDEAS AND

BRAINSTORMING

Angela Abts and Jana Schwartz, UNL Extension Educators

DESIGN THINKING

Design the Ideal Wallet (lesson plan)

<https://www.teachingentrepreneurship.org/design-thinking-101/>

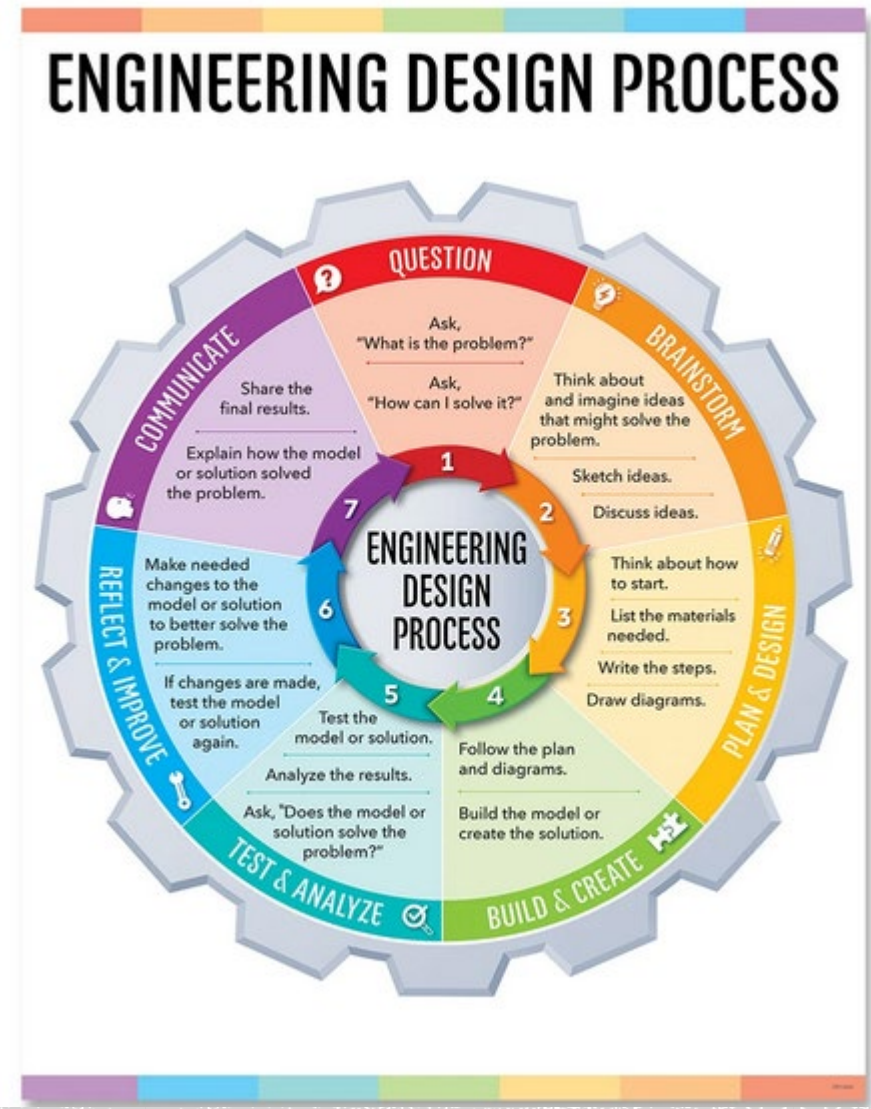


Design Thinking



The Design Thinking Process

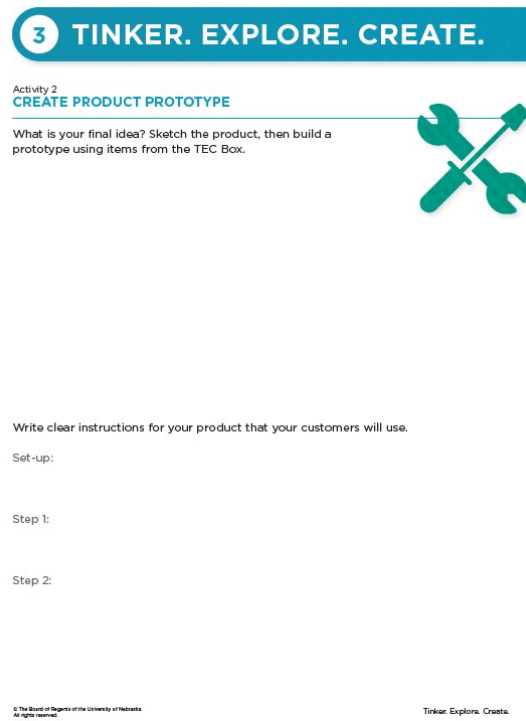
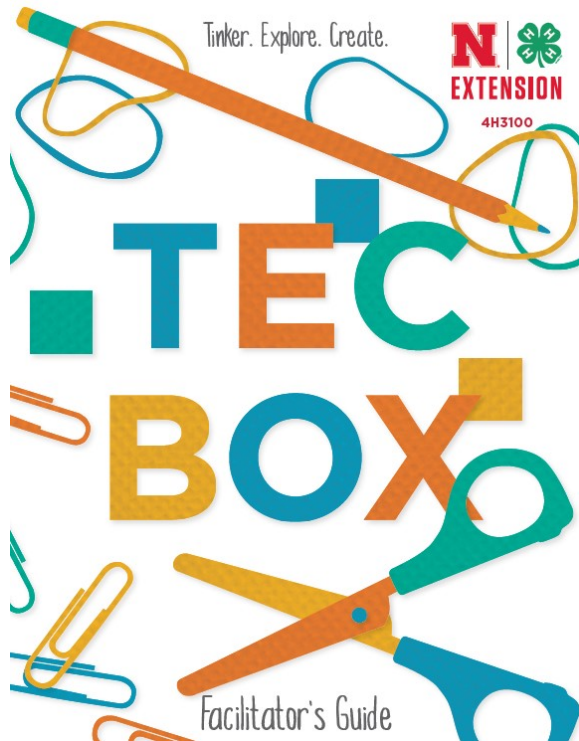
- Empathize** | Who is your product for? Find out what their specific needs are in order to create a product that is relevant to them. An easy way to do this is by conducting an interview with the future users of your product.
- Define** | Analyze the needs and problems that your interviewees mentioned. What are their core needs and problems?
- Ideate** | Generate different ideas for the creation of your product. Sketch them. Think outside the box, but keep the needs and problems of your users in mind.
- Prototype** | Build one or more simple prototypes of your product out of craft materials that are available to you.
- Test** | Share your product with your users and listen to their feedback. Redefine your product if necessary.



TINKER. EXPLORE. CREATE. CURRICULUM

Youth Workbook

Facilitator's Guide



- [UNL Marketplace](https://marketplace.unl.edu/)
- <https://go.unl.edu/buytecbox>
- \$20
- Facilitator Guide & Youth Workbook



REPLAY INNOVATION PROJECT TOPIC

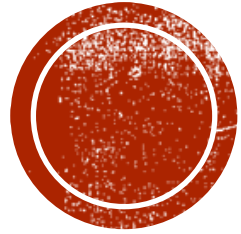
- All around us, there are opportunities to play and be active – from open parks to cement courts, in our classrooms, and even when we're waiting in line. But more and more people are not active enough. Playing makes being active more fun. You get creative when you want to play, and it's this creativity that can help motivate help us be more active.
- Identify a specific problem linked to people not being active enough.



RePLAYSM

Global Theme for 2020-2021 Season





BREAKOUT SESSIONS





QUESTIONS?

- Robot Game questions - fillrobotgame@firstinspires.org
- Judging questions - lshearer2@unl.edu
- Team questions - fillchallenge@firstinspires.org
- Brandy Schulze bschulze@unl.edu

- Nebraska Qualifier Registration Questions-Michael Bergland-Riese riese@unl.edu

