

Calling all St. Paul's engineers!

Middle schoolers, if you have any interest in joining our robotics club, then please plan on attending our introductory meeting in the Hub right after pick up on **Thursday, August 22nd** for 30 minutes.

It's about a 5-month commitment, meeting every Tuesday and Thursday after school from 2:45 – 4:15 pm in The Hub and culminates with a regional competition against other schools.

The only thing you need to bring is a parental email address.

I'll explain more at our introductory meeting and answer any questions but below you will find a general overview of the program.

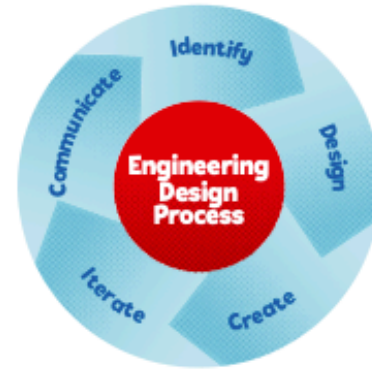
So come out and have some fun learning how to design, build and code Lego robots to complete a series of "underwater" missions. Spots are limited so don't delay!

Welcome!



This overview of the *FIRST*® LEGO® League Challenge SUBMERGEDSM season, a part of the *FIRST*® DIVESM season presented by Qualcomm, can be used to introduce the season theme and as a reference when working through the sessions outlined in the *Engineering Notebook*.

Use the **Core Values** and the **engineering design process** throughout your team journey. Have lots of fun as you develop new skills and work together! This notebook is a great resource to share at your judging event, but it isn't required. Check out careers related to the season theme at the end of this notebook.



FIRST® Core Values



We are stronger when we work together.



We respect each other and embrace our differences.



We apply what we learn to improve our world.



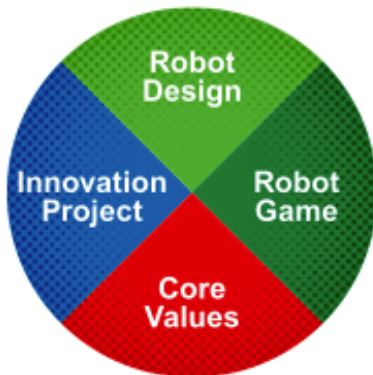
We enjoy and celebrate what we do!



We explore new skills and ideas.



We use creativity and persistence to solve problems.



Each of these four equally weighted parts of *FIRST*® LEGO® League Challenge accounts for 25% of your total performance at your event.

Core Values should be demonstrated at the event, where you will showcase your team's amazing work on robot design and the innovation project. These three parts will be evaluated during the judging session. Your robot's performance will be evaluated during the robot game.

Your team should have fun and show team spirit and enthusiasm at the event. Be sure to display Core Values in everything you do.



Watch this video to prepare for your event.

We express our Core Values through *Gracious Professionalism*® and *Coopertition*®, and this will be evaluated during robot game matches.

Gracious Professionalism is a way of doing things that encourages high-quality work, emphasizes the value of others, and respects individuals and the community.

Coopertition is showing that learning is more important than winning. Teams can help others even as they compete.

FIRST® LEGO® League Challenge Overview

CORE VALUES

Your team will:

Demonstrate *FIRST*® Core Values in everything you do. Your team will be evaluated during the robot game and the judging session.

- Apply **teamwork** and **discovery** to explore the challenge.
- **Innovate** with new ideas about your robot and project.
- Show how your team and your solutions will have an **impact** and be **inclusive**.
- Celebrate by having **fun** in everything you do!

ROBOT DESIGN

Your team will:

Your team will prepare a short explanation on your robot design, programs, and strategy.

- **Identify** your mission strategy.
- **Design** your robot and programs and create an effective plan.
- **Create** your robot and coding solution.
- **Iterate**, test, and improve your robot and program.
- **Communicate** your robot design process and everyone's contributions.

ROBOT GAME

Your team will:

Your team will have three 2.5-minute matches to complete as many missions as possible.

- Build the mission models and follow the field setup to put the models on the mat.
- Review the missions and rules.
- Design and build a robot.
- Explore building and coding skills while practicing with your robot on the mat.
- Compete at an event!

INNOVATION PROJECT

Your team will:

Your team will prepare a live, engaging presentation to explain the work you have done on your innovation project.

- **Identify** and research a problem to solve.
- **Design** a new solution or improve an existing one based on your selected idea, brainstorming, and plan.
- **Create** a model, drawing, or prototype.
- **Iterate** on your solution by sharing it with others and collecting feedback.
- **Communicate** your solution's impact.