



# PRE-SEASON PREPARATION

## Pre-Season Overview

For team members, the *FIRST*® LEGO® League season may not start until the Challenge is released, but for a coach it starts earlier. There are many things that must be done in order to get ready for your first season, but don't worry! We'll walk you through every step. The next four pages will tell you everything you need to do to prepare to lead your team on their *FIRST*LEGO League journey. They answer the questions:

1. [How do I begin?](#)
2. [How do I budget and what materials do I need?](#)
3. [Do I need to learn to program?](#)
4. [What other administrative tasks do I need to complete?](#)

## How do I begin?

### 1. Get a Group of Kids

The first thing you need is a group of kids! Recruit two to ten interested team members ages 9 to 14. Team members must not exceed the maximum age on January 1 of the year the Challenge is released. Don't limit your recruitment to kids who are "good at math" or "like to tinker." *FIRST*® is about getting kids involved in and passionate about science and technology, and having team members with diverse strengths and interests will benefit everyone. *FIRST*® LEGO® League is about more than robots! Think outside of the box. If you are a community team, ask your child's friends or post a flyer at the library. If you are a school team, send a letter home to parents or make an announcement at a school meeting.

Here are a couple strategies you can use to recruit a diverse group of students to form your team:

1. Meet people where they already are. This may include recruiting in nontechnical classes than just math or science classes. Your own personal community may not match the demographics of the student community.
2. Communicate with parents and families about the value of *FIRST*. This is especially important for younger students. Some families may think that *FIRST* is only for certain types of people (White, male, nerds, Honor students, "joiners," those who already know about tools and robots, and so on). Be open to their perspectives, and listen to what they have to say. Actively reach out to families; don't assume people will come to you.

### 2. Find a Place to Meet

Next, you need a place to meet. You might be planning to meet at a school, a community center, a library, or in your own home. It helps to have a dedicated space to meet throughout the season, because you will need room for a specially designed 4' by 8' *FIRST*LEGO League table. This table is where the Robot Game takes place, and you will need it to practice on if you don't already have access to one.

You might also want to think about:



- a laptop for programming
- access to the internet for doing research
- a small storage space for LEGO and presentation materials your team creates

You will want to be sure that the team's work is kept safe from younger siblings' curious hands, or from other kids who could wander in and not realize that the LEGO on the table are for a specific purpose and not for general use.

### **3. Decide when and how often you will meet.**

Most *FIRST* LEGO League teams meet once or twice a week throughout the season, and many choose to meet more frequently during the last few weeks leading up to a tournament. If you can only meet once a week, that's perfectly fine. Make good use of the time you do have. If you have the interest and the availability, you might want to meet more frequently. Most teams meet for two hours each practice, but you can decide what is best for your team.

### **4. Get Contact information for parents/guardians**

Be sure to make a list of contact information for each team member's parent or guardian. It will be helpful for both general communication and emergencies.

### **5. Order an EV3**

<https://youtu.be/OoUvwScLyT8>

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# Budget & Materials

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## Building a Game Table

In order to practice and test your robot, you will need to build a practice game table. Each game table is 4'x8'. At a tournament, two tables are placed back to back, making it 8'x8', but you only need to build one table to practice on. We'll call your practice table a "half-table." Most challenges have a "shared" mission model, which rests partly on your table, and partly on the other team's table. So in addition to building your table, you'll need to build a tiny portion of a second table, so both halves of the shared model are supported. You can find instructions for building one "half-table [here](#).

Alternatively, if you don't have a dedicated space for your *FIRST* LEGO League team, you can also build a [portable table](#) (\*permission to link requested) that can be moved out of the way to reclaim your dining room table at night. This could also be helpful for teachers using shared classroom space.

## Building the Mission Models

The *FIRST* LEGO League Field Setup Kit comes with models for the various missions of the Robot Game. These missions must be constructed using the instructions found online (which will be linked upon release later this summer). It is not required that you construct these before the season, but it is highly recommended. Building the mission models will take several hours even with several people working together.

If you have the time, set aside a Saturday Build Day and make it a fun, team-building activity. Building the mission models takes time, and will require some adult supervision, especially for younger teams. Explain to the team why it's so important that all mission models be built to the exact specifications given. If a model is built incorrectly, or placed in the wrong spot, your team will be disappointed to find this out at the tournament. You will want to build the models with a careful eye for detail. Make it a fun day! Everyone loves to build with LEGO® bricks. This will take several hours, even with lots of help. So, plan ahead for the time involved. You will not be able to do this in one 2-hour practice.

If you have several building groups, you will need to have a computer for each group to read the directions. Alternatively, you can print out the directions in advance.

Once the models are built, step back and admire your hard work! This can be a great feeling for the team as their first big accomplishment.

## How many computers/tablets?


You will need at least one computer (Windows or Mac) or tablet to run the LEGO EV3 Software, which can be downloaded [here](#). You will have to create a free LEGO account in order to download.


## Determine your budget.

This [page](#) of the *FIRST* website discusses the general cost of participating in *FIRST* LEGO League. The only *required* costs for new teams are Team Registration, *FIRST* LEGO League Robot Set, *FIRST* LEGO League Field Setup Kit, and Shipping and Handling, approximately \$900.

Many teams receive grant funds to help pay for *FIRST* LEGO League. If you'd like to apply for a grant, see this [page](#).

Use this [sample budget](#) to create a budget for your team and be up front with parents or school administrators about costs. They will appreciate knowing this information in advance. In addition to the cost of registering a team and purchasing the field setup kit, you might also want to think about:

- T-shirts: Many teams will have fun designing their own t-shirts. There are several online options for this, but you might also find a local business who will support you and offer you a
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discount. Your team t-shirt is a great way to promote team spirit and your team identity. It is also a good place to thank any sponsors by printing their names or logos on the back of the shirt. If your team can't afford to purchase t-shirts, don't sweat. Come up with some other way to show your team identity and team spirit. You might decide to all wear the same color shirt on tournament day, or have a t-shirt decorating day where everyone brings their own t-shirt and you paint your team name and number on the shirts together. You can make this a fun teamwork activity, too!

- Presentation supplies: Set aside part of your budget for office supplies like a trifold presentation board, materials to build a model, or printing costs. Your team will decide how they want to present their innovative solution at the tournament, but it doesn't have to be expensive.
- Team "bling": Some teams will design an item to share with other teams at the tournament. It might be a wristband, a flyer, a button, or a bookmark. This can be an opportunity to share something special about your team or to share your unique solution with other teams.
- Travel: If attending a tournament will require an overnight stay, make sure parents know about this additional cost in advance.

### **Fundraising**

If you decide to fundraise, involve the kids in the process. No engineering happens without the money to support it, so be sure they understand this concept. Ask a parent to help you plan a team fundraiser. Approach local businesses who might be interested in supporting STEM education efforts. Consider businesses like local supply and hardware stores, engineering or manufacturing businesses, or other locally owned businesses. If you are able, include their name on your t-shirts or team banners and thank them for their support by advertising their name or logo. Planning a team fundraiser can be a great team-building experience. Have the kids brainstorm ideas and ask a parent to help with the implementation. The marketing and design aspects required are another good reason to have a wide variety of strengths and interests among your team members. This [page](#) of the *FIRST* website contains resources to help with your fundraising.

## Learn About Programming

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If you have time, go through the LEGO Mindstorms EV3 tutorials to familiarize yourself with programming the EV3 robot. If you don't have time, that's totally fine as well! It's okay to learn alongside kids.

[https://app.schoology.com/system/files/attachments/page\\_embeds/m/2016-04/Accessing\\_Robot\\_Educator\\_Video\\_571eb2ab64020.mp4](https://app.schoology.com/system/files/attachments/page_embeds/m/2016-04/Accessing_Robot_Educator_Video_571eb2ab64020.mp4)

## Other Administrative Tasks

### **Background Checks with Youth Protection Program**

*FIRST*'s Youth Protection Program requires all *FIRST* teams to have two screened Lead Coaches/Mentors for the entire season and all volunteers screened for official events. This means that as a coach, you and any other adults working with the team (at least one) will need to be screened. Background screening is integrated into the Team Registration System. The [Youth Protection Program page](#) of the *FIRST* website contains additional guidance on the screening process.

<https://youtu.be/LIm2mMV8WHs>





## Registering in the Team Registration System

Coaches registered in the Team Registration System will receive official communication from *FIRST*, so be sure to use an email that you check regularly. Further instructions to come when new system is complete.

## Consider creating a Team Expectations Contract

It can be hard to anticipate everything that will come up during the *FIRST* LEGO League season. Some coaches have found that having a team contract helps to communicate expectations up front and avoid difficult conflicts later in the season. You might include things like exhibiting Gracious Professionalism® or attending a minimum number of practices. Or, involve the kids! Ask the team what they think and make this a teamwork activity in one of your early practices. An example contract is linked at the bottom.

## Be sure parents know what to expect, too.

Parents will appreciate knowing as much information as possible before they commit. Compose a parent letter (see example attached at the bottom) explaining how often you will meet, any associated costs (including possible travel), and what level of commitment is required. Also, this is your chance to elicit help! Ask for specific tasks from parents and you will be more likely to get volunteers. You might ask parents to take on certain tasks such as:

- T-shirts: This is a much bigger job than it seems and you will be glad if you can get a parent to take on this task from start to finish. Have the parent come to a meeting, help the kids design the shirt, and figure out all of the logistics of ordering, printing, t-shirt sizes, etc.
- Tournament chaperone: Having an extra adult or two on tournament day will benefit everyone. You can focus on the team's activities while the other adults worry about lunch, finding judging rooms, and general team management.
- Fundraising: Ask a parent to approach sponsors or plan a fundraiser with the team. Involve the kids in all of the planning, from idea generation to implementation. This can also be a fun, team-building experience.

## Sign up for local event

See your regional or state [site](#) to register for a local competition!

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