MODULE 1

INTRODUCING CORE VALUES AND TEAMWORK SKILLS

MODULE OVERVIEW

MODULE NUMBER: 1

DURATION: 3 hours

Core Values to Focus on in This Module

- We are a team.
- We do the work to find solutions with guidance from our Coaches and Mentors.
- We know our coaches and mentors don't have all the answers; we learn together.
- We honor the spirit of friendly competition.
- What we discover is more important than what we win.
- We share our experiences with others.
- We display Gracious Professionalism® and Coopertition® in everything we do.
- We have FUN!

SUMMARY

In Week 1, you will introduce the *FIRST*® LEGO® League Core Values to your team. *FIRST* LEGO League is more than robots!
The *FIRST* LEGO League Core Values are the cornerstones of the program. They are among the fundamental elements that distinguish *FIRST* LEGO League from other programs of its kind. By embracing the Core Values, participants learn that friendly competition and mutual gain are not separate goals, and that helping one another is the foundation of teamwork.

OUTCOMES:

Educational standards alignments can be found at
https://www.firstinspires.org/community/educators

MATERIALS

1. *FIRST* LEGO League Challenge Set
2. Paper
3. Pencil/Pens/whiteboard markers
4. Whiteboard or other writing surface
5. 2 Tokens per team member (pennies or any small item will do)
6. Printed Field Research handouts

Note from An Experienced Coach:

Imagine ten excited kids ranging from 4th to 8th grade trying to agree on a team name. Suggested names include technical, silly, super heroes, video games, pop culture references, favorite foods, acronyms, military weapons, etc. The team scribe scrambles to write down the suggestions and after everyone has submitted at least one suggestion the coach facilitates a vote.

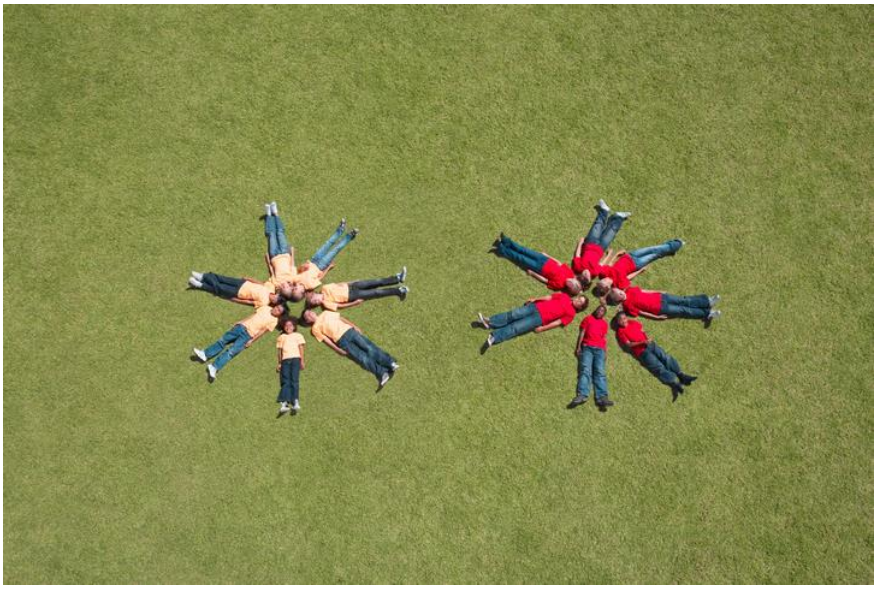
Kids are limited to voting only once per round. The scribe reads out the names one at a time and the vote is tallied. No winner. Lowest vote getters are eliminated and another round of voting ensues. After four rounds there are only two names left. A 5-5 deadlock. Someone suggests taking part of one name and combining it with part of the other. A vote is held and the hybrid name receives 9 votes. The scribe is last to vote and says, "I don't really like the name but if everyone else is happy I'll vote for it to make it unanimous."

The Flaming Marshmallows are now entering their sixth season and have won multiple Core Value and technical awards at State Championships. They participate, brainstorm, cooperate, compromise, and unite to strengthen the team and advance toward their goals. The naming of a team is an early opportunity to set the tone for the season and to reinforce Core Values which are new to kids and coaches alike.

INSPIRATION

Begin by showing your team the *FIRST*® LEGO® League is…. video at:
https://youtu.be/FZsvSVz673g

Read over the eight Core Values with your team.
You might read them to the team, or take turns reading them aloud, depending on the ages of your members.



- We are a team.
- We do the work to find solutions with guidance from our coaches and mentors.
- We know our coaches and mentors don't have all the answers; we learn together.
- We honor the spirit of friendly competition.
- What we discover is more important than what we win.
- We share our experiences with others.
- We display Gracious Professionalism® and Coopertition® in everything we do.
- We have FUN!

It is important that the team understands each of the Core Values. Talk about them briefly, and ask the kids what they think it means. You will want your team to apply these Core Values throughout the season. In each module, you will focus on a different Core Value and explore it in greater depth.

INSPIRATION SUGGESTED TIME: 25 minutes

Lost at Sea

Teamwork challenges are a great way to help your team members learn how to problem solve and work together. They are also a lot of fun! This teamwork challenge will help you discuss the first Core Value in greater depth, "We are a team."

Materials Needed

1. Paper
2. Pens or pencils

Activity
Your team is shipwrecked and stranded in a lifeboat. Write down five items you want to have with you in order of importance. You have 10 minutes to complete the list. Go!

HINT:
You can adjust the difficulty of the activity by increasing or decreasing the time limit and the number of items they may choose. For more advanced students, increase the time limit and number of items.

Recap

After they have completed the task, talk about how it went. Ask the team questions like:

1. How did you narrow your list down to five items? Did you begin by brainstorming a list of everyone's ideas?
2. How did you decide the ranking of each item?
3. Did you have disagreements? If so, how did you deal with them?

HINT:
When facilitating a discussion with kids, it can be helpful to have ground rules. You might:

- Ask questions of the whole group and let them speak freely.
- Call on individual students to answer.
- Have students raise their hands before you call on them.
- Use a "talking stick" or other item that gets passed around the circle. You can only speak when you have the talking stick in your hand.

Whatever method you choose, make sure you set clear expectations for the students.

This is an opportunity to talk about brainstorming and decision-making as a group. Talk about how the team will have to make many decisions in the coming weeks. They will be working together to build a robot, program it to accomplish missions, conduct research, and come up with innovative solutions. Along the way, they will have to make decisions about how all of this will be accomplished. How will they make group decisions? They might:

1. Take a vote.
2. Try multiple ideas to see which one works better.
3. Combine ideas, or take the best parts from each idea.
4. What other ways can your team think of?

You might come up with a formal decision-making process that your team will follow throughout the season. Or, you might talk about different ways to make decisions based on each situation.

INNOVATION PROJECT

SUGGESTED TIME: 30 minutes

1. Read about the Innovation Project parameters in the Challenge as a team.
The most important thing you can do in the first week is to read the rules! Teams who read the rules have more fun and know what to expect throughout the season. The rules can be found in the *FIRST*® LEGO® League Challenge materials.

2. Discuss the Innovation Project
Ask each team member:

1. What do you find most interesting about the project?
2. What do you already know about this topic?
3. Share a personal story you have had with the Project theme.

LEARNING RESOURCES

The *FIRST* website is your go-to resource for all things *FIRST* LEGO League. You will want to be sure everyone knows where the Challenge and other important documents can be found. Innovation Project and Robot Game Updates will be issued throughout the season. Questions are clarified, rules are explained, and new Challenge information is distributed in the Updates. Be sure team members know where to check for Challenge Updates, so everyone can stay up-to-the-minute on the latest season developments.

www.firstinspires.org/robotics/fll/challenge-and-season-info

HINT:
Assign a different team member each week to check for updates. Or, have one team member responsible for checking Innovation Project Updates and another for checking Robot Game Updates, and report back to the team each week. Coach, you will want to regularly check the updates, too!

Some other helpful resources:

- The *FIRST* LEGO League Q&A Forum:
  https://forums.firstinspires.org/forum/general-discussions/first-programs/first-lego-league
- Your state or regional FIRST LEGO League organization:
  http://www.firstinspires.org/find-local-support

ROBOT

SUGGESTED TIME: 90 minutes

1. Build a basic.
Build a basic robot, and that will give your team a good starting point for attempting missions.

2. Read the Robot Game Rules and Missions.
Again, it is very important to know the rules! Read the Robot Game Rules and the Missions in the Challenge materials. You will want to read these more than once. Have the team read them at home again with a parent, older sibling, or other caregiver. You can also watch the official game video, but explain that this is NOT a substitution for reading the rules.

3. Evaluate the field and decide on target missions.

Now you can begin to talk about the missions!

- Make sure each team member understands what needs to be accomplished for each mission.
- Make a chart or list to show how many points each mission can earn.
- Begin to think about strategy and choosing a few missions that the team will attempt.
- Ask the students questions to stimulate their thinking about scoring and strategy.
    - Which missions are located near each other on the table?
    - Which missions could be grouped together for maximum points?
    - Which missions are located near home?
    - Which missions have similar mechanisms?
    - What is the difficulty level of each mission? Do you want to aim for more missions that are easier to accomplish, or attempt a harder mission that results in higher points? Have the team calculate their score based on different scenarios.
- Perform the Technic Beam test (http://www.3dcontentcentral.com/ShowModels/ContentCentral/Lego_Technic_M_Beams/Lego_Technic_M_Beams.JPG). It is easy to over-engineer a solution to a mission, but often the solution is as simple as using a Technic Beam to push, pull, or poke the necessary mission pieces.
    - Have the team gather around the game table.
    - Give one student a technic beam.
    - Ask them to choose a mission and see if it can be accomplished by hand simply by using the technic beam.
    - Then hand the beam to another student and repeat with a different mission, until all the missions have been tested.
- Decide which missions you want to tackle. It's okay to choose one to three missions to begin. Be sure to implement the decision-making process the team agreed upon earlier.

LEARNING RESOURCES

- EV3Lessons Basic Building Instructions - EV3Lessons contains instructions for building other robots if you choose to build one different than the standard EV3 instructions.

DEBRIEF

SUGGESTED TIME: 15 mins

1. Make a timeline

- Using a whiteboard or flip chart, have the team list all of the tasks the team needs to accomplish by competition.
- Then write the date of the team's first competition.
- Have the team assign due dates for each task between now and competition.

HINT:
Have the team reference the timeline at the end of every practice to make sure they stay on track.

2. Recap what the team accomplished in this practice. The team:

- Learned to work together through the Shipwreck activity.
- Read and discussed the Challenge.
- Built a basic robot.
- Created a season timeline.

3. Gather the team and ask each member to share something they learned.

4. Give the students the Field Research for this week.

Team members in *FIRST*® LEGO® League must solve complex, real world problems! Therefore, not everything can be completed during practice. Students must go out into the world and explore the topics on their own. Each week team members will be given a Field Research Handout to complete on their own and bring to the next practice. Research may include talking to adults and recording their expertise on the Innovation Project topic, brainstorming ideas for the Robot Game, and more.

FIELD RESEARCH

Before the next module, team members should:

- **Read the Challenge materials again.** Have team members read the Challenge with a parent, older sibling, or other caregiver, especially for younger teams. Everyone should read the Challenge materials several times.
- **Complete the Field Research Handout with the following tasks on it:**
    - Innovation Project
        - Write something they currently know about the Challenge theme.
        - Write something they would like to know about the Challenge theme.
    - Robot
        - Pick two missions the team has decided to attempt and draw a picture or write a description of how the missions can be accomplished.

OTHER TASKS & TIPS

TASKS

Invite Students to Join Team in STIMS

1. Create an account in the Team Registration System if you haven't already done so.
2. From your team page, invite team members to join.
3. Parents will receive an email inviting their child to apply to your team. They will need to follow the directions in the email and create an account in STIMS. Parents will need to know the team number to apply.
4. If anyone cannot or chooses not to register online, have them fill out the paper consent form.
5. After they apply, you will need to go back into your account to confirm that all of your team members are officially registered with *FIRST*®, and **accept** them:
6. Using your *FIRST*® username and password, log into the Team Registration System. This should bring you to your *FIRST*® LEGO® League Dashboard.
    1. Click on the Team Summary button for your team. This will take you to the Team Summary page.

2. Scroll down to the Team Roster section of the summary, then click on the "Edit/View" button on the Youth Team Members row to see a list of team members and their current status.
3. You must click on the Accept button to add the student to your team.
4. Be sure each team member's Consent Form Status is Complete.
5. If any of your team members are not listed, remind parents to register their child.
6. If any of your team members have not accepted the consent form, be sure the parent goes back into their STIMS account and accepts the Consent Form. If the parent cannot access STIMS or chooses not to register online, you will need to obtain a completed and signed paper copy of the consent form from the team member's parent, and bring that paper copy of the consent form to all *FIRST* LEGO League events in which that team member participates.

7. Does your school or organization have any additional consent or release forms that need to be signed? Check this off your list in Week One.

TIPS

Consider making a team expectations contract.

It can be hard to anticipate everything that will come up during the *FIRST* LEGO League season. Some coaches find that having a team contract helps to relay 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.

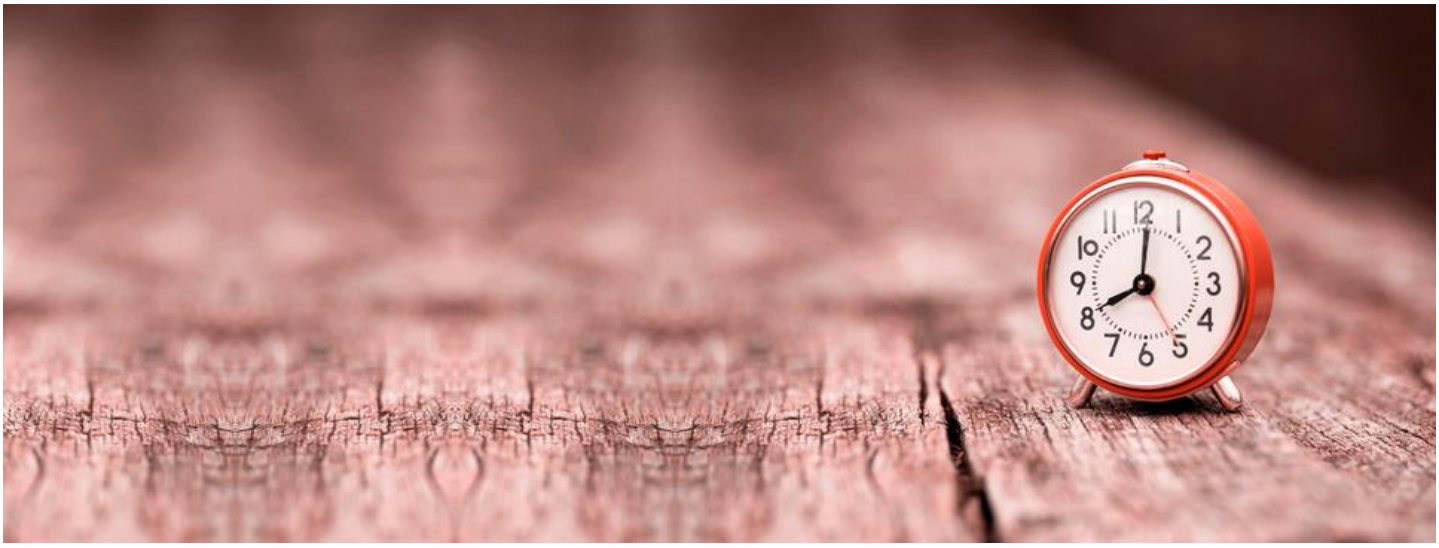
Be sure parents know what to expect, too.

Parents will appreciate knowing as much information as possible before they commit. Compose a parent letter 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:

1. **T-shirts**: At competitions, some teams choose to wear team t-shirts, but it is NOT required. If your team is attending an event, they may want to create t-shirts. You can make t-shirts with fabric paints, design a t-shirt to be printed, or pick a team color for everyone to wear on tournament day. If you decide to make t-shirts, you will be glad if you can get a parent or other helper 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 collecting t-shirt sizes, ordering, printing, and collecting payment. However, again, t-shirts are not required and many teams find other fun ways to demonstrate their team spirit.
2. **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.
3. **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.

NEXT TIME

In the next module, *Researching and Programming Basics*, the team will begin to think critically about the Challenge topic and learn to make the robot perform basic functions.



Remember that instruction builds on itself. Everything you do and talk about in this module is building context for the next module. And every module is building context for the competition where students will compete and present what they've learned. In order to *begin with the end in mind* in each module, you'll need to know what's happening next time and keep it in mind as you move your team through each module -this helps you steer the learning in the right direction. Make sure that before you come to the next meeting you have reviewed *Module 2: Researching and Programming Basics* thoroughly.

Field Research

Module 1

1. Be sure to read the Challenge materials again! Read the Challenge with a parent, older sibling, or other caregiver.
2. Answer the questions below. Project

    1. Write something you know about the Challenge theme.

    2. Write something you would like to know about the Challenge theme.

    Robot

    1. Pick two missions the team has decided to attempt and draw a picture or write a description of how the missions can be accomplished.