1. Divide into groups of four

2. Find 10 things that you have in common with every other person in the group but perhaps not everyone in the room. (Should not have to do with FLL!)

3. Tell the groups that one person must take notes and be ready to read their list to the whole group upon completion of the assignment

4. One person must take notes and be ready to read their list.

5. Share list with the whole group!
Socrative

Use your phones or other devices to pull up m.socrative.com in a web browser.

Enter with room code: PENNFLL2016

Quick question - How many of you are new coaches? Select A if you are new and B if you are experienced
Penn FIRST LEGO League

FLL 101
THANK YOU!!!!

Penn FIRST LEGO League relies on the strength of a core team of coaches and volunteers to make FLL a rewarding experience for all students in the region.
What’s FIRST®?

• It’s a competitive sport.
• It’s More Than Robots™.
• It’s a life experience.
• It’s opportunity.
• It’s community.
• It’s amazing.
Inspiring youth to become science & technology leaders & innovators, by engaging them in exciting, experiential, Mentor and project-based programs that teach science, technology, engineering, and math (STEM) skills, inspire innovation, and foster well-rounded life capabilities.

FIRST® Is…

FIRST® LEGO® LEAGUE JR.
FIRST® LEGO® LEAGUE
FIRST® TECH CHALLENGE
FIRST® ROBOTICS COMPETITION
• **STEM Awareness, Skills and Intent**
  – Increase the number of students who pursue post-secondary education and careers in STEM-related fields and industries

• **Innovation and Entrepreneurship**
  – Inspire youth to become leaders and innovators in their field and society

• **21st Century Work-Life Skills**
  – Enable young people to develop valuable, transferrable, real-world skills, including: teamwork, leadership, creative problem solving, critical thinking, time & project management, and communication/presentation skills
FIRST® IMPACT

10 years of evaluation data indicates that with participation in FIRST®, team members are:

STEM MAJOR CITED BY FIRST PARTICIPANTS

- **2x as likely to major in science or engineering**
- **41%** Major in engineering
- **33%** of women major in engineering

Source: Brandeis University, 2006 Evaluation of FIRST® Robotics Competition Alumni

SCHOOL ENGAGEMENT INCREASES FOR FIRST PARTICIPANTS

- **87%** More interested in doing well in school
- **86%** FIRST® Tech Challenge
- **88%** FIRST® Robotics Competition

- **84%** Plan to take a more challenging math or science course
- **88%** FIRST® LEGO® League
- **87%** FIRST® Tech Challenge

- **90%** More interested in going to college
- **91%** FIRST® Robotics Competition


21ST CENTURY WORK-LIFE SKILLS GAINED BY FIRST PARTICIPANTS

- **98%** Improved problem solving skills
- **95%** Increased time management skills
- **93%** Increased conflict resolution skills
- **76%** Strengthened communication skills


FIRST ALUMNI IN STEM CAREERS

- **OVER 75%** of Alumni are in a STEM field as a student or professional

Source: FIRST, 2011 Survey of FIRST® Robotics Competition and FIRST® Tech Challenge Alumni
FIRST® At-a-Glance

- **400K** students participating in 2015-2016
- **200K+** Mentors, Coaches, Judges & Volunteers in 80+ countries
- **16M+** Volunteer hours served in 2015-2016
- **$25M+** scholarship opportunities from nearly 200 providers
- **>2,200** official events worldwide
- **41K+** participants at annual FIRST® Championship

For Inspiration & Recognition of Science & Technology
FIRST LEGO League

Helps children, ages 9 to 14, discover the fun in science and technology while building self-confidence, knowledge and life skills

“I want to build things nobody else has even thought of yet.”

Charles Peterson, FLL Team Member (10 years old)
PennFLL
Partners: Dan Ueda, Nate Knauss

Our region consists of Philadelphia, Bucks, Delaware, Chester, and Montgomery Counties.

New Jersey (North)
Partner: Ernie DiCicco

New Jersey (South)
Partner: Eric Milou

NJ regions are separated by I-195

Delaware
Partner: Eric Cheek
How it Works

PROBLEM SOLVING AND CREATIVITY
TEAMS OF STUDENTS AND MENTORS
DO IT ALL IN 8 WEEKS
Junior FIRST LEGO League

- INTRODUCES 6 TO 10 YEAR-OLDS to the fun of science and technology
- MINI CHALLENGE based on annual FLL research project
- EXPLORE, investigate, design and build model made with LEGO bricks & moving parts
- CREATE “Show Me” poster depicting team’s experience
- LEARN from and interact with adult mentors

Region Contact: pennjrfll@gmail.com
2016-2017 FLL Challenge – Animal Allies

Game Release August 30th, 2016 at Noon

Get ready. Get set. Roar! Or you could bark, quack, or squeak, because the 2016 ANIMAL ALLIES season is all about our furry, feathered, and finned friends. In the 2016 FIRST LEGO League Challenge, more than 28,000 teams of students age 9-16* will look into the eyes of our ANIMAL ALLIES. What might become possible when we learn to help each other?

*FIRST LEGO League (FLL®) challenges kids to think like scientists and engineers. During the ANIMAL ALLIES season, teams will choose and solve a real-world trash problem in the Project. They will also build, test, and program an autonomous robot using LEGO MINDSTORMS® technology to solve a set of missions in the Robot Game. Throughout their experience, teams will operate under FLL’s signature set of Core Values, celebrating discovery, teamwork, and Gracious Professionalism®.*
http://www.firstinspires.org/robotics/fll/challenge-and-season-info
FLL Impact (Coach Perspective)

In a 2004 evaluation of FLL, Brandeis University found:

✓ 94% of coaches reported an increase in students’ understanding of how science and technology can be used to solve problems

Among participants:

- 93% of coaches reported an increase in students’ understanding of how science and technology can be used to solve problems
- 88% of coaches reported an increase in students’ interest in science and technology
- 77% of coaches reported an increase in students’ understanding of how science and technology can be used to solve problems

Source: FLL Program Study by Center for Youth and Communities, Brandeis University, May 2004
FLL Impact (Student Perspective)

In the 2004 evaluation of FLL, Brandeis University also found:

Increased knowledge of:

- Use of school subjects in solving real-world problems: 93%
- Importance of science and technology in everyday life: 95%
- Use of science and technology in real-world problem-solving: 97%
- Science and technology careers: 90%

Source: FLL Program Study by Center for Youth and Communities, Brandeis University, May 2004
Get Involved- Teams!

In a 2004 evaluation of FLL participants, Brandeis University found:

- 98% reported had **fun** working on their FLL team
- 93% rated their experience ‘**good**’ or ‘**excellent**’ (32% good, 61% excellent)
- 82% plan to **participate again** (11% will be too old; 5% report no time)

Source: FLL Program Study by Center for Youth and Communities, Brandeis University, May 2004
What is a Team?

- 2 to 10 Kids ages 9 through 14
- 1 or 2 coaches
- Holding meetings an average of 2 days a week for 2 hours per meeting
- Build and program a robot
- Do a research project
- Attend a kick-off event
- Attend 1 weekend qualifier tournament
- If qualified attend the championship tournament.
Tournament Experience

8:00am- Arrive
8:00am- Team Registration
8:30am- Coach Meeting
9:00am- Opening Ceremony
9:30am- Judging Starts
12:45pm- Lunch
1:30pm- Robot Matches Begin
3:30pm- Dancing & Award Deliberation
4:30pm- Award Ceremony
5:00pm- Done!
<table>
<thead>
<tr>
<th>Item</th>
<th>Rookie year</th>
<th>Onwards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration</td>
<td>$225</td>
<td>$225</td>
</tr>
<tr>
<td>Challenge set</td>
<td>$75</td>
<td>$75</td>
</tr>
<tr>
<td>Robot set</td>
<td>$439-$499</td>
<td>$75</td>
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<tr>
<td>Practice table</td>
<td>$50-$100</td>
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<tr>
<td>Divider boxes</td>
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<td></td>
</tr>
<tr>
<td>T-shirts</td>
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<tr>
<td>Qualifier Registration</td>
<td>$100</td>
<td>$100</td>
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<tr>
<td>Championship Registration</td>
<td>$100</td>
<td>$100</td>
</tr>
<tr>
<td>Presentation supplies</td>
<td>$50</td>
<td>$50</td>
</tr>
<tr>
<td>Total</td>
<td>$1175 to $1289</td>
<td>$770</td>
</tr>
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</table>
## Penn FIRST LEGO League Season

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>May</td>
<td>Team Registration Opens</td>
</tr>
<tr>
<td>August</td>
<td>Coach Training @ Penn</td>
</tr>
<tr>
<td>August 30(^{th})</td>
<td>Challenge Released (FLL Website)</td>
</tr>
<tr>
<td>September 17(^{th})</td>
<td>Kick-off @ Penn</td>
</tr>
<tr>
<td>September 21(^{nd})</td>
<td>Qualifier Tournament Registration Opens (PennFLL Website)</td>
</tr>
<tr>
<td>November</td>
<td>Scrimmage Events</td>
</tr>
<tr>
<td>December- January</td>
<td>Qualifier Events</td>
</tr>
<tr>
<td>February 4(^{th})</td>
<td>Championship Event @ Penn (48 teams)</td>
</tr>
<tr>
<td>April 26(^{th}) - 29(^{th})</td>
<td>FLL World Festival in St. Louis</td>
</tr>
</tbody>
</table>
Tournament Registration and Events System

**FIRST LEGO League**
If you have any questions, please contact fllteams@usfirst.org.

**Penn FLL**
For questions we can answer locally, please contact pennfll@gmail.com.
The Pit

Penn Engineering | GRASP Laboratory
General Robotics, Automation, Sensing & Perception Lab

FIRST LEGO LEAGUE
Robot Design Judging
Spirit
Socrative - Big Questions

Use your phones or other devices to pull up m.socrative.com in a web browser.

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