Welcome to Climate Connections!

Building a Global Game Plan

Embark on an exploration of the earth's climate in the Climate Connections Challenge! Discover the links between science, people, resources and communities. Unearth how we learn about past climates and delve into questions surrounding our current and future climatic conditions. Join *FLL* teams in creating a global game plan as they make these Climate Connections!

Every year, FLL works with experts in the field to create a Challenge that relates to a significant real-world issue. The end result is a two-part Challenge that requires research to complete **The Project**, and science and engineering to master the complex missions of **The Robot Game**. It's a fun and exciting way to encourage kids' minds.

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The Project

The exploration of the Challenge theme and the development of a research project is a critical part of the overall FLL experience. FLL is not just about building and competing with robots. *FIRST* encourages well-rounded teams because any successful engineering project requires a wide variety of skills.

Through the project research, teams learn more about the science behind the Challenge theme and better understand the work of professionals in that field. Teams will encounter challenges similar to those faced by scientists and engineers as they identify a problem and develop an innovative solution. Exposure to these fields of science and related professions open kids' eyes to future career choices where they can make a positive difference to society.

Note: In order to be eligible for project awards at qualifying and championship tournaments, your presentation must explain how you completed *all three parts* of the project: *identify* a problem, *create* a solution, *share*

Consult the Project Rubric in the *FIRST LEGO League Coaches' Handbook* for more information. The total length of your project presentation should be no more than five minutes, including any set-up time.

The Project

Weather is the condition of the atmosphere measured in short lengths of time (hours and days). Climate, however, is the average weather over decades and centuries in a specific location. We can look out our window and see how weather changes every day, but we need data that has been tracked over hundreds of years to understand how the climate may be changing.

Climate tracking is important to communities around the world because the information is used to plan, predict, and make decisions on activities like planting crops or hunting and fishing. People also use data to anticipate the impacts of climate on the economy, food and water availability, tourism, disease control, and many environmental issues.

Why is climate important to us? By gaining a greater understanding of the Earth's complex climate systems, we will be able to work together now and in the future to develop the innovative solutions that will benefit us all and continue to improve the world in which we live.

Can FLL teams make the necessary Climate Connections?

1. Research how climate affects your own community. *Identify* a problem caused by climate in your area, analyze climate data about the problem, and discover what your community is doing about it. *Find* another community somewhere in the world with the same issue and identify any solutions they are working on.

Discuss the various ways climate impacts your community and your lives. Look at climate data available for your area as it relates to your climate problem. Consider talking with experts who work in a climate-related profession every day, such as climatologists, farmers, foresters, and community leaders. Then find another community in a different geographical area that is experiencing a similar problem. *Consult the FLL Topic Guide for additional project resources.*

2. Create an innovative solution based on the information you gathered. See if others, on a local or even global level, could use your innovation to solve this climate related problem or improve on an existing solution.

Consider all the potential solutions to your problem and how great an impact you can have. Talk with experts to see what ideas are already being developed or used. Build your climate connections by creating an innovative solution for your chosen climate problem that could be applied in both communities and adopted

by even more communities who face a similar issue.

3. Share your research and solution. Once you have researched and developed your idea, get out there and share it! Take what you have learned to build awareness of the problem and promote your solution, highlighting your research. Use this project to see just how great an impact you can have on your community and your world!

Project Resources

These resources are intended to help you with your FLL project. If you choose to refer to them, the following guides and activities are resources readily available to help you complete your project. Your team will enjoy finding many other resources on its own, so you can consider these a starting point to help get your team going.

Glossary of Common Terms for Climate Connections (pdf)

Project How-To Guide (pdf)

The exploration of the Challenge Project is critical to the overall FLL experience. FLL is not just about building and competing with robots. *FIRST* encourages well-rounded teams. This document will help your team break the project down into smaller, more manageable parts to get started.

Talking with Experts – Preparation Ideas and Sample Interview Questions (pdf)

Talking with experts who work in the field of the Challenge theme is a great way for your FLL team to learn more about the topic, find out current data, discover potential problems, and learn what is being done about those problems. This guide will help you get started.

Challenge-Related Activities & Information

These pages will provide your team with additional information and activities that relate to Climate Connections. Use them to supplement and/or jump-start your project research.

Print individual activities and info sheets by selecting from the list of pdf's below:

- Levee building activity
- Glacier melting activity
- Carbon Sequestration
- Ice cores and Ice Buoys
- Atmospheric CO2 levels activity

We have also collected a number of activities and lesson plans available online this year.

- Resources for teachers

Web Resources

There are an infinite number of web resources available to teams. Rather than attempt to provide them all, we have selected some and have provided search terms you might use to find sites of your own. The following links are intended to help you get started. We highly recommend searching for web sites, books, magazines, and other sources of information that apply directly to your project topic. Successful teams will gather information from a wide variety of sources. Don't forget to visit your public library!

Fun & Interactive Sites

Climate change game from the BBC
http://www.bbc.co.uk/sn/hottopics/climatechange/climate_challenge/

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Earth Day Footprint Quiz - an interesting activity for kids to try on their global footprint
http://www.earthday.net/Footprint/index.asp

EPA Global Warming Kids Site: Focuses on science and impacts of global warming or climate change and on actions that help address global warming
http://epa.gov/climatechange/kids/index.html

General information about climate and weather
http://www.weatherwizkids.com/climate.htm

Climate Change Club Web site from the conservation corps of Newfoundland and Labrador
http://www.conservationcorps.nf.ca/ccc/index.html

Game from IBM and TryScience/NY Hall of Science
http://www.powerupthegame.org/

A site created by WGBH about green living and sustainability
http://www.meetthegreens.org/

An article about how making decisions that reduce your carbon footprint is a great way for kids to get involved in reducing the impacts of climate change
http://www.timeforkids.com/TFK/kids/specials/articles/1,28285,1613313,00.html

Search terms: climate plus anything from the glossary of terms, plus carbon footprint, data, game, kids

Climate Change Skepticism

List of climate change skeptics
http://www.sourcewatch.org/index.php?title=Climate_change_skeptics

Article about a recent conference
http://www.realclimate.org/index.php/archives/2008/01/what-if-you-held-a-conference-and-no-real-scientists-came/

A site encouraging debate and discussion about climate
http://www.demanddebate.com/

Search terms: climate plus skeptics, global warming, climate change

Scientists & Their Research

Byrd Polar Research Center - studies of various ice core drilling expeditions around the world
http://bprc.osu.edu/Icecore/front-page.html

Notes from the field – a polar scientist talks about a research mission he participated in
http://www.mcgill.ca/reporter/40/07/notes/

Julie Brigham-Grette (2008 FLL Game Challenge Consultant) shares information about her career and research
http://www.geo.umass.edu/faculty/jbg

NASA's Jet Propulsion Lab Polar Playground Ice Buoy: The Argos Buoy is shown on deformed seasonal sea ice in the Weddell Sea
http://southport.jpl.nasa.gov/polar/toys.html

A great resource including the science around climate change, the impact, and solutions
http://www.davidsuzuki.org/Climate_Change/

Links climate change to energy consumption
http://www.iisd.org/climate/

What is Causing the Dramatic Decline in Honeybee Populations in the U.S. & Elsewhere in Recent Years?
http://www.organicconsumers.org/articles/article_5485.cfm

Access to a wealth of Earth science data sets.
http://viz.globe.gov

Search terms: climate plus habitat, data, migration patterns, research, scientists

Climate Data, Governments, & Policy

Find climate data
http://www.worldclimate.com/
http://outflux.net/weather/noaa/
http://www.BestPlaces.net/climate/

Learn more about the concepts of latitude and longitude and find locations around the world
http://www.socialstudiesforkids.com/subjects/latitudelongitude.htm

Climate data from around the U.S.
http://lwf.ncdc.noaa.gov/oa/climate/research/ushcn/ushcn.html

Site from Environment Canada includes a report on the status of emissions and plans to curb them
http://www.ec.gc.ca/climate/home-e.html

The Intergovernmental Panel on Climate Change is the Nobel winning, international collaboration that has objectively studied and reported on all aspects of climate change.
http://www.ipcc.ch/

The NASA Earth Observatory includes data, images, experiments, missions, and much more.
http://earthobservatory.nasa.gov/

EPA's Climate Change Page: This is a wide-ranging overview of climate change, from science to policy.
http://epa.gov/climatechange/index.html

Search terms: climate plus policy, data, government, collaboration

The Robot Game

Missions

The Game consists of several mini-tasks, or Missions, for your autonomous robot. At the beginning of each two and a half minute round, your robot will always start from Base, but the Missions you choose to complete, and how and when you choose to complete them, are what make the Challenge an exercise in strategic thinking and planning.

Check out the Game Questions & Answers (Q&A) Blog for official answers to your need-to-know questions.

Missions

- Bury Carbon Dioxide (Carbon Sequestration)
- Construct Levees
- Test Levees
- Raise The Flood Barrier
- Elevate The House
- Turn Off The Lights
- Open A Window
- Get People Together
- Find Agreement (Align The Arrows)
- Fund Research Or Corrective Action
- Deliver An Ice Core Drilling Machine
- Extract An Ice Core Sample
- Deliver An Ice Buoy
- Insulate A House
- Ride A Bicycle
- Telecommute And Research
- Study Wildlife
- Beat the Clock
- Scoring Diagrams

Bury Carbon Dioxide (Carbon Sequestration):

Mission: Move carbon dioxide (the gray balls) to the underground reservoir. For each carbon dioxide to score, it must be touching the reservoir model and/or the mat within the model, but it must not be touching the mat outside the model. Scoring carbon dioxide (balls) are worth **5** points each.

Construct Levees:

Mission: Move levee blocks to low-lying shores while being careful not to damage the ones that are already in scoring position. For each block to score, it must be upright and touching low-lying shores on the mat. Scoring blocks are worth **5** points touching red and **4** points touching green. Blocks touching both red and green shores are scored as touching red only.

NOTE: Levee blocks are this year's touch penalty objects. When an active robot is touched while it's completely out of Base, the referee will take one levee block off the field, out of play, starting with those that are in Base. If there are none in Base, the one currently farthest west in the field will be taken. If the only levee blocks available are being moved by the robot at the time of the touch, one of those will be taken after the robot is carried back to Base. If all 8 levee blocks have been taken already, there is no loss.

Test Levees:

Mission: See how levees survive when a storm approaches (activate the wheel-roller). The wheel must be allowed to roll freely until it either hits or misses the levees. The activation is worth **15** points whether the levees are hit or missed, but worth no points if the wheel is strategically blocked by anything other than released levees near or past the green shore.

Raise The Flood Barrier:

Mission: The barrier in the up position (red lever down) is worth **15** points.

Elevate The House:

Mission: The house in the up position (red lever east) is worth **25** points.

Turn Off The Lights:

Mission: The window showing black is worth **20** points.

Open A Window:

Mission: The window all the way open is worth **25** points.

Get People Together:

Mission: Three or more red/white citizens touching the pink grid area is worth **10** points. Three or more blue/gray leaders touching the tall, green mountain and/or city is worth **10** points. Three or more black/white scientists touching the research area is worth **10** points.

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Find Agreement (Align The Arrows):

Mission: Before the match starts, the referee sets the yellow arrows in random disagreement. Alignment of both yellow arrows is worth **40** points for both teams, no matter which direction the alignment faces and no matter if one or both robots helped.

Fund Research Or Corrective Action:

Mission: Move money (the yellow ball) to the research area or to the underground reservoir. For the ball to score, it must be touching the underground reservoir or research area (ice sheet) models and/or the mat within those models, but it must not be touching the mat outside those models. The scoring money is worth **15** points.

Deliver An Ice Core Drilling Machine:

Mission: Move the core drilling machine to the research area. For the machine to score, it must be making direct contact with the research area model and/or the mat within that model, but it must not be touching the mat outside that model. The scoring machine is worth **20** points. The drill assembly raised completely vertical is worth an additional **10** points.

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Extract An Ice Core Sample:

Mission: The ice core pulled completely from its hole is worth **20** points. The ice core in Base is worth an additional **10** points.

Deliver An Ice Buoy:

Mission: Move the ice buoy to the research area. For the buoy to score, it must be upright and making direct contact with the research area model and/or the mat within that model, but it must not be touching the mat outside that model. The scoring buoy is worth **25** points.

Insulate A House:

Mission: Move the insulation to the green grid area. Both insulation touching the green grid area is worth **10** points.

Ride A Bicycle:

Mission: Move the bicycle to the green grid area. The bicycle touching the green grid area is worth **10** points.

Telecommute And Research:

Mission: Move the computer to the green grid area. The computer touching the green grid area is worth **10** points.

Study Wildlife:

Mission: Move the polar bear and/or the snowmobile to the research area. To score, they must be making direct contact with the research area model and/or the mat within that model, but they must not be touching the mat outside that model. The scoring bear is worth **15** points upright, or **10** points "sleeping" (on its side), and the scoring snowmobile is worth **10** points.


Beat the Clock:

Mission: At the end of the match, if the robot is making direct contact with the research area model and/or the mat within that model, but it's not touching the mat outside that model, that's worth **15** points. At the end of the match, the robot touching only the yellow grid area is worth **10** points.

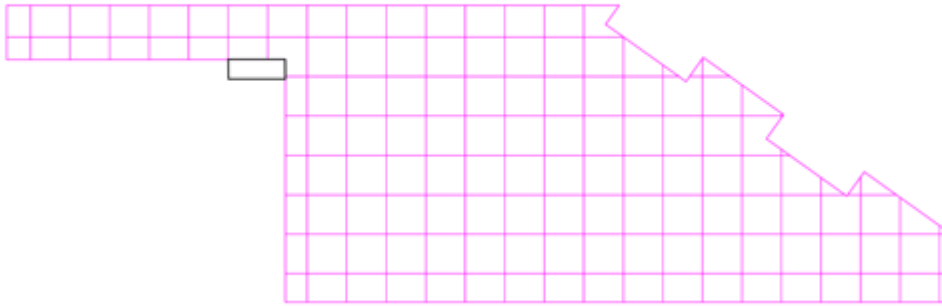# FLL 2008 Climate Connections Challenge Documentation - 9/5/08

The Climate Connections videos courtesy of the College of Engineering UW-Madison. Downloadable versions of the videos are also available (see below).
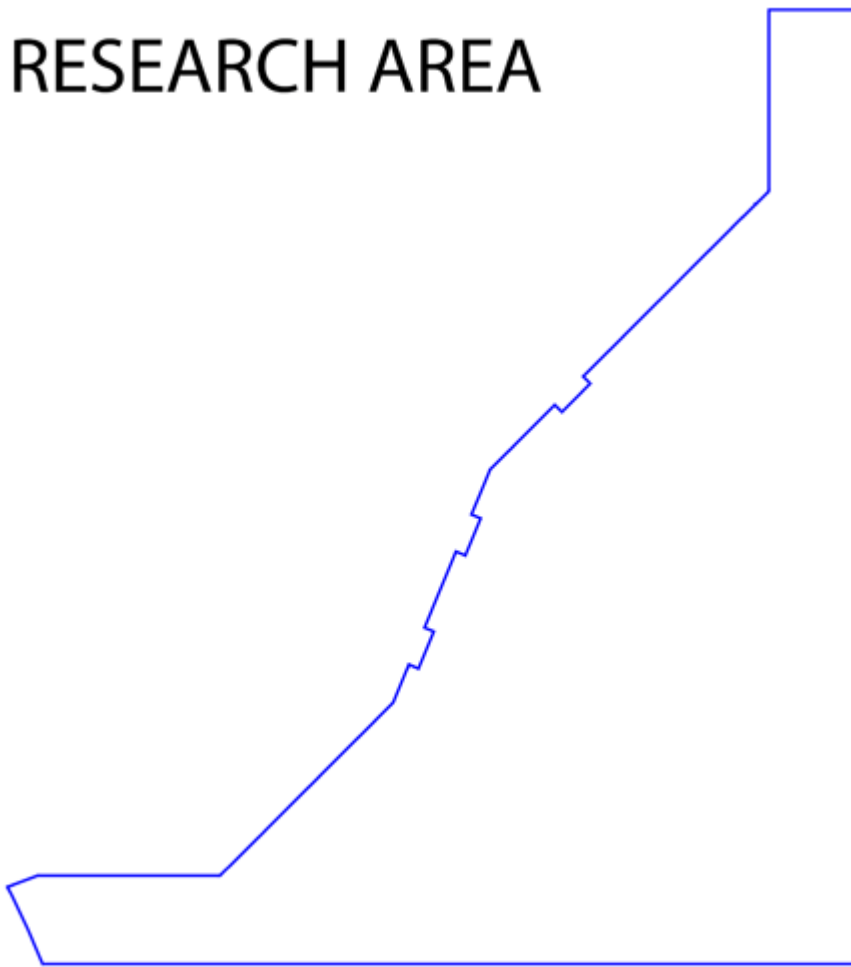
Scoring **Diagrams** *View Field Mat Diagrams (pdf)*

UNDERGROUND RESERVOIR

LOW-LYING SHORES
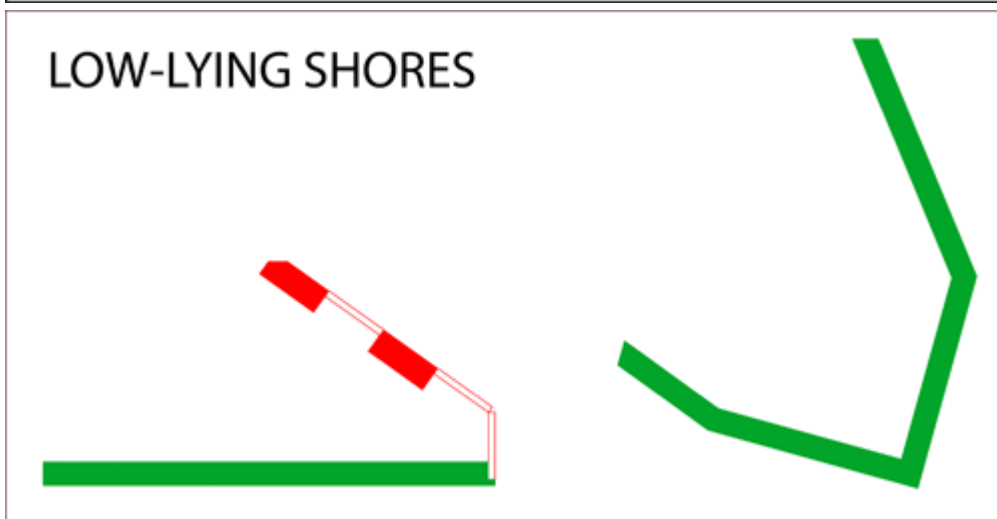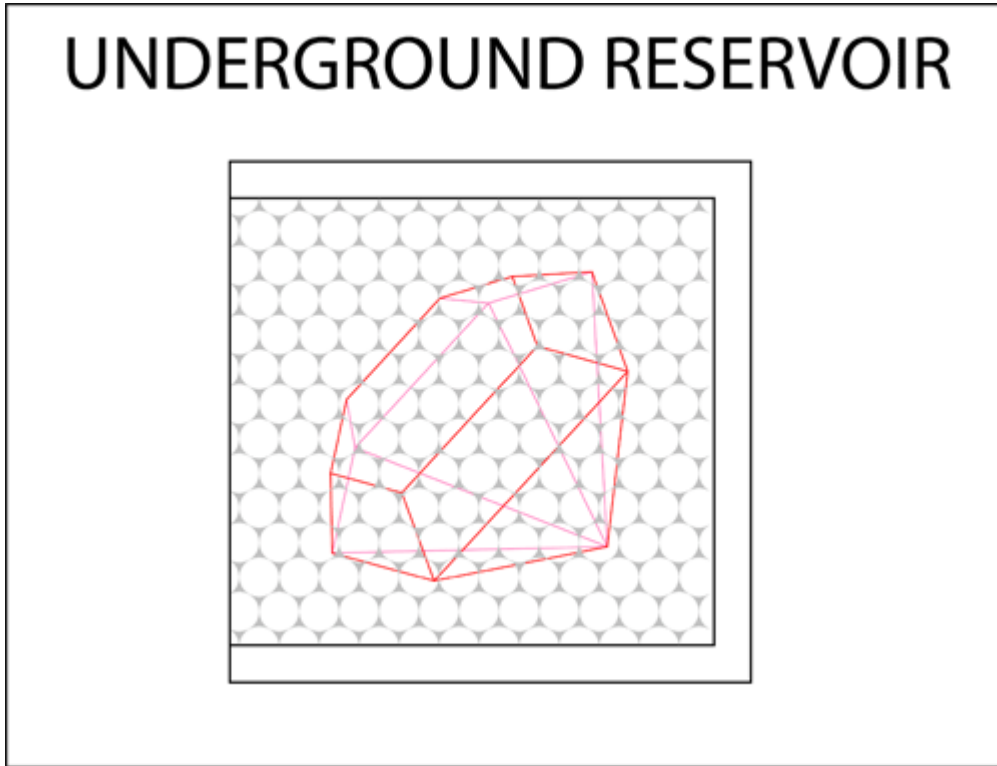
PINK GRID AREA

RESEARCH AREA

TALL GREEN MOUNTAIN   CITY
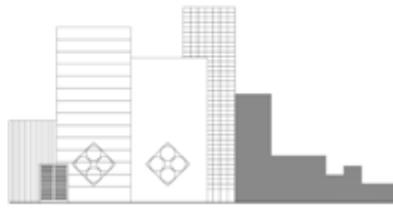
GREEN GRID AREA
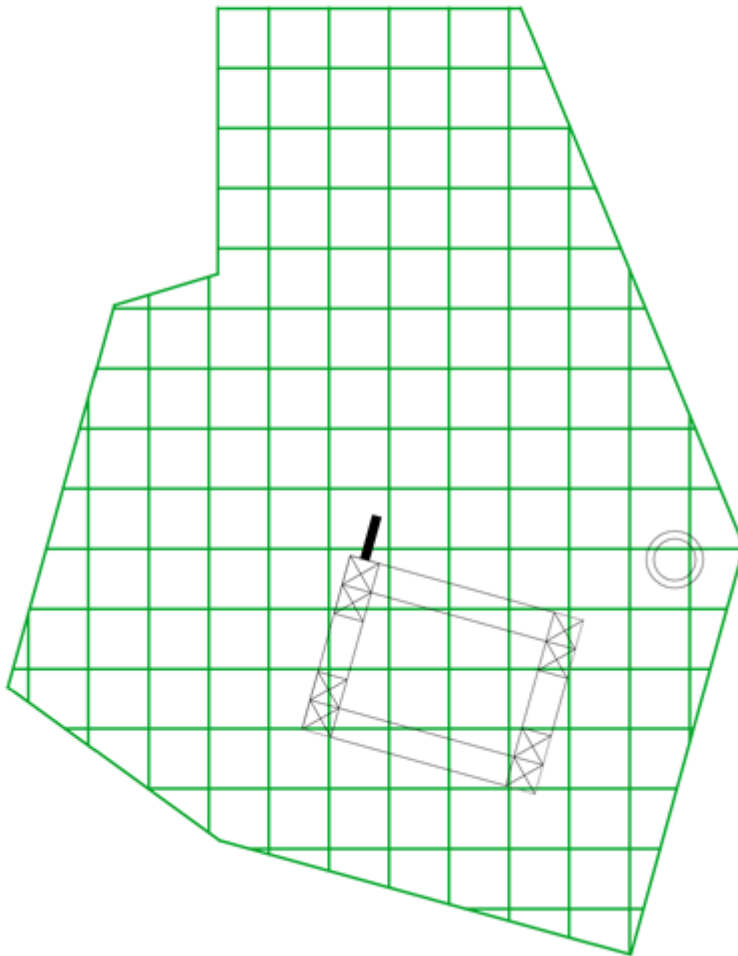
YELLOW GRID AREA
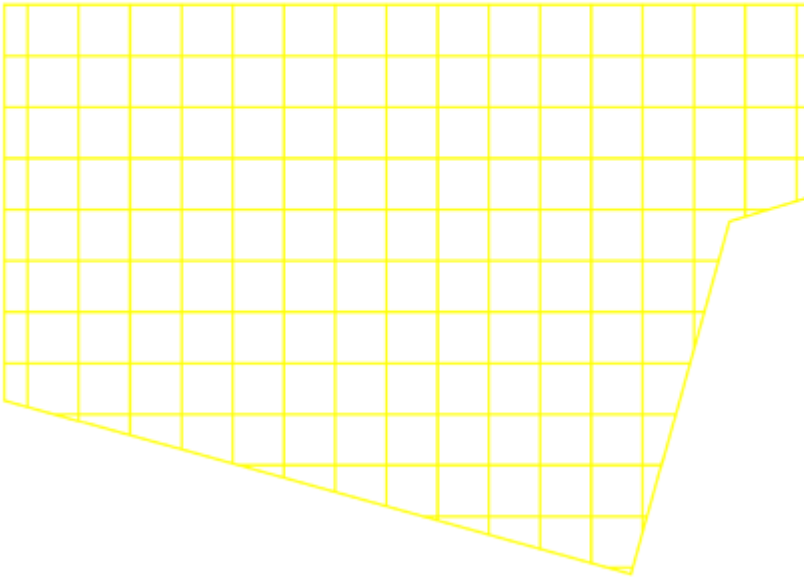
AGREEMENT

DISAGREEMENT

Downloadable Mission Videos

- All Missions
- Bury Carbon Dioxide (Carbon Sequestration)
- Construct Levees
- Test Levees
- Raise The Flood Barrier
- Elevate The House
- Turn Off The Lights
- Open A Window
- Get People Together
- Find Agreement (Align The Arrows)

- Fund Research Or Corrective Action
- Deliver An Ice Core Drilling Machine
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- Insulate A House
- Ride A Bicycle
- Telecommute And Research
- Study Wildlife
- Beat the Clock

Rules

Every Rule has a purpose!

The Missions are an exercise in creative and strategic thinking, but the Rules are your crucial guidebook to earning those all important points.

The Rules are your toolkit for success, so even a rule that may seem trivial could be the difference between successfully completing a Mission or not. Don't ignore Rules that tell your team where to stand during competition, when to touch the robot, or how to handle robots that get out control.

We know the Rules can be complicated so our resident Rules designer, Scott Evans, is here to help. Visit the Q&A Game Blog for more detailed information on this year's rules.

Background

Competition Values

- You are "Gracious Professionals" learning and competing like crazy, but treating one another with respect and kindness in the process.
- In the spirit of competitive innovation, as long as you're not breaking any rules, there are no "wrong" or "unethical" strategies; only "allowable" and "reversible" strategies.

Participation

- The maximum allowable team size is ten members, not including coaches and mentors.
- See the FIRST LEGO League Coaches' Handbook for allowable ages.
- At the tournament, only two team members at a time are allowed right up at the competition table except during repair emergencies.
- The rest of the team must stay back from the table, but close enough for different members to tag in or out as desired at any time. Specific positioning is decided by the head officials running each tournament.

Field

- The field is where the robot game takes place.
- It consists of a field mat, on a table, with mission models arranged on top.
- The field mat and the LEGO pieces for building the mission models are part of your Field Setup Kit.
- The instructions for building the mission models are on a CD, in the same box as the LEGO pieces.
- For all other field setup instructions, click Field Setup.

Robot

- The robot is defined as the main body containing the NXT (or RCX) controller, and any currently installed parts or attachments, whether the installation is a press fit or a loose fit.
- Objects away from the robot are not part of the robot.

Strategic Objects

- Strategic objects are allowed and defined as team-supplied objects other than the robot.
- You may use a strategic object by hand to prepare or aim an inactive robot, but you must let go of it before the robot is allowed to start.
- An active robot may use a strategic object anywhere.

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Mission

- A mission is something the robot can try to do on the field to score points.
- The robot starts completely in Base and goes out on one or more trips to work on one or more missions per trip.
- Missions may be tried in any order, alone or in groups, re-tried when possible and allowed, or skipped.
- Points are given if the required results are still visible on the field at the END of the match.

Match

- At a tournament, two Challenge fields are joined back to back, and each team is paired opposite another to compete in a match.
- For 2-1/2 minutes, the robot tries to get as many points as it can by achieving mission results.
- The timer never pauses during a match.
- There is a minimum of three matches, and each one is a fresh chance for you to get your best score.
- No match has anything to do with another, and only your best score counts specifically toward the Performance Award.

Round

- The process of cycling all teams through one match each is called a round.
- Tournaments run at least three rounds.
- Between your match in one round and the next, you usually have time to go to the pit area and work on the robot and its programs as needed, but this time may be limited, depending on the schedule of other proceedings.

Materials

- This rule is not only about the robot. It is about everything you bring to the competition area.
- Everything you compete with must be made of LEGO elements in original factory condition, except LEGO string and tubing, which you may cut to length.
- There are no restrictions on the quantity or source of non-electric LEGO pieces, except that wind-up/pull-back "motors" are not allowed. Pneumatics are allowed.
- The electric elements used must be the LEGO MINDSTORMS type, and the total number of electric elements you may use in one match is limited as follows:

For RCX users:

RCX controller (1)
motors (3)
touch sensors (2)
light sensors (2)
lamp (1)
rotation sensors (3)
3rd touch OR light sensor (1)

For NXT users:

NXT controller (1)
motors (3)
touch sensors (2)
light sensors (2)
lamp (1)
rotation sensors (3) minus the number of NXT
   motors present
ultrasonic sensor (1)

- Example 1: If your robot has three motors, you may not have any other motor in the competition area, even if it's only for weight or decoration; even if it's in a box off the field.
- Example 2: If your robot has two motors, but you have multiple attachments to motorize, you must design a way to switch the 3rd motor from one attachment to the next.
- LEGO wires and converter cables are allowed as needed.

- Spare/alternate electrical parts are allowed in the pit area.
- Objects functioning as remote controls are not allowed anywhere.
- Marker may be used for owner identification in hidden areas only.
- Paint, tape, glue, oil, etc. are not allowed.
- Stickers are not allowed except LEGO stickers applied per LEGO instructions.
- Note that it's a violation of this rule to use more than one robot in a single match, but it's okay to use a different robot in a different match.
- If a robot is in violation - of this rule or the SOFTWARE rule - and cannot be corrected, the decision about exactly what to do rests with the head officials at the tournament, but that robot may not win awards.

Software

- The robot must be programmed using LEGO MINDSTORMS, RoboLab, or NXT software (any release).
- Patches, add-ons, and new versions of the allowable software from the manufacturers (LEGO and National Instruments) are allowed.
- Text-based and/or "outside" software is not allowed.
- The point of this rule is the same as that of the MATERIALS rule: Since we can't ensure equal coaching for all teams, we can/must lessen this unfairness by capping the power of the tools.

Wireless Signals (At Tournaments Only)

- Downloading programs to robots is not allowed in the competition area.
- Teams downloading to an RCX robot must make sure the process is shielded, that there are no other RCX robots in range, and robots should be turned off when not in use.
- Teams downloading to an NXT robot must do so by cable. Bluetooth must be switched off at all times.

Base

- Base is an imaginary box formed by vertical walls that rise from the perimeter of the Base area, including the inside surface of the border walls, and by an invisible ceiling 16 in (40 cm) high.
- Base is a VOLUME—not an area.
- Base is the place for the robot to be prepared, started from, and serviced if needed.
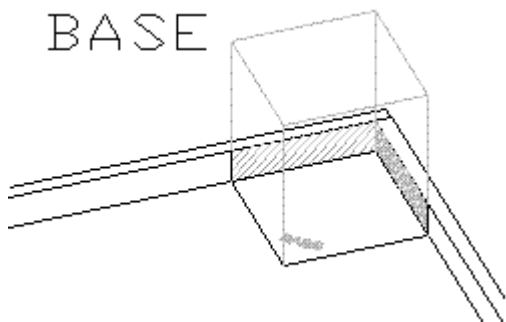
Housekeeping

- Objects in Base not currently being moved or used by the robot are okay for you to shift partially out of Base, out of the way, as long this action is not strategic in any way.
- Objects may also be held in hand or in a box by one of the two team members at the table.
- Objects eligible to score in Base should be placed in Base when the match is over so the ref can score

them.

- Team members not at the table may not hold competition objects of any type.

Required Methods

Usually, no specific method is required for achieving mission results, and you are free/encouraged to be creative, but when a specific method *is* required for achieving a result, you must use that method or the ref will reverse the results.

If A Detail Isn't Mentioned, Then It Doesn't Matter

Assuming you have read all the missions, rules, and Q&A carefully...

- If no particular method is required, then any method is okay.
- If something is not required, then you don't have to do it.
- If there's no restriction against something, then it's allowed.
- There are no hidden requirements or restrictions.

Precedence

- When there is conflict between a mission and a rule, the mission takes precedence, but the current Q&A page on the web takes overall precedence. MAKE SURE TO CHECK BACK THERE OFTEN.
- The head ref is not obligated to consider calls made at previous tournaments unless those calls have been added to the latest Q&A.

Variability

As you build and program, keep in mind that our suppliers, donors, and volunteers make every effort to ensure that all fields are correct and identical, but you can expect some variability, such as:

- texture/bumps under the mat.
- waviness in the mat itself.
- flaws in the border walls.
- variety in lighting conditions.
- variety in light rigging and screw heads at the table ends.

You should direct questions about variable conditions at a particular tournament to that event's head officials.

Procedure

Pre-Match Preparation

- When you walk up to a field to compete on time, you're allowed at least one minute to prepare and arrange your inactive robot and any objects it will be moving or using.
- You must use the mission models supplied by the tournament and may not bring duplicates to the competition area.
- You may *NOT*:
- take mission models apart.
- lock or attach mission models to the robot.
- lock or attach mission models to each other.
- lock or attach anything to mission models.
- touch mission models out of Base for any strategic purpose.
- download anywhere near the competition area.

The "Locked Or Attached" Test

- The ref must be able to pick up any single, non-Dual-Locked, mission model directly and freely, against no other force than gravity, and walk away with it, without any other object coming too...
- Or instead, the ref must be able to pick up the "other" object directly and freely, against no other force than gravity, and walk away with it, without the mission model coming too.

Muscle Action

- You may not cause anything but the robot to leave or extend, even partially out of Base, except as described in the Start Procedure and Housekeeping rules.
- If something does leave Base against this rule, the ref simply puts it back.
- You may place objects completely in Base for an active robot to interact with, but only if you have obviously let go of them before the robot contacts them.
- However, dropping something on an active robot is considered an indirect touch and forces a restart.

Start Position

- For all starts and restarts throughout the match, every bit of the robot and any objects it is about to move or use must fit completely in the Base area.
- Nothing is allowed to be poking through the imaginary box of Base.
- The robot is allowed, but not required, to touch objects it is about to move or use.

START POSITION

NO   NO   YES   NO   YES   NO   YES
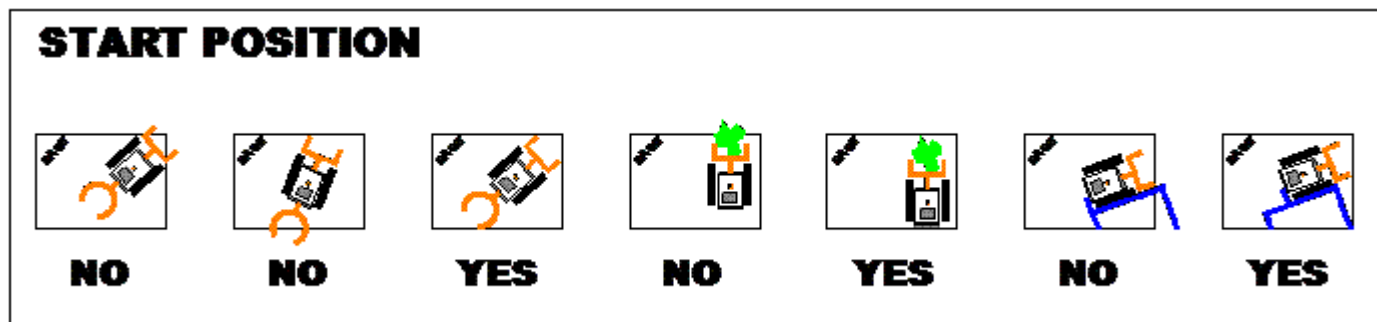
Start Procedure

- To be ready to start, the robot must be motionless in start position, and you must not be touching it, or any object it is about to move or use.
- When this is plain to see, and you say you're ready, the referee (ref) will signal your field's readiness to the announcer. As the countdown starts, you may reach in with one hand, and at the exact start time, either touch a button, or signal a sensor, to start/resume the robot's program.
- You may not handle the robot, or anything it's about to move or use, during or after the countdown. If you do, the ref will have you restart. The point of this rule is to ensure that your only influence on the robot is to get its program running.

Start Timing

- When teams and refs are ready, the announcer will provide a countdown, such as "Ready, set, GO!"
- The exact time to start is at the beginning of the last word in that phrase.
- If a different signal is used, the start is at the beginning of that signal.

Active Robot

At the moment the robot is started, it is considered "active" and remains so until you next touch it or touch any model or strategic object it is moving or using.

Active Robot Touched

- Any time you touch an active robot, or object it is moving or using, the robot is immediately considered "inactive" and must be carried to Base if it's not already there.
- The inactive robot in Base may then be handled, adjusted, reconfigured, and otherwise prepared as needed for restarting.
- If any models or strategic objects were being strategically moved by the robot at the time of the touch:
- Those being moved from Base go back to Base with the robot, eligible for continued use.
- Those encountered out of Base are taken out of play (off the field)
- Also, if the robot happens to be completely out of Base at the time of the touch, then a "touch penalty object" is taken out of play if one is available.
- Anything done by an inactive robot is reversed by the ref, to the extent possible, as soon as possible.

Loss Of Contact

- If an untouched robot loses contact with an object, that object stays where it is unless/until the robot regains contact with it. Such objects may not be recovered by hand.
- For exceptions, see the Stray Objects and Robot Damage rules.

Stray Objects

- An object caused by a robot to be in the way of either team's robot performance may be moved by the ref, upon team request, if that can be done without a direct effect on scoring.
- Objects in scoring position may be shifted by the ref to equivalent scoring positions if this can be done with no other strategic benefit, and worthless objects may be taken off the table.
- Objects in their original "setup" positions are not considered stray.

Robot Damage

At any time during a match, you may recover robot parts that come off as a result of obviously unintentional damage. You may do this by hand or request help from the ref.

Field Damage

- The robot is not allowed to break mission models or separate Dual Lock.
- If a mission model breaks, malfunctions, moves, or is activated by anything other than allowable action, the ref reverses the change as soon as possible (if possible).
- Field damage too severe to reverse is left as is and could fall under the Stray Objects rule.
- If points are earned along with field damage that occurs due to faulty model design, construction, or setup, you keep those points.
- Field damage that obviously occurs because of the team or robot, whether intentional or not, draws a warning. Repeats could make associated missions worthless.

Interference

- Your robot is not allowed to have any effect on the other team's robot, field, or strategy except by directly meeting the scoring requirements of missions in areas that are shared between the two sides by design of the Challenge.
- There is always at least one mission where you and the opposing team are set up to interact in some way, either competitively or cooperatively.
- As a matter of luck, that team may be able to out perform you on that mission or may fail to cooperate with you there. This is not considered interference.

Scoring

Score Determination

- To minimize controversy about what happened during a Match, the score is determined* at the end of the match, by the condition of the field at that time only. *At the end of the match, the ref carefully examines the field to note the conditions and locations of objects.
- This means that points are not given for accomplishments that the robot accidentally trashes before the match ends, and this is why the ref reverses "illegal" results as they happen.

"In" (Operational Definition)

- A is "in" area B if any bit of A is over area B.
- Direct contact does not matter.
- Objects in a container are ruled individually and independent of their container.
- If an object's location is hard to call, you get the benefit of the doubt.
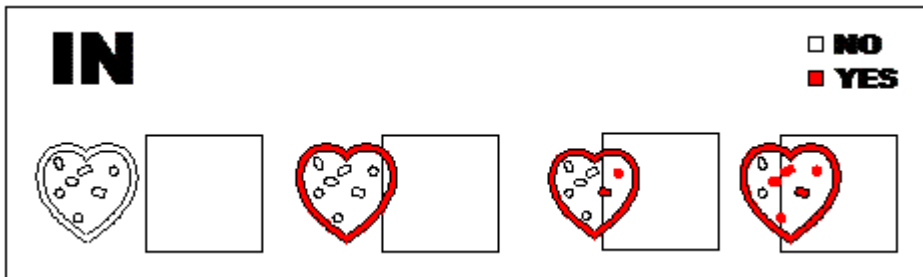
"On" (Operational Definition)

A is "on" B if either of these is true:

- 100% of A's weight goes through B.
- All objects diverting A's weight around B could be removed without A falling (as tested or estimated by the ref).
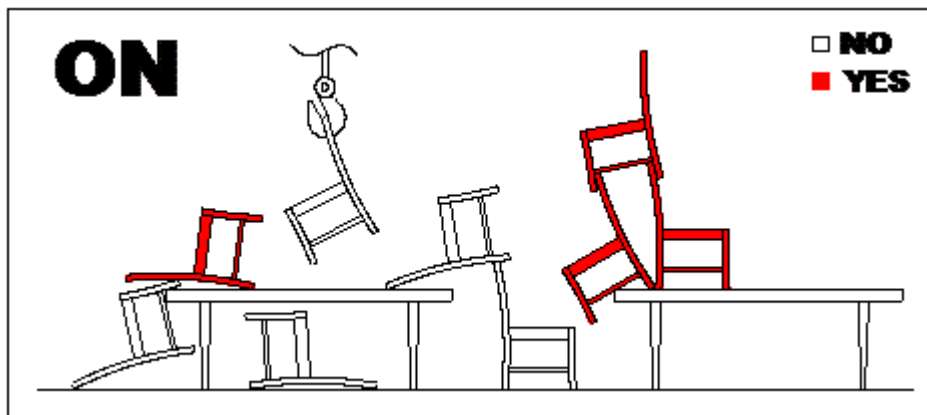
"Touching" (Operational Definition)

A is "touching" B if A is making direct contact with B.

Benefit Of The Doubt

- You get the benefit of the doubt in situations that are too close to call, such as:
- when a split-second or the thickness of a (thin) line is a factor.
- when a situation could "go either way" due to confusing, conflicting, or missing information.
- when anyone other than the challenge designer claims to know the "intent" of a requirement or constraint
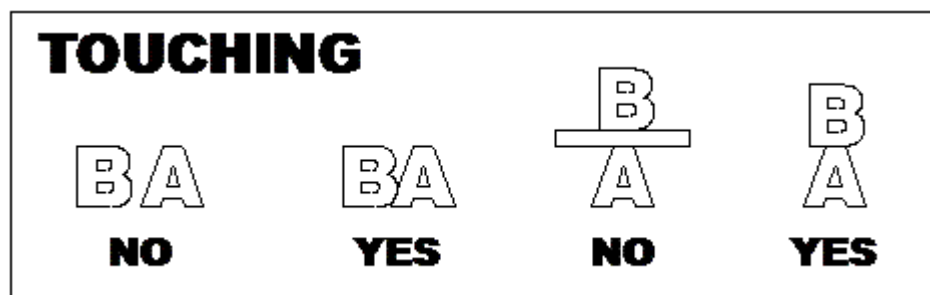- If you disagree with the ref and can respectfully raise sufficient doubt in his/her mind, the ref meets with the head ref, and the resultant decision is final.
- This rule is not an order for the refs to be lenient, but it is a license for them to make judgment calls in your favor when it's reasonable to do so.

After The Match

- At the end of each match, the ref needs time to concentrate and record the condition of the field, so no one is allowed to touch anything.
- You (kids only, please) and the ref look at the field together and come to agreement about what points were scored or missed and why, and to be sure you're not walking away with any mission models.
- Finally, the ref gives the okay for field reset.

Communication

Challenge Questions/Support

- For official answers to questions about the Robot Game part of the Challenge, including rulings on special strategies or situations, e-mail flltech@usfirst.org (most efficient) or call 1-800-871-8326, x118 (less efficient).
- For best results, be sure you have read the four documents listed under READ THIS FIRST.
- When e-mailing, be sure to put "Challenge" in the subject line, and please state your role on the team (member, coach, parent, mentor).
- When calling, please first leave your contact information slowly, your role on the team, and YOUR QUESTION on voicemail.
- flltech does not answer questions about building or programming the robot (that's your Challenge).
- flltech can not support LEGO product.
- For NON-game-related technical support for LEGO product (RIS, RoboLab, NXT), call 1-866-349-5346.
- The FLL International Forum is great for sharing ideas and getting tips from each other, but it is NOT

AN OFFICIAL SOURCE OF ANSWERS about anything.

Information Sharing And Consistency

- Since individual victory need not come at the expense of collective excellence, all official answers given through Challenge support are subject to public posting in the Q&A, including answers about ALLOWABLE strategies.
- Also, the only documents given to the refs for reference to conduct matches and make calls are the same four documents you and every other team have access to all season.
- If a strategy is questionable for you, chances are it will be questionable for the ref too, and guarding it until the tournament is risky.
- No new Q&A entries will be posted after 3PM (eastern U.S.) on Fridays.

Coaches' Meeting

- If a question does come up right before the tournament, your last chance to ask it is at the "Coaches' Meeting" (if there is one) the morning of the tournament.
- The head ref and coaches meet to identify and settle any differences before any matches start.
- For the rest of the day, the ref's calls are final when you leave the table.

Summary Of Significant Content Changes For 2008

- New Competition Values rule - sets the moral tone for competition and good will to co-exist.
- Participation rule - now expressly allows tagging in/out.
- Start Position rule - shows that it is now okay for an aiming jig to be left in place during starting.
- Start Procedure rule - now allows the robot to contact/interact with strategic objects while leaving Base, and does not require the robot to leave Base.
- New Start Timing rule - promotes precision/consistency/fairness
- New Active Robot rule - substitutes a hand-input as the start of autonomy instead of the robot being completely out of Base as the start of autonomy. It also replaces preparation, transition, and autonomy modes with "active" or "inactive."
- New Active Robot Touched rule - eliminates placement-by-touch and retrieval-by-touch loopholes.
- Strategic Objects rule - now explicitly allows the robot to use strategic objects in Base.
- Materials rule - now excludes wind-up/pull-back motors.
- Housekeeping rule - now requires Base-scoring objects to be in Base at the end of the match and it also rules that only the two team members at the table can hold objects.

FLL 2008 Climate Connections Challenge Documentation - 9/5/08

Field Setup

Make sure your robot is ready to compete!

Use this section as a guide to properly prepare your practice field and maximize your Mission strategy. Your team will need to:

- build the LEGO Mission Models using your *Field Setup Kit CD.* Your Field Setup Kit will ship to the address your registrant provided during . The Kit includes the Field Mat, the *Field Setup CD*, and instructions for constructing your LEGO Mission Models.
- carefully place your Field Mat (in the Field Setup Kit) on the flat surface
- add your Mission Models to the Field Mat
- practice!

The Table

The robot game takes place on a specially designed table, so you will need to build one to practice on if you don't already have access to one. With safety, weight, height, and cost in mind, a simple design is offered here, but as long as your surface is smooth and your border walls are located properly, how you build the understructure is up to you. The construction is simple, but does require some shop skills. Build the light onto your table if your table will be placed in poor and/or variable lighting conditions.

At a tournament, two tables are placed back to back, forming a double-think border between them. Since accurate setup requires that double-thick border, you're instructed to build it onto your practice table by adding a second one behind the first.

Materials

Material	Quantity (with light)	Quantity (no light)
Field Setup Kit	1	1
smooth plywood 96" X 48" X 1/4"	1	1
two-by-four, 8'	4	4
two-by-three, 8'	3	2
two-by-three, 10'	1	N/A
flat black paint	1 pt. or spray can	1 pt. or spray can
coarse drywall screws, 6 X 2-1/2"	1/2 lb.	1/2 lb.
saw horses, about 24" high and 36" wide	2	2
48" fluorescent shop light w/(2) 40-watt tubes	1	N/A

FLL 2008 Climate Connections Challenge Documentation - 9/5/08

Parts

| Part	Make From	Dimensions	Paint	Quantity (with light)	Quantity (no light)
table surface	plywood	96" X 48"	no	1	1
long border wall	two-by-four	96"	yes	3	3
short border wall	two-by-four	45"	yes	2	2
stiffener	two-by-three	48"	no	4	4
upright	two-by-three	48"	yes	2	N/A
cross beam	two-by-three	99"	yes	1	N/A
saw horse	kit	H » 24" W » 36"	no	2	2

Assembly

Step 1 Determine which face of the plywood is least smooth, and consider that the bottom face. On the bottom face, locate, clamp, and screw on the stiffeners (about every 18 inches).

Step 2 On the top face of the plywood, locate and clamp the border walls around the top perimeter. The wall-to-wall dimensions are important; they need to measure 93" by 45".

Step 3 With the help of another person, place this table top on short saw horses, milk crates, or anything else short and solid.

Step 4 If you're adding the light, center, clamp, level, and screw the uprights onto the outside face of the short border walls. With the help of another person, situate the cross beam on top of the two uprights and screw it down. Hang the shop light by its chains from the center of the cross beam. Tie some rope or a zip-tie loosely around the center of the shop light to hold the bulbs from falling if they should loosen.
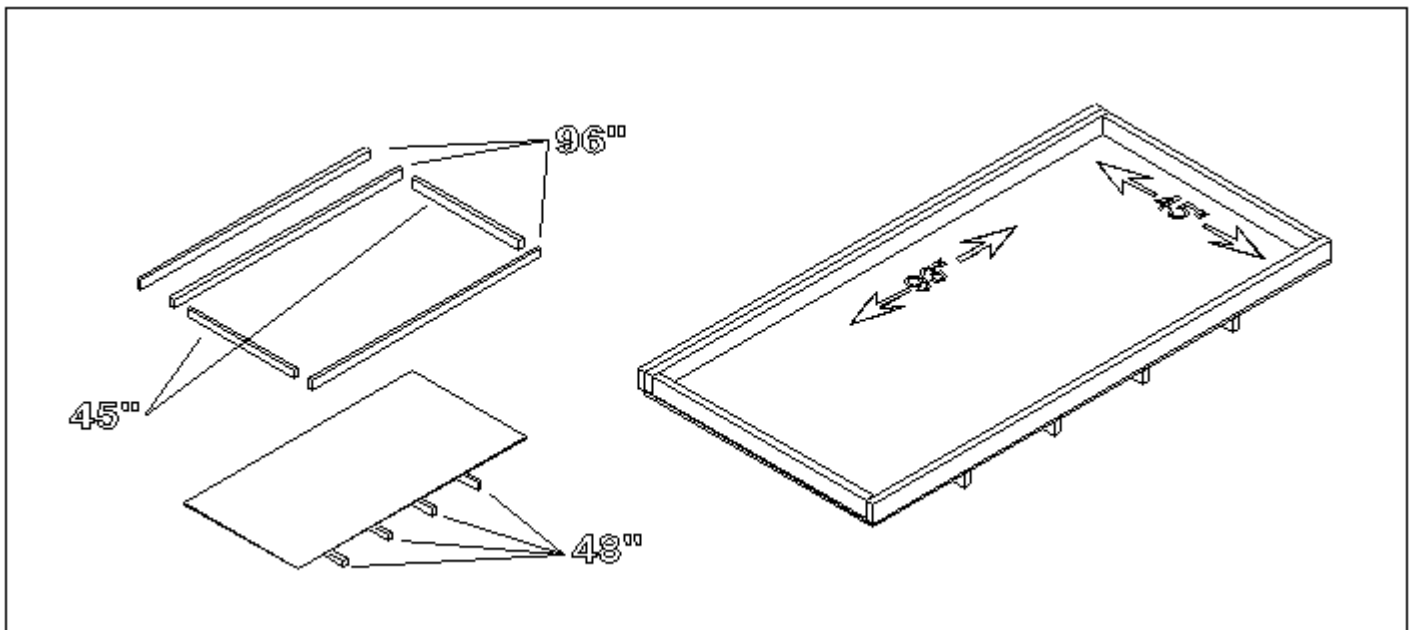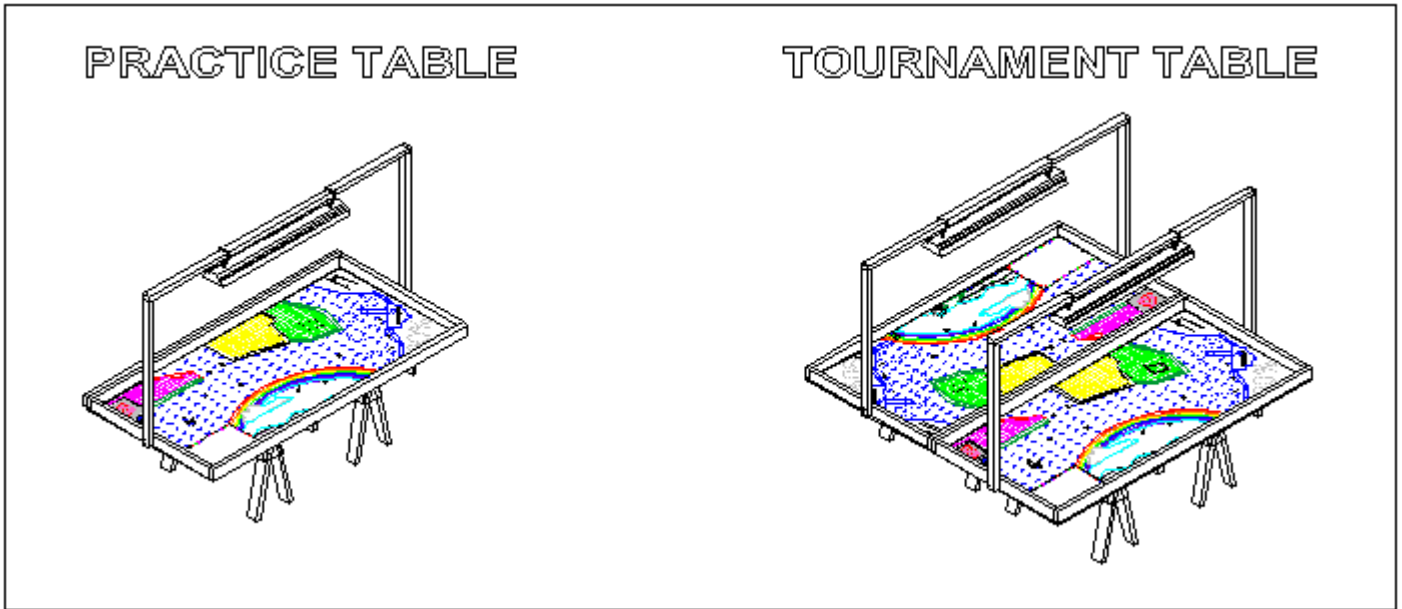
Field Mat Placement

**Step 1** Vacuum the tabletop. Even the tiniest particle under the mat can give the robot trouble. After vacuuming, run your hand over the surface and sand or file down any protruding imperfections you find. Then vacuum again.

Step 2 Never unroll the mat in an area where it could pick up particles. On the vacuumed surface, unroll the mat and position it so the image is up and the area with logos (BASE) is at the southwest of your surface. (The south edge should be one to which you have easiest access).

Step 3 Slide and align the mat so there is no gap between the southwest corner's edges of the mat and the corresponding southwest border walls. Gaps are expected and acceptable at the north and east edges.

Step 4 With help from another person, pull the mat at opposite ends, then massage out any waviness from west to east and re-check the requirement of Step 3. It is expected that some waviness will persist, but that should relax over time. Some teams use a hair dryer to speed the relaxation of the waviness.
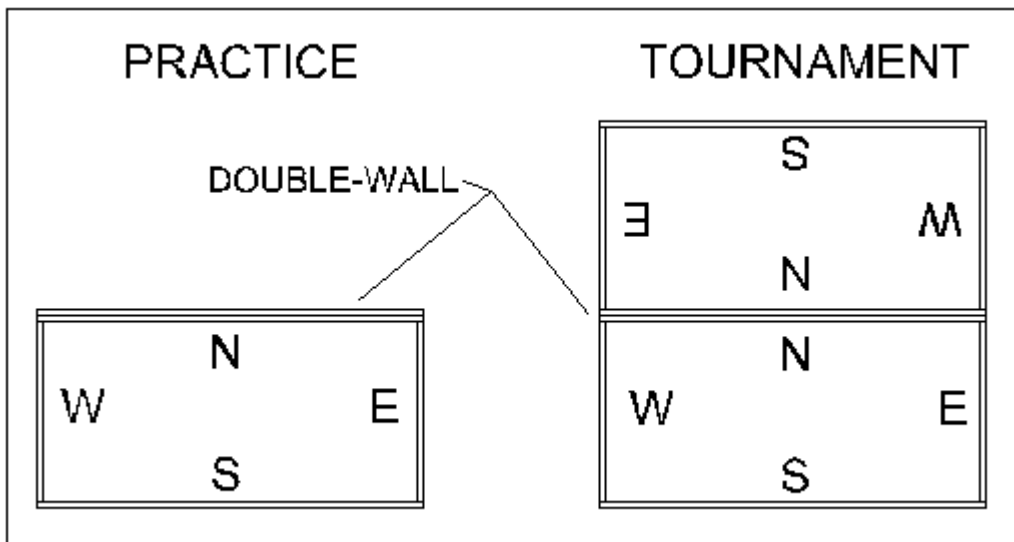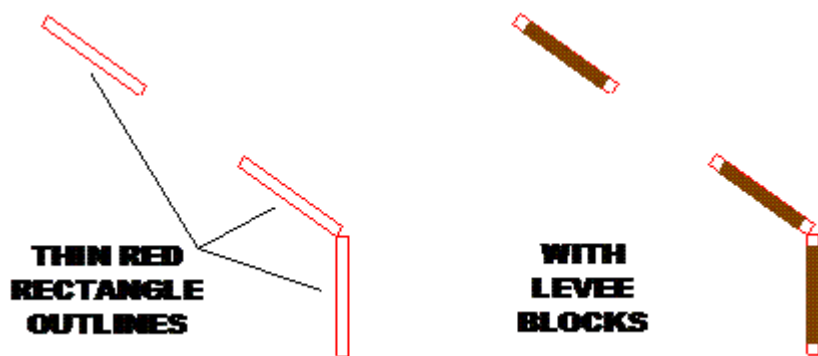
Using Dual Lock

When a model's placement requires Dual Lock, the model's location mark on the mat will contain boxes with Xs in it. For each X box, apply a piece of Dual Lock to the mat, adhesive side down. For half-sized boxes, if there are any, you will need to cut square pieces in half. Next, press (lock) a like-sized piece of Dual Lock, adhesive side up, onto to the ones you just finished sticking to the mat.

Tip: The second piece of each Dual Lock pair would rather stick to you than lock to its partner. So, instead of using your bare finger, press the second piece onto the first using the wax paper, which the Dual Lock was supplied on. Then peel away the paper.

Finally, for each Dual Locked model, line the model up exactly over its location, being sure that all labeled features are facing as labeled. Carefully lower the model and press it down onto the Dual Lock. Try to press down on the lowest solid structure of each model instead of crushing the whole model. This application process for the Dual Lock is only needed once - later, the models can simply be locked onto the mat or unlocked.

Model Details

Levee Blocks (No Dual Lock) There are eight levee blocks. Five go in Base (anywhere), and for the remaining three, center each one, upright, on one of the thin red rectangle outlines bordering the pink grid area.

THIN RED RECTANGLE OUTLINES   WITH LEVEE BLOCKS

Storm (Wheel Roller) Place Dual Lock on its marks, position this model as shown on the mat, and stick it down.

Operation: When the perimeter bar is triggered, the vertical axle slides down, releasing the hammer (black hinged part) to fall, pushing the wheel out.

Setup: Lift the hammer until you can poke the vertical axle through its catch hole, and slowly let go of both. When that's done, carefully place the wheel over its image on the mat (No Dual Lock). This is designed to be an unstable setup, but it does work consistently when the model is built, placed, set, and maintained correctly. Make sure the hammer falls freely. If it doesn't, check to be sure there is free play along the hinge axle, that the red beams are parallel, and that they give the hammer clearance. Finally, be sure there's no Dual Lock touching the hammer.

People (No Dual Lock) There are six people, whose clothing determines their location. Those wearing:

- black, blue, or red shirts go in Base (anywhere).
- black pants go on their marks in the research area, with their ski poles generally downward.
- blue pants sit on their marks on the buildings, partly facing north, and each other.
- red pants are press-fit to stand on the northeast corner of the underground reservoir model, over their marks. Take note of where their marks are, because they will be covered out of view later.

FLL 2008 Climate Connections Challenge Documentation - 9/5/08

As long as people with certain clothing are together where they need to be, their individual right/left placement is random. Faces and hair are not considered, but their hands should be near their pockets.

Underground Reservoir Before you proceed, notice that the northeast corner of the location mark for this model also has location marks for standing people. Memorize where those marks are, because you are about to cover them. Place Dual Lock on its marks, position this model on the mat, and stick it down.

Ice Sheet This model had to be changed after the mat went into production, so it does not line up perfectly with its location marks. At first, without Dual Lock, place each segment one at a time on its mark to see where the Dual-Lock location marks miss the model. Shift the Dual Lock as needed for full contact. With the new/correct Dual Lock locations in mind, place Dual Lock as needed, position the first segment, and stick it down. For each next segment, make sure it is completely connected to the last one before sticking it down. Finally, without Dual Lock, place the little red, loopy ice core in its hole with its loop running parallel to the east border wall.

House Place Dual Lock on its marks, position this model on the mat as shown, and stick it down.

Setup: The house should be in the down position, with its large lever toward the west.

- Twist the wheel fully clockwise to close the south window.
- Twist the little red knob fully clockwise and pull it outward to set the lights "on" in the north window

Cross-Pointers (Interactive Models) Your table should have two border walls back to back at the north. Find the absolute center of these two walls.

- In the north/south direction, this point is the "crack" where the two walls touch.
- In the east/west direction, this point is 46.5in. (118.1cm) from the inside face of either far wall. Now measure east and west of this center point, 11in. (27.9cm) each way.

Each of these new points is the center point for one of the cross-pointer models. Cover the underside of each model's foot completely with Dual Lock, align it and its rubber band parallel to the borders, and stick it down. If it does not sit level, add Dual Lock on the low side to level it.

Setup: Spin each arrow to a random direction. Any direction for either arrow is okay as long as the arrows do not agree with each other.

Flood Gate This model had to be changed after the mat was produced, so it does not line up perfectly with its location marks.

- The west side is good, so use that as normal.
- For the east side, apply Dual Lock to the model instead of the mat. Align the east side as accurately as possible, and stick it down.

Carbon Dioxide And Money (No Dual Lock) There are four carbon dioxides (gray balls) and one money (yellow ball). There is a holder (thin tire) for each. Place the following:

- A tire on each tire location mark
- A gray ball on each tire in the water
- The yellow ball on the tire in the green grid area

Core Drilling Rig (No Dual Lock) Place this model on its location mark, direction as shown on the mat.

Setup: The drill assembly part should be down/level.

Bicycle, Ice Buoy, Laptop, And Insulation (No Dual Lock) Place the bicycle, ice buoy, and laptop on their location marks, with directions of the bicycle and laptop as shown on the mat. Place the insulation (both) on its mark, one aligned on top of the other.

Bear And Snowmobile (No Dual Lock) Place the bear and snowmobile anywhere in Base with the five levee blocks and six people already there.

Field Maintenance

Border Walls

Remove any obvious splinters, and cover any obvious holes.

Field Mat

- Make sure the mat rests evenly at the bottom of the south and west border walls.
- Avoid cleaning the mat with anything that will leave a residue because anything sticky or slippery will affect the robot's performance compared to a new mat. Many tournaments use new mats.
- Use a vacuum and/or a damp cloth for dust and debris, above and below the mat.
- When moving the mat for transport and storage, be sure to prevent the material from bending into a sharp kink point, which could affect the robot's movement. Repeated rubbing on the same areas of your practice mat will cause wear in the image, but such wear is unlikely at a tournament.
- Tournaments using new mats should unroll the mats as far in advance of the tournament day as possible.
- For control of extreme curl at the east or west edges of the mat, tape is allowed, with a maximum of ¼" (6 mm) overlap. Do not use tape under the mat.

Mission Models

Keep the models in original condition by straightening and tightening solid connections often. Ensure that spinning axles spin freely by checking for end-to-end play and replacing any that are bent.

Game Resources

We have the resources you need.

Whether you are looking for online technical information for building, designing, and programming your robot - it's all right here. Be sure to visit the forum for additional resource suggestions from the FLL community.

Programming

FIRST
http://www.usfirst.org/community/fll/content.aspx?id=790

Tufts University Center for Engineering Educational Outreach – CEEO
http://www.ceeo.tufts.edu/

Carnegie Mellon National Robotics Engineering Center
http://www.education.rec.ri.cmu.edu/

Building

FIRST
http://www.usfirst.org/community/fll/content.aspx?id=792
LEGO Digital Designer
http://ldd.lego.com/download/

FLL Coaches' Handbook

FLL Coaches Handbook - low bandwidth version for easy download (1,459 KB)
FLL Coaches Handbook - high resolution version for printing (30,734 KB)

Classroom Curriculum from FIRST

FIRST
http://www.usfirst.org/community/fll/content.aspx?id=798

General Engineering & Career Resources

Junior Engineering Technical Society
http://www.jets.org/

NASA Robotics Alliance Project
http://www.robotics.nasa.gov/

Lots of links with career information for children
http://www.kids.gov/

Created by the National Academy of Engineering
http://www.engineergirl.org/

Awards

FIRST LEGO League Awards represent the highest achievement for FLL teams. These teams, no matter what country they are from or which Championship tournament they compete in, receive judging for a group of awards that recognize a standard of excellence for all participants.

The following list touches upon the award descriptions; you can also review a full listing and detailed explanation of all the [FLL Awards.](#)

Awards Eligibility

It is the aim of FLL to distribute awards as equitably as possible among the teams, with the goal of no team winning more than one of the required (Champion's, Robot Design, Robot Performance, Teamwork, and Project Presentation) awards at a Championship tournament. A team can only win a second award if one of the awards they win is for Robot Performance. To ensure fairness to teams and provide equal opportunity to win an award at a Championship tournament, teams are only eligible to win an award at the first Championship tournament they attend that season.

Champion's Award

The Champion's Award is the most prestigious award that any team can win. It celebrates the ultimate success of the *FIRST* mission and FLL values.

Technical Awards

Robot Design Award - Judges look for teams whose work stands out for innovation and/or dependability.

Robot Performance Award - This award goes to the team whose robot achieves the best score on the competition field or in the elimination round.

Team Presentation Awards

Project Award - FLL presents the Project Award to the team whose quality research, innovative solutions, and creative presentation best reflect an in-depth understanding of the various scientific disciplines and issues involved with the Challenge project.

Teamwork Award - FLL presents this award to the team that best demonstrates extraordinary enthusiasm, an exceptional partnership, and the practice of FLL values.

Special Recognition Awards

- Outstanding Volunteer Award
- Adult Coach/Mentor Award
- Young Adult Mentor Award

Optional Judges' Awards

- Against All Odds Award or Perseverance Award
- Rising Star Award
- Team Spirit Award
- Other Judges' Award
- Local Awards

Challenge Consultants

Meet the experts behind the FLL and Jr.FLL Climate Connections Challenges!

Julie Brigham-Grette
Professor in the Department of Geosciences
University of Massachusetts, Amherst

Mark Klein
Principal Research Associate
Center for Collective Intelligence
Massachusetts Institute of Technology

Cathy Helgoe
Senior Project Manager
LEGO Education Division

Don Perovich
Research Geophysicist
U.S. Army Cold Regions Research and Engineering Laboratory (CRREL)

Past FLL Challenges

From the development of the FLL concept and the first pilot tournaments in the U.S. in 1998, FLL has grown globally to over 10,000 teams and over 109,000 children.

Are you looking for the FLL program or Climate Connections logos? We have them waiting for you to download in the [FL Communications Resource Center.](#)

2007 Power Puzzle	2002 City Sights
2006 Nano Quest	2001 Artic Impact
2005 Ocean Odyssey Odyssey	2000 Volcanic Panic
2004 No Limits	1999 *FIRST* Contact
2003 Mission Mars	1998 PILOT

Latest Entry:

[Why scores and rankings don't mean much](#)

[bahachou](#) | 8/25/2008 9:02:20 PM

Why scores and rankings don't mean much.

Some of the most common questions I hear about FLL judging concern scores or rankings of teams. Among the questions are "What was my team's score?" and "Where did my team rank among all the teams?" I always respond to these questions with "The policy of FLL is to not release scores or rankings." This in itself is not a very explanatory answer, and usually leads to follow-up questions and confusion about the process in general.

I'd like to tell you why I think disclosure and distribution of judging scores and rankings is not a good idea.

The main reason can be found in FLL's Core Values. "What we discover is more important than what we win." FLL judges are trained to evaluate teams on what they have learned throughout their season using the set of criteria defined in the rubrics. Rubrics are designed to serve as a list of expectations for a learning process that can then be used to evaluate achievement. So in essence, they can be used to evaluate what a team "discovers" throughout the season.

Judges can use the rubrics to provide teams specific feedback on strengths and areas for improvement by returning feedback to the teams using the rubrics as a template for the feedback. By providing this feedback instead of a score or ranking, the judging process directly reinforces the Core Value.

Judging is also a subjective process. For most championship tournaments, not all judges get to see all the teams at an event. The judges are human and have variation in how they evaluate teams. The judging process is designed to minimize these differences, but they do occur. The best way to normalize differences between groups of judges in order to compare teams is for judges to talk about the similarities and differences between teams. The time constraints for a typical tournament are so tight that this normalization process is really only possible for teams in consideration for award. So if actual scores or rankings were distributed, a team might feel that they have received a low "score", but in fact they may have just been evaluated by a "tougher" set of judges.

Another reason to not provide scores or rankings has to do with the FLL awards distribution philosophy. FLL teams may only win one award at a championship event. Imagine if a team "scored" or "was ranked" number one in more than one judging category or award. The natural inclination is to think that team should be awarded more than one trophy, which runs counter to the FLL awards distribution philosophy.

Finally, there is a psychological reason for not distributing scores and rankings. FLL tournaments are supposed to be fun celebrations where all teams share what they have achieved. Some teams may feel that if they receive a low "score" or "ranking" that their season and experiences have less value than those of a "higher scoring" team. Or they may simply feel beaten. FLL is about focusing on what has been learned, and no one should feel beaten after a learning experience! In fact, learning quite often has greater impact when we fail or have a setback. I want the kids to know that there is something positive that comes out of every experience. It doesn't have to be a high score or a trophy. It can be satisfaction that your robot can complete just one mission every time. It can be a discovery by a young researcher who has found his or her future in nanotechnology. No score can measure that.

Recent Entries:

About Skip Gridley, FLL Judge Advisor

first | 7/17/2008 4:07:25 PM

How did Skip Gridley become the Global Judge Advisor for *FIRST* LEGO League? It started a long time ago with a love for building with LEGO bricks and an excitement for math, science, and technology at a young age growing up in upstate New York, USA. He eventually turned his love for math and science into a Bachelor of Science in Aeronautics and Astronautics at Purdue University and a career as an Aerospace Engineer at the United States Air Force Research Laboratory, where he currently develops propulsion system technology for future Air Force systems, including unmanned air vehicles and next generation, hypersonic aircraft.

Through the Educational Outreach Office at Wright Patterson Air Force Base where he works, he learned of *FIRST* and FLL. He saw that he could use his love for LEGO, technology interests, and career background to help kids get excited about science and engineering. He began his FLL career as a Pit Guard at regional qualifying event during the 2002 City Sights season. Skip was a judge at the state championship later that same season, and has been an active judge ever since. He has also been an FRC judge at the Buckeye Regional for the past six seasons. Since the 2005 Ocean Odyssey season, he has been the Judge Advisor for FLL in the state of Ohio.

After years of paper score sheets, sticky notes, and hastily scribbled comments on scraps of paper, Skip developed a user friendly, computer-based judging system which has been used in Ohio and other regions for the past two FLL seasons and at the 2008 World Festival. He has volunteered as the FLL Global Judge Advisor since March of 2008.

His main goal as Global Judge Advisor is to help provide all FLL participants a quality tournament experience where FLL Core Values and Gracious Professionalism are celebrated. He hopes that all involved in FLL learn from judging and celebrate the teams' achievements. He also hopes to make judging simpler to understand so that more children, coaches, and judges can be inspired by the project research, robot design, and teamwork that teams develop and display.

About this Blog

internaladmin | 7/17/2008 4:06:34 PM

The Judge Advisor's Blog is the official FLL question and answer area resource for your Judging-specific inquiries. Topics include awards, rubrics, procedures, training, and tools. Look here first for clarifications, updates, and rulings you will need to prepare for tournaments. Make sure to use the Categories, Tags, and/or Search features to help narrow your search.

Don't miss a thing! Subscribe to the RSS feed via your feed reader or email digest to get real-time notifications of the latest posts.

Can't find what you are looking for? Submit your question to Skip or send an email to flljudge@usfirst.org

Game Q&A Blog

Latest Entry:

Managing Broken Mission Models at Tournaments

[bahachou](#) | 7/17/2008 4:05:34 PM

Q: Sometimes our practice mission models break. Will they be glued at the tournament? If a model breaks, how will the referee know whose fault it is?

A: The tournaments have the option to glue their models based on their assessment of the need for that. Aside from this, the referee gives you the benefit of the doubt unless it was obvious your robot went nuts.

Categories: Mission Models, Troubleshooting
Tags: Model, Robot, Referee

Recent Entries:

Scott Evans, FLL Engineer & Game Design Lead

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FLL is about you, the team, not me. But, if you're curious, here is some info about me:

- I'm married and have a boy and a girl
- I've been playing with LEGO since 1969
- I write poems for people I care about, and they can take me over 20 hours
- I enjoy out working people who are smarter than I am and out lasting people who are stronger
- I race dirt bikes all over the gnarly woods of New England in three-hour hare scrambles
- I struggled in math, and finished high school not even knowing what physics is
- I trained myself to solve Rubik's Cube at a world-class speed just to beat my friend who liked math
- I once did snow-angels wearing only shorts, while applying to the TV show "Survivor"
- My favorite comedian = Steven Wright; artist = Billy Joel; singer = Whitney Houston; movie = Rocky II
- I was a cook, a laborer, a truck driver, and a welder before I got my mechanical engineering degree
- My Professional philosophies:
- The potential sitting inside any child is enough to knock your socks off
- Success comes naturally from doing the right thing the right way at the right time
- Prioritizing is much more powerful than scheduling
- Some personal philosophies that help me:
- Every problem or success I experience can be traced back to a decision I made.
- True failure only comes when I stop trying
- Some personal philosophies that get me in trouble sometimes:
- Work hard, then play hard
- Anything worth doing is worth overdoing

About the Game Question & Answer (Q&A) Blog

bahachou | 7/17/2008 4:03:16 PM

The Q&A Blog is the official FLL question and answer area resource for your Game-specific inquiries. Look here first for clarifications, updates, and rulings you will need to prepare for tournaments. Make sure to use the Categories, Tags, and/or Search features to help narrow your search.

Don't miss a thing! Subscribe to the RSS feed via your feed reader or email digest to get real-time notifications of the latest posts.

Can't find what you are looking for? Submit your question to Scott or send an email to flltech@usfirst.org.

Scott answers most questions with a direct reply, usually within 24 - 48 hours of submission. If your question/answer could be helpful to the FLL community, you may see it posted to the Game Q&A Blog.