

**FIRST  
LEGO  
LEAGUE**

# SCHOOL EVENT GUIDE



**CITY  
SHAPER**



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**Architects** design and construct **buildings**. They combine science and art to make buildings and **structures** for their **clients**. Sometimes they make new buildings and sometimes they redesign old ones.

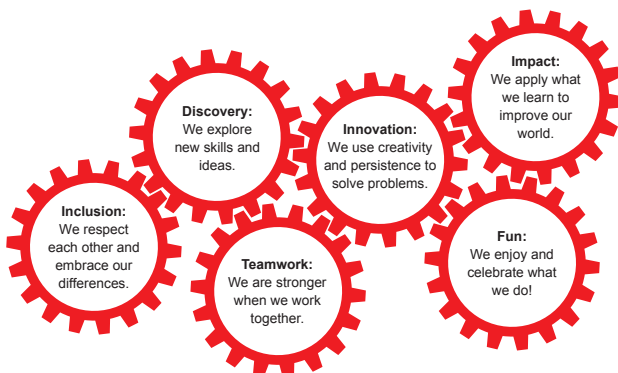


They work as part of a larger team, just like yours. **Structural, civil and environmental engineers** make sure a project suits its **site**. Construction workers like electricians, plumbers and carpenters, and **project managers** make sure the job stays on time and within budget. Every role is important to get the job done.

Our cities and towns face big issues, like transportation, **accessibility** and even natural disasters. How can we shape a better future for everyone? It will take teamwork and imagination. Are you ready to build a better tomorrow together?

## Throughout your season, you'll be guided by the... The **FIRST**<sup>®</sup> Core Values

We express the **FIRST**<sup>®</sup> philosophies of *Gracious Professionalism*<sup>®</sup> and *Coopertition*<sup>®</sup> through our Core Values:



## In the Robot Game, your team will:

- **Identify** Missions to solve.
- **Design**, build and program a LEGO Robot to complete the Missions.
- **Test** and refine your program and design.

Your Robot will have to navigate, capture, transport, activate, or deliver objects. You and your Robot will only have **2½ minutes** to complete as many Missions as possible. So, be creative!

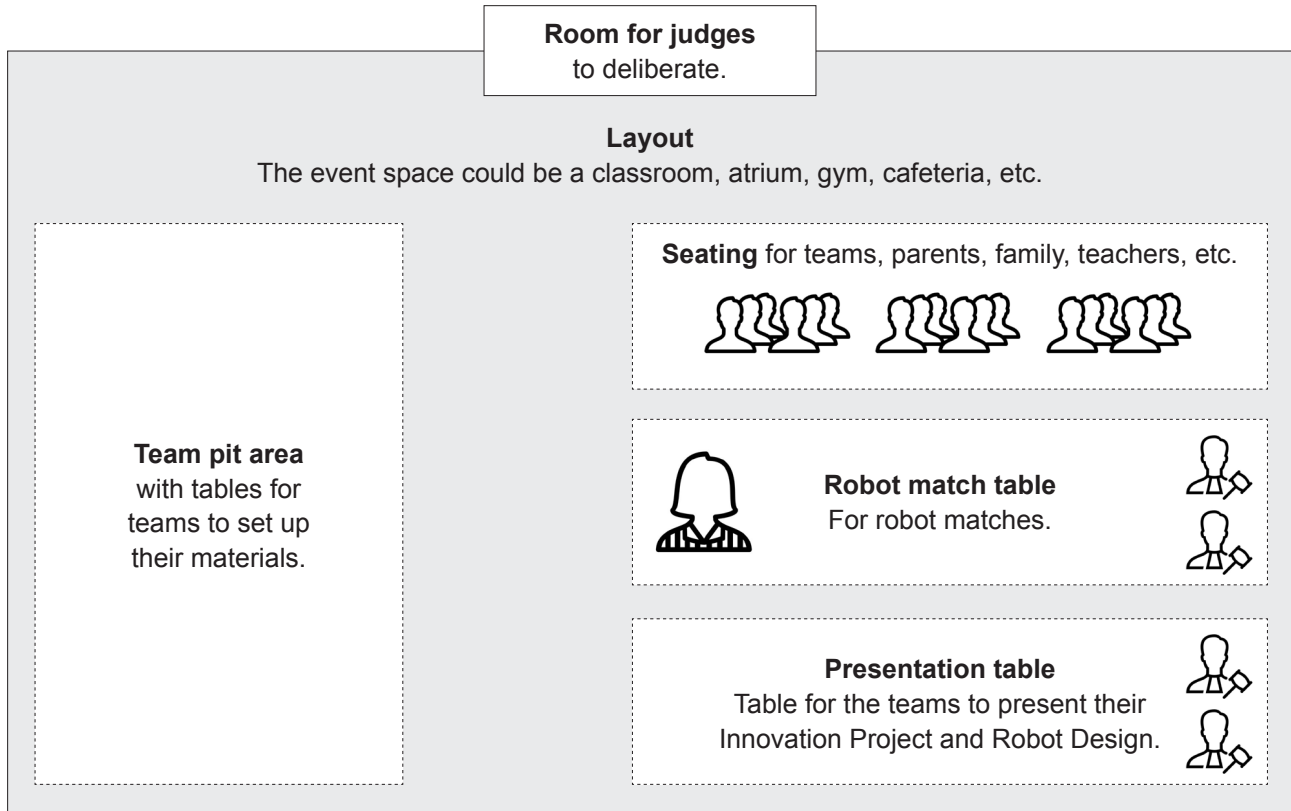
## In the Innovation Project, your team will:

- **Identify** a problem with a building or public space in your community.
- **Design** a solution.
- **Share** your solution with others and then refine it.

At official events, your team will present your Project, including the problem, your solution, and how you shared it, in a 5-minute presentation.



# Overview



**Specifics**

- When: school day, after school or on the weekend.
- Where: large space like cafeteria or gym.
- Timing: 2-3 hours depending on number of teams competing.


**Space**

- Tournament table set up with the Challenge Set for the robot matches.
- A large audience space to watch the robot matches and presentations.
- Presentation table for innovation project and robot design presentations.
- A private space for judge deliberations.



**Staff**

- 2-3 volunteers to serve as event staff.
- These could be teachers, school staff, older students, or parents.
- The referee needs to have a thorough understanding of the challenge, missions and game rules.
- The judges need a simple understanding of the challenge.
- Judges will evaluate Core Values throughout the event.


**1 coach**







**2 judges**

**1 referee**



# Running your event

**Purpose:** The school event is the culmination and celebration of the teams' work throughout the program.

## Preparation (60 min. before event)

### Coach:

- Set up all the different spaces needed (see Event Layout image).
- Make sure you have copies of all the judging materials, scoring sheet, robot game rules and missions.

### Judges:

- Review all the judging materials.
- Review the Challenge, Core Values, and schedule.

### Referee:

- Review the game Rules and Missions.
- Review the scoring sheet and schedule.

## TASK 1: Introduction (10 min.)

### Event People:

- Welcome the teams and share the event structure.
- Show the Challenge video.

## TASK 2: Innovation project presentations (30 min.)

### Coach:

- Give up to 5 minutes for each team to present their innovation projects at the presentation table.
- Allow 1-2 minutes to answer questions from the judges.

### Judges:

- Fill out the innovation project section of the rubric to evaluate each team. Core Values can also be evaluated during this time.

## TASK 3: Robot presentations (30 min.)

### Coach:

- Give up to 5 minutes for each team to explain their robot design at the presentation table.

*Note: They should not demonstrate their robot solving a mission or executing program.*

- Allow 1-2 minutes to answer questions from the judges.

### Judges:

- Fill out the robot design section of the rubric to evaluate each team. Core Values can be evaluated during this time.

## Tips

- You may want a separate presentation space, depending on where you set up the robot game. You can start in an auditorium or theater for the presentations and move to a cafeteria or gym for the robot game and pit spaces.
- Pit tables will need access to electricity like a power strip, so teams can work on their robots between rounds.
- You could hold this event as an assembly or STEM night. You can invite the whole school and parents.
- Inform the judges that judging of Core Values will be integrated throughout the judging process.



## TASK 4: Robot matches (50 min.)

### Coach:

→ Give each team 2.5 minutes to run a robot official match.

*If possible, allow time for each team to have one practice round before their official match.*

→ It will take about 30 minutes to have all teams compete in a single round. Hold as many rounds as time allows.

→ Use the top score for each team from any match to determine the final ranking for Robot Performance.

### Referee:

→ Refer to the Robot Game Referee document or the Engineering Notebook for robot missions and rules.

→ Use the scoring sheet to record points for each match.

→ Reset the game table as needed between matches.

### Judges:

→ Core Values can be evaluated during the robot matches.

→ Head to private space for deliberations.

→ Complete the rubrics for all teams.

→ Fill out the School Event Judging Notes Sheet.

## TASK 5: Celebration (10 min.)

### Event People:

→ Celebrate each team's achievements!

→ Give award(s) to the teams.

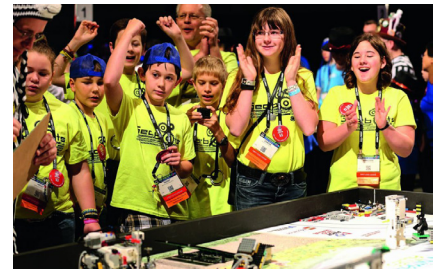
## What's next?

### Event People:

→ If team(s) are progressing to a competitive event, the first place (champion's) team would be recommended.

→ You can choose as many teams as you wish to send to a competitive event.

→ Check out the competitive event guide or contact your country partner for details on how to get team(s) registered for an event!



### Celebration Tips

- For the celebration, print out enough certificates for each child. You could also give a small prize like a medal.
- Give an award to each participating team or no more than half the teams get an award.
- A fun way to recognize teams is high-five line involving all the teams.

# Sample school event schedule

## Detailed Schedule

9:00-9:05	<b>Introduction</b>
9:05-9:10	Transition
<b>9:10-9:45</b>	<b>Innovation Project Presentations</b>
9:10-9:17	Team 1
9:17-9:24	Team 2
9:24-9:31	Team 3
9:31-9:38	Team 4
9:38-9:45	Team 5
<b>9:45-10:20</b>	<b>Robot Design Presentations</b>
9:45-9:52	Team 1
9:52-9:59	Team 2
9:59-10:06	Team 3
10:06-10:13	Team 4
10:13-10:20	Team 5
<b>10:20-10:45</b>	<b>Robot Round 1</b>
10:20-10:25	Team 1
10:25-10:30	Team 2
10:30-10:35	Team 3
10:35-10:40	Team 4
10:40-10:45	Team 5
<b>10:45-11:10</b>	<b>Robot Round 2</b>
10:45-10:50	Team 1
10:50-10:55	Team 2
10:55-11:00	Team 3
11:00-11:05	Team 4
11:05-11:10	Team 5
11:10-11:15	Transition
11:15-11:30	<b>Celebration</b>

## Overview: Team Schedule

9:00-9:05	<b>Introduction</b>
9:05-9:10	Transition
9:10-9:45	<b>Innovation Project Presentations</b>
9:45-10:20	<b>Robot Design Presentations</b>
10:20-10:45	<b>Robot Round 1</b>
10:45-11:10	<b>Robot Round 2</b>
11:10-11:15	Transition
11:15-11:30	<b>Celebration</b>

## Overview: Judge Schedule

9:00-9:05	<b>Introduction</b>
9:05-9:10	Transition
9:10-9:45	<b>Innovation Project Presentations</b>
9:45-10:20	<b>Robot Design Presentations</b>
10:20 – 10.45	<b>Robot Round 1</b>
10:45-11:10	<b>Judging Deliberations</b>
11:10-11:15	Transition
11:15-11:30	<b>Celebration</b>

## Overview: Referee Schedule

9:00-9:05	<b>Introduction</b>
9:05-9:10	Transition
9:10-9:45	<b>Innovation Project Presentations</b>
9:45-10:20	<b>Robot Design Presentations</b>
10:20-11:10	<b>Robot Matches</b>
11:10-11:15	Transition
11:15-11:30	<b>Celebration</b>

### Schedule Tips

- The sample schedule is for 5 teams. You will need to adjust the schedule to fit the number of teams competing.
- If you have double the number of teams, you may need additional judges.
- You could follow this basic schedule and run it in the classroom over a few class periods. The coach would serve as the judge and referee.

# Judging Sample Questions

## INNOVATION PROJECT EXAMPLES

### Discovery

- What problem did your team choose to solve?
- What sources did you use?
- Did you adapt an existing solution or create your own solution?
- Did you consult with an expert to solve the problem?

### Innovation

- What is original and innovative about your solution?
- Did you improve on someone's solution?
- How did you develop and test your idea?
- How did you evaluate your solution and improve upon it?

### Communication

- How would your solution help others?
- Who have you shared your solution with?
- How would your solution help the world?
- How did your team work together to create your presentation?

## ROBOT DESIGN EXAMPLES

### Discovery

- How did you test your Robot design?
- Describe your programs. Did they work consistently?
- How did you evaluate your Robot design?
- What advanced programming concepts did you use?

### Innovation

- Is your Robot design original or did you model it from something existing?
- Are your programs unique or did you modify them from something existing?
- What is your strategy for solving game missions?
- What is innovative about your Robot design?

### Communication

- How did your team collaborate on the Robot design?
- How did your team work together to test the Robot?
- How were the programs created by the team?
- How did you act as a team to determine the game strategy?

## CORE VALUES EXAMPLES

### Discovery

- How did each person participate in each part of the Challenge?
- How did you explore and apply core values?
- How will your team expand Core Values and participation beyond this season?

### Innovation

- How did you use Core Values to overcome challenges?
- How independent was your team?
- How much did you use your coach for help?
- What is your team identity?

### Communication

- How did you demonstrate respect and inclusion within your team and beyond it?
- How did you learn and display *Coopertition*, fairness, and integrity within your team and beyond it?

Note: Make copies of this page as needed for teams.



# School Event Judging Rubric

Team Number \_\_\_\_\_ Team Name \_\_\_\_\_

	Developing	Achieved	Exemplary (Achieved + the following)	
<b>PROJECT</b>	<b>Discovery</b>	Limited development of problem and solution. No sources or experts identified.	<b>Adapted existing solution and clear problem. Identified sources for innovation project ideas.</b>	Well defined problem and unique solution. Used a variety of sources including an expert.
	<b>Innovation</b>	Solution identified already exists. Limited testing and development of idea.	<b>Created an original and innovative solution. Developed, tested and improved their idea.</b>	Well defined testing and evaluation of solution. Results were used to improve their idea.
	<b>Communication</b>	Presentation doesn't always flow well. Not clear how the solution would help others.	<b>Creative and engaging presentation by team. Showed how the solution would help others.</b>	Shared presentation with experts. Showed how the solution would help the world.
<b>ROBOT DESIGN</b>	<b>Discovery</b>	Limited testing of Robot design. Basic programs that worked inconsistently.	<b>Clear testing of Robot design. Effective use of basic programs.</b>	Well defined testing and evaluation of Robot design. Effective use of advanced programs.
	<b>Innovation</b>	Design, programs, and strategy are unoriginal, and have not been improved or modified.	<b>Modified or improved Robot design or programs. Clear strategy for solving game missions.</b>	Innovative Robot design and programs. Well-defined strategy for solving game missions.
	<b>Communication</b>	Limited understanding of Robot design. Unclear or limited game strategy.	<b>Clear understanding of Robot design. Clear strategy for 1-2 game missions.</b>	Clear understanding of Robot design and testing process. Clear strategy for most/ all game missions.
<b>CORE VALUES</b>	<b>Discovery</b>	Some team members participated. Team only beginning to explore Core Values.	<b>Full participation of team in entire Challenge. Clear exploration of Core Values.</b>	Participation extends beyond team and season. Application of Core Values during season and beyond.
	<b>Innovation</b>	1 or no Core Values used to overcome a challenge. Limited team autonomy with a lot of coach help.	<b>Used some Core Values to overcome challenges. Self-directed team with minimal coach guidance.</b>	Applied all Core Values to overcome challenges. Developed own team identity and autonomy.
	<b>Communication</b>	Respect and inclusion being developed. Developing fairness, integrity, and <i>Coopertition</i> .	<b>Demonstrated respect and inclusion of team. Understanding of fairness, integrity and <i>Coopertition</i>.</b>	Displayed inclusion and respect beyond team. Displayed <i>Coopertition</i> , fairness, and integrity.

Note: Make copies of this page as needed for teams.

# Table construction

– Build this Table if you can't find one to share

## Materials

Material	Quantity
Challenge Set (Mission Model LEGO Elements, Mat, Dual Lock™)	1
Sanded Plywood (Or other very smooth board) 96" x 48" x 3/8" (2438mm X 1219mm X 10mm) – Thicker if desired	1
Two-by-Three, 8' (2438mm) [Actual cross-section = 1-1/2" X 2-1/2" (38mm X 64mm)]	6
Flat Black Paint	1 pt. (1/2 L)
Drywall Screws, 2-1/2" (64mm)	1/2 lb. (1/4 kg)
Saw Horses, about 24" (610mm) high and 36" (914mm) wide	2

Tables with "two-by-four" walls are legal and common, but we are phasing them out at tournaments. You can use two-by-fours, but you need to be prepared to play on Tables with walls as short as 2-1/2" (64mm).

## Parts

Part	Make From	Dimensions	Paint	Quantity
Table Surface (A)	Plywood	96" (2438mm) X 48" (1219mm)	No	1
Long Border Wall (B)	Two-by-Three	96" (2438mm)	Yes	3
Short Border Wall (C)	Two-by-Three	45" (1143mm)	Yes	2
Stiffener (D)	Two-by-Three	48" (1219mm)	No	4
Saw Horse	Purchase	H≈24" (610mm) W≈36" (914mm)	No	2

If you are using a Table surface thicker than 1/2" (13mm) check for warpage/distortion - you might not need stiffeners.

You could place your Field on a floor instead of a Table, but it is very important to surround it with correctly built Border Walls.

## Assembly

### STEP 1

→ See which face of the plywood (A) is least smooth, and call that the bottom face. On the bottom face, clamp, then screw on the stiffeners (D) about every 18" (457mm). Be sure screw heads and splinters don't protrude.

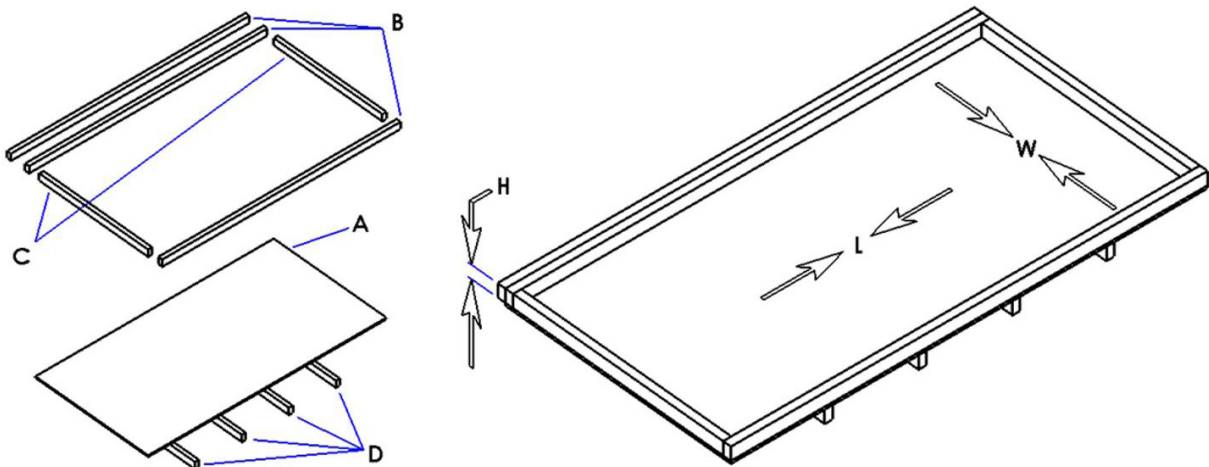
### STEP 2

→ On the top face of the plywood, locate, clamp, and screw on the Border Walls (B,C) around the top perimeter.

- The inside wall-to-wall dimensions need to measure  $W = 93\pm 1/8"$  by  $L = 45\pm 1/8"$  (2362±3mm by 1143±3mm).
- The heights of B and C each need to measure between  $H = 2-1/2"$  (64mm) and  $3-15/16"$  (100mm).
- All Border Walls at a tournament need to be the same as each other.

### STEP 3

→ Place this Table top on short saw horses (or milk crates, or anything else short and solid).



## Mat placement

### STEP 1

→ Vacuum the Table top, then feel all over it for bumps. Sand or file them away, then vacuum again, thoroughly.

### STEP 2

→ On the vacuumed Table only, unroll the Mat so its north edge is near the north Border Wall. Be very careful to never let the Mat kink from bending in two directions at once.

### STEP 3

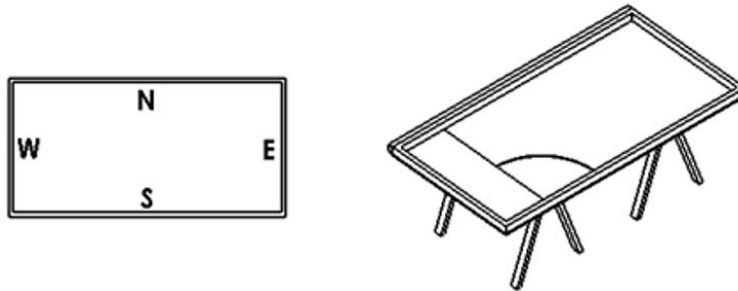
→ Slide the Mat so it meets up against the south and east Border Walls.

### STEP 4

→ OPTIONAL - To hold the Mat in place, you can use a thin strip of black tape at the east end only. Stick the tape to the east Border Wall and the Mat's thin black border only.

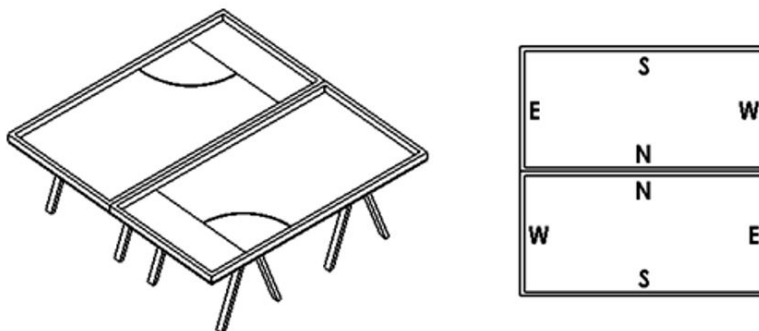
### STEP 5

→ For a competition setup, secure two Tables with their north Border walls touching. No Substitute Walls are needed. The total span of Border between two Tables needs to measure between 3" (76mm) and 3-15/16" (100mm).



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### Practice



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### Competition

# Set up your field

## Your challenge set contains:

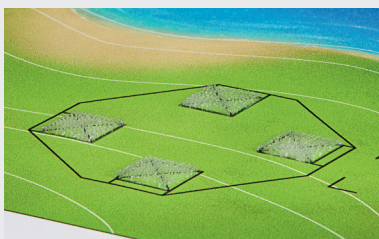
Field Mat, Mission Models, Dual Lock and White LEGO bricks that can be used to build your Innovation Project prototype

**1. BUILD THE MISSION MODELS** – Use the LEGO elements from your Challenge Set, and building instructions. Estimated time for 1 person = 6 hours. **Accurate Mission Model construction is essential. Double-check your builds, especially that all pieces are connected securely.**

**2. DUAL LOCK AND SECURE MISSION MODELS** – Follow the instructions on the following pages.

**Dual lock** – Find the brown sheets of this material from 3M in your Challenge Set. It sticks Models to the Mat, but allows removal too.

**SECURING MODELS** – “X” Squares show where to Dual Lock Models to the Mat. Use it as in this example, and **be very exact.**



**STEP 1:** Sticky side down



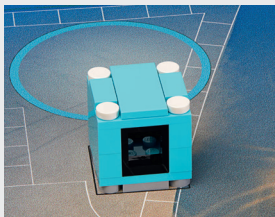
**STEP 2:** Sticky side up



**STEP 3:** Align model, press down

**MODEL STRESS** – When pressing a Model down, press on its lowest solid base structure instead of crushing the whole Model. Lift at that same structure if you need to separate the Model from the Mat.

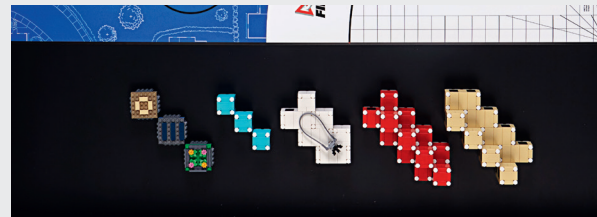
**Loose models** – Place as shown detailed here.



One blue unit w/flat roof



One white unit



In home, arranged any way you like:  
Bat, sustainability upgrades (solar panels, roof garden, insulation), 14 units, your structure for mission 11



Inspection drone



Six precision tokens

## Simple secured models

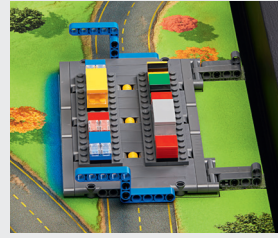
Secure and prepare as shown and detailed here.



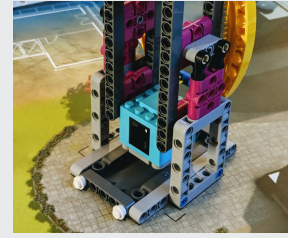
Swing



Tree



Traffic jam

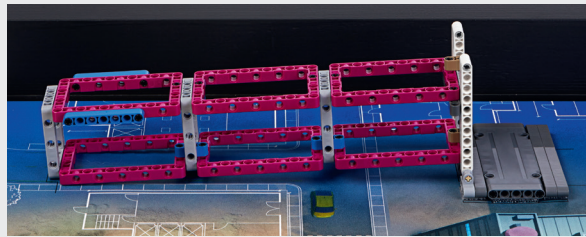


Elevator

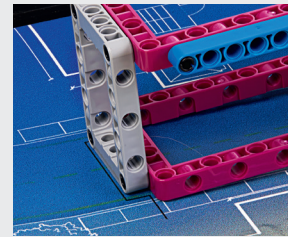
## Multi-step secured models

Secure and prepare as shown and detailed here.

**Steel construction:**

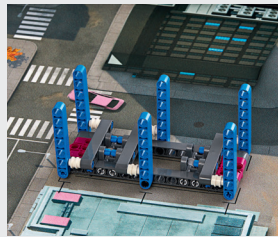


Step 1

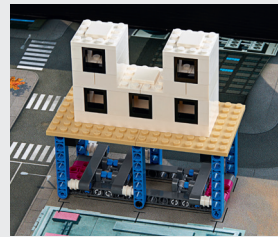


Step 2: Push East

**Test building:**



Step 1



Step 2

**Crane:**



Step 1: Tie square knot near end of string



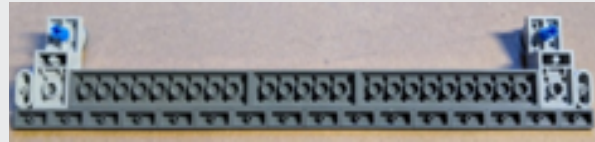
Step 2: Hook this blue unit and wind all the way up. Rotate arm all the way clockwise

## Multi-step secured models (continued)

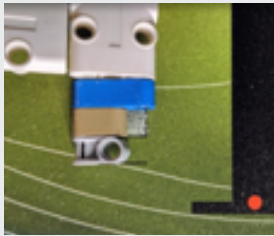
### Bridge:



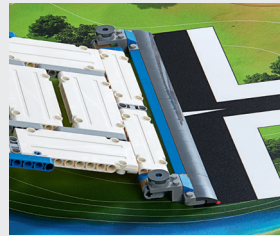
Step 1: Carefully remove the bridge's entrance



Step 1: bottom view



Step 2: Double-check all dual lock locations



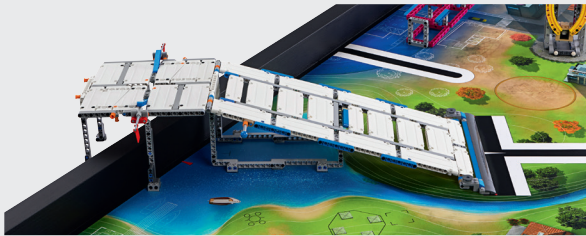
Step 3: Reinstall the entrance



Step 4: Adjust dual lock to get corners on red dots



Step 5: Be sure flag moves freely and points down



Step 6: Be sure the bridge top is centered over the north wall and substitute wall (if you have a wall).



Step 7: Use the support axles under the bridge top so it can hold a heavy robot. Experiment to see which length makes the top most level



*TIP - Use books for Bridge support if your Field has no walls.*

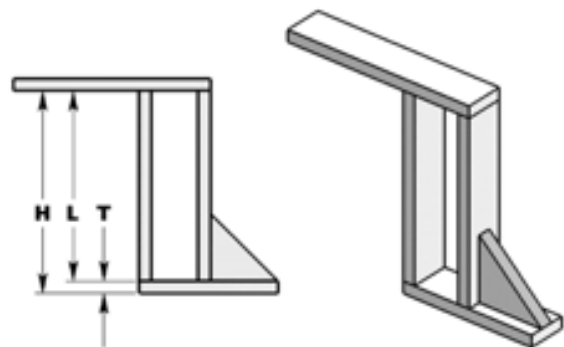
## Height check tool

→ To check the height of Equipment during Inspection and Launching, here's an idea for a simple tool you can slide around as needed.

**H = 12 in. (30.5 cm)**

**T = Thickness of your material**

**L = H - T**



# Robot Game Score Sheet

Score

<p><b>M01 – Elevated places</b> <i>(Score all that apply)</i>            → If the Robot is Supported by the Bridge: <b>20</b>            → If one or more Flags are clearly raised any distance, only by the Robot: <b>15 Each Flag</b></p>	<p>.....</p>
<p><b>M02 – Crane</b> <i>(Score all that apply)</i>            If the Hooked Blue Unit is            → Clearly lowered any distance from the Guide Hole: <b>20</b>            → Independent and Supported by another Blue Unit: <b>15</b>  <b>And Level 1 is Completely in the Blue Circle: 15</b></p>	<p>.....            .....</p>
<p><b>M03 – Inspection drone</b>            → If the Inspection Drone is Supported by the axel (A) on the Bridge: <b>10</b></p>	<p>.....</p>
<p><b>M04 – Design for wildlife</b>            → If the Bat is Supported by branch (B) on the Tree: <b>10</b></p>	<p>.....</p>
<p><b>M05 – Treehouse</b> <i>(Score all that apply)</i>            If a Unit is Supported by the Tree's            → Large Branches: <b>10 Each Unit</b>            → Small Branches: <b>15 Each Unit</b></p>	<p>.....</p>
<p><b>M06 – Traffic jam</b>            → If the Traffic Jam is lifted: <b>10</b></p>	<p>.....</p>
<p><b>M07 – Swing</b>            → If the Swing is released: <b>20</b></p>	<p>.....</p>
<p><b>M08 – Elevator</b> <i>(Score all that apply)</i>            If the Elevator's moving parts are in the following position            → Blue Car Down: <b>15</b>            → Balanced: <b>20</b></p>	<p>.....</p>
<p><b>M09 – Safety factor</b> <i>(Score all that apply)</i>            → If the Test Building is Supported only by the blue beams, and some beams have been knocked out at least half way: <b>10 Each Beam</b></p>	<p>.....</p>

Note: Make copies of this page as needed for teams.



# Robot Game Score Sheet

Score

<p><b>M10 – Steel construction</b> <i>(Score all that apply)</i>            → If the Steel Structure is standing: <span style="float: right;"><b>20</b></span></p>	
<p><b>M11 – Innovative architecture</b> <i>(Score all that apply)</i>            If there is a team designed Structure clearly bigger than a Blue Building Unit, built only from your white LEGO bricks            → Completely in any Circle: <span style="float: right;"><b>15</b></span>            → Partly in any Circle: <span style="float: right;"><b>10</b></span></p>	<p>.....</p>
<p><b>M12 – Design &amp; build</b>            → LOCATION If there are any Circles with at least one color matching Unit Completely In, and Flat Down on the Mat: <span style="float: right;"><b>10 Each Circle</b></span>            → Height If there are Independent Stacks at least partly in any Circles, add all of their heights together: <span style="float: right;"><b>5 Each Level</b></span></p>	<p>.....</p>
<p><b>M13 – Sustainability upgrades</b> <i>(Only one counts per Stack)</i>            → If an Upgrade is Supported on a Stack which is at least partly in any Circle <span style="float: right;"><b>10 Each Upgrade</b></span></p>	
<p><b>Advantage</b> <i>(Score all that apply)</i>            → If your Robot fit the Small Inspection Area and scored points in any of Missions M01 M13: <span style="float: right;"><b>5 Each Mission</b></span>            → <b>Exception</b> For M02, add <b>10</b> instead of <b>5</b></p>	
<p><b>M13 – Precision</b> <i>(Score all that apply)</i>            → If the number of Precision Tokens left on the field is:            6: <b>60</b>   5: <b>45</b>   4: <b>30</b>   3: <b>20</b>   2: <b>10</b>   1: <b>5</b></p>	
<p><b>Final score</b>            (Final score = sum of all values in the “score” columns)</p>	

Team #: \_\_\_\_\_ Referee: \_\_\_\_\_

Round: \_\_\_\_\_ Table: \_\_\_\_\_ Team initials: \_\_\_\_\_

Note: Make copies of this page as needed for teams.

# School event judging notes sheet

1. Rank each team in the four areas.
2. Fill out the table, where the top team is ranked 1, the second team is ranked 2, and so on.
3. Add up the four scores in the Total column.
4. The team with the lowest total score is the best overall team.
5. Assign an award to each team using the examples provided.

Team Name or #	Core Values	Innovation Project	Robot Design	Robot Game	Total	Award
<i>Example</i>	1	4	3	2	10	<i>Innovation</i>

**Award Options**

- First Place – The top team overall in Innovation Project, Core Values and robot game.
- Discovery Award – The team that excelled in exploring new skills and ideas. (Optional)
- Innovation Award – The team that excelled in using creativity and persistence to solve problems. (Optional)
- Communication Award – The team that excelled in clearly communicating their process and ideas. (Optional)
- Robot Performance Award – The top scoring team in Robot Game.

*Note: Make copies of this page as needed for teams.*

# Going from School event to Qualifier

The following framework provides support for any team progressing from an in-school event to a qualifier or regional competition. It highlights the differences between the two sets of events and what the progressing team should prepare.

Concept	School Event	Official Event
Rubric	<ul style="list-style-type: none"> <li>• School Event Rubric</li> <li>• Simplified criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Event Rubric</li> <li>• More comprehensive criteria</li> </ul>
Judging		<ul style="list-style-type: none"> <li>• Judging Sessions minimum of 10 minutes. 5 minutes for team sharing information/5 minutes for judging asking questions</li> <li>• Three Judging Sessions:               <ul style="list-style-type: none"> <li>– Core Values – possible Teamwork activity</li> <li>– Innovation Project</li> <li>– Robot Design</li> </ul> </li> <li>• Judges not associated with team/school/ organization</li> <li>• Based on Event Rubric</li> <li>• Deliberation process to select award winning teams</li> </ul>
Award Types	<ul style="list-style-type: none"> <li>• First Place</li> <li>• Discovery Award</li> <li>• Innovation Award</li> <li>• Communication Award</li> <li>• Robot Performance Award</li> </ul>	<ul style="list-style-type: none"> <li>• Top award winners could advance to qualifying event.</li> <li>• Champion's Award, Innovation Project Award, Robot Design Award, Robot Performance Award and Core Values Award</li> </ul>
Event Preparation	<ul style="list-style-type: none"> <li>• Single large room plus judges' room</li> <li>• 2-3 volunteers•</li> </ul>	<ul style="list-style-type: none"> <li>• Large rooms for pit area, robot games, separate judging rooms</li> </ul>
Event Structure	<ul style="list-style-type: none"> <li>• 5-minute robot design presentation</li> <li>• 5-minute Innovation Project presentation</li> <li>• 2 minutes for questions following each presentation</li> <li>• No separate Core Values presentation. Core Values evaluated throughout presentations and robot matches.</li> </ul>	<ul style="list-style-type: none"> <li>• Judging Sessions minimum of 10 minutes (5 minute presentations followed by 5 minutes for questions)</li> <li>• Three Judging Sessions:               <ul style="list-style-type: none"> <li>– Core Values</li> <li>– Innovation Project</li> <li>– Robot Design</li> </ul> </li> <li>• Robot Game – minimum of 3 rounds</li> </ul>
Event Length	<ul style="list-style-type: none"> <li>• 2+ hours</li> </ul>	<ul style="list-style-type: none"> <li>• 4+ hours</li> </ul>

Concept	School Event	Official Event
Scoring	<ul style="list-style-type: none"> <li>• Paper</li> </ul>	<ul style="list-style-type: none"> <li>• Visual scoring system</li> </ul>
Team Registration	<ul style="list-style-type: none"> <li>• Class Pack package does not include Official Team Registration</li> <li>• Varies outside North America – check with country partner</li> </ul>	<ul style="list-style-type: none"> <li>• Class Pack purchasers must purchase an official team registration for each group of students they want to participate in <i>FIRST</i> sanctioned events</li> </ul>
Cost	<ul style="list-style-type: none"> <li>• No cost to run event.</li> </ul>	<ul style="list-style-type: none"> <li>• Must pay an Additional event registration fee to the organization hosting a <i>FIRST</i> sanctioned event</li> <li>• Varies outside North America – check with country partner</li> </ul>
Participation Structure	<ul style="list-style-type: none"> <li>• Class Pack serves 30 and new offering.</li> <li>• Students are in groups working together</li> <li>• Number of students in work group varies</li> <li>• All work group members share the work</li> </ul>	<ul style="list-style-type: none"> <li>• Work groups are now defined as team</li> <li>• Team can have up to 10 members</li> <li>• All team members share the work</li> </ul>
Celebration	<ul style="list-style-type: none"> <li>• Wider audience encouraged but not essential</li> </ul>	<ul style="list-style-type: none"> <li>• Parents, teachers, family and friends in audience.</li> </ul>
Qualification	<ul style="list-style-type: none"> <li>• Possible for teams to progress to qualifying event, but not essential</li> </ul>	<ul style="list-style-type: none"> <li>• Top teams will progress to next level of the competition</li> </ul>







