

# The 2019 Robot Game

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Based on the Game Guide and the latest  
update (8/28/19)



**CITY  
SHAPER**



# Agenda

- Missions
- Match & Scoring Mechanics
- Rules changes and issues
  - Significant changes for City Shaper
  - Frequently violated rules
  - NOTE: The rules printed in the Team Meeting Guide and Engineering Notebook are NOT correct.  
Always refer to the Game Guide & updates
- Suggestions
- Questions

# Missions (1)

- **M01** Elevated places:
  - **20** points for ending on Bridge, **15** for each flag
- **M02** Crane: **20\***, **35**, or **50**
- **M03** Inspection drone: **10**
- **M04** Design for wildlife: **10**
- **M05** Treehouse:
  - Large branches: **10 each unit**
  - Small branches: **20 each unit**
- **M06** Traffic jam: **10\***
- **M07** Swing: **20**

# Missions (2)

- **M08** Elevator: **15 or 20**
- **M09** Safety factor: **10 each beam**
- **M10** Steel construction: **20**
- **M11** Innovative architecture: **10\* or 15**
- **M12\*** Design and build:
  - Color matching units: **10 each circle**
  - Height: **5 each level**
- **M13** Sustainability upgrades: **10\* each upgrade**
- **M14** Precision: **60, 45, 30\*, 20, 10, 5, or 0**
- **R19** Inspection size bonus: **5\*** pts per mission except M02 (**10** pts) and M14 (no bonus)

# Match and Scoring Mechanics

- Before the match:
  - The referee will have the students verify the table is set up per rules. Refs (*not* students) will correct any issues.
  - Equipment will be inspected (R19)
  - The two students at the table will perform sensor calibration if desired, robot setup, and program selection, and arrange objects for storage
- After the match, the referee will review the table's current position with the students and will mark the score sheet
- After discussion (if necessary), students will sign the score sheet. Questions or disputes to be handled by the head referee (or designee in case of conflict of interest) if needed.
- Students take the score sheet to the scorers' table

# Significant Rules Changes

- There is no Base this year -- it's been replaced by a Launch Area and Home. After a Launch (rule 21) the only safe place to handle the robot is when it's Completely inside Home. (rules 22 & 27).
  - RG07 on 8/14 provided an exception to this -- the robot can be touched (and subsequently re-launched) without losing a Precision marker if it is still completely inside the Launch Area when touched.
- There is **no off-field storage** this year -- no tables, no carts, and no holding Equipment by team members. All of a team's Equipment must be stored in Home. (rule 26)
- Teams can get a bonus for each mission for small robots. (rule 19 and the statement at the top of the Missions rules)
- Interruption penalties are handled by the removal of Precision markers, which start on the field. These markers are worth different amounts, so the first Interruptions cost teams more. (rule 27 and mission 14)
- Any programming language can be used.
- Assume that **every** rule has changed from previous years. Students and coaches need to focus on **this year's** rules.

# Frequently Violated Rules

- Electronic equipment allowed (“Construction” section & table at the top of the “Tournament Rules” section)
  - This includes bringing computers or phones that aren't being used as a camera to a match
- Wires are part of the robot & must be in the Launch Area when Launching the robot (rule 21)
- Can't touch jigs or the robot during Launching (rule 21)
- Interrupting (rule 9) a robot just after Launching (rule 21 & upstage RG07)
- Taking apart or connecting mission models (rule 25)
- Touching the field after the match before the referee has gone over the results with the students and they've signed the score sheet. (rules 32 & 35)

# Resources

- City Shaper challenge: <https://www.firstinspires.org/resource-library/fll/challenge-and-resources>
- FLL forums: <https://forums.usfirst.org/forum/general-discussions/first-programs/first-lego-league>
- FLL First steps: <https://info.firstinspires.org/fll-first-steps-request>
- KC FIRST FLL Portal: <https://www.kcfirst.org/first-lego-league-portal>
- KC Head Referee
  - Web site: <https://sites.google.com/view/kcflref/home>
  - Email: [kcFLLref@gmail.com](mailto:kcFLLref@gmail.com)



# Suggestions

- Make sure your students know the rules:
  - Quiz them, and make them answer their own questions – don't build a reliance on the coach or mentors.
  - This helps them focus on solving real robot game problems, not imaginary missions or self-imposed problems
- Understand rules precedence (rule 17) – 1) Updates, 2) Missions & Field Setup, 3) Rules text, 4) Local Head Ref
- Read and understand all updates
- Have the kids perform experiments to determine solutions. Don't let them guess or make assumptions.
- Tournament tables and Models are NOT exactly like yours; students need to be prepared for this.
- Practice under actual match conditions.

# Questions?