

STEMley 2018 – Rule Changes

rev: July 24, 2018

1. **125 pound weight allowance** (honour system), allows teams to modify/upgrade their 2018 robot
2. **G15. Opponent's EXCHANGE ZONE: no camping:** The blocking foul for the opponent's EXCHANGE ZONE is negated once the ROBOT has moved at least **three (3)** feet from the EXCHANGE ZONE (rather than the original six feet).*
3. **G18. Don't mess with opponents in their PLATFORM ZONE:** Free climbs are awarded to the alliance and not the robot. The order of selection is chosen similar to that of the levitate power up.*
4. **G25. PLATES are moved by POWER CUBES, not ROBOTS:** FOUL per instance where the action gives an advantage to the offending team. Teams are not penalized for tipping the scale towards their opponent's side or when it clearly doesn't change the scoring state of the scale.*
5. **draft order** 1-8, 8-1, 8-1 (until we run out of teams). No back-ups. Any three robots can play any match. Alliance captains determine who plays and driver station placement. The intent is to allow all attending teams the chance to participate in the playoff round.
6. **tie-breaker in finals**, if the match score of each alliance is equal, the match is replayed.
7. **STEMley SUPER CUBES:** Two special STEMley SUPER CUBES will be in play at the STEMley Championship: one **red**-colored SUPER CUBE and one **blue**-colored SUPER CUBE. The cloth cover of the SUPER CUBE will be made of material to match as closely as possible the original yellow nylon cover - it should have similar handling characteristics to a regular yellow POWER CUBE but detection by the VAULT sensor cannot be guaranteed.

Prior to each MATCH, ALLIANCES select the starting position of their SUPER CUBE in one of their two ALLIANCE PORTALS. Each SUPER CUBE takes the place of one regular yellow POWER CUBE.

SUPER CUBES may be entered into the playing field through one of the PORTALS in the last thirty (30) seconds of the MATCH. If introduced early (prior to 30 seconds left in the MATCH) as determined by the REFEREES, a TECH FOUL will apply and that SUPER CUBE will be scored as a regular yellow POWER CUBE (ie. no scoring BONUS will apply).

There are two BONUS scoring conditions for the SUPER CUBES:

- a. At the end of the match (when the timer reaches zero seconds), every SUPER CUBE supported entirely by an ALLIANCE's own SWITCH PLATE and/or it's FENCE (and not even partially supported by a ROBOT, the carpet or anything else) scores five (5) BONUS POINTS for every regular yellow POWER CUBE supported by the SWITCH PLATE for the ALLIANCE matching the color of the SWITCH PLATE up to a maximum of fifty (50) POINTS.

Example 1: the **red** SUPER CUBE ends the match on the **red** side of the SWITCH nearest the **red** ALLIANCE STATION. In addition to the **red** SUPER CUBE, there are four (4) regular yellow POWER CUBES on the **red** side of this SWITCH. The **red** ALLIANCE receives a BONUS to their score equivalent to:

$$5 \text{ points/cube} \times 4 \text{ cubes} = 20 \text{ POINTS}$$

- b. At the end of the match (when the timer reaches zero seconds), every SUPER CUBE supported entirely by the SCALE (and not even partially supported by a ROBOT or anything else) scores five (5) BONUS POINTS for every regular yellow POWER CUBE on the SCALE PLATE for the ALLIANCE matching the color of the SCALE PLATE up to a maximum of fifty (50) POINTS.

Example 2: the **red** SUPER CUBE ends the match on the **blue** side of the SCALE. In addition to the **red** SUPER CUBE, there are twelve (12) regular yellow POWER CUBES on the **blue** side of the SCALE. The **blue** ALLIANCE receives a BONUS to their score equivalent to:

$$5 \text{ points/cube} \times 10 \text{ cubes} = 50 \text{ POINTS (maximum)}$$

BONUS POINTS due to SUPER CUBES (if any) will be added to the MATCH SCORE prior to the posting of the official final MATCH SCORES. Where the outcome of the match may depend on BONUS POINTS, REFEREES may at their discretion enter the field to perform a manual count of the number of regular yellow POWER CUBES on the SWITCH or SCALE. The ruling of the HEAD REFEREE is final.

*thanks to TRI for these suggestions