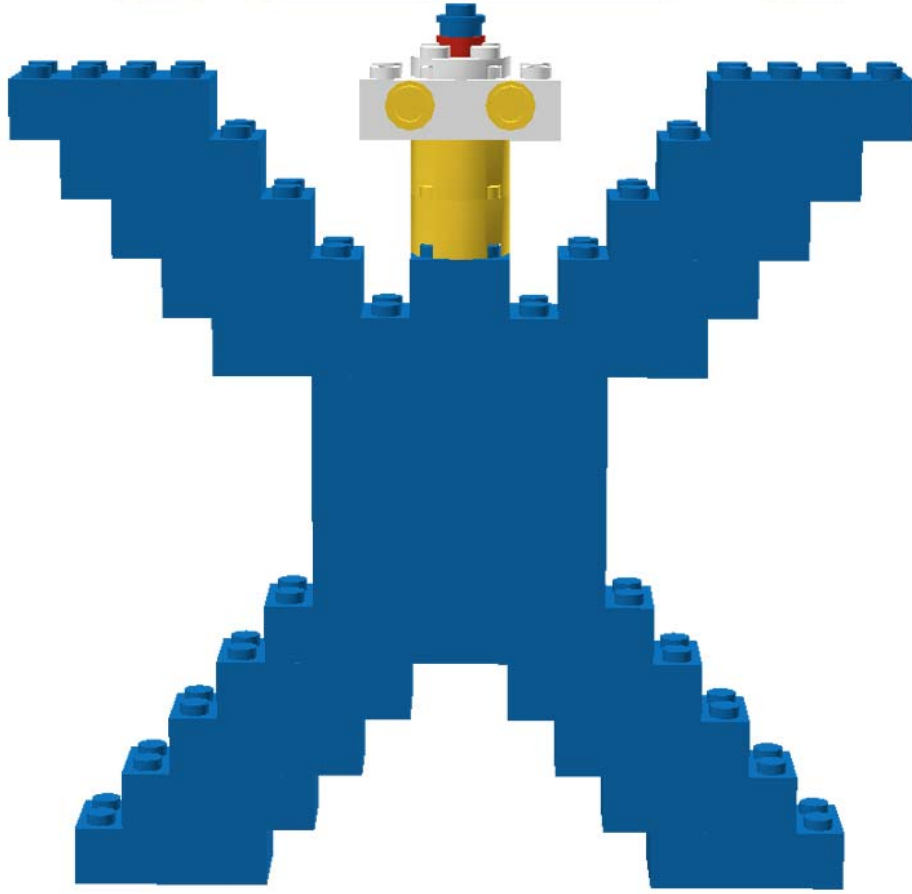


GEAR



ROBOTICS

General Rules

Revised on 1-14-2020

GEAR Robotics Challenge
General Rules

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GEAR Robotics Challenge
General Rules

Tournament Protocol

When reading the rules please use every day common sense to interpret them rather than a “lawyer” interpretation. If you have a doubt about the interpretation of a rule, please post a question to the Q&A section on the website.



Definitions

Attachments	Any component (or system) that is intended to be a temporary appendage or extension of the robot.
Competition Configuration	The maximum allowable dimension (16” long, 16” wide, and 16” tall) a robot may attain at the tournament.
Off the field	Any area that is outside the boundaries of the playing field.
Player Zone	The 16”x16” area on the corner of the field where teams are allowed to touch the robot and game elements without penalty.
Playing Field	The official game table used by the tournament consisting of four playing areas for the contestants.
Possession	An item that is in control by the robot and that is not touching the playing field surface. An item is considered in possession if the robot is fully supporting (item not touching the playing field surface) the item, and changes speed or direction cause the item remain in the same position relative to the robot.
Preloading	The act of loading game element onto the robot prior to the start of the match.
Robot Zone	The area of the playing field outside the player zone. This area will also be the location for most game elements.

General Rules

GR1	Only one robot per team will be allowed in the tournament. Backup robots will NOT be allowed. Teams found in violation will not be allowed to compete in the tournament and will forfeit any point accumulations until they satisfy this rule requirement.
GR2	Matches are two minutes in length. The match will begin with a 3, 2, 1 countdown, blow of a whistle, or other sound. The match will end with a 3 second countdown, blow of a whistle, 3, 2, 1 countdown, or other sound.
GR3	No rematches will be awarded unless it is deemed that there is a failure of GEAR provided field materials.
GR4	No time-outs will be allowed for any reason, unless related to rule GR3.
GR5	All scoring disputes must be settled before the team leaves the field. See rule SC3 for more information.
GR6	Robots must remain in the in the player zone until the match starts. All other components (attachments, etc.) must be within the player zone. Once the match starts the robot can be moved to any location within the player zone. Robots must meet the competition configuration at all times. Players may preload the robot with game elements that originate from the player zone prior to the start of the match. Preloaded game elements may not extend into the robot zone.

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GR7	<p>All robot starts must be from the space within the player zone. No part of the robot (including attachments) or game elements may extend into the robot zone. Teams violating this rule will be disqualified from the match and not receive a score for that match.</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <p>Illegal Strat</p> <p>Legal Start</p> </div>
GR8	Robots will be allowed to cross robot zone boundaries; however, the robot belonging to that zone will have right of way. The referees will monitor robots outside their robot zones. If the referee determines that a robot is on a collision course or will block the opposing robot, the referee will remove the out-of-zone robot and place it back in the respective player zone.
GR9	Contact with the robot or game elements is limited to the player zone. Teams may only touch the robot or a game element without penalty once game element / robot is COMPLETELY inside the player zone.
GR11	Players may contact the robot in the robot zone; however, the robot MUST immediately be returned back to the player zone. Items in possession by the robot may be kept on with the robot as it returns to the player zone. All other items will remain in the robot zone wherever the robot left them at the time of pickup. Contact will result in a penalty as described in rule P3.
GR12	Stealing or interfering with other player's game pieces is not allowed and will result in disqualification from the match. Unintentional interference may be possible (robot veering off course, etc.). Referees will have sole discretion on whether the interference was unintentional or not, and should reset any game element back to its state prior to the interference. This only applies to game elements belonging to the opposing team.
GR14	<p>Teams may bring a container to hold attachments and game elements off the field. The container should not be greater than 24" long, 12" wide and 12" deep. Containers should be presented at the time of inspection for compliance and may be randomly checked by the referees at any time. Containers may be randomly inspected during the tournament to ensure compliance. Teams who violate this rule will not be allowed on the field until they are in compliance with the rule.</p> <p>Teams may temporarily store game elements that originate in the player zone, or were accumulated during course of the match in the container. Teams must return the game elements back to the field at the conclusion of the match in order to receive points for those game elements. See rules GR15 and P1 for additional information.</p>
GR15	Teams must return all game elements to the field prior to leaving the game table. Violation will result in an immediate delay of game penalty. See rule P1 for additional information.
GR16	Attachments not being used by the robot, must remain in the player zone, or may be stored off the field in a container (see GR14). Attachments are subject to rule GR9, and any attachment (or other robot component) deemed to be in the robot zone must be retrieved by the robot before it can be used.
GR17	Robots may interact with game elements on the field by dragging, grabbing, lifting, pushing, pulling, storing onboard or other method as long as legal parts are used in such action. Interactions with game elements should not cause damage to the game element during the process.
GR18	Teams may use alignment guides during the match. Alignment guides may not extend into the robot zone at any time. Violation will result in loss of use of the alignment guide during the match and a 10 second penalty.
GR19	Game elements may be bundled to ease in delivery, unless otherwise dictated by the game rules. The items used to bundle must be made from kit legal parts (see rule RC6). Any adhesive material used may not have direct contact with the game element, or leave any kind of adhesive residue. Teams found to be in violation of this rule will be disqualified from the match and will not receive a score.

GEAR Robotics Challenge

General Rules

GR20	Teams may not load game elements onto a moving robot. Violation will be subject to rule P4.
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The Robot

Definitions

Robot	An autonomous device designed and built by students to perform specific tasks as dictated by the game challenge. It is electrically powered by the onboard EV3, or NXT controller. It uses various electrical and mechanical systems from the Lego or additional materials listed in rule RC6 to accomplish its tasks.
Additional Materials	A list of additional items that are not part of the Lego EV3 or NXT kits, but are legal to use in the construction of the robot.

Robot Construction Rules

RC1	Only students are allowed to design, build and program the robot. Adults may assist with troubleshooting design problems.
RC2	Robots must fit in a box 16" long, 16" wide, and 16" high prior to the start of each match. Robots may not expand beyond those dimensions. Robots must be able to handle some field variances, such as tolerances in board length/width/height and slight waviness in field mat.
RC3	The "minimum robot" that may be used in the tournament must contain the following parts: <ul style="list-style-type: none"> • EV3 or NXT controller brick. • Up to four motors • Up to four sensors • Associated cabling for motors and sensors • Batteries (including rechargeable) • Any structural component currently available in the RCX, NXT, or EV3 Lego kits
RC4	The following sensors may be used: accelerometer, compass, gyroscopic, light/color, rotation sensor, sound sensor, touch sensor, and ultrasonic sensor.
RC5	Pneumatic systems will not be allowed.
RC6	Teams may use the following materials in the fabrication of the robot: NOTE: There will be no restriction on the quantities or sources of non-electric Lego components, however all Lego components must be in original factory condition. Use of non-Lego components will be prohibited (I.E. Megablocks components), except for the additional items listed below. Quantities listed are per-tournament (not per match). Items limiting length or quantity mean that you can only use that amount to carry you through the entire tournament. <ul style="list-style-type: none"> • Lego EV3, or RCX components (does not matter if it is a retail kits, educational kits, or expansion sets) • 1 – foam, paper, or plastic cup up to 32 oz. in size • 10 - Popsicle Sticks ½" x 4 ½" • 20 – Paper clips, any size. • 10 –Rubber bands, up to 6 inches in size • 1 - 8.5" x 11" file folder • 1 - Empty tissue box, or corrugated cardboard up to ¼" in thickness • 2 - Wooden pencils – not to exceed 8" in length and ¼" in thickness (Example: standard #2 pencil) • 1 - Paper towel, or toilet paper tube • String (not to exceed a length of 2 feet) • 2 feet of masking tape. Tape may not exceed 2 inches in width • Fasteners such as glue, staples, twist ties, binder clips or brass fasteners

GEAR Robotics Challenge General Rules

	<ul style="list-style-type: none"> • 5 - Drinking straws • 1 – 3/16" foam board not to exceed 12" x 12" in size • 12 – Craft pipe cleaners (12" in length)
RC7	The robot may be decorated using materials not listed; however, these materials must be nonfunctional, meaning that they can be removed without affecting the performance of the robot. Rule RC2 will apply to nonfunctional decorations.
RC8	No remote control (wired or wireless) devices of any kind. Tethering devices will be considered as remote-control devices and are therefore not allowed.
RC9	Devices whose sole intention is to impede/disable another robot will not be allowed. Teams employing such tactics will be disqualified from the tournament.

Robot Inspection

RS1	All robots must pass inspection before they are allowed to compete in the tournament. Robot inspections will take place on the day of the tournament.
RS2	Robots may be re-inspected at any time during the tournament to ensure compliance.
RS3	<p>The following criteria will be used to determine compliance:</p> <ul style="list-style-type: none"> • Robot with (or without) attachments conforms to a 16" long, 16" wide, and 16" high footprint. • Robot meets the "minimum robot" requirements • Robot is constructed using only allowed materials • Nonfunctional materials do not enhance robot capabilities • Containers for attachments or game elements must not exceed 24" long, 12" wide and 12" deep.
RS4	Robots advancing to the final rounds will be re-inspected for compliance.

The Essay

RE1	Teams competing for the Young Engineers Award are required to turn in an essay. The purpose of the robot essay is to provide the judges a brief overview of the design and capabilities of the robot and team dynamics.
RE2	<p>The essay must meet the following criteria:</p> <ul style="list-style-type: none"> • 2 or 3 pages (or one-page front and back) in length max. An additional page (front and back may be added for supporting documentation (diagrams, pictures, etc.) • The header must contain the name of the team, school, and teacher / sponsor name. • Contain information on the following topics: <ul style="list-style-type: none"> ▪ Brainstorming – how did you get the idea for the design? ▪ Robot design – why did you choose that particular design? How does it solve the challenge? ▪ Programming – brief summary on your program design and how it helps the robot solve the challenge. ▪ Game Strategy – How will the robot perform during the competition? ▪ Team involvement with the school / community (e.g. robot demonstrations, helping other teams, etc.)
RE5	Team essays will be scored by at least two judges. The scores from each judge will be averaged and entered into the team's Young Engineers Award score sheet.
RE6	<p>Submission deadline</p> <ul style="list-style-type: none"> • Check with your local tournament coordinator on how to submit the essay and the due date. • All entries must be submitted in MS word, or PDF format. <p>Teams are encouraged to print a copy and bring it to the competition. The essay may be used during the interview.</p>

GEAR Robotics Challenge
General Rules

The Awards

Performance Awards

Award	Criteria
First Place	This award is presented to the team that places first at the end of the tournament.
Second Place	This award is presented to the team that places second at the end of the tournament.
Third Place	This award is presented to the team that places third at the end of the tournament.
Fourth Place	This award is presented to the team that places fourth at the end of the tournament.

Other Awards

Award	Criteria
Best Themed Award	This award is presented to the team who best reflects the theme of the competition
GEAR Head Award	This award is presented to a team whose robot exhibits creative use of available materials to implement a unique or unusual machine capability.
Judge's Award	This award is presented to a team who is worthy of recognition but it does not fit in a specific award category.
Most Elegant Robot	This award is presented to a team whose robot makes the judges say, "WOW! That is a neat robot."
Pinnacle Award	This award is presented to a team with the highest single round score during the seeding competition.
Programming Award	<p>This award is given to the team who demonstrates successful techniques in one or more of the following criteria:</p> <ul style="list-style-type: none">• Use of unique programming techniques to successfully accomplish the game challenges• Evidence of good software documentation and revision control• Ability to describe in detail how their programs works and how it helps solve the game challenges• Demonstrate that the implemented programs perform with success on the playing field• Employ the use of at least two robot sensors to assist with robot function on the field.

Young Engineers Award (1st and 2nd place)

YE1	<p>This award is presented to a team who excels in the following criteria:</p> <ul style="list-style-type: none">• Ability to demonstrate and describe their robot design• Robot performance on the field• Team sportsmanship on and off the field• Overall team image (use of themes, etc.)• Team Essay
YE2	<p>Scoring Criteria</p> <p>Ability to demonstrate and describe their robot design – 30 points max</p> <p>Robot performance on the field – 25 points max. + 10 points if team ranks in the top 10</p> <p>Team sportsmanship on and off the field – 20 points max</p> <p>Overall team image (use of themes, etc.) – 15 points max</p> <p>Team Essay – 100 points max. (this score will be an average of two scores by the judges (see RE4 and RE5)</p>
YE3	Judges will make every effort to interview your team for this award. If no interview is possible, then the judges will use the information in the essay to score the team for this award.

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Tournament Rules

Scoring Rules

SC1	The referees make all decisions regarding scoring and have final authority during the competition. Referees will not review recordings of the match.
SC2	Final scoring will not be tabulated until after the end of the match unless otherwise noted in the game rules. Minimum score that a team may receive is a zero.
SC3	A member of the team will need initial the score sheet indicating that they agree the score is correct. Once this process happens there will be no further review of the score.
SC4	All scoring must be done by the robot under its own power and control unless otherwise noted in the game rules.
SC5	All game elements will be scored on their final resting place at the conclusion of the match.
SC6	Game elements being touched or supported by the robot at the end of the match will not be scored unless otherwise noted in the game rules, or the robot is in the player zone. Items in possession by the robot will not be scored unless the robot is in the player zone (per GR9) when the match clock expires.

Penalties

P1	Delay of game penalty will incur a 5-point deduction. Violations include: <ul style="list-style-type: none">• Taking longer than a minute to setup on the field.• Taking longer than one minute to remove the robot from the field (unless the referee is still scoring the field).• Removing game elements from the playing field area.• Team not present in the cuing area when called for the next match. Referees may use discretion on this rule in the event that the team has been delayed by a judge's interview, or some other action. It will be up to the head referee to determine if a penalty should be assessed in cases not specifically listed on this rule.
P2	Touching a game piece (bin, platform, etc.) in the robot zone by a human player will incur a 10-point deduction. Any game pieces placed or taken by the human player will be removed from the game area for the remainder of the match and the piece will not be scored.
P3	Picking up the robot in the robot zone during the course of the match will incur a 5-point deduction.
P4	Loading a game element while the robot is in motion will incur a 10-point penalty.

Seeding Rounds – Single Division Play

SE1	Teams compete in a tournament where all registered teams are ranked together. Tournament coordinators may employ more than one playing field in the tournament. Check with your local tournament coordinator on what format is planned for your tournament.
SE2	Each team will compete in three, four, or five competition rounds during the seeding portion of the tournament. Check with your local tournament coordinator on how many seeding rounds are planned for your tournament.
SE3	Teams will be randomly assigned a field corner for each match.
SE4	Up to four teams will compete per match. More teams may compete per match if more playing fields are available.
SE5	Teams start with zero points at the start of the seeding competition and accumulate points based on the results of their matches.
SE6	The lowest score will be automatically dropped before teams are ranked.
SE7	In the event that there is a tie at the conclusion of the seeding rounds, the following criteria (in order) will be used to access the rank order: <ul style="list-style-type: none">• The team with the higher single round score during the seeding matches.• The lowest number of penalties incurred during the seeding competition.• The flip of a coin by the referee.

GEAR Robotics Challenge

General Rules

Semi-final Rounds – Single Division Play

Check with your local tournament coordinator as not all tournaments do a semi-final or final elimination rounds

SD1	The top eight seeded teams from the seeding rounds will compete in semi-final rounds.																																			
SD2	Team scores will be reset back to zero.																																			
SD3	The semi-final rounds will consist of a six round mini tournament (up to three rounds per team)																																			
SD4	Up to four teams will compete per match. More teams may compete per match if more playing fields are available.																																			
SD5	The semi-final rounds may be shortened in order to accommodate time restraints. Tournament officials will make an announcement informing the teams on the shortened semi-final rounds prior to the start of the semi-final rounds.																																			
SD6	<p>In the event that there is a tie at the conclusion of the semi-final matches, the following criteria (in order) will be used to access the rank order for the final matches:</p> <ul style="list-style-type: none">• The lowest number of penalties incurred during the semi-final rounds.• The team with the higher rank during the seeding matches.• The flip of a coin by the referee.																																			
SD7	<p>The semi-final rounds will be played as follows (rule SD5 may apply):</p> <table><tr><th>Round #</th><th>Red</th><th>Blue</th><th>Yellow</th><th>Green</th></tr><tr><td>SF1</td><td>Seed 1</td><td>Seed 2</td><td>Seed 7</td><td>Seed 8</td></tr><tr><td>SF2</td><td>Seed 3</td><td>Seed 4</td><td>Seed 5</td><td>Seed 6</td></tr><tr><td>SF3</td><td>Seed 8</td><td>Seed 1</td><td>Seed 2</td><td>Seed 7</td></tr><tr><td>SF4</td><td>Seed 6</td><td>Seed 3</td><td>Seed 4</td><td>Seed 5</td></tr><tr><td>SF5</td><td>Seed 2</td><td>Seed 8</td><td>Seed 7</td><td>Seed 1</td></tr><tr><td>SF6</td><td>Seed 4</td><td>Seed 6</td><td>Seed 3</td><td>Seed 5</td></tr></table>	Round #	Red	Blue	Yellow	Green	SF1	Seed 1	Seed 2	Seed 7	Seed 8	SF2	Seed 3	Seed 4	Seed 5	Seed 6	SF3	Seed 8	Seed 1	Seed 2	Seed 7	SF4	Seed 6	Seed 3	Seed 4	Seed 5	SF5	Seed 2	Seed 8	Seed 7	Seed 1	SF6	Seed 4	Seed 6	Seed 3	Seed 5
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SF6	Seed 4	Seed 6	Seed 3	Seed 5																																

Final Rounds – Single Division Play

FD1	The top four teams from the semi-final rounds will compete in the final rounds.																				
FD2	Team scores will be reset back to zero.																				
FD3	The final rounds will consist of a three round mini tournament																				
FD4	Up to four teams will compete per match. More teams may compete per match if more playing fields are available.																				
FD5	<p>In the event that there is a tie at the conclusion of the final rounds, the following criteria (in order) will be used to assess which team will advance to the final rounds:</p> <ul style="list-style-type: none">• The lowest number of penalties incurred during the final rounds.• The team with the higher rank at the conclusion of the seeding matches.• The flip of a coin by the referee.																				
FD6	<p>The final rounds will be played as follows:</p> <table><tr><th>Round #</th><th>Red</th><th>Blue</th><th>Yellow</th><th>Green</th></tr><tr><td>F1</td><td>Semi 1</td><td>Semi 2</td><td>Semi 3</td><td>Semi 4</td></tr><tr><td>F2</td><td>Semi 4</td><td>Semi 1</td><td>Semi 2</td><td>Semi 3</td></tr><tr><td>F3</td><td>Semi 3</td><td>Semi 4</td><td>Semi 1</td><td>Semi 2</td></tr></table>	Round #	Red	Blue	Yellow	Green	F1	Semi 1	Semi 2	Semi 3	Semi 4	F2	Semi 4	Semi 1	Semi 2	Semi 3	F3	Semi 3	Semi 4	Semi 1	Semi 2
Round #	Red	Blue	Yellow	Green																	
F1	Semi 1	Semi 2	Semi 3	Semi 4																	
F2	Semi 4	Semi 1	Semi 2	Semi 3																	
F3	Semi 3	Semi 4	Semi 1	Semi 2																	

Divisional Seeding Rounds – Multi Division Play

SM1	<p>Teams are divided into four divisions (blue, green, red, and yellow). Each division will compete using the single division play seeding rules; however each division will be ranked individually. This format should be used for competitions where there are more than 100 registered teams</p> <p>Check with your local tournament coordinator on what format is planned for your tournament.</p>
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GEAR Robotics Challenge
General Rules

Divisional Quarter-final Rounds – Multi Division Play

QF1	The top eight seeded teams from the seeding rounds will compete in quarter-final rounds.																																			
QF2	Team scores will be reset back to zero.																																			
QF3	The quarter -final rounds will consist of a six round mini tournament (up to three rounds per team)																																			
QF4	Up to four teams will compete per match. More teams may compete per match if more playing fields are available.																																			
QF5	The quarter -final rounds may be shortened in order to accommodate time restraints. Tournament officials will make an announcement informing the teams on the shortened semi-final rounds prior to the start of the quarter -final rounds.																																			
QF6	<p>In the event that there is a tie at the conclusion of the quarter -final matches, the following criteria (in order) will be used to access the rank order for the final matches:</p> <ul style="list-style-type: none">• The lowest number of penalties incurred during the quarter-final rounds.• The team with the higher rank during the seeding matches.• The flip of a coin by the referee.																																			
QF7	<p>The semi-final rounds will be played as follows (rule SD5 may apply):</p> <table><tr><th>Round</th><th>Red</th><th>Blue</th><th>Yellow</th><th>Green</th></tr><tr><td>QF1</td><td>Seed 1</td><td>Seed 2</td><td>Seed 7</td><td>Seed 8</td></tr><tr><td>QF2</td><td>Seed 3</td><td>Seed 4</td><td>Seed 5</td><td>Seed 6</td></tr><tr><td>QF3</td><td>Seed 8</td><td>Seed 1</td><td>Seed 2</td><td>Seed 7</td></tr><tr><td>QF4</td><td>Seed 6</td><td>Seed 3</td><td>Seed 4</td><td>Seed 5</td></tr><tr><td>QF5</td><td>Seed 2</td><td>Seed 8</td><td>Seed 7</td><td>Seed 1</td></tr><tr><td>QF6</td><td>Seed 4</td><td>Seed 6</td><td>Seed 3</td><td>Seed 5</td></tr></table>	Round	Red	Blue	Yellow	Green	QF1	Seed 1	Seed 2	Seed 7	Seed 8	QF2	Seed 3	Seed 4	Seed 5	Seed 6	QF3	Seed 8	Seed 1	Seed 2	Seed 7	QF4	Seed 6	Seed 3	Seed 4	Seed 5	QF5	Seed 2	Seed 8	Seed 7	Seed 1	QF6	Seed 4	Seed 6	Seed 3	Seed 5
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QF4	Seed 6	Seed 3	Seed 4	Seed 5																																
QF5	Seed 2	Seed 8	Seed 7	Seed 1																																
QF6	Seed 4	Seed 6	Seed 3	Seed 5																																

Divisional Semi-Final Rounds – Multi Division Play

SF1	The top four teams from the quarter-final rounds will compete in the semi-final rounds.																				
SF2	Team scores will be reset back to zero.																				
SF3	The semi-final rounds will consist of a three round mini tournament																				
SF4	Up to four teams will compete per match. More teams may compete per match if more playing fields are available.																				
SF5	<p>In the event that there is a tie at the conclusion of the final rounds, the following criteria (in order) will be used to assess which team will advance to the final rounds:</p> <ul style="list-style-type: none">• The lowest number of penalties incurred during the semi-final rounds.• The team with the higher rank at the conclusion of the seeding matches.• The flip of a coin by the referee.																				
SF6	<p>The final rounds will be played as follows:</p> <table><tr><th>Round</th><th>Red</th><th>Blue</th><th>Yellow</th><th>Green</th></tr><tr><td>SF1</td><td>QF 1</td><td>QF 2</td><td>QF 3</td><td>QF 4</td></tr><tr><td>SF2</td><td>QF 4</td><td>QF 1</td><td>QF 2</td><td>QF 3</td></tr><tr><td>SF3</td><td>QF 3</td><td>QF 4</td><td>QF 1</td><td>QF 2</td></tr></table>	Round	Red	Blue	Yellow	Green	SF1	QF 1	QF 2	QF 3	QF 4	SF2	QF 4	QF 1	QF 2	QF 3	SF3	QF 3	QF 4	QF 1	QF 2
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Divisional Finals – Multi Division Play (The Championship)

C1	The top team from each of the four divisions will compete in the championship.
C2	<p>The teams will be ranked according to their final score in the divisional semi-final rounds and assigned a slot in the championship. Slots will be assigned as follows:</p> <p>DF1 – assigned to the highest ranked team</p> <p>DF2 – assigned to the second ranked team</p> <p>DF3 – assigned to the third ranked team</p>

GEAR Robotics Challenge
General Rules

	DF4 – assigned to the four ranked team																				
C3	<p>In the event that there is a tie among the divisional finalists, the following criteria (in order) will be used to assess the rank order for the championship rounds:</p> <ul style="list-style-type: none">• The lowest number of penalties incurred during the divisional semi-final rounds.• The team with the higher individual round score during the divisional semi-final matches.• The team with the higher rank during the divisional seeding matches.• The team with the lowest number of penalties incurred during the divisional seeding rounds.• The flip of a coin.																				
C4	Team scores will be reset back to zero.																				
C5	The championship rounds will consist of a three round mini tournament																				
C6	Up to four teams will compete per match.																				
C7	<p>In the event that there is a tie at the conclusion of the championship rounds, the following criteria (in order) will be used to assess which team will advance to the final rounds:</p> <ul style="list-style-type: none">• The lowest number of penalties incurred during the championship rounds.• The team with the higher rank at the conclusion of the divisional semi-final matches.• The team with the higher rank during the divisional seeding matches.• The team with the lowest number of penalties incurred during the divisional seeding rounds.• Use the following formula: (seeding round rank score + quarter-final rank score + semi-final rank score) – (seeding round penalties + quarter-final + semi-final round penalties). The team with the higher score will be declared the champion.• The teams will compete in an additional match. The winner of that match will be the tournament champion. This match may be played two times in the event that the first match is a tie.• Flip of a coin.																				
C8	<p>The final rounds will be played as follows:</p> <table><tr><th>Round</th><th>Red</th><th>Blue</th><th>Yellow</th><th>Green</th></tr><tr><td>C1</td><td>DF 1</td><td>DF 2</td><td>DF 3</td><td>DF 4</td></tr><tr><td>C2</td><td>DF 4</td><td>DF 1</td><td>DF 2</td><td>DF 3</td></tr><tr><td>C3</td><td>DF 3</td><td>DF 4</td><td>DF 1</td><td>DF 2</td></tr></table>	Round	Red	Blue	Yellow	Green	C1	DF 1	DF 2	DF 3	DF 4	C2	DF 4	DF 1	DF 2	DF 3	C3	DF 3	DF 4	DF 1	DF 2
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GEAR Robotics Challenge
General Rules

Questions, Updates, Etc.

Game or rules related questions	Please use the game Q&A form on the gearrobotics.org website if you have a question about the game or need clarification on a game rule or general rule. Please read the Q&A regularly as the Q&A will take precedence over any rule in the game or general rules.
Non-game related questions	Please contact your local GEAR tournament coordinator for non-rules related questions (essay deadline, tournament date, etc.).
Be a volunteer!	The success of our GEAR tournaments is due in large part to our volunteers. Contact your local tournament coordinator on how to become a volunteer for the tournament.