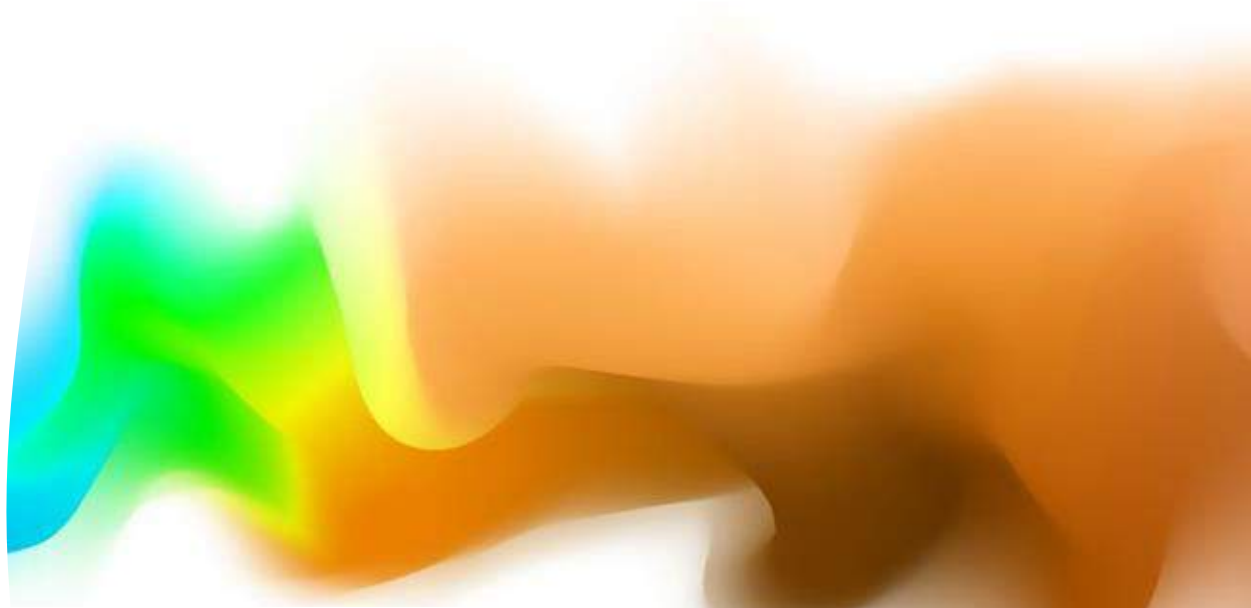




SAM Labs Blizzard Bastion Mission

Primary Category

Game Description, Rules and Scoring

Updated : 20/05/2026





Mission Field

SAM Labs Blizzard Bastion Mission

Primary Category

Game Description, Rules and Scoring

Content

- A. Brief
- B. Field Setup And Specifications
- C. Game Description
- D. Scoring
- E. Game Rules
- F. Other Rules
- G. Assembly Of Game Objects

A. Brief

A1. A sudden polar storm has swept across the Twin Castles, with giant snowballs crashing down from the sky. The storms have contained mysterious volcanic ash, turning some snowballs into fire-snowballs that burned the ground. To keep the citizens safe, the kings of the Red and Blue nations have-unbelievably-issued the same ridiculous command: 'Send all the snowballs and fire-snowballs to the rival!'

Soldiers have rushed to their positions, and a thrilling "Blizzard Bastion Mission" has officially begun. Your mission is simple: defend your territory and send all snowballs and fire-snowballs to the rival's castle. Don't let your citizens freeze - send these 'Winter Fire Gift!' out as fast as you can!

A2. The participating teams consist of two to three members, and each team will use one SAM Labs robot to compete against another team's robot. The team with the higher score within the time limit is the winner.

A3. The quota for each school or organization will be determined according to the actual number of participating teams.

A4. Participating age: Participants must be 6 - 10 years old (Birth date in 2026 season is 2016 - 2020).



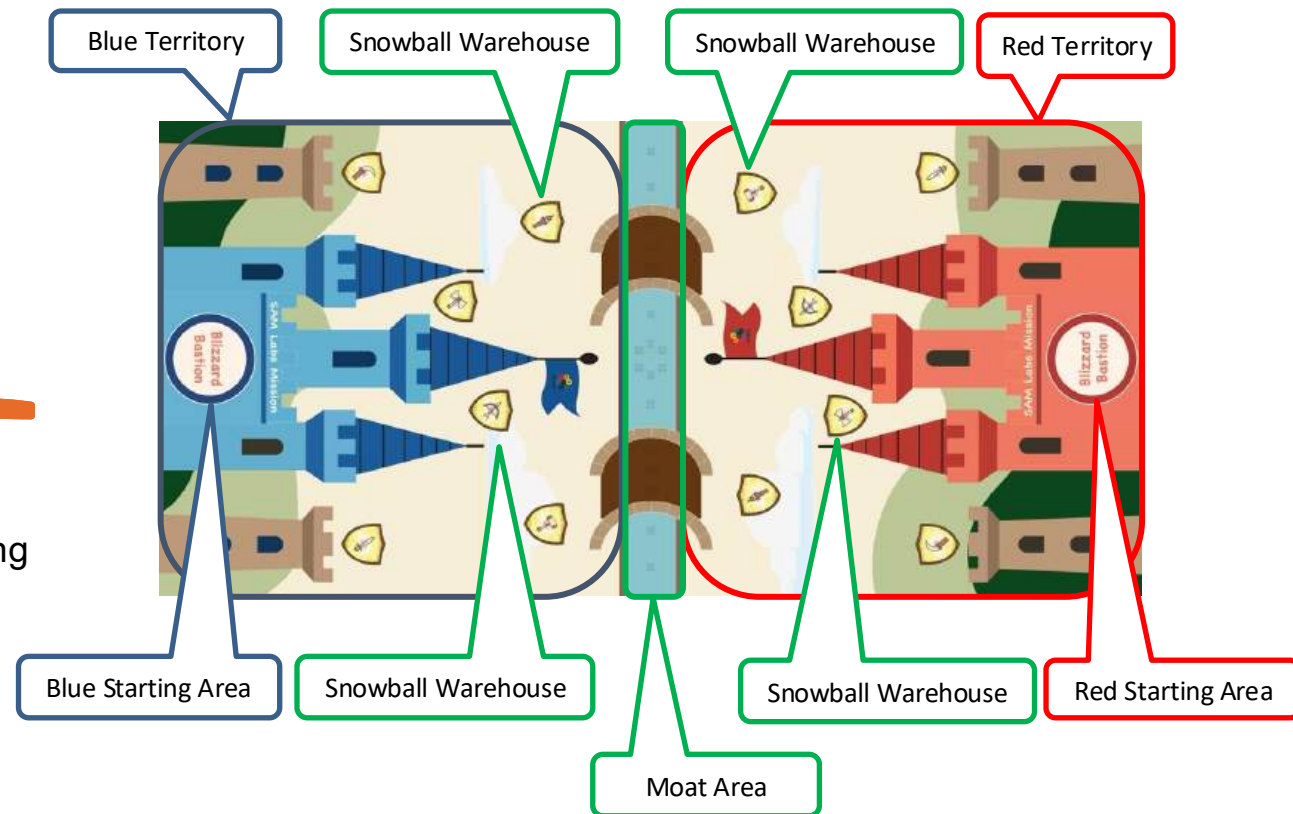
B. Field Setup And Specifications

B1. The mission field has field areas: 'Blue Territory', 'Red Territory Area', 'Moat Area' and 'Snowball Warehouse'.

B2. The left circle of the mission area is 'Blue Starting Area', while the right side is 'Red Starting Area'.

B3. There will be walls around the game table with a height of approximately 80 mm.

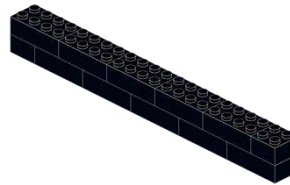
SAM Labs Blizzard Bastion Mission
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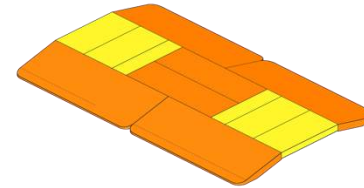


B. Field Setup And Specifications

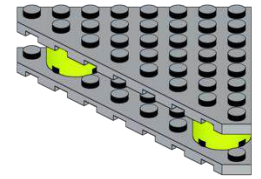
B4. Game Objects include four 'Rampart', two 'Arch Bridge', four 'House', one 'Supply Rack', three 'Fire-Snowball', twelve 'Snowball' and twelve 'Snowball Rack'.



Rampart

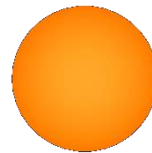


Arch Bridge



House

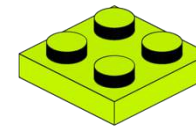
SAM Labs Blizzard Bastion Mission
Primary Category
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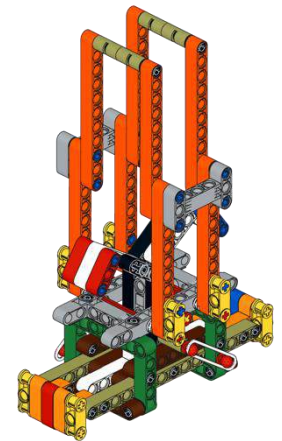
Fire-Snowball



Snowball



Snowball Rack

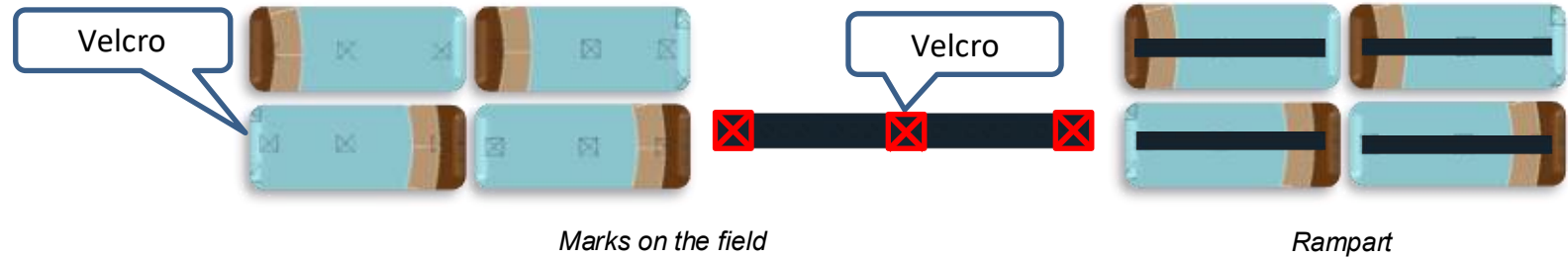


Supply Rack

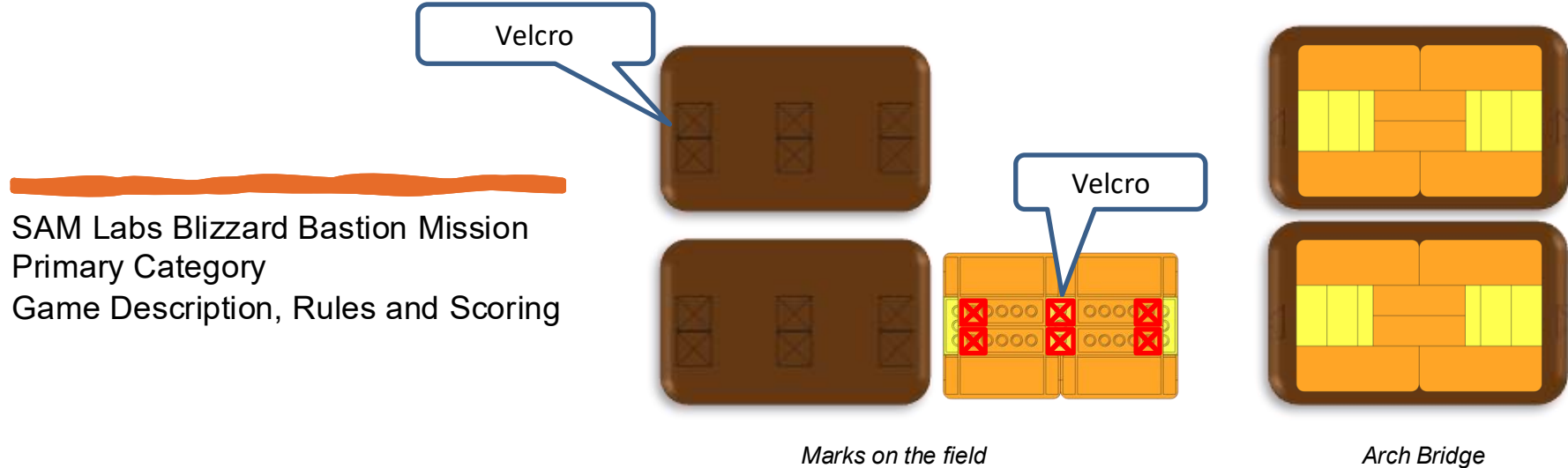


B. Field Setup And Specifications

B5. Use Velcro to fix four 'Rampart' to the marks on the field.



B6. Use Velcro to fix two 'Arch Bridge' to the marks on the field.

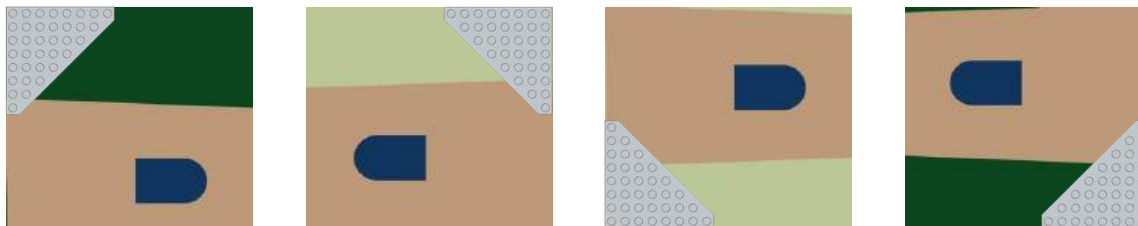


SAM Labs Blizzard Bastion Mission
Primary Category
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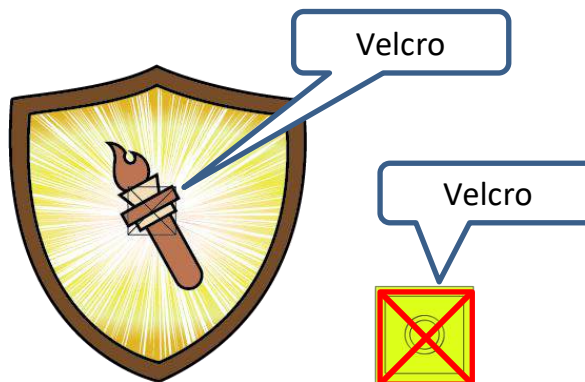
B. Field Setup And Specifications

B7. Before each round of competition, a 'House' will be placed in each corner of the field respectively.

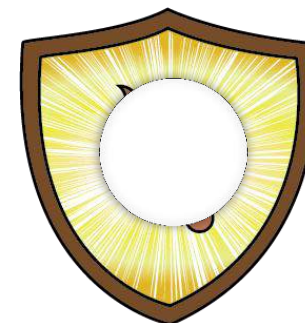


House

B8. Use Velcro to fix twelve 'Snowball Rack' to the marks on the field and place a snowball on the 'Snowball Rack' respectively.



Marks on the field

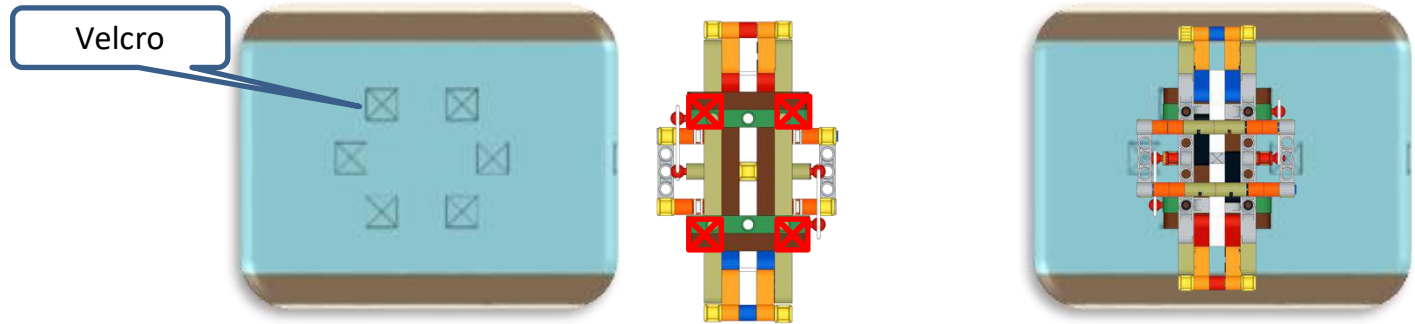


Snowball and Snowball Rack

SAM Labs Blizzard Bastion Mission
Primary Category
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B. Field Setup And Specifications

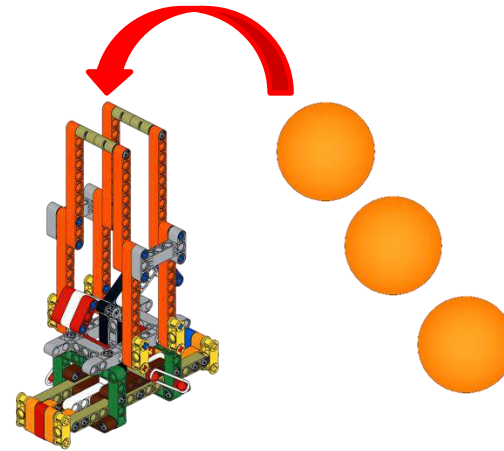
B9. Use Velcro to fix a 'Supply Rack' to the marks on the field and place three 'Fire-Snowball' inside the 'Supply Rack'. Robot can use any method to take out 'Fire-Snowball'.



Marks on the field

Supply Rack

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Put the fire-snowball from the topside of the 'Supply Rack'



C. Game Description

C1. Each game is separated in the first half and the second half. Each half are 60 seconds.

C2. After first half, record the marks and reset the field. After halftime, two teams switch positions and start second half.

C3. On the day of the competition, all teams will first compete in the group stage, and the winning team will advance to the knockout stage.

C4. Each team will compete with different teams for several rounds in the group stage. The team will get 3 points for winning while 0 points for losing the round. If there is a draw, both teams will get 1 point for the round.

C5. The team with the higher score from each group in the group stage will advance to the knockout stage until the championship, 1st runner-up, 2nd runner-up and 3rd runner-up are decided. The number of qualifying teams will be announced by APRA.

C6. In the event of the same score that affects promotion, there will be a play-off. The winner will be promoted. The scoring method remains the same and it will be completed within 60 seconds.

SAM Labs Blizzard Bastion Mission
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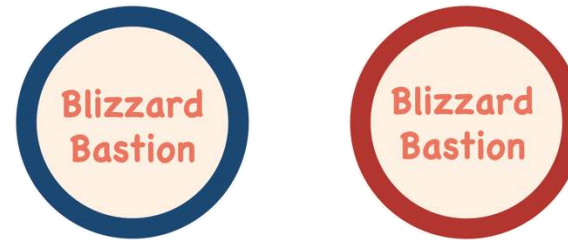


C. Game Description

C7. The vertical projection of the robot must be **completely** within the starting area before the game starts.

C8. During the game time, robots can move freely in its own territory.

C9. After the competition begins, participants are not allowed to touch the robot until the end of the round.



Blue and Red Starting Area

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D. Scoring

D1. Definition of completely entered : The vertical projection of an object is **completely overlapped** with the pattern.

D2. Definition of completely left : The vertical projection of an object is **not overlapped** with the pattern.

D3. Definition of partially entered : The vertical projection of an object is **overlapped** with the pattern.

D4. There is no requirement for the direction in which the objects are placed, as long as they meet the scoring requirements.

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D. Scoring

D5. If the 'Snowball' and 'Fire-Snowball' is still moving after timer stops, marks will not be calculated until all balls remain stationary.

D6. After the timer stops, a 'Snowball' **completely entered** the opposite territory, getting 10 points each.

D7. After the timer stops, a 'Fire-Snowball' **completely entered** the opposite territory, getting 20 points each.

D8. The balls located on 'Rampart', 'Arch Bridge' and 'Supply Rack' will not be counted.

D9. If the robot has **completely entered** the opposite territory, it is foul and the opposite team wins.

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Blue Territory



Red Territory



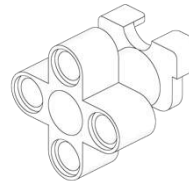
E. Game Rules

E1. The electronic components (including motors and sensors) used to build the robot must be from SAM Labs products. The number of sensors is not limited but two motors (DC MOTOR) must be used for the robot.

E2. The maximum extension size of the robot (including the attached accessories) cannot exceed a circle with a diameter of 220 mm, and the height cannot exceed 220 mm.

E3. The robot can be designed freely but the parts for building the robot must be strictly LEGO® parts.

E4. Only APRA officially specified 3D motor connection components can be used.



Motor Component A



Motor Component B

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E5. Building materials such as glue, tape, screws, etc. must not be used.

E6. The control program must be official SAM Labs software (SAM Studio or SAM Space).

E7. Participants must bring their own computer or tablet for the tournament.

E8. Participating teams can bring pre-built robots for the tournament.



E. Game Rules

E9. If the referee finds a robot that does not meet the specifications at any time, the team must modify the offending parts within 1 minute. If teams do not meet the requirement within the time limit, they will not be allowed to participate in the existing round.

E10. Only one robot can be used in each round of the tournament. Teams can use different robots in the next round of the tournament, but it is strictly forbidden for different teams to exchange robots or parts. Once violations are found, the relevant teams will be disqualified.

E11. The preparation time before the existing round is 1 minute, team can adjust their robot.

E12. All teams are not allowed to bring the game field to the venue for practice. The organizer will provide simulation time to all teams.

E13. Participants must bring their robots to line up, otherwise the simulation will be cancelled, and they need to line up again.

E14. After the game starts, if the participating member interferes with the game in any way, the round will be regarded as 0 point and recorded according to the competition time limit; if the contestant is influenced by others, the referee will judge whether to rematch.

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E. Game Rules

E15. Teams are strictly prohibited from interfering with their opponents in any way, otherwise they will be disqualified immediately.

E16. If there are any special circumstances, all decisions shall be based on the decision of the chief referee, and no objection shall be allowed.

E17. The minimum score recorded is 0 point, and there will be no negative points. The highest time recorded will be the competition time limit.

SAM Labs Blizzard Bastion Mission
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F. Other Rules

Responsibility of the parties

F1. In the tournament, the referee has the final decision.

F2. Any objections to the decision of the referee will be warned. If participants continue to argue, the team will be immediately disqualified from the tournament.

F3. After the game, participants in each team need to sign the score sheet for confirmation.

F4. When confirming the score sheet, a protest can only be lodged if the score is incorrect or if there is a problem with the result of the game. Once the score sheet has been signed, no protest may be made by either party.

F5. The referee may interpret the rules.

F6. In special circumstances, such as unforeseen problems or the ability of robots that everyone agrees in the tournament, the rules can only be changed with the consent of the chief referee.

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F. Other Rules

Inspection of Robot

F7. If the robot is modified during the game, the referee may ask the robot to check again.

F8. Any robot that does not comply with inspection regulations, it will not be able to be used in the game until it is corrected.

F9. Modifications must be made within the time schedule of the game and teams must not delay game play while making modifications.

F10. If the robot cannot comply with all the regulations (and cannot comply after the amendment), the existing round will be disqualified. (the qualification will not be cancelled.)

SAM Labs Blizzard Bastion Mission
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F. Other Rules

Fair Play

F11. Except for the participants and staff, no one is allowed in the game area.

F12. No one other than the participants is allowed to modify the robot or the program.

F13. Participants are not to be prompted or assisted in any way during the tournament.

F14. If the above situations are found during the game, the team may be disqualified from the tournament.

F15. When the team registers for the tournament, it is also necessary to clearly read the relevant registration terms and competition rules.

F16. When the content of different files conflicts, the order of precedence of the rules is:

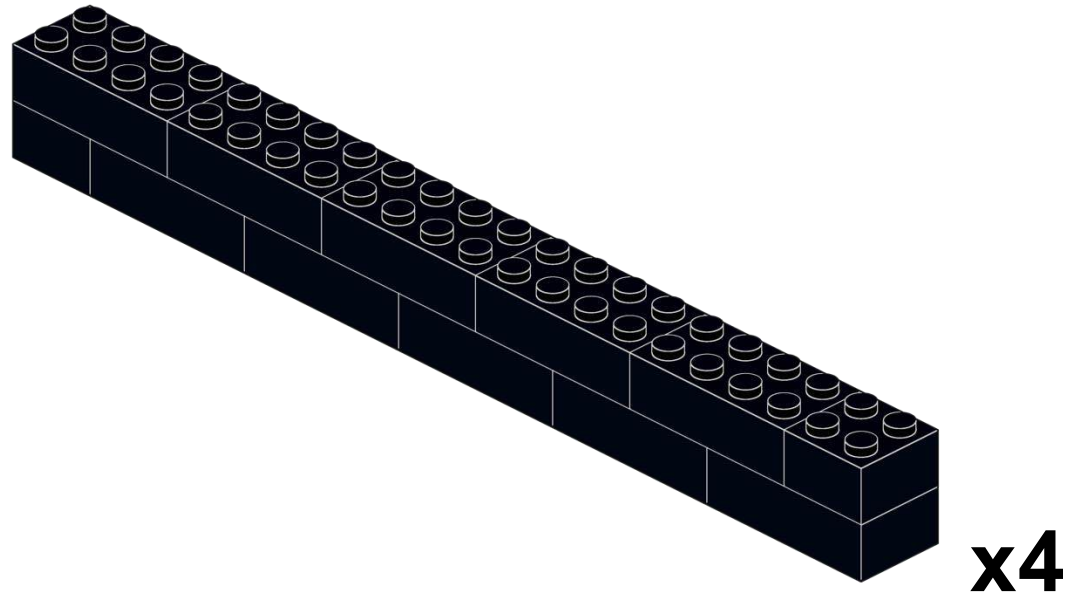
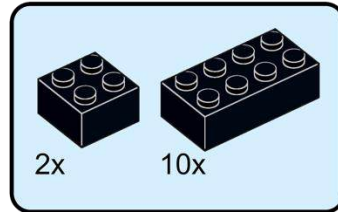
Final Decision of Organizer > Rules Update > SAM Labs Blizzard Bastion Mission rules.

SAM Labs Blizzard Bastion Mission
Primary Category
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G. Assembly Of Game Objects

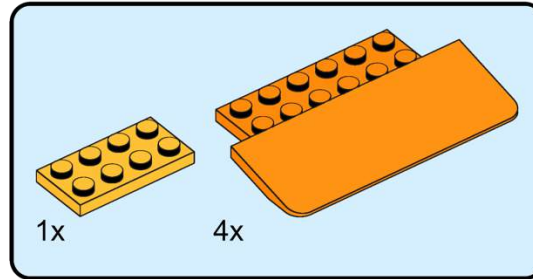
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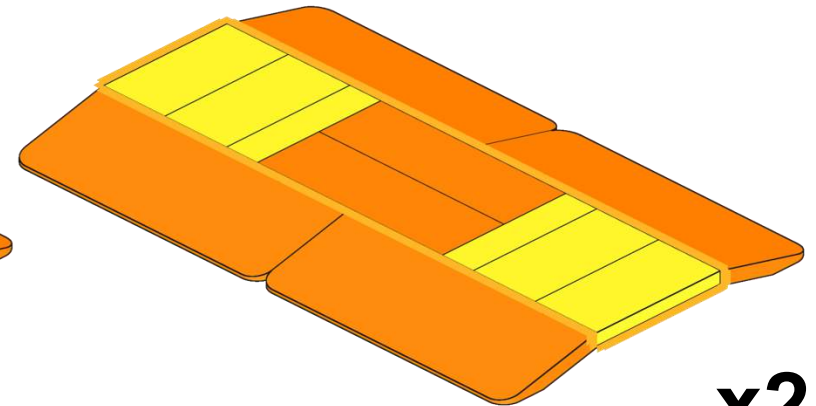
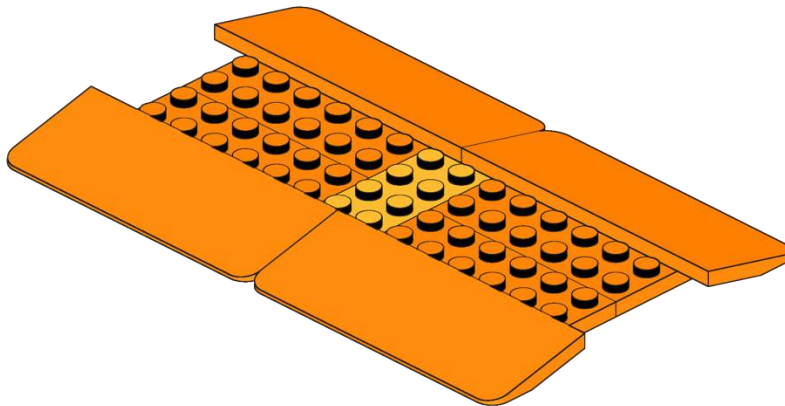
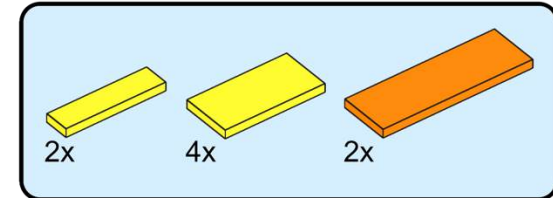


G. Assembly Of Game Objects

1



2

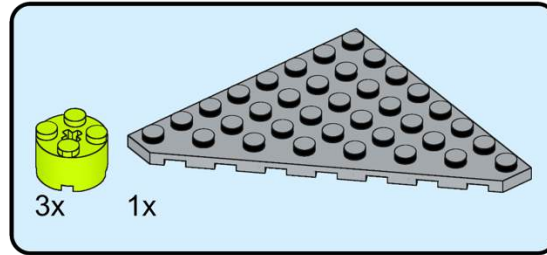


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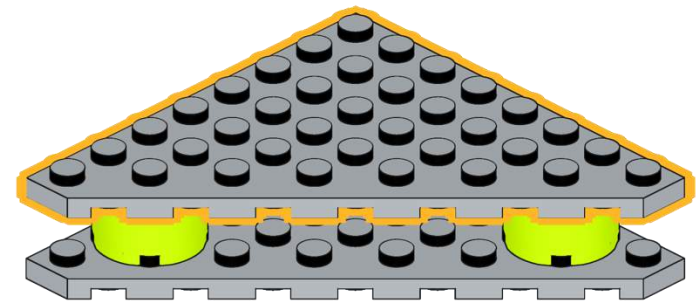
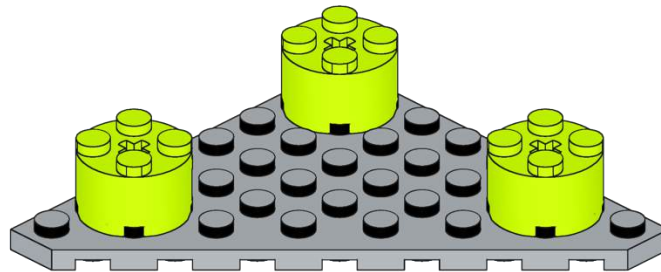
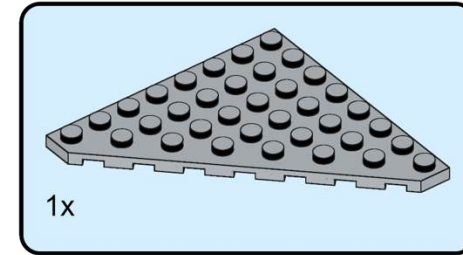


G. Assembly Of Game Objects

1



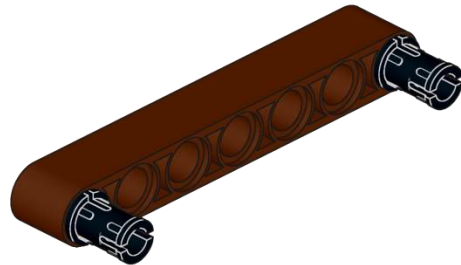
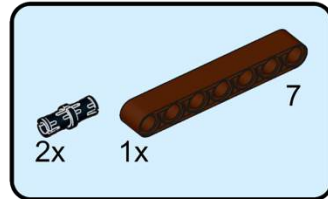
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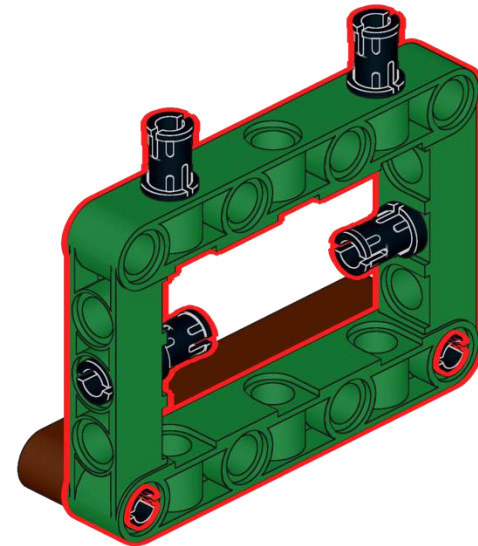
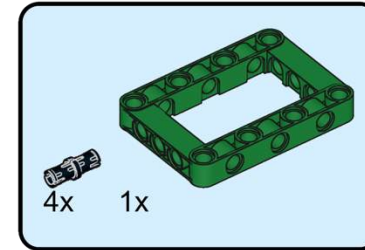
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G. Assembly Of Game Objects

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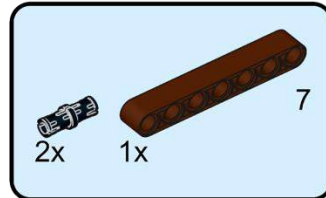


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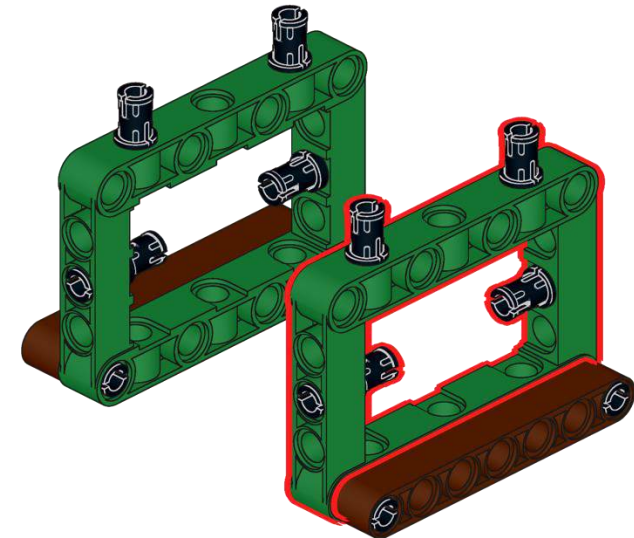
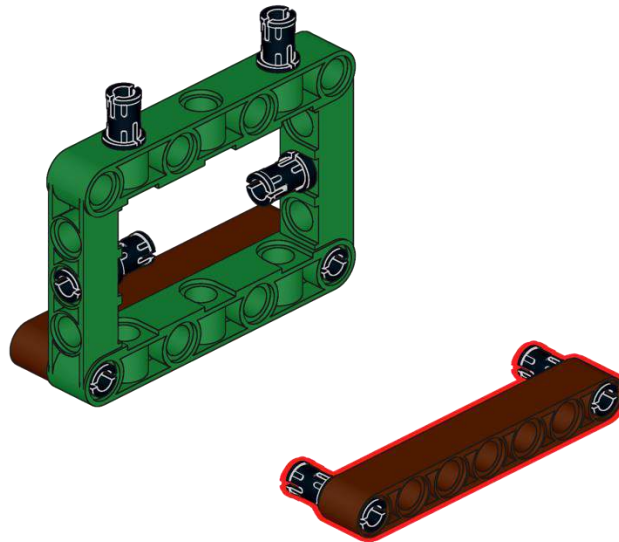
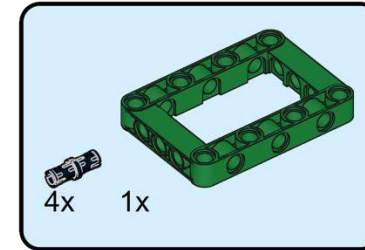


G. Assembly Of Game Objects

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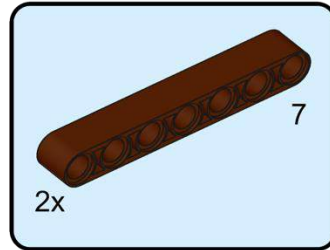


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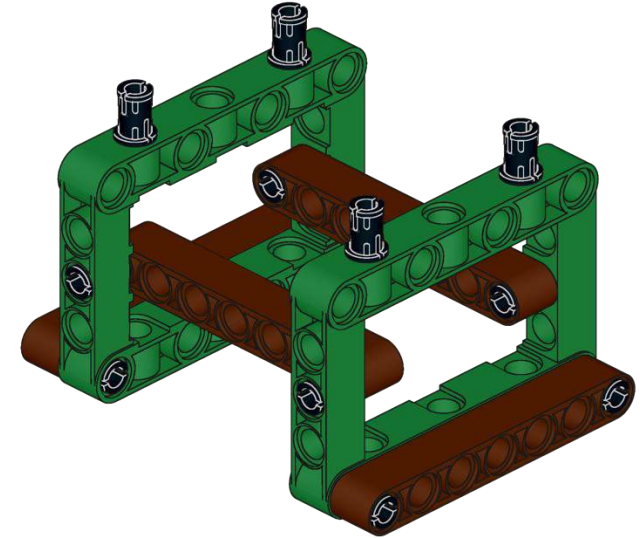
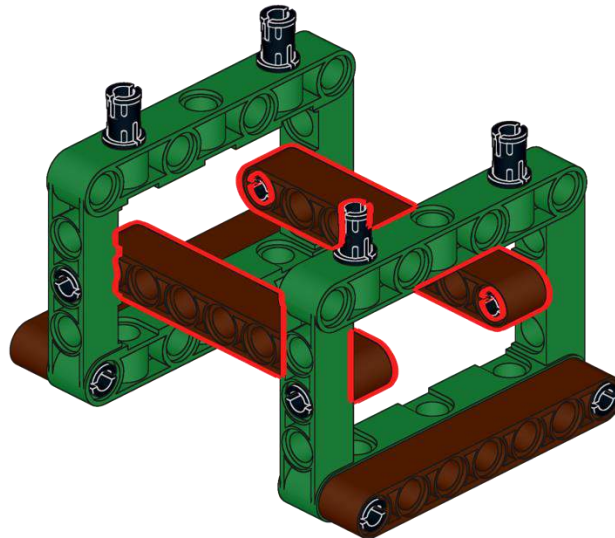


G. Assembly Of Game Objects

5

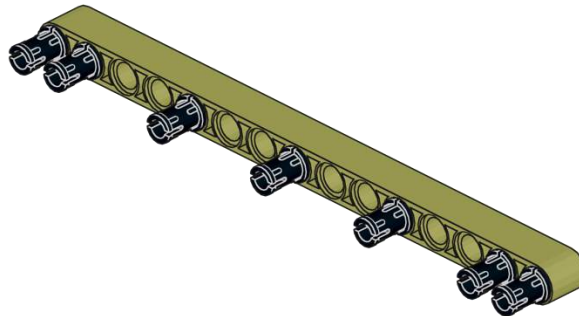
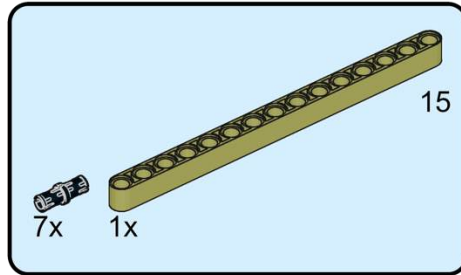


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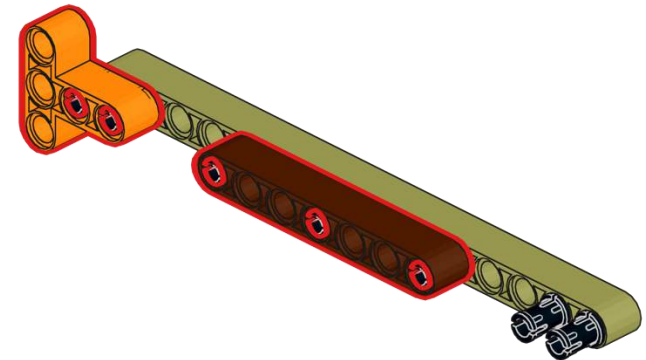
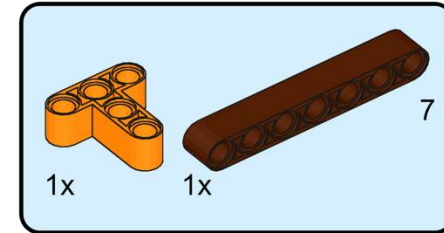


G. Assembly Of Game Objects

7



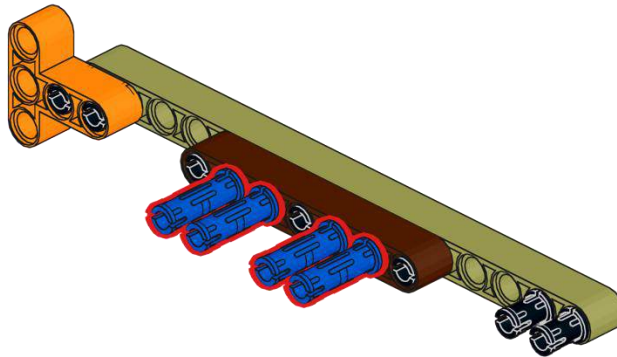
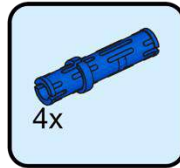
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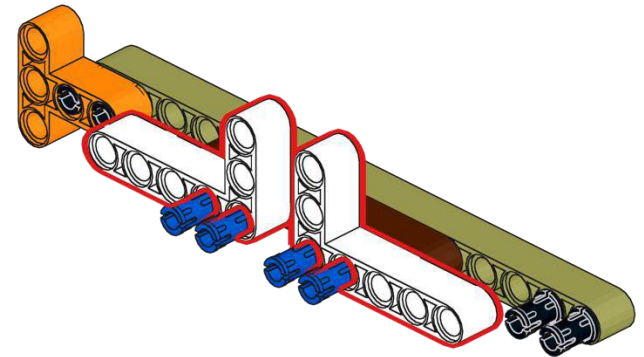
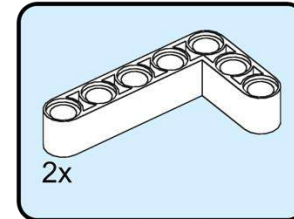


G. Assembly Of Game Objects

9



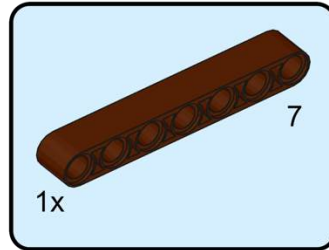
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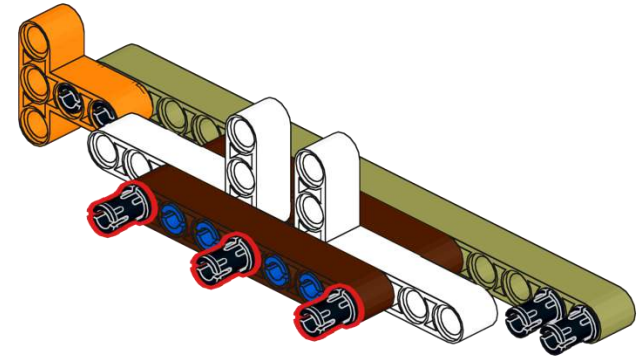
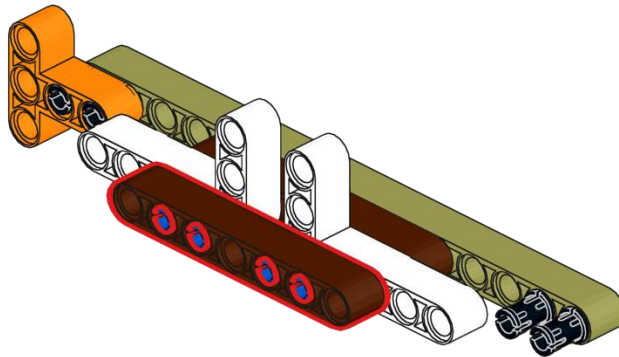
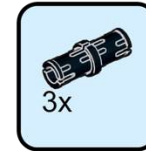


G. Assembly Of Game Objects

11

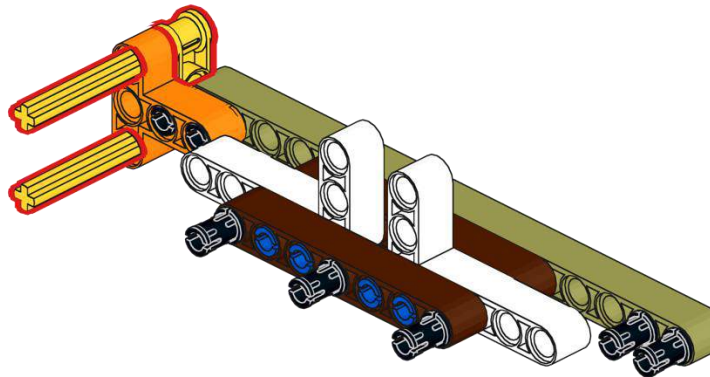
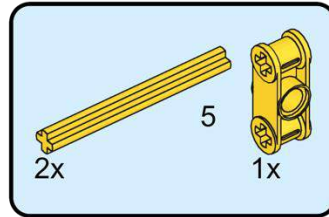


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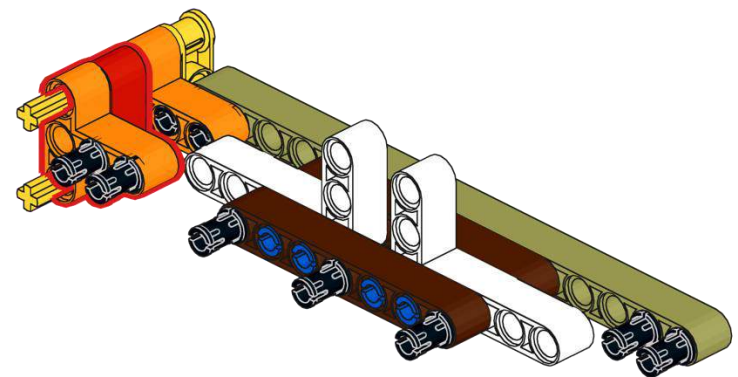
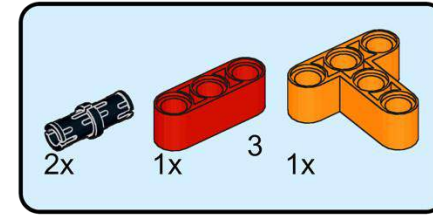


G. Assembly Of Game Objects

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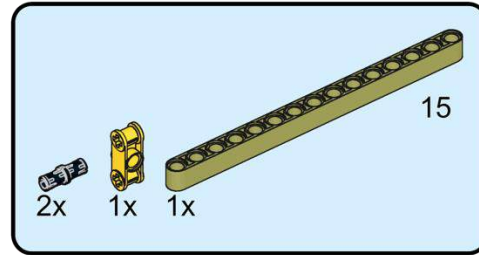


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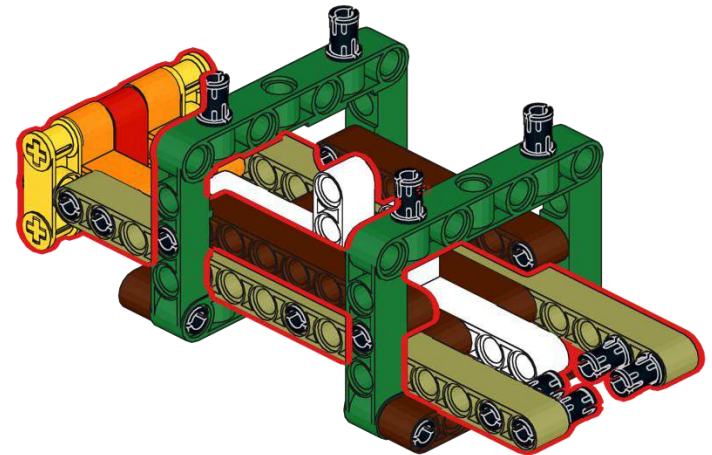
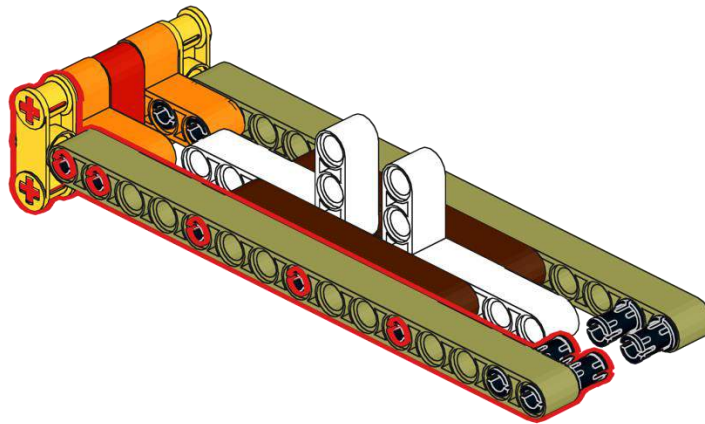


G. Assembly Of Game Objects

15

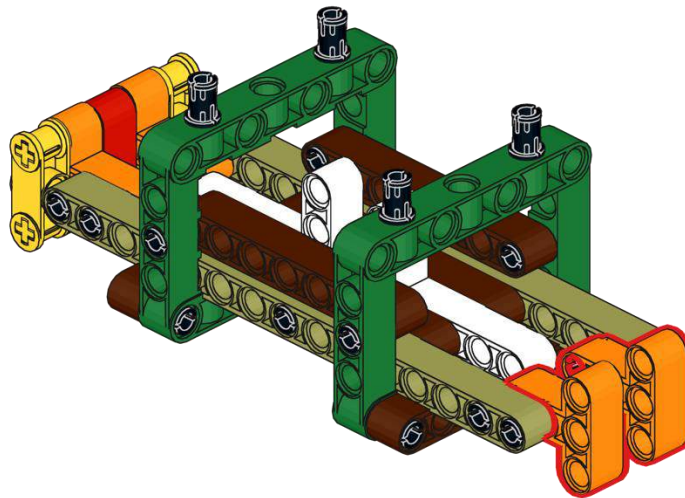
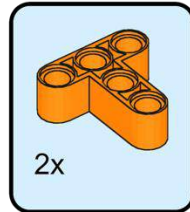


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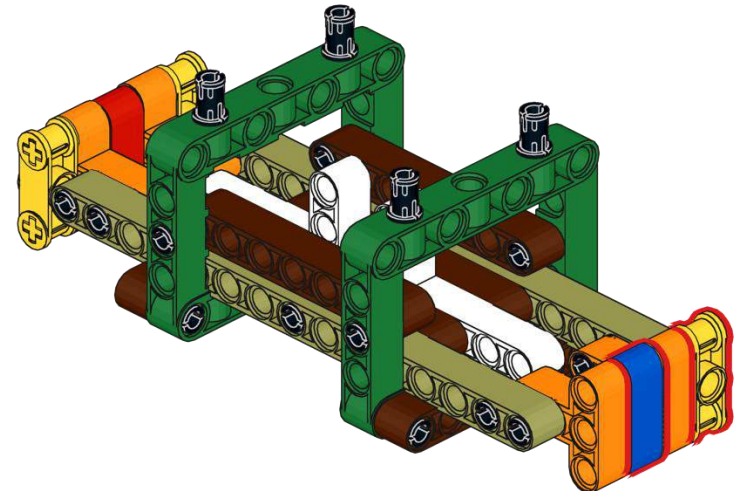
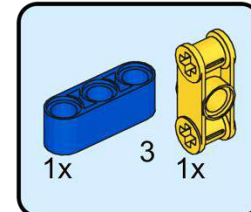


G. Assembly Of Game Objects

17



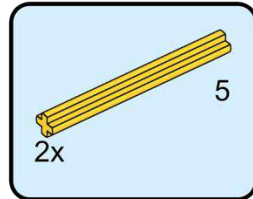
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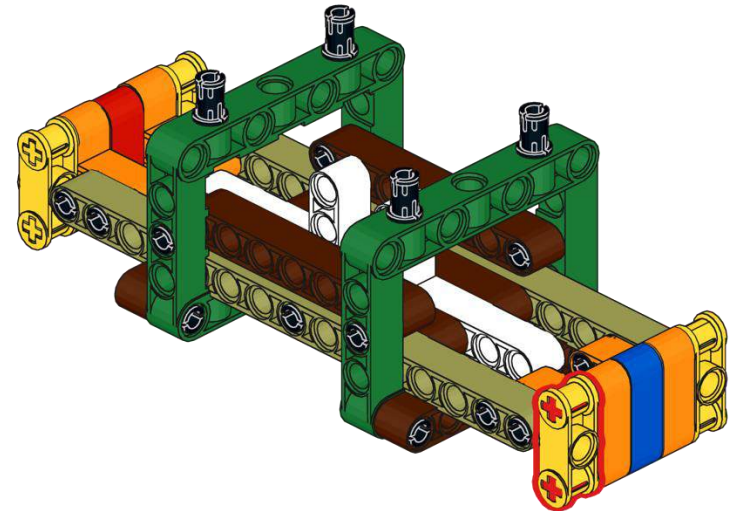
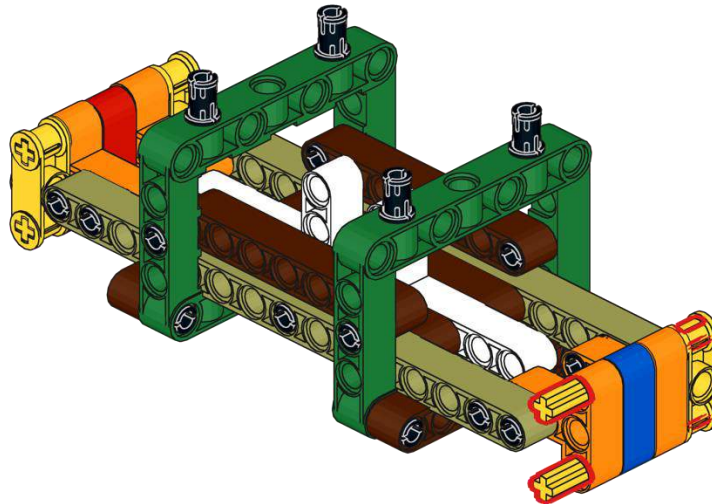
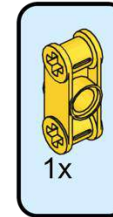


G. Assembly Of Game Objects

19

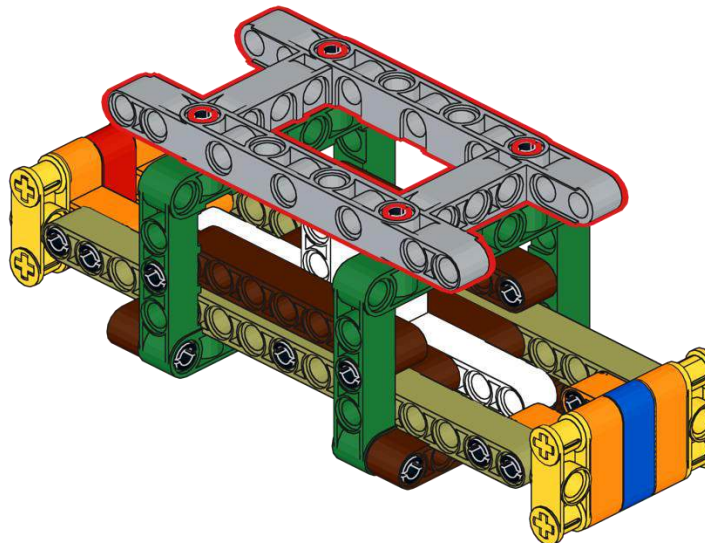
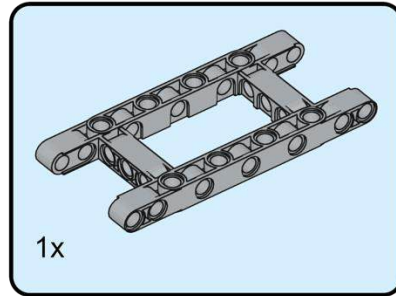


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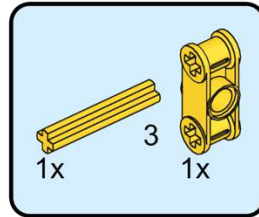
G. Assembly Of Game Objects

21

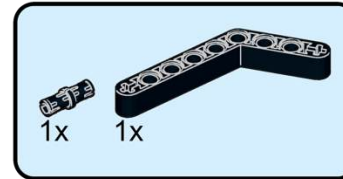


G. Assembly Of Game Objects

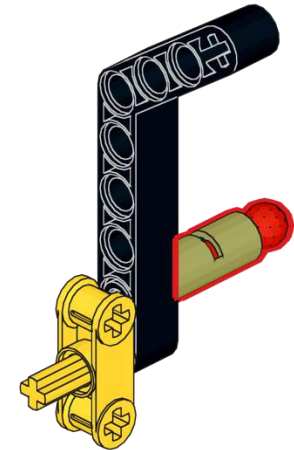
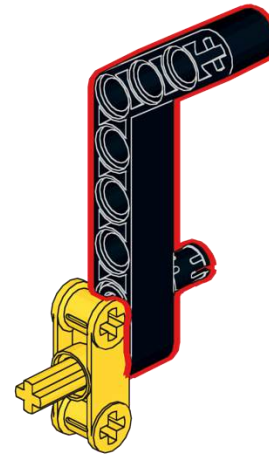
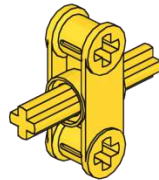
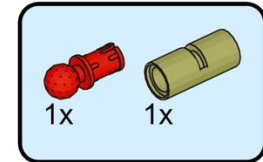
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23



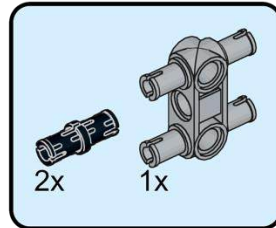
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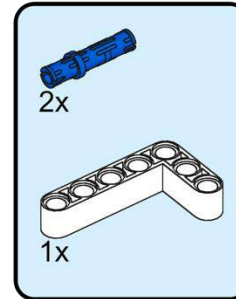


G. Assembly Of Game Objects

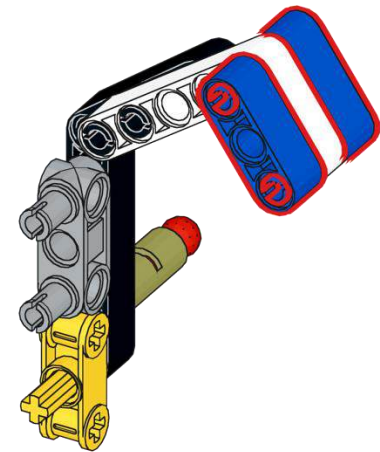
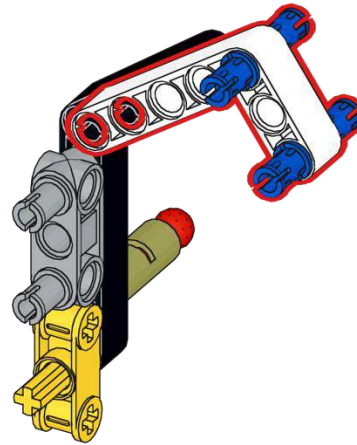
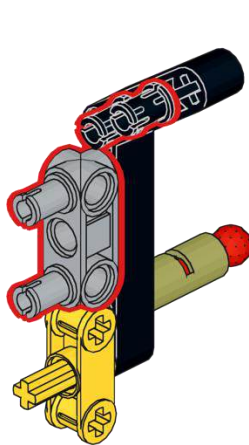
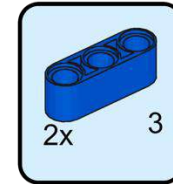
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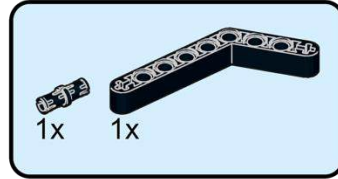


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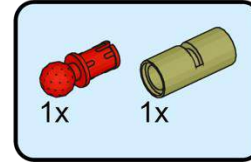


G. Assembly Of Game Objects

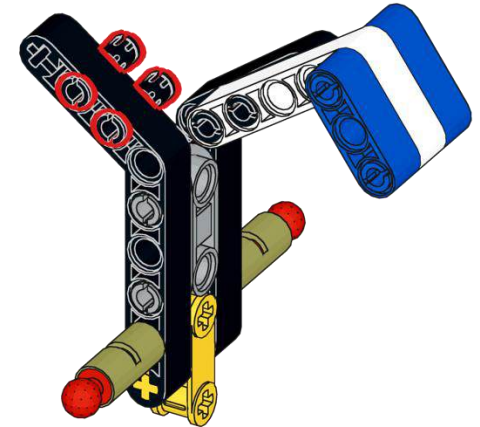
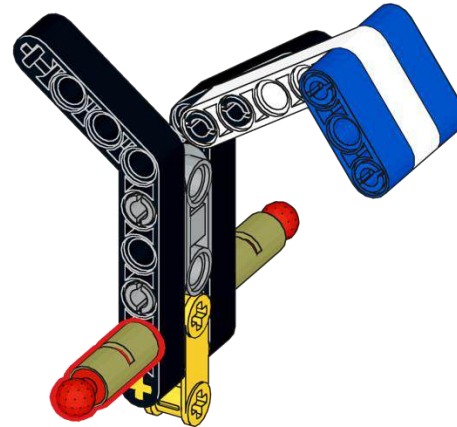
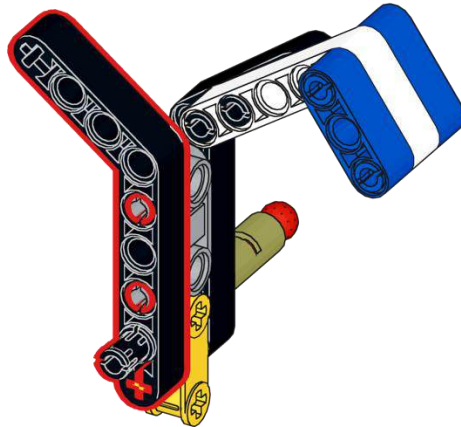
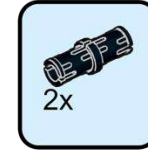
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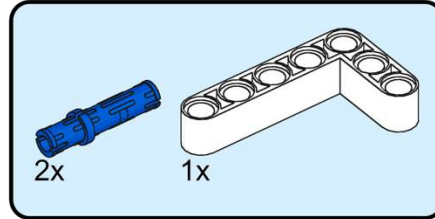
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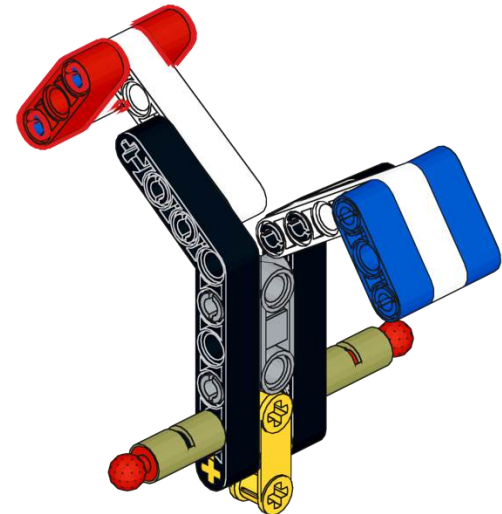
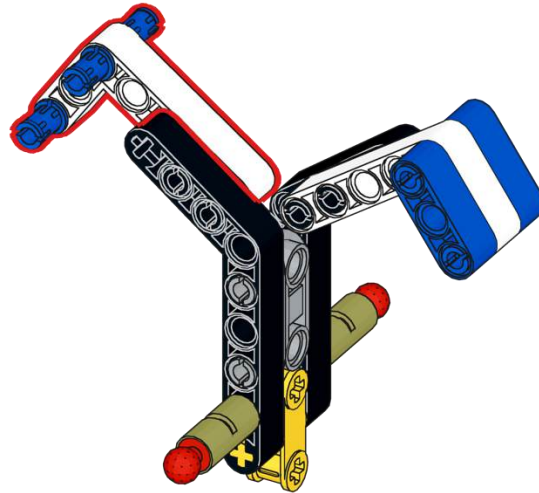
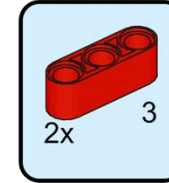


G. Assembly Of Game Objects

31

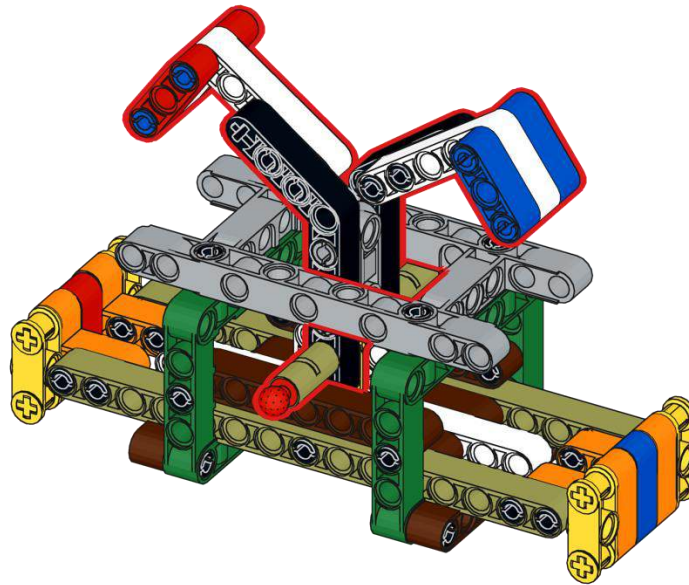


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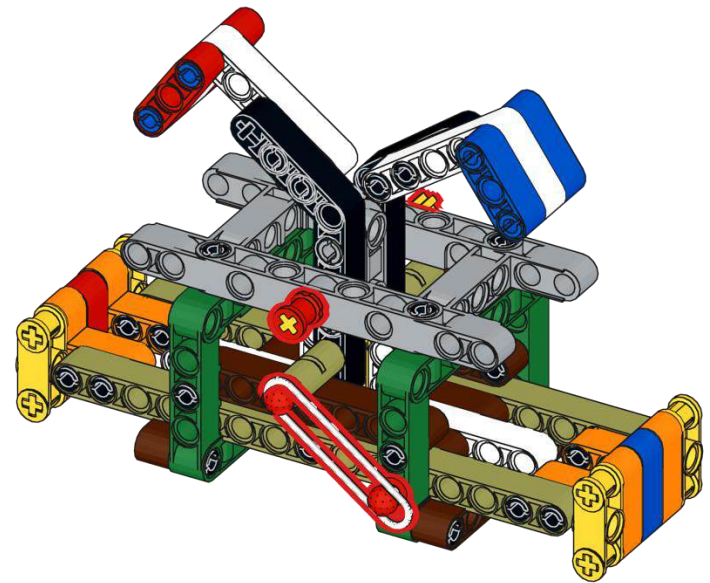
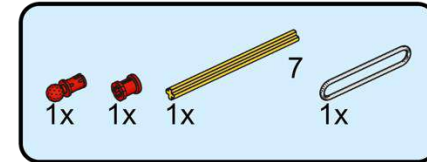


G. Assembly Of Game Objects

33

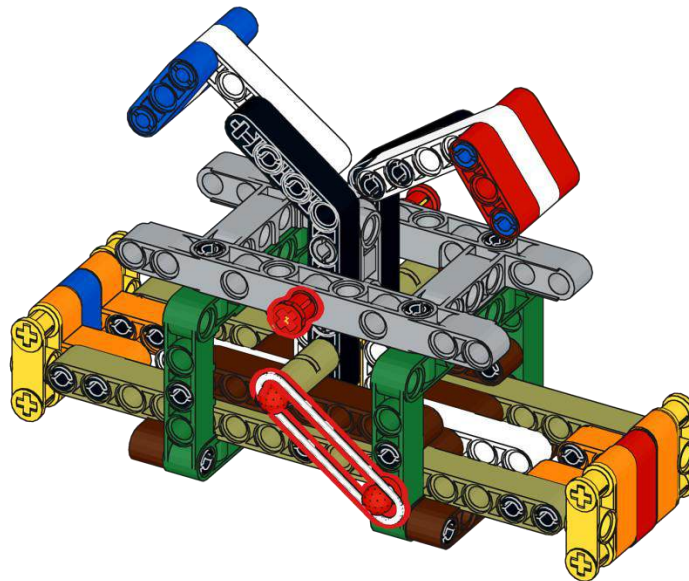
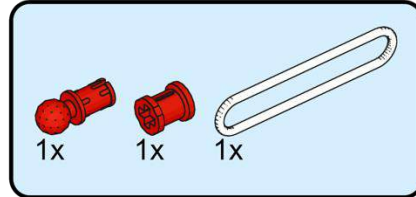


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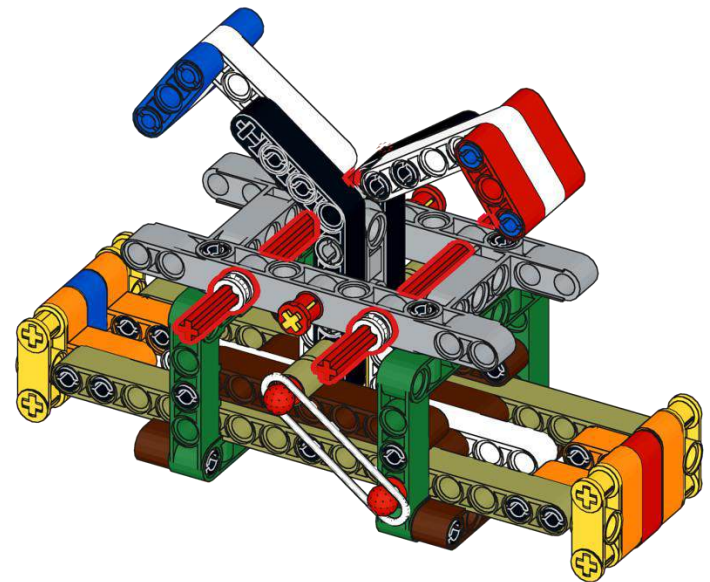
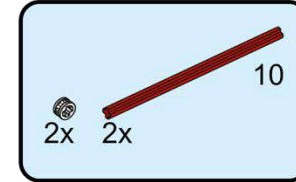


G. Assembly Of Game Objects

35



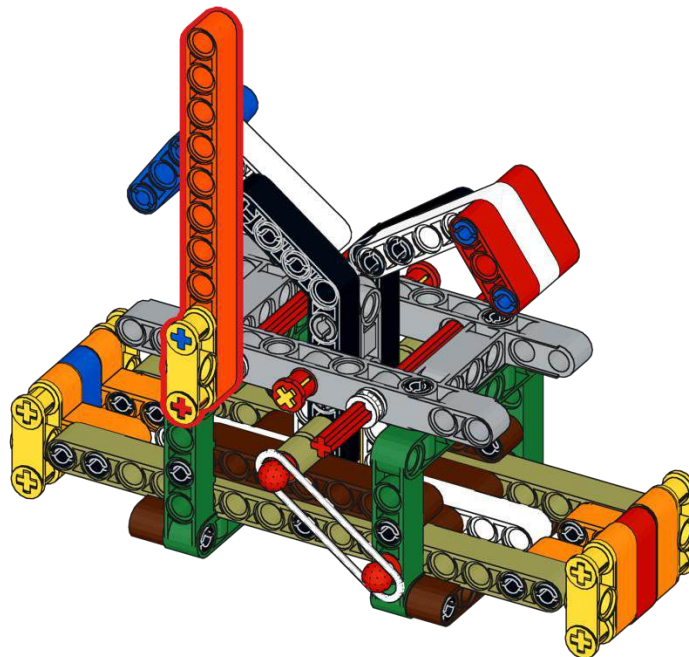
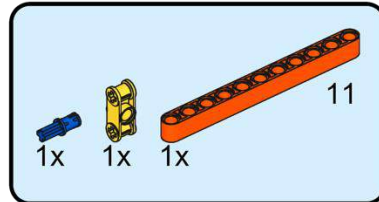
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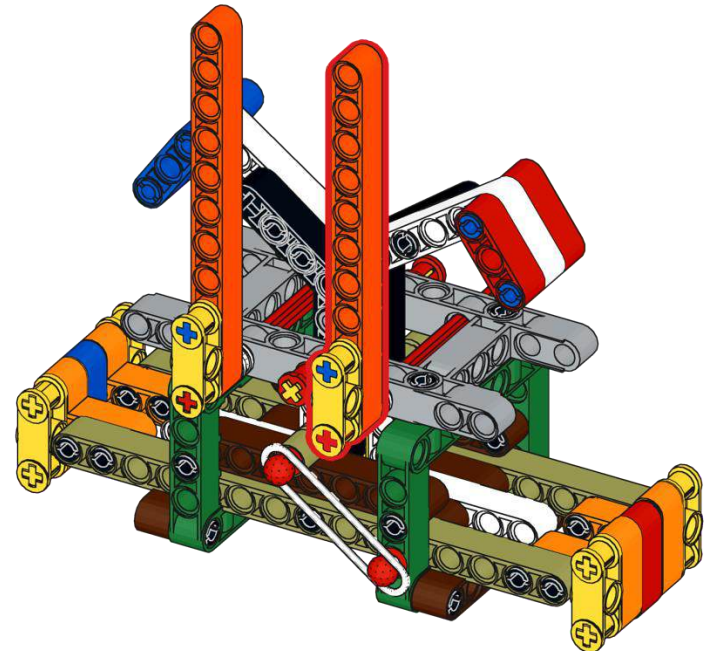
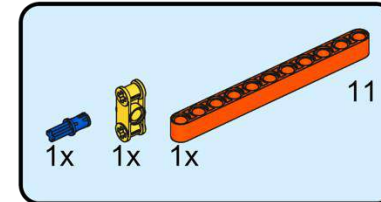


G. Assembly Of Game Objects

37



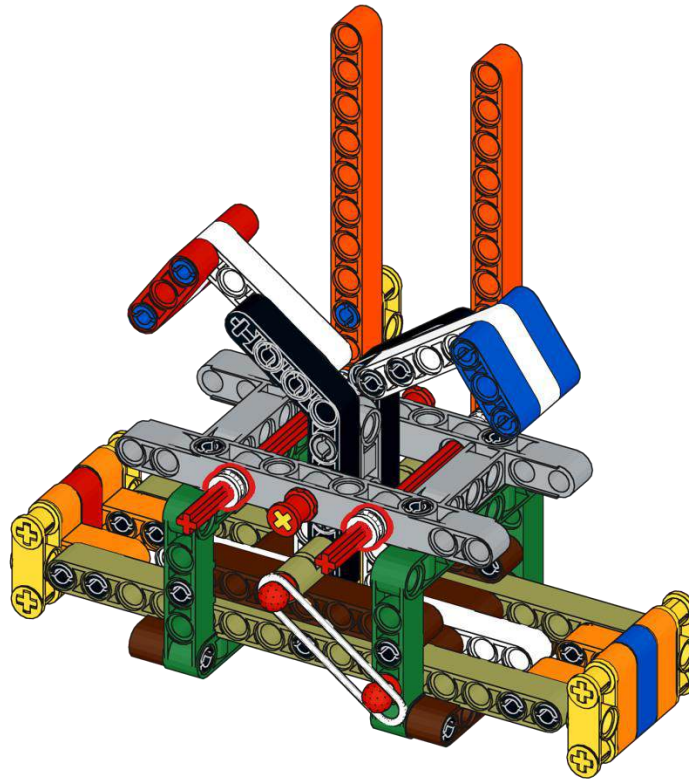
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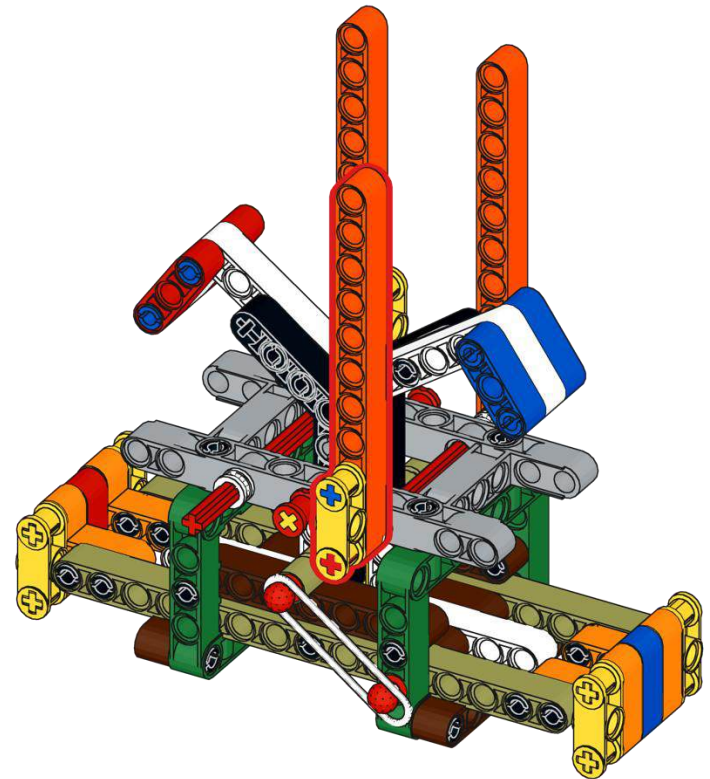
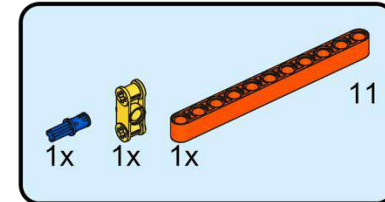


G. Assembly Of Game Objects

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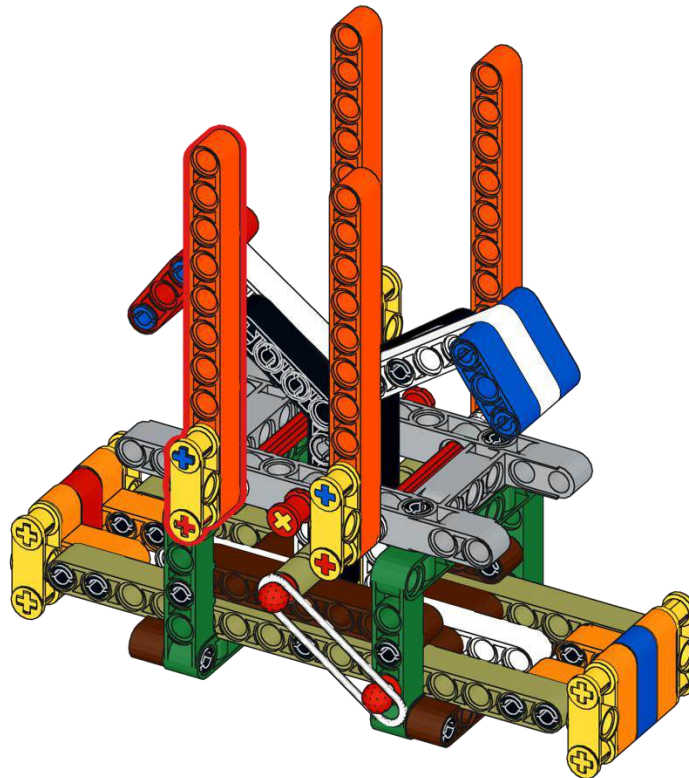
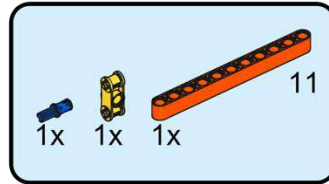
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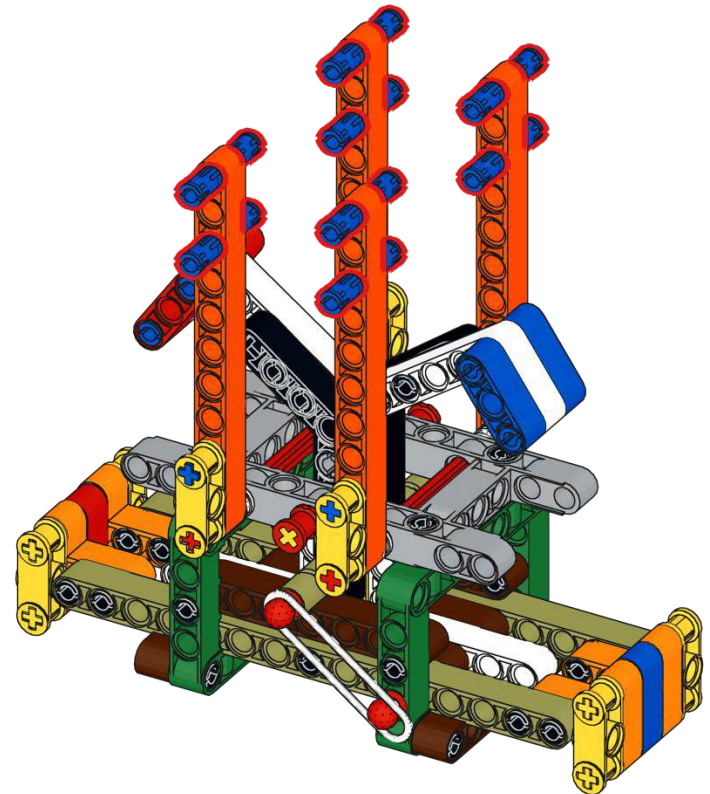
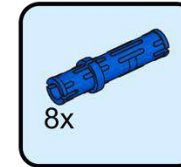


G. Assembly Of Game Objects

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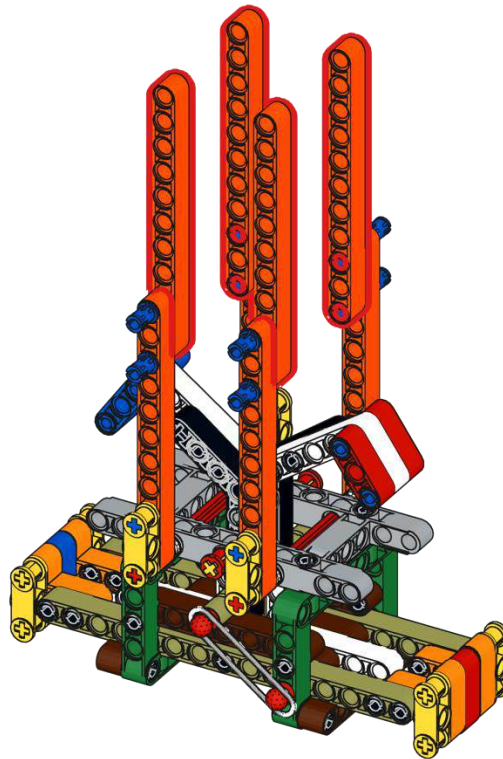
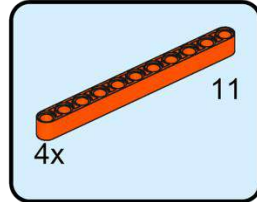
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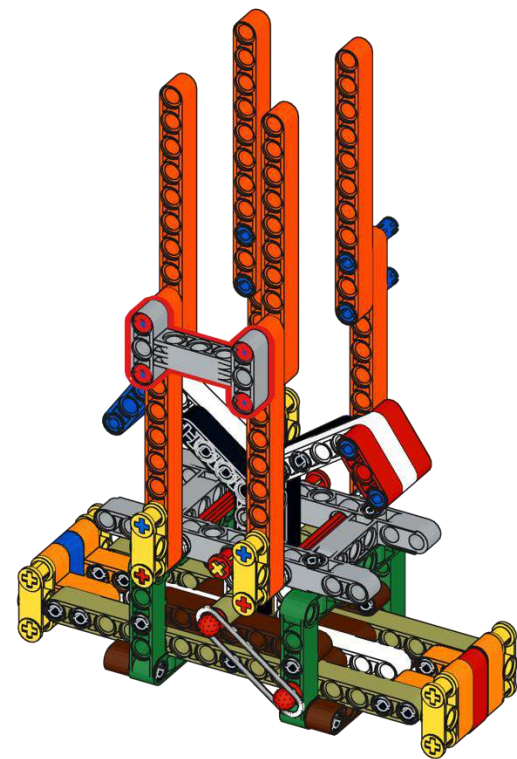
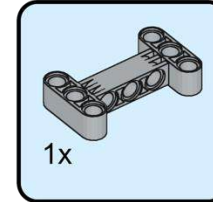


G. Assembly Of Game Objects

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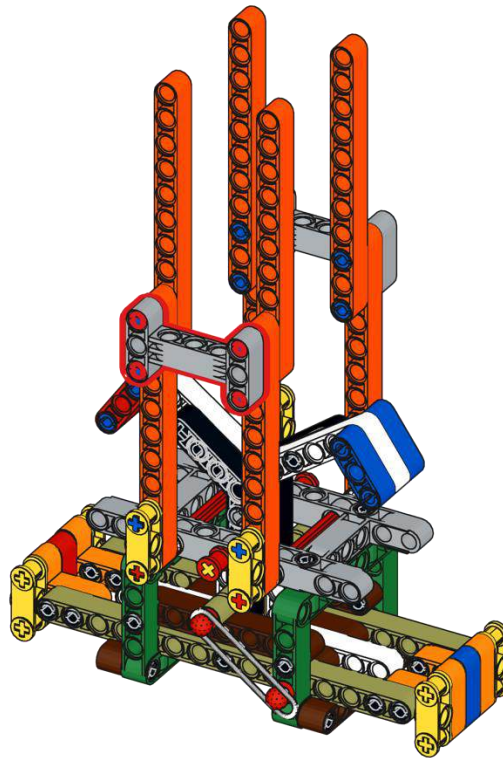
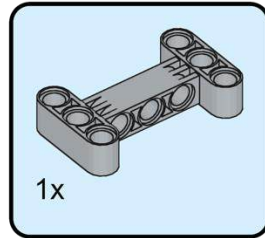


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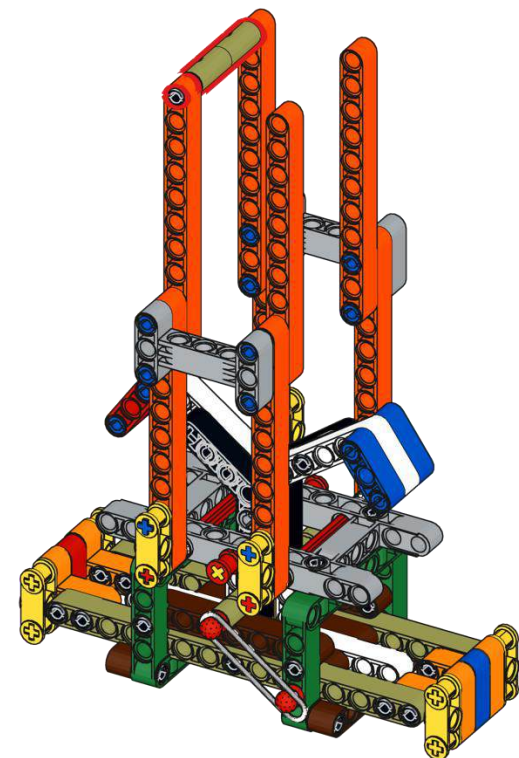
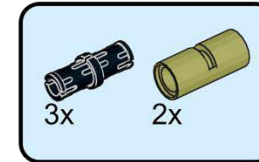


G. Assembly Of Game Objects

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G. Assembly Of Game Objects

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