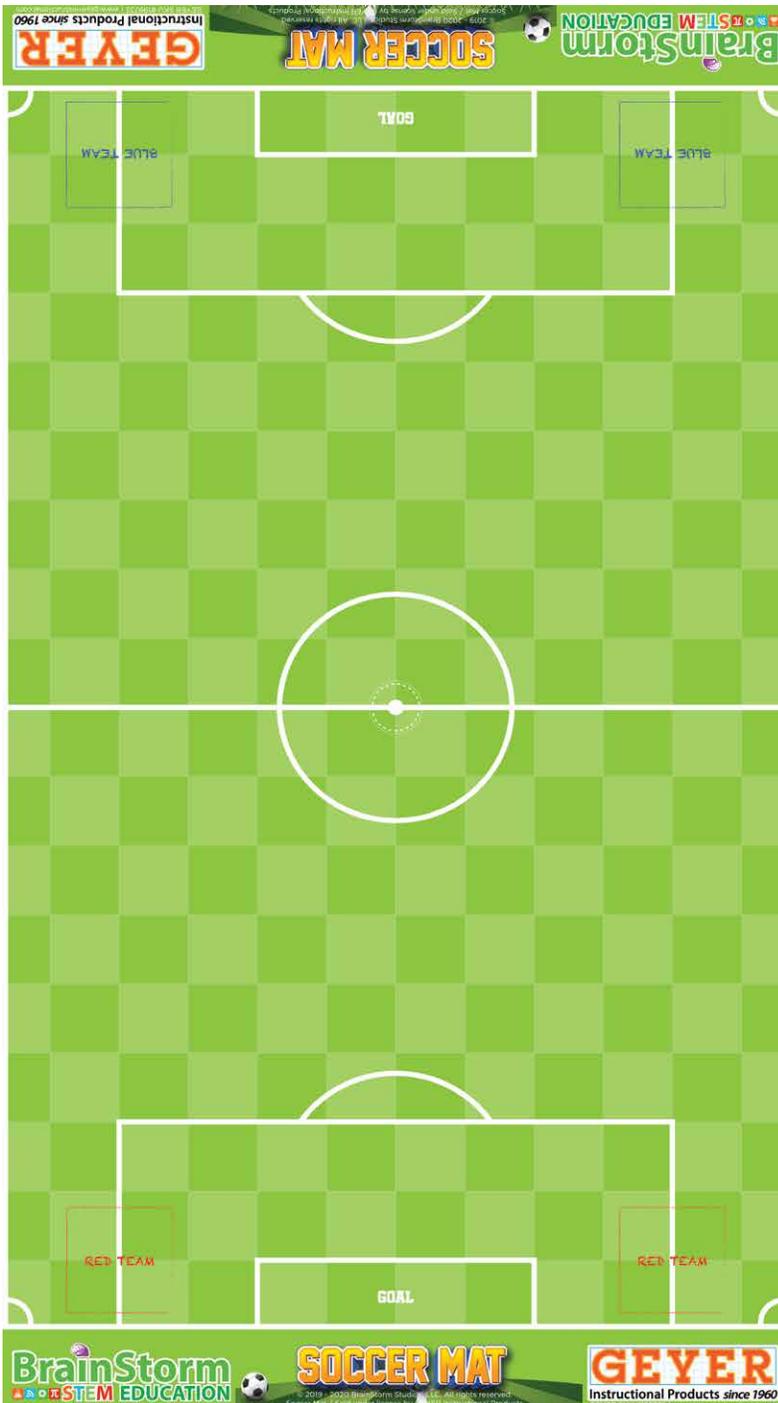


Instructional Products since 1960

ROBOTIC ACTIVITY MAT

SOCCER



Summary: Can you avoid the defenders and deliver the soccer ball to the goal and win the gold? Our soccer mat is a fun, fast paced game mat that will intrigue any sports fan. Students will use their programming skills to score goals against their opponent in an action-packed competition. Think you got what it takes?

Features:

- Fits up to 8 students
- Defender game pieces
- 2 types of controlled gameplay

Objective: Avoid defenders and score three goals before the other team.

Skills taught: Students will learn programming, problem solving, team-work, and critical thinking.

Game Pieces(8 Total):



Activity 1: Program-controlled Game

Objective:

Using code, program your robot to navigate the field with a soccer puck in its possession, avoid opponent defenders, and be the first to place the soccer puck in the other team's goal. Each team consists of: 4 students, 2 robots, 2 color-based defender pucks, and 2 soccer pucks. First team to 3 points wins!



How to Use:

1. Robots will start in their team-colored squares located near the corners of the mat.
2. Each team will place down their teams defender pucks on their side of the field.
3. Analyze the field and visualize the direction(s) needed for the robot to navigate through the opposing defenders, to the goal.
3. Code the sequential navigation commands into the robots program.
4. Place the robot in their starting square, place a soccer puck in each robot's possession, and execute the program. Execute one robot's program at a time until each teams robot has gone.
5. Repeat steps 2-4 until one team has scored 3 times.

For more rules, time management, and game information please refer to Page 3.

Activity 1 : Program-controlled Game

RULES:

Timing: Each game should be divided into 3 parts: (~30min)

1. Strategy and placement of Defender pucks(~5min).
2. Analysis, collaboration, and coding(~15min).
3. Robot program execution(~10min).

Rules:

- Defenders should be placed within a single field square.
- Defenders can only be placed down on the individual's team side.(see below)
- Defenders cannot be placed in the goal or the outer goal boundary box.
- Defenders cannot be moved until after programs have been executed.
- Soccer pucks MUST be more than 50% into the goal zone to count as a goal.
- Red team robots cannot be on the mat while Blue team tests and visa-versa.
- If a robot touches an opposing defender than that robot's turn is over.
- If a robot drives out of bounds or off the mat, that robot's turn is over.
- In the event of unsportsmanlike behavior or cheating, points can subtracted.



Activity 2 : Controller-based Game

How to Use:

Using remote controls, navigate the field, gain possession of the soccer puck and be the first to place it in the other team's goal. Each team consists of: 2-4 students, and 2 remote-controllable robots. First team to 3 points wins!



Rules:

- Soccer pucks **MUST** be more than 50% into the goal zone to count as a goal.
- Robots cannot sit inside and defend their own goal or goal boundary box.
- First team to score 3 points is the game winner.
- Robots cannot fight with each other on the field.
- In the event of a penalty, the game will stop, teams will return to their starting squares, and the unpenalized team will receive possession of the soccer puck. In the event of a severe penalties, points can be subtracted.

Penalties can be given in the case of:

- Excessive robot fighting, unsportsmanlike conduct, out of bounds plays, cheating, excessive defending of the goal zones, any other circumstance in which the instructor/referee sees fit.