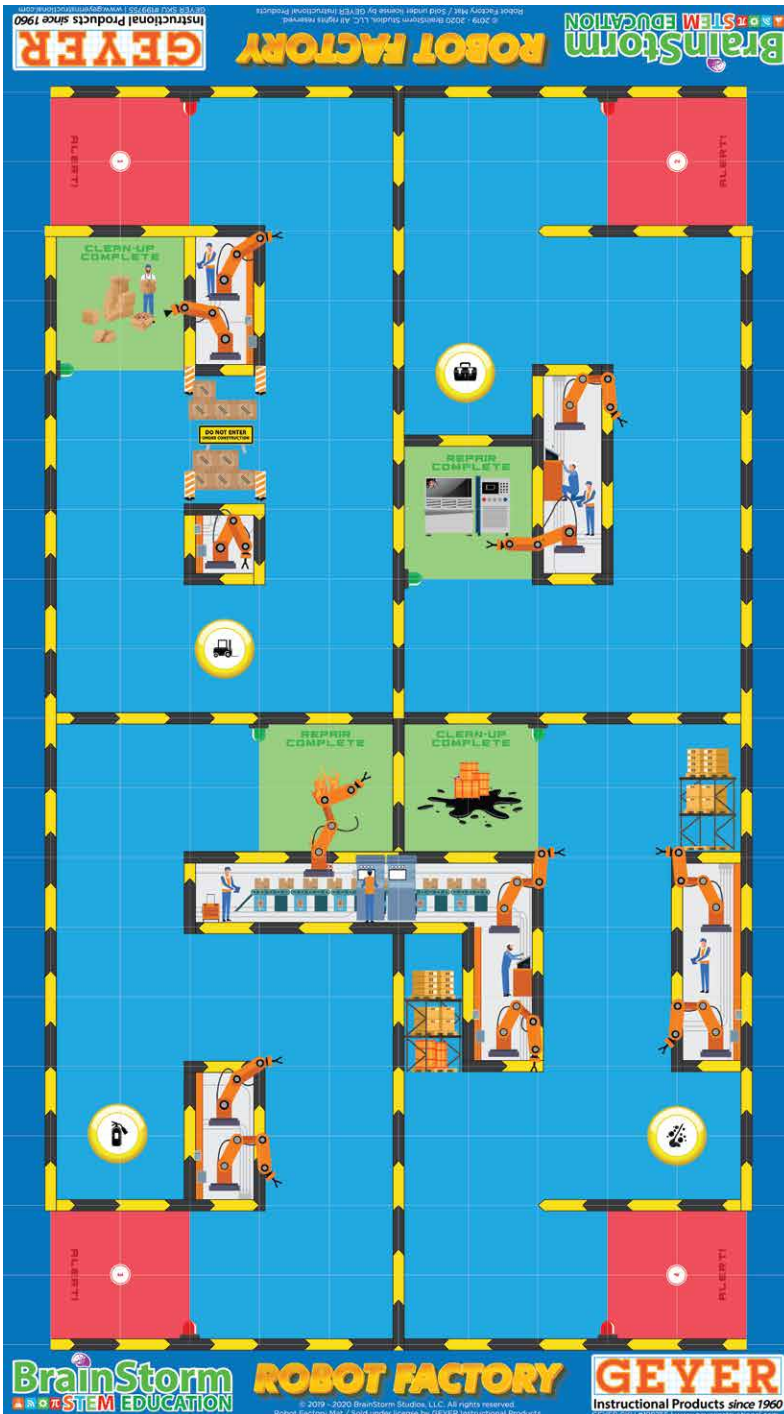**GEYER**

Instructional Products *since 1960*

ROBOTIC ACTIVITY MAT

ROBOT FACTORY

Summary: Help repair the robot factory and bring production back online. A mischievous robot is causing chaos for the factory workers. Only you can help the workers by collecting the proper power-ups needed to transform and upgrade your robot so they can fix, clean up, and get the factory back on track! This beginner-friendly mat is a great way to introduce robotics to young engineers.

Features:
- Fits up to 8 students
- 4 Unique objectives
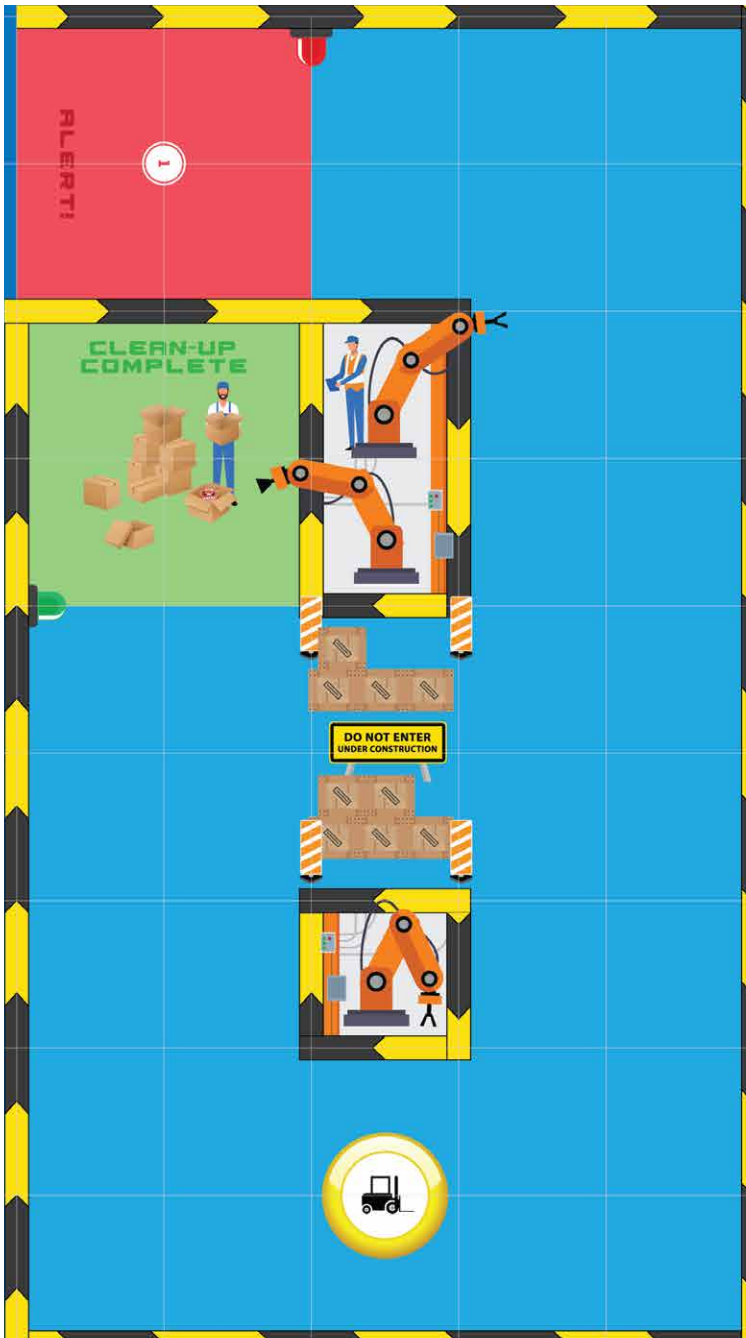- 4 Fun programming activities.

Objective: Program the robot to collect power-ups and reach the area workers need its help.

Skills taught: Programming, critical thinking, problem solving, and sequential based navigation.

BrainStorm
STEM EDUCATION

Curriculum & Robot Mat Developed By

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Activity 1 : Clean up the boxes

Help organize the boxes

Boxes have mysteriously been pushed off the shelves! The robot must collect the forklift power-up to be able to help pick up the boxes.
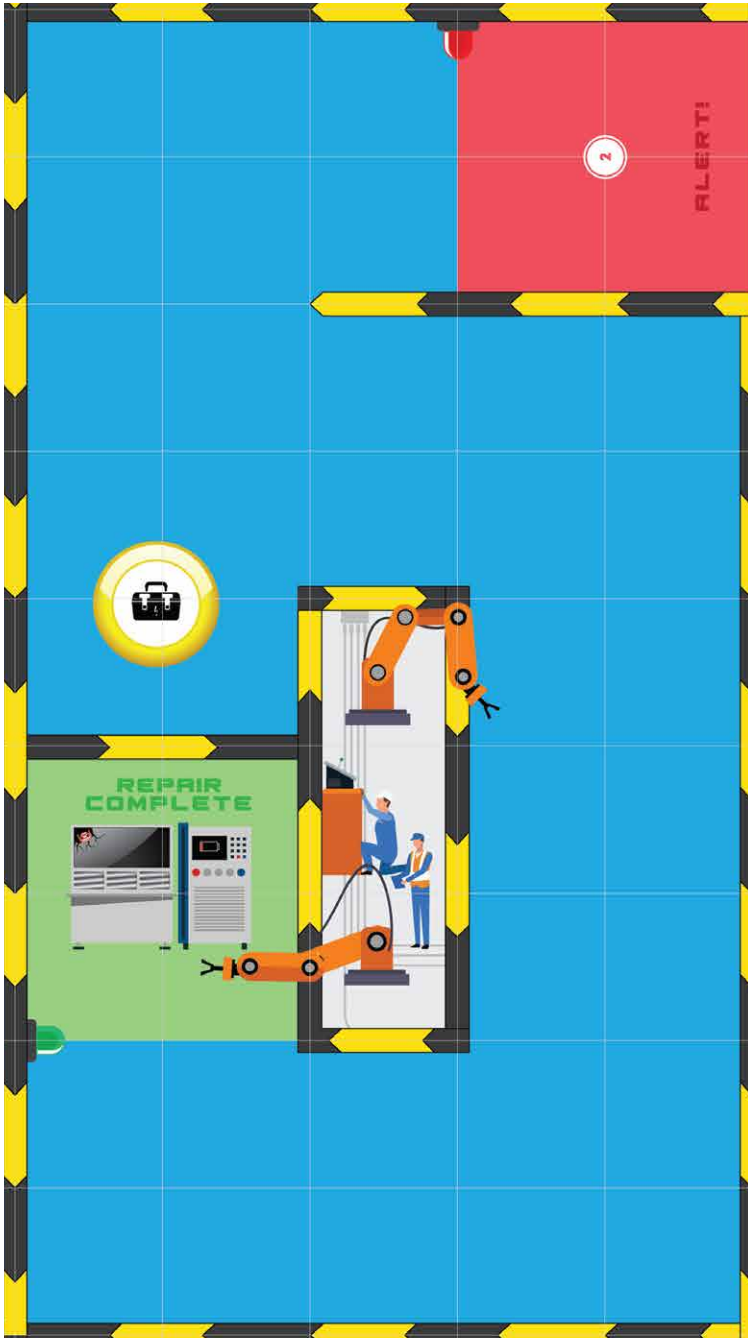

How To Use:

1. Robots will start in the red starting square located near the corners of the mat.

2. Analyze the course and visualize the direction(s) needed for the robot to navigate through the factory to the objective.(Tip: program your code two sequential commands at a time).

3. Code the sequential navigation commands into the robots program.

4. Place the robot in the specific starting square and execute the program.

5. Repeat steps 2-4 until the robot has collected the Forklift power-up and reached the green Finish square.

START → COLLECT → FINISH

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Activity 2 : Power Outage

We need an Electrician

There has been a power outage. Collect the toolbox power-up and bring it to the broken machinery so you can help fix it!
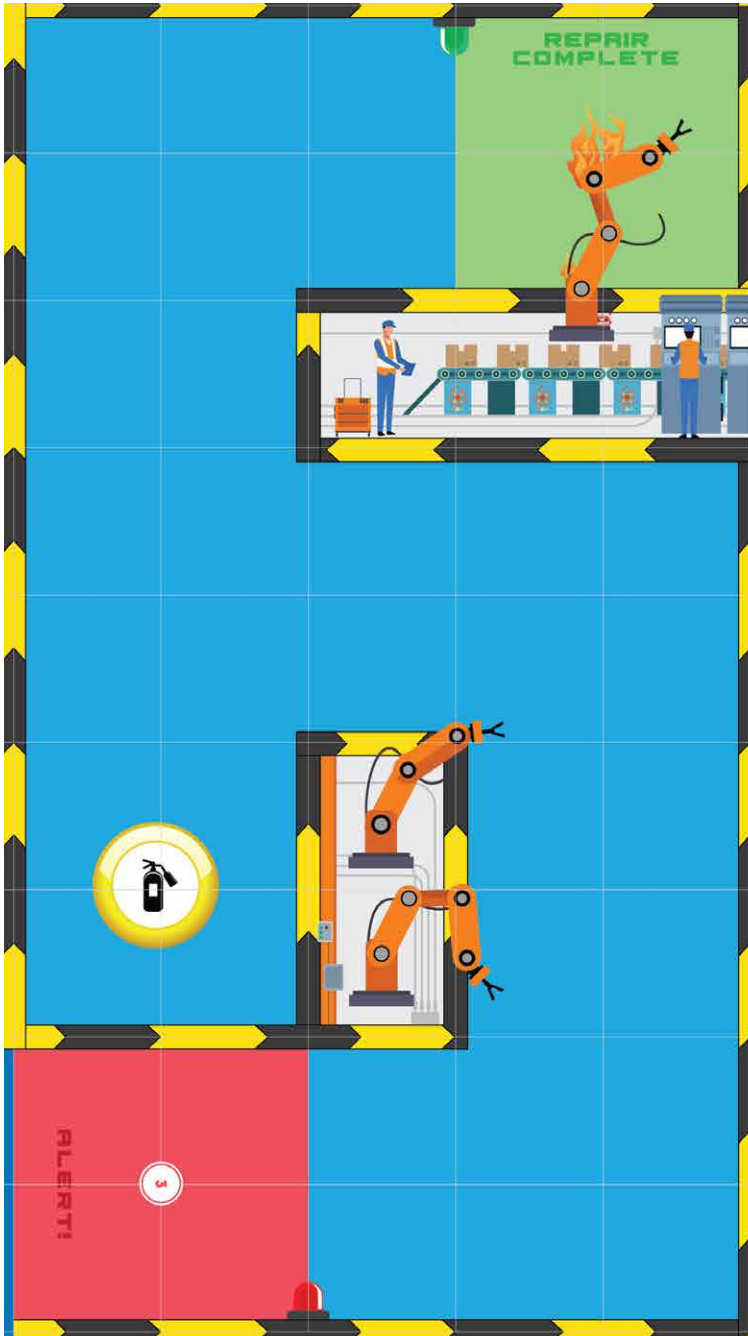
How To Use:

1. Robots will start in the red starting square located near the corners of the mat.

2. Analyze the course and visualize the direction(s) needed for the robot to navigate through the factory to the **objective.**(Tip: program your code two sequential commands at a time).

3. Code the sequential navigation commands into the robots program.

4. Place the robot in the specific starting square and execute the program.

5. Repeat steps 2-4 until the robot has collected the Toolbox power-up and reached the green Finish square.

START → COLLECT → FINISH

Activity 3 : Fire Emergency

Ring the alarm!

The robotic arm has caught fire in the factory! Collect the fire extinguisher power-up so you can help put out the fire!
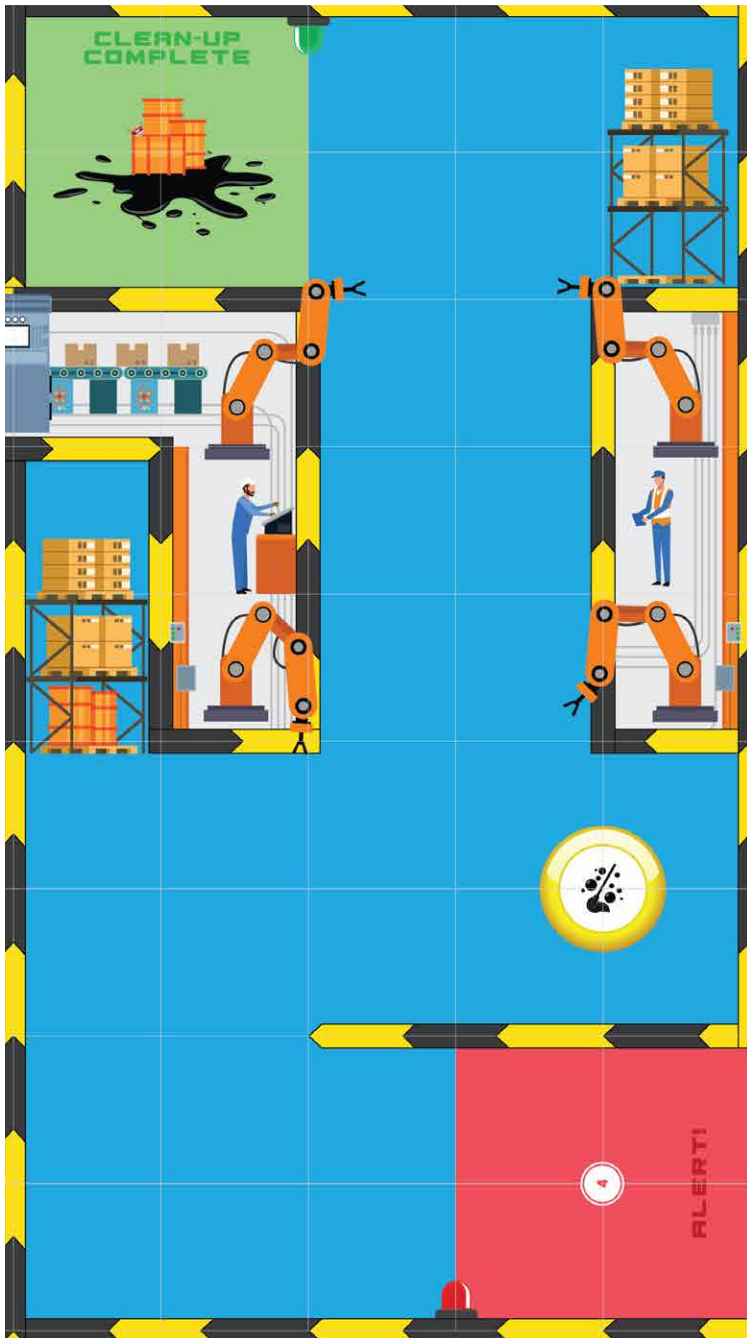

How To Use:

1. Robots will start in the red starting square located near the corners of the mat.

2. Analyze the course and visualize the direction(s) needed for the robot to navigate through the factory to the objective.(Tip: program your code two sequential commands at a time).

3. Code the sequential navigation commands into the robots program.

4. Place the robot in the specific starting square and execute the program.

5. Repeat steps 2-4 until the robot has collected the Extinguisher power-up and reached the green Finish square.

START → COLLECT → FINISH

Activity 4 : Oil Spill

Caution, slippery floors

A robot was caught red-handed, knocking over oil cans. Collect the mop power-up to help clean things up.

How To Use:

1. Robots will start in the red starting square located near the corners of the mat.

2. Analyze the course and visualize the direction(s) needed for the robot to navigate through the factory to the objective.(Tip: program your code two sequential commands at a time).

3. Code the sequential navigation commands into the robots program.

4. Place the robot in the specific starting square and execute the program.

5. Repeat steps 2-4 until the robot has collected the Mop power-up and reached the green Finish square.

START → COLLECT → FINISH

"You did it! Not only did you fix and clean up all the messes, you caught the mischievous robot causing all the problems! The Factory is back in business! Thank you so much!" -Sincerely, Factory workers.