Modular Robotics

Robot Puzzles

Indicate which puzzles your team will be solving by checking the box on the right.

1: Build an Agressive Robot

Battery, Drive, Distance	Make a robot that drives faster as it gets closer to objects.	☐ Solving?

2: Build a Scaredy-Bot

Battery, Drive, Distance	Make a robot that drives away from things.	☐ Solving?

3: Build a Crazy-Bot

Battery, Drive, Distance	Make a robot that drives in circles.	☐ Solving?

4: Build a Lighthouse Robot

Battery, Brightness, Flashlight, Rotate, Inverse, Passive	Build a robot lighthouse that knows to come on in the dark to let the ships know that land is near.	☐ Solving?

5: Build a Steering Robot

Battery, 2 Distance, 2 Drive, Blocker	Build a steering robot that has sides that drive and sense independently.	☐ Solving?

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6: Build a Flashlight Robot

Battery, Flashlight, Brightness, Inverse	You are in a dark basement and don't know where the lights are. You don't have a flashlight or candle, but you do have Cubelets! How can you make a robot flashlight that will stay lit while in the dark?	☐ Solving?

7: Build a Cave Investigator

Battery, 2 Distance, 2 Drives, Blocker, 2 Inverse, Brightness, Rotate, Passive, Flashlight	Build a robot that can explore a newly discovered cave. The scientists want the robot to precede them in to the cave.	☐ Solving?

8: Build Your Own Robot

Battery, 2 Distance, 2 Drives, Blocker, 2 Inverse, Brightness, Rotate, Passive, Flashlight	Define your own problem or situation you would like to solve and build a robot to address the issue.	☐ Solving?

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Problem Solving to Build Robots

Name/Team: _____ Date: _____

1: What is the problem or issue we are trying to solve? State this using your own words.

2: Brainstorm some solutions. Write or sketch at least two possible ideas.

3: Choose the solution you would like to proceed with and explain why you chose this one.

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Problem Solving to Build Robots

4: Test your solution and evaluate it. Did it work? Was this the best solution? Would one of the other ideas worked better? Why?

5: Can you change the design to make it work better? What should you do?

6: Modify it and retest it. Now, what do you think of your robot?

7: Are you satisfied or do you need to make some adjustments, test, and reevaluate? Continue redesigning, evaluating, and testing until you are satisfied with the results.

8: Describe and sketch your final robot. Explain why you think this robot works.