



## Over the Barrier

Test out your designs as your robot moves Buckyballs over the top of a barrier!

### How to Practice

1. Set up two 3' x 4' Fields and push them together so they create a 4' x 6' Field with a barrier in the middle as shown above. Five Buckyballs should be in the starting area. The color of the Buckyballs does not matter.
  - Your robot should begin with the back wheels touching the wall, as shown.
2. For the initial test, use the Controller to drive your robot to pick up the Buckyballs and move them over the barrier to the other side. Document how well the robot is able to pick up and move the Buckyballs over the barrier in your engineering notebook.
3. After completing the initial test, iterate on your build! Change the design of your robot (including, but not limited to, changing the claw, the arm, or adding a motor group in VEXcode EXP) to better move the Buckyballs over the barrier.
4. Continue to move Buckyballs over the barrier after each design change. Record all design ideas, changes, and tests in your engineering notebook.

### 'LEVEL UP'

- **Beat your Time** - measure the time it takes you to complete the activity. Iterate on your design and try to beat your previous score!

### Pro Tips

- Choose one small variable to change each time. Then you can track which element(s) improves your design and which element(s) do not improve your robot design or driving.