

Example Science Olympiad Hovercraft Track Setup

Needed Items:

- Quantity 4, 20 gauge 9" x 1.25" strap tie (e.g. Home Depot SKU 333431, \$0.88 each)
- Quantity 4, 18 gauge galvanized steel angle (e.g. Home Depot SKU 296044, \$0.58 each)
- Quantity 4, 2"x4"x8' wood studs, straight as possible (e.g. Home Depot SKU 161649, \$3.43 each)
- Box of #4 x 1/2" wood screws (e.g. Home Depot SKU 251313, \$3.72 each)
- Duct tape
- Screw driver / Tape measure / Saw

Build Instructions:

1. Cut 3 of the 2"x4"x8' studs in half, resulting in 6 4' long sections. Cut the remaining 2"x4"x8' stud into quarters, resulting in 4 2' long sections. Note you only need 2 of the 2' sections. Also, home improvement stores will often cut lumber for free in the store.
2. Lay 3 of the 4' long sections on the ground in a long row to make one side rail of the track, narrow edge flat against the ground, and the other 3 in a long parallel row to make the other side rail. Use the 2 2' long sections as spacers at either end, making sure to put the 2' sections so their ends touch the side rails.



3. Use the strap ties and wood screws to secure the 4' sections end to end.



4. Use the steel angles and wood screws to secure the side rails to the end spacers.



5. Use pieces of duct tape on the inside side rail joints to ensure there isn't anything for the hovercrafts to get caught on.



6. To transport the track, unscrew one side of each strap / steel angle to separate the pieces.



- This design builds a track that is the max possible length for Division C. If using a shorter track length or Division B, one of the 4' long sections in each side rail can be removed.
- If concerned about the track moving, either try to tape it to the floor with duct tape, or use bricks on the corners to weigh it down.