Pinewood Derby Test Track Instructions

From Dr. Acton's pinewood physics video
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PARTS LIST

- **Four** 8-foot 2x2s
- **Two** 4-foot 2x2s
- **Twelve** 2-foot 2x2
- Two 1-foot 2x2
- 2 pieces 16-foot x 8" exterior Siding. (rough on outside, very smooth on inside) (will use 1.5 pieces)
- For center guides: lattice material, ¼" depth. (rip on the table saw to correct width of 1 9/16") – need 50 linar feet
- Screws: one box 3", one box 2", and 1"
- Tools: square, plumb bob, string, hand saw

STEPS

1. Lay out two pieces siding end to end. Cut second piece to the length of your space.
2. Use a square to draw lines at **64" and 89" from the top of the track.**
3. Place 2-foot 2x2s at:
    - Top of first piece
    - Centered under 64" line
    - Centered under 89" line
    - 1/8" short of the end of the first board
    - 1/8" into the second board
4. Measure width of siding and precisely center siding on each 2-foot 2x2. Attach the 2x2s with 2" wood screws. Be careful to put the screws on the edges so they won't be under the wheels.
5. Take 2 or 3 addl 2-foot boards and put them under the rest of the siding. They can "float" (do not need to be attached).
6. Join the two pieces of siding together. Use two 3" screws to join the two 2x2s. Predrill holes about 1/3 of the way from the end to the siding
7. Predrill holes in the center of the ends of the first three 2x2s
8. Prop the top of the track about 4 feet up. PREDRILL HOLES an inch from the top and 2" from the bottom of each 4 foot piece, then attach them to the top 2x2, and attach another 2-foot 2x2 at the bottom.
9. Measure the distance from the ground to the center of the second 2x2 support. Drill holes at this height in two 2-foot boards. Then attach 2-foot 2x2s and one across the bottom.
10. Same for third 2x2 support.
11. Lay two 8-foot 2x2s inside the three supports. Measure to make the distances identical on both sides, then PREDRILL holes and attach to sides.

12. Rip lattice material to 1 9/16” on the table saw, then sand edges smooth. (flat top and bottom don’t need to be smooth)
13. Sand a slight bevel in the lower half of each joint of lattice material, so that wheels will not catch on corners. probably good to bevel flat top as well.
14. Prepare to attach two center guides. They need with min. 3” distance center to center. On an 8” siding, that means 1 5/8” space between the edge of the siding and the outer edge of each center guide.
15. Place a screw at 1 5/8” from each side at top and bottom of track. Use a taut string between these screws to make marks every foot or so (use square or plumb bob to make marks)
16. Screw center guides along marks.
17. For a starting gate, use a ruler, or create something with pins and a hinge. You can create slots for the pins with a drill.