Adjustable Therapy Bench

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A small plywood bench with adjustable incline for supported play, positioning, and therapy activities.



Project ID	Size	Difficulty
BFT-001	Approx. 24 in L x 10 in W x 7 in H, with multiple incline positions	Intermediate woodworking

Important safety note

This project is a DIY adaptive equipment plan, not a certified medical device. Use only with direct adult supervision and confirm the child's positioning needs with a PT, OT, or qualified clinician before use.

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- Use only with direct adult supervision.
- Confirm fit, angle, posture, and use case with a PT, OT, or qualified clinician.
- Do not use if the child can tip, climb unsafely, or become trapped under/around the bench.
- Inspect knobs, bolts, plywood layers, and finish before every use.

Materials

Item	Notes
3/4 in birch plywood	One 2 ft x 4 ft panel is typically enough for the bench body
1/4-20 bolts	Four bolts, length matched to your plywood stack and knob depth
1/4-20 star knobs	Four knobs make the incline easy to loosen and re-tighten
1/4 in washers	Use under knobs and bolt heads where helpful
Wood glue	For laminated/stacked parts and support blocks
1-1/4 in pocket screws or wood screws	For attaching support legs and blocking
Sandpaper	120, 180, and 220 grit recommended
Water-based polyurethane or child-safe finish	Seal all faces and exposed plywood edges
Optional cushion	High-density foam, fabric/vinyl cover, staples or hook-and-loop attachment

Tools

Circular saw or track saw, Jigsaw or router for templates and slots, Drill/driver, 1/4 in drill bit, Pocket-hole jig or countersink bit, Clamps, Random-orbit sander, Measuring tape, square, pencil, Router with roundover bit recommended.

Cut list

Part	Qty	Size	Notes
Top platform	1	24 in x 10 in	Round over all corners and edges
Inner support legs	2	10 in W x 7 in H	Mount perpendicular under top, near each end
Outer adjustment plates	2	7 in H trapezoid, approx. 10 in top / 14 in bottom	Use the slot pattern/template for adjustment
Slot guide/locking blocks	4	Approx. 1-1/4 in x 5-1/2 in	Size to cover slots without interfering with knob travel
Optional cushion base	1	24 in x 10 in foam	Attach with hook-and-loop so it can be removed for cleaning

Assembly steps

1. Confirm the size and use case

This bench is sized as a small therapy/positioning bench. Before building, confirm the child’s current positioning needs with a PT or OT and decide whether you want a bare wood top, removable cushion, or washable cover.

2. Cut the top platform

Cut the 24 in x 10 in top from 3/4 in birch plywood. Ease every edge with sandpaper or a roundover bit. The top should feel smooth with no sharp corners.

3. Cut the inner support legs

Cut two 10 in x 7 in inner legs. These sit under the platform and carry the bench load. Drill clearance holes for the adjustment bolts so the bolt path is square and repeatable.

4. Cut the outer adjustment plates

Cut two outer trapezoid plates using the template dimensions. Lay out the vertical channel and horizontal adjustment slots before cutting. Keep both plates stacked or clamped together while marking so the slots line up.

5. Create the adjustment slots

Drill relief holes at the slot ends, then connect them with a jigsaw or router. Clean the slots with a file or sandpaper so the bolts slide freely without catching.

6. Dry fit before glue or finish

Assemble the top, inner legs, outer plates, bolts, washers, and knobs without finish. Test every incline position. The top should lock firmly without side-to-side wobble.

7. Attach support legs and blocking

Attach the inner support legs square to the underside of the platform. Use glue and screws, pocket holes, or countersunk fasteners. Keep fasteners flush or hidden so nothing scratches the child or floor.

8. Sand and round over

Sand all exposed faces and plywood edges through 180 or 220 grit. Pay special attention to the adjustment slots, lower corners, and any place a hand may touch.

9. Finish safely

Apply a water-based polyurethane or child-safe finish to all sides, edges, and inside slot surfaces. Let it cure fully based on the product label before use.

10. Add the optional cushion

If padding is needed, add a removable cushion made from high-density foam and washable fabric or vinyl. Avoid permanent upholstery until you know the height and angle work well.

11. Final safety check

Before each use, confirm all knobs are tight, the bench does not rock, the top is not cracked, and the child is supervised. Stop using it if any hardware loosens or wood shows damage.

Reference photos



Finished with cushion



Front slots and knobs



Bare wood angled view



Side support view

Final inspection checklist

[ ] All edges and corners are rounded smooth.

[ ] Adjustment slots are clean and bolts slide freely.

[ ] Knobs tighten securely in every incline position.

[ ] Bench does not wobble or rack side-to-side.

[ ] Finish has cured fully before use.

[ ] Cushion is secure but removable for cleaning.

[ ] Adult supervision and clinical fit check are in place.

Notes

This first public version is intended to be honest, practical, and easy to improve. If you build one, document what worked, what changed, and any safety issues before sharing the plan with another family.