Spacial Dynamics Institute
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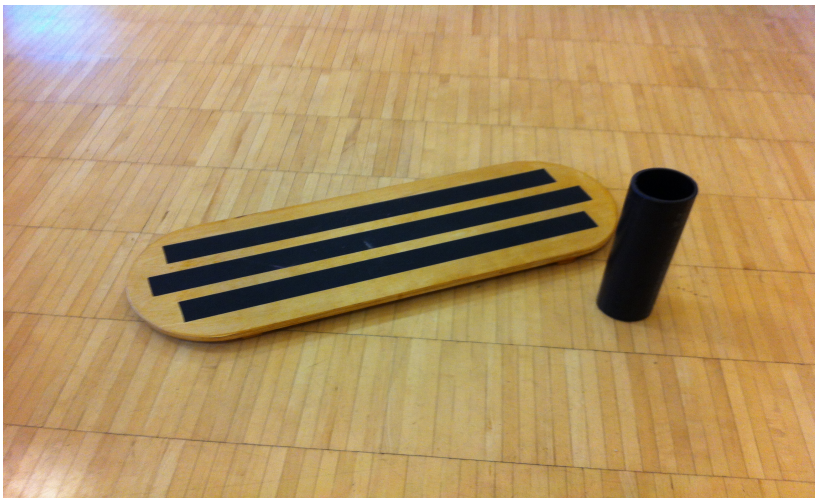
Spacial Dynamics Institute
Making a Rolla Bola board

32 inch long by 10 inch or 1ft wide, 3/4 inch thick pine board. The ends of the board can be rounded like in the picture, or simply left rectangular, with all rough edges sanded smooth. Use (3) 1 1/4 inch wood screws and glue to affix strips of 1 1/2" wide & 1" deep pine wood, the same width as board, crosswise to the underside of board, 2 inch in from each end of the board; to keep the roller from popping out the sides. Optional: Can paint or varnish top surface of board, and sprinkle on some sand while the varnish is drying to provide a less slippery surface; or put on a few strips of no slip stair tape. (Author's opinion: These rougher surfaces can cause skin abrasions during falls, and bare wood or a simple varnished surface facilitates repositioning of the feet and easier dismounts)
Initially use about 4" diameter plastic pipe cut 15 inches long, till skill improves, then graduate up to 6" or larger diameter. All materials available off the shelf at hardware stores.



Easy Build: Spacial Dynamics Institute Balance Beam

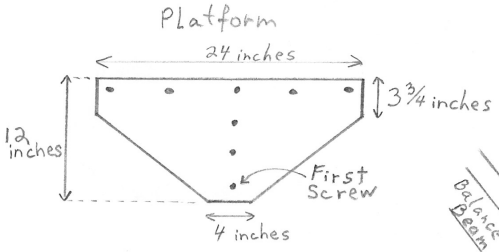
Purchase at Hardware store:
1) Balance Beam: 10 foot long 2inch by 6inch board. Make sure at least one edge is nice, without splinters or severe knotholes.
2) two End Boards: 2 feet long, 2inch by 6inch. You need at least a 4foot long board, the shortest available is usually 6ft.
3) two Platforms: 2 feet by 1 foot plywood (more than 1/4inch thick, one smooth side). Some hardware stores sell plywood squares 2 foot on a side, you only need one to cut out both platforms.
4) Deck Screws (22 of them): 2 1/2 inches long, self tapping with star drive screwdriver slots. These type of screws make the project go much quicker because there is no need to drill holes for the screws. A very good electric drill is needed, or a mechanics ratchet tool, or a manual brace drill holding the star drive bit that fits these screws. Make sure the bit comes in the box of screws, or purchase one that fits.
5) Sandpaper 150grit. one or two sheets
6) Satin or SemiGloss coating & paintbrush: small can, water soluble is less toxic, easier to clean up.
Tools:
1) wood saw: cut the Platform pieces according to the diagram.
2) powerful electric drill, can be done with a ratchet tool or an old fashion manual crank type drill that fits the star bit. It is possible to drill the right size pilot holes for the screws first and use a regular screwdriver to put in regular wood screws, however the powerful electric drill makes the project go much quicker. Drive the screws in so the heads are flush with or below the surface of the wood.

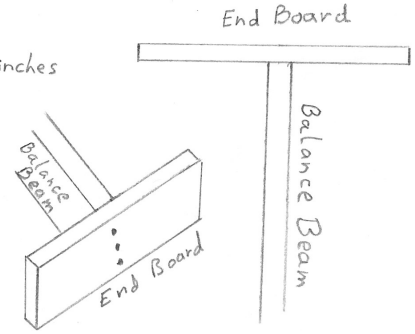
Hints: Making two or more at the same time is almost as easy as making one. Some hardware stores will cut the boards to length, and cut up a 4ft by 8ft plywood sheet into 2ft by 1ft sections = 8 balance beams! Purchasing a 8ft long 2by6 board, cut into 2ft lengths = 2 balance beams!

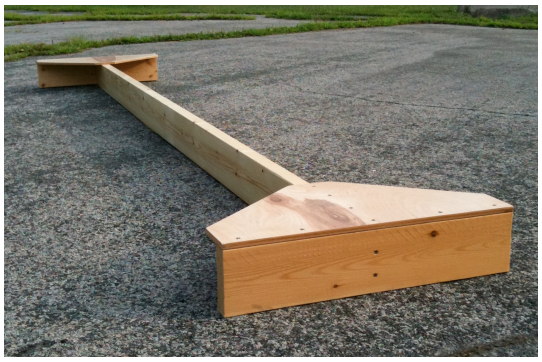
Assembly:
1) Start by cutting out the platforms and all boards to length.
2) Position an End Board on edge making a “T” with the Balance Beam; place a Platform on top, align correctly, hold tightly in place with your weight and put in the first screw through the front of the platform into the Balance Beam. Assure all is correctly positioned, then put in rest of screws tightly (see pattern), lastly, put three screws through the back of the End Piece into the end of the Balance Beam. Repeat for other side.
3) If desired, round walking edge with router, sandpaper, & paint with satin or semigloss.

Optional: The top edge can be rounded with a router bit of 1/2 inch radius. this will make it more challenging to walk. This embellishment can be added later when the children are more skilled; or some of the Balance Beams you build can have this feature for the children to graduate up to. You can make the apparatus higher than 6 inches, by purchasing 8inch, or 10inch, or 12inch high End Boards and Balance Beams, which will be heavier and a little more expensive, or lower and less expensive using 2 inch by 4 inch boards.

Easy Build Spacial Dynamics Institute Balance Beam







Top edge can be rounded with a router to simulate a tight wire

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