

Building a children's play structure



Building a children's play structure in your yard is sure to bring your kids endless hours of fun. Get your own plan for kids' activity centre (Model BT-2008) as well as the the list of materials required for the project.

For viewing and printing, you will need to use Adobe [Acrobat Reader software](#).

1. Raise the structure

1.1

With stakes and strings, mark off the perimeter of the area where you will need to dig a 10 × 8 ft. (3 × 2.4 m) hole.

1.2

Excavate the entire surface to a depth of 6 in. (152 mm). At each corner (inside the perimeter) dig an 8 × 8 in. (203 × 203 mm) square ten inches (approx. 250 mm) deep for the structure's four posts, which will be driven in at a 63° angle.

1.3

Cut one end of each of the four 6 × 6 in. (152 × 152 mm) posts at a 27° angle. These posts will then be joined in pairs to form two peaks.

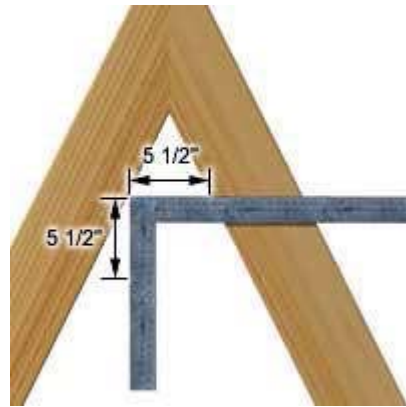


1.4

We suggest assembling the structure on the ground before placing it in the excavated area. Lay your two 6 × 6 in. (152 × 152 mm) posts flat on the ground to form a "V" and screw or nail them together.

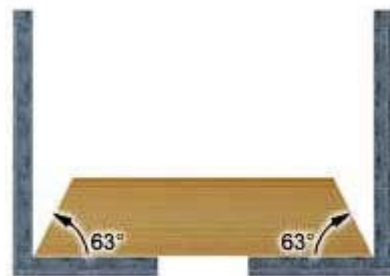
1.5

Mark the two posts where the gap between them is 5 1/2 in. (140 mm). Mark again 5 1/2 in. (140 mm) lower, in line with the peak, at the centre of the two posts. This second line will mark the top of the beam support. As a precaution, leave an extra 1/4 in. (6 mm) clearance for easier insertion of the beam.



1.6

Cut the beam supports (a total of 4) out of 2 × 8 in. (50 × 203 mm) planks, cutting the ends at a 63° angle so that they align with the peak, along the posts (at 27°).



1.7

Bolt the supports to the posts or attach them using lag screws (two at each end).

1.8

Now place the two rafters sideways on the ground and insert the 6 × 6 in. (152 × 152 mm) by 14 ft.-long (4.3 m) beam into the two spaces provided so that they protrude by 36 1/2 in. (927 mm) at each end. Nail it at a 45° angle into the two support boards. Use wood scraps to make one or two blocking pieces that you will insert into the remaining (triangular-shaped) space. Toe nail them in.



1.9

Trace and cut out four gussets (pieces of wood to stop the legs spreading) from a 1/2 in. (13 mm) sheet of plywood. They will be used to close the two sides of each peak. Cut out a space at the base of each one to insert the beam. A head to tail layout on your plywood will limit the number of cuts and save plywood (see sheet 5/6 of the attached Plan image plan). Using an electric drill, screw in the gussets on each side of the posts.

1.10

Stand the structure upright and place it inside the perimeter, inserting the posts into the corners. Pack top soil around the base of the posts.

2. Make a sandbox

2.1

Spread a geotextile sheet over the entire excavated area.

2.2

Nail together the four 2 × 10 in. (50 × 254 mm) planks that will edge the sandbox and place them inside the perimeter (over the geotextile sheet) and resting against the posts at the four corners, without extending beyond the borders. According to this plan, your sandbox will be 9 1/2 × 7 ft. (2.9 × 2.1 m).

The border will be buried 4 in. (100 mm) into the ground. Backfill the outside.

2.3

Attach the four corners of the border to the four posts with lag screws.

3. Place the beams of the platform

3.1

Cut six 4 × 4 in. (100 × 100 mm) posts into 7 ft. (2.1 m) lengths. Using a table saw, make a notch 1 1/2 in. (38 mm) deep and 9 1/2 in. (241 mm) long at the bottom of the six posts.

3.2

Set the height of your circular saw blade at 1/2 in. (13 mm) before making a notch into the six posts, at 2 ft. 7 in. (0.8 m) from the unnotched end. On the four posts already notched, this second notch should be on one of the lateral sides in relation to the previous notch so that the two notches are on adjacent sides. More on the subject in the "corner posts" section on page 6/6 of the plan.

3.3

To make the roof, cut a 1/2 in. 4 ft. × 8 ft. sheet of plywood in two, to obtain two 2 × 8 ft. boards. Rip one of the long ends of each board at a 45° angle. Attach the two boards to each side of the beams to form the roof.

3.4

To build the platform beams, cut four 2 × 6 in. (50 × 152 mm) planks into 5 ft. 5 in. (1.7 m) lengths. In your plywood, cut out two boards 5 1/2 in. (140 mm) wide by 5 ft. 5 in. (1.7 m) long. Make two beams by inserting a plywood board between two 2 × 6 in. (50 × 152 mm) planks. Glue and bolt the three boards together (see page 6/6 of the plan).

3.5

Insert each beam into the lateral notches in the two corner posts and, using an electric drill, screw them in opposite the notches from outside the posts.



3.6

Place the notches at the bottom of the corner posts on the sandbox border and centre the frame between the structure posts (peaks).

Bolt to the structure and to the sandbox border.

4. Install the joists of the platform

4.1

Place metal hangers for the 2 × 6 in. (50 × 152 mm) floor joists on the beams so that once installed, they will be centered 12 in. (305 mm) apart.

4.2

Cut joists out of 2 × 6 in. (50 mm × 152 mm) boards. You will need seven 9 ft. (2.7 m) long joists for the ends. Also plan two other 9 ft. 7 in. (2.9 m) long joists for the ends.

4.3

Attach the joists to the hangers and double the border joists by attaching the two boards that make up the ends of the posts to the outside edges of the border joists.

4.4

To make the studs, cut three 4 × 4 in. (100 × 100 mm) posts into 3 ft. 1/2 in. (0.9 m) lengths. At one end of each, make a notch 2 in. (50 mm) deep and 5 1/2 in. (140 mm) long.

4.5

Position the two remaining 4 × 4 in. (100 × 100 mm) posts, placing the notches out, over the border joist before attaching them to the joists. The first post will be attached to the joist 26 in. (660 mm) from the outside end of the 6 × 6 in. (152 × 152 mm) post and the second 18 1/2 in. (470 mm) from the first measurement.



4.6

Use the same procedure to attach the three studs. Position the first stud 18 1/2 in. (470 mm) from the last stud attached in the preceding step, and the other two at the opposite end of the platform, each 26 in. (660 mm) from the outer edge of the 6 × 6 in. (152 × 152 mm) structure, on the border joist (notch out).

5. Build the floor of the platform

5.1

Cut 1 1/4 × 6 in. (32 × 152 mm) boards into 6 ft. (1.8 m) lengths. Following this plan, you should require about fifteen of these boards.

5.2

Use an electric drill to screw the boards to each floor joist, leaving a 1/8 in. (3 mm) clearance between each.

To ensure uniform spacing, temporarily insert the tip of a 1/8 in. (3 mm) diameter nail into each joist.

5.3

Where there are posts, measure and mark the cutting line on the board. Use a jigsaw to cut the appropriate opening.

6. Add a railing to the platform

6.1

To build the railing, cut two 2 × 4 in. (50 × 100 mm) boards into 5 ft. 2 in. (1.6 m) lengths for the two sections that will be between the 6 × 6 in. (152 × 152 mm) posts. Cut the boards into 26 in. (660 mm) lengths for the four other sections.



6.2

Screw the long railing sections to the 4 × 4 in. (100 × 100 mm) posts at a 45° angle (the height of both being equal).

6.3

Cut 32 in. (810 mm) rails out of 2 × 2 in. (50 × 50 mm) boards. Make a 45 degree cut at one end of each for finishing. Calculate the number of rails required, keeping in mind that they will be centered 4 in. (100 mm) apart.

6.4

Attach the rails (bevelled end up) to the ramp and the border joist or post, as the case may be, screwing them in with an electric drill. Set them 1 1/2 in. (38 mm) from the top of the ramp. Make sure they are level.

7. Dress up the access ramp

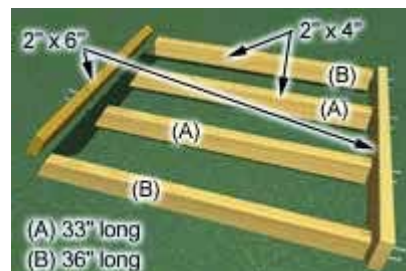
7.1

Cut four 2 × 4 in. (50 × 100 mm) planks, two for the outside pieces, 7 ft. (2.1 m) long and the two others, for the inside pieces, 6 ft. 10.5 in. (2.09 m) long. Cut one end of all four pieces at a 54° angle. Cut two 2 × 6 in. (50 × 152 mm) planks, one to a length of 36 in. (914 mm) and the second 33 in. (838 mm) long. Bevel the ends of the 33 in. (838 mm) plank at a 54° angle.

7.2

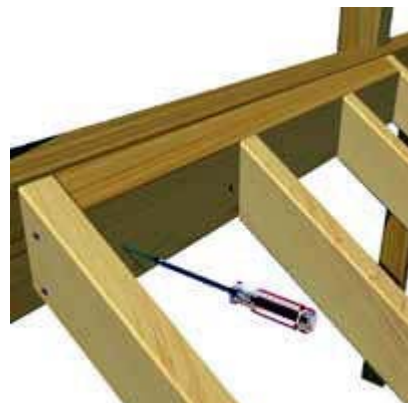
Build the access ramp upside down on the ground. Center the right angle ends of the 2 × 4 in. (50 × 100 mm) boards to the 36 in. (914 mm) long 2 × 6 in. (50 × 152 mm) board every 12 in. (305 mm).

Be sure to leave a 1 in. (25 mm) clearance on the 2 × 6 in. (50 × 152 mm) to attach the floor. House the 33 in. (305 mm) long 2 × 6 in. (50 × 152 mm) into the other end of the ramp and attach it to the 2 × 4 in. (50 × 100 mm).



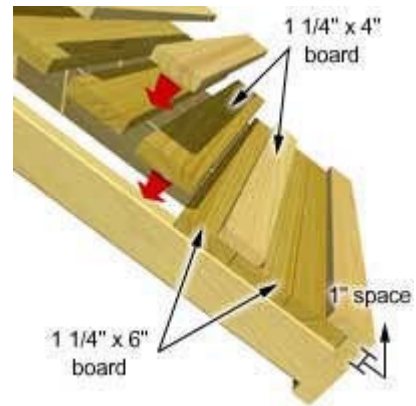
7.3

Flip the assembled component right side up and screw it to the main structure. Working from the bottom up, finish the access ramp floor by nailing in 36 in. (914 mm) long 1 1/4 × 6 in. (32 × 152 mm) boards.



7.4

Starting at the ground section of the access ramp, attach 1 1/4 × 4 in. (32 × 100 mm) boards to every second floorboard, making sure to center the boards over the voids. These boards will be used as stairs for easier access to the structure's upper level.



8. Build the bridge

8.1

Out of two 2 × 6 in (50 × 152 mm) boards, make two 21 in. (533 mm) and two 18 1/2 in. (470 mm) long boards. Attach the two longest boards perpendicular to the sandbox border and to the ladder posts by screwing or nailing them in at a 45° angle.

8.2

Nail the two other boards perpendicular to the first two, equidistant from the ends and at a 45° angle.

8.3

Finish the floor the same way as for the platform floor, with four 22 1/2 in. (570 mm) long 1 1/4 × 6 in. (32 × 152 mm) boards.

9. Fix the ladder

9.1

Attach a 2 × 2 in. (50 × 50 mm) board to the top of the bridge.

9.2

Next, determine the height of the four 21 1/2 in. long (546 mm) 2 × 4 in. (50 × 100 mm) boards that will be used as steps by calculating the distance between the platform floor and the top of the 2 × 2 in. (50 × 50 mm) board attached at step 1. The steps should be evenly spaced.

9.3

Screw the steps to the posts with an electric drill.

10. Install the swings

10.1

In a 2 × 8 in. (50 × 203 mm) board, cut two 18 in. (460 mm) lengths and drill a hole 2 in. (50 mm) from each end, for the ropes.

10.2

For each swing, drill two holes at the centre of the beam, leaving a 4 in. (100 mm) space at the end of the beam. The two holes should be 14 in. (355 mm) apart. Bolt the two support hooks into the holes.

10.3

Thread the rope through the holes in the swing and tie securely.

10.4

Cut the rope so that the height between the ground and the top of the seat of the swing is 18 in. (460 mm).

Fill the base with sand, sit back, relax and watch the kids delight in your new creation!

Have a great summer!

Tools list

- Carpenter's Pencil
- Carpenter's level
- Circular saw
- Drill
- Hammer
- Jig saw
- Safety goggles
- Shovel
- Speed Square
- Table saw
- Work gloves

Material list

- "Cool Wave " slide NE4675 (see Swing-N-Slide® Co.)
- 1 × 6 in. (25 × 152 mm) boards
- 1/2 in. (13 mm) plywood
- 2 × 10 in. (50 × 254 mm) planks
- 2 × 2 in. (50 × 50 mm) planks
- 2 × 8 in. (50 × 203 mm) planks
- 4 × 4 in. (100 × 100 mm) posts
- 6 × 6 in. (152 × 152 mm) posts
- Geotextile sheet
- Metal hangers
- Nails
- Sand
- Treated wood screws