

Building trees (V)

At times, apart from having a beautiful or amazing design, a tree needs to follow certain size restrictions for allowing better transportation or for being able to store it away without taking much space.

Text and pictures by Legotron

The challenge here was to build a tree that fits specific dimensions. Since our goal was being able to take these trees to different events, we needed to design something that was easy to transport and didn't take much space. Most of the trees we built until now were too bulky and fragile, which limited the amount that we could take around, not to mention that they always ended up rather damaged. So the new design had to fit in a 25x15x9 cm boxes, at least 4 of them without taking anything apart.

Going for a walk around the parks in the city was enough to find the ideal tree. The most interesting one for using as a reference in this challenge was a cypress. Tall, tough and with a thin treetop. Limited by the box size, 25 bricks of height was the only reference. The other key point was the treetop. It needed to be really thin, with the branches as close to the trunk as possible. In addition to the usual 'plant leaves 3x4' in green used for the foliage, we used a limited amount of pieces, since we needed to build multiple trees.

The final design uses the following inventory of parts:

List of needed parts.

As with the earlier articles, we used BrickLink[1] as reference for the inventory:

For the base:

- 1x Plate 4x4, in Green

For the tree trunk, supposing the tree is around 25 bricks tall:

- 13-15x Round Brick 2x2, in Brown.
- 2x Cone 1x1 Without Top Groove, in Brown.
- 2x Modified Brick 1x1 with Headlight, for the treetop

connections.

- 1x Bar 6.6 with Stop Ring, in Brown for the end of the trunk.
- 4-5x Round Plate 2x2, in Brown for adjusting the height of the trunk.
- 12x Hinge Plate 1x2 Locking with 1 Finger on Side, in Brown for the branch connections.
- 12x Hinge Plate 1x2 Locking with 2 Fingers on End, for the branches.

For the Foliage:

- 30-40x Plant Leaves 4x3, in Green.

How to build.

With such a limited inventory and simplified design, the start is rather easy. On the Plate 4x4, we put a Round Plate 2x2, and up to 6 Round Brick 2x2. We could add a Technic Axle 7L if we want to make the trunk more robust, but then an additional Round Plate 2x2 would be necessary for hiding it.

At this height, slightly taller than a minifig, we can start putting the first pair of hinge plates for the lower branches. This pair of hinges should be the Hinge Plate 1x2 Locking with 1 Finger on Side (for the trunk) connected to the Hinge Plate 1x2 Locking with





2 Fingers on End placed with the studs facing the opposite direction, at the next possible angle after 90 degrees.

Then we add another Round Brick, and again a new pair of hinges, just like before but turned 90 degrees, so all 4 sides of the trunk have their own branch.

After that we increase the trunk size by 2 Round Bricks, followed by another 2 pairs of hinges separated by a Round Brick, just like before, but without any inclination. Then we add a Round Plate 2x2 for making it robust.

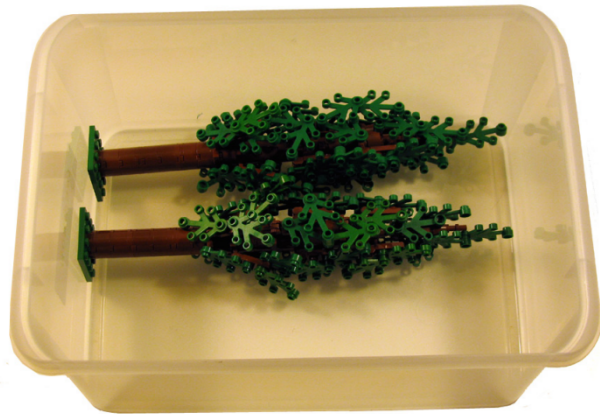
Repeat all this again, and with the additional 5 bricks of height, we are done with the thicker bit of the trunk. If a bigger tree is needed, all you have to do is repeat this step a couple more times.

The main branches are built so all that is left is to finish the end of the trunk.

For that we'll need to put a 1x1 Cone on top of the last Round Plate, followed by a Modified Brick 1x1 with Headlight placed sideways, another cone, another Modified Brick 1x1, again sideways but turned 90 degrees in relation to the other one, and a last cone.

Then we put a Bar 6.6L with Stop Ring through the structure to increase its sturdiness, and we are done with the trunk.

The next step is all about adding the foliage. We start with the bottom part, adding 2 Plant Leaves 4x3 on each of the 4 angled hinges, one facing down on the lower stud, and the other facing up on the top one. Since the studs are facing outside, the leaves hide



them.

Then we place another one in the inner bit of the hinge, angling the leaves to cover as much of the trunk as possible. After that we move on to the middle of the tree. A couple of leaves per branch should suffice, but be careful with the trunk so it doesn't fall apart.

For the treetop, we add leaves on each Modified Brick 1x1, this time pointing up, and again, we add another one Plant Leaf 4x3 to one of the leaves we just placed.

The tree is basically done, but we can have some finishing touches (moving the leaves around, adding a couple more, etc...) if needed. And following these steps we have our finished tree.

Even though we didn't use many parts, it looks rather pretty.

In my case, I was able to put 6 trees in a box, along with some simple cardboard dividers. And the best thing is that not many leaves fall during transportation, so the designs achieve, in a satisfying way, the required premises.

References:

[1] Unofficial site for the sale and purchase of LEGO® pieces on the Internet:
<http://www.bricklink.com> ■



