

Engineering with Legos : Sturdy Structures & Tall Towers

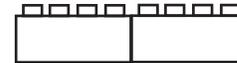
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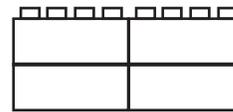
BUILDING STURDY STRUCTURES

Building sturdy structures using Lego blocks is not as hard as you may think. However, there are some basic principles that you must follow in order to have a successful build.

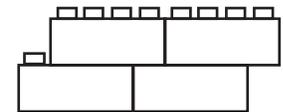
JOINTS: Joints are where two or more blocks meet. In a house, a joint would be where two pieces of wood meet.



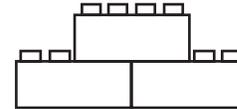
You can build strong joints a couple of ways. One way is by overlapping the blocks on top of each other. If you have ever seen a brick wall, this is how the bricks are structured. Here are some examples of weak joints and strong joints.



Weak Joint



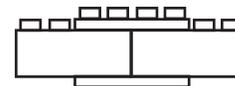
Strong Joint



Strongest Joint: this is how brick walls are made!

"SANDWICHING" JOINTS

This is another way to make a very strong joint. In this type of joint, you use two plates, placing one on top and one on the bottom. Just how a "sandwich" has two pieces of bread, the plates are the bread that holds everything in the middle together!



Use these tips to build strong structures and put your project to the test!

Challenge 1 - Individual build

-Build a free standing wall that is at least 10 bricks tall that can survive the wrecking ball or rotating hammer.

Challenge 2 - Individual build

-Build a free standing wall at least 14 bricks tall that won't fall over.
-Encourage the use of technic pieces from their individual boxes.

Challenge 3 Ultimate Challenge - Individual build

-Who can build the tallest structure that won't fall over!