
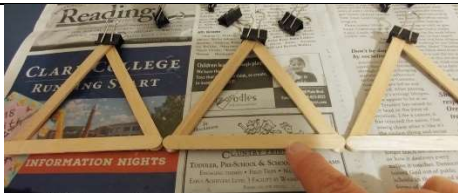
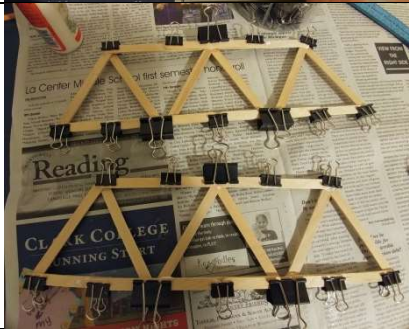
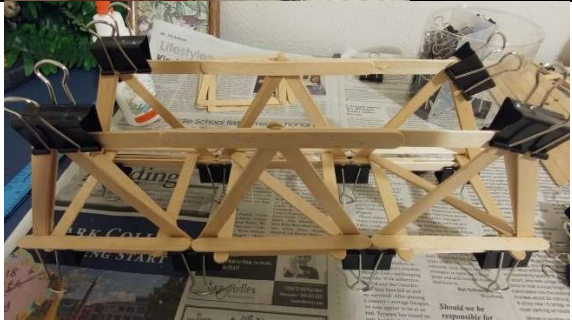
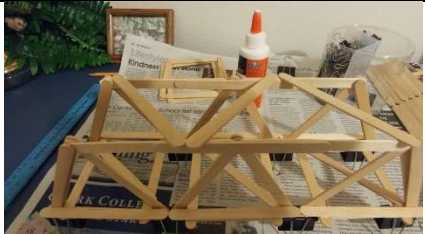



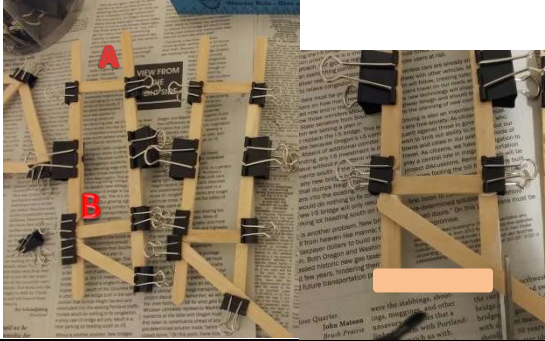

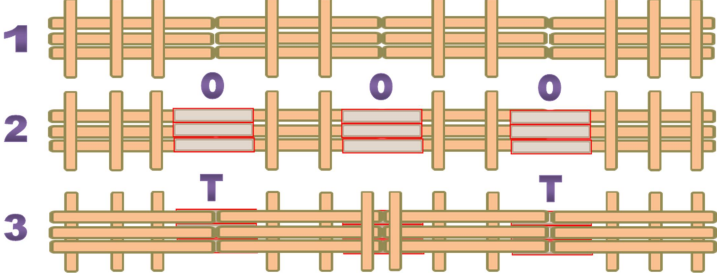


Build a Truss Bridge with Popsicle Sticks

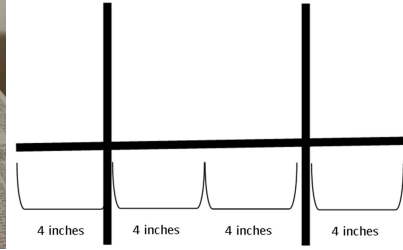
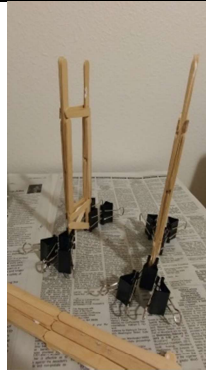
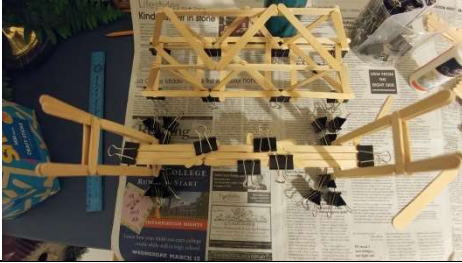
<p>Step 1</p>	<p><i>Build the truss of your bridge.</i> <i>Build 6 triangles. Clamp each vertices</i> <i>For each triangle, put glue on the tips of the sticks. Make sure 1 stick rests level on the other two. This stick will be part of your girder beam.</i></p>	
<p>2 A</p>	<p>Place 3 triangles in straight row with the level sticks on the bottom. (the sticks are level if they are both glued on top of another stick.)</p>	
<p>2 B</p>	<p>Glue an overlapping stick across the bottom of the triangles next to each other, to hold them together. An additional layer will make it stronger. Clamp the ends</p> <p>Also connect the triangle tops together with additional sticks.</p>	
<p>3A</p>	<p><i>Stand up your trusses and glue in connecting sticks to support your deck and upper.</i></p> <p><i>Glue perpendicular sticks across the bottom of the trusses just inside each of the triangles. Then glue horizontal sticks across each pair of new sticks, as shown.</i></p>	
<p>3 B</p>	<p>Glue horizontal sticks on the top of the trusses to give the top support.</p>	
<p>4</p>	<p>Make pilings to hold up your bridge. Build them in log cabin fashion with long sticks to span the width of the bridge and short sticks for the length of the piling. Build to desired height. Copy for a 2nd piling.</p>	
<p>5</p>	<p>Then glue on your deck (truss bridge)</p>	

Build a Cable Bridge with Popsicle Sticks

<p>1</p>	<p><i>Build the sides of your tall towers</i> <i>Clamp each overlapping stick end</i> Lay 2 sticks end to end. Overlap a stick in the EXACT middle & clamp. Make 8 of these. Make sure all of them have the overlapping stick placed at the same height. The bottom of this overlapping stick will be the height of your deck.</p>	
<p>2 A</p>	<p>Connect 2 of the above with 2 perpendicular sticks. You can use either a long full or half (small) stick. One stick should be placed just under the middle overlapping stick and one above. Make sure they are level and all of the lower perpendicular sticks are at the same height (distance from the end of the sticks).</p>	
<p>2 B</p>	<p>On the bottom side prepare a place for your bridge deck by stacking 3 additional small horizontal pieces on the "B" horizontal piece. Do the same at the base. Add a diagonal piece for strength. If it's too long, cut it after it is dry. Finally add 2 short vertical legs to span between horizontal B and the base horizontals {not pictured}</p>	
<p>3 A</p>	<p>Glue 2 towers to each other for tower #1 and the other 2 for tower #2. Clamp.</p>	
<p>3 B</p>	<p>1 Build the bridge deck at least 4 sticks long. Check how many sticks will fit inside the width of your towers. Glue on perpendicular short sticks as shown 2 Add overlapping (O short sticks. 3 Add another layer of long horizontal sticks on top for strength. The T shows where the tower will sit. Add 2 additional perpendicular short sticks in the middle. The cables will be attached to the perpendicular sticks. So glue on enough for that purpose.</p>	

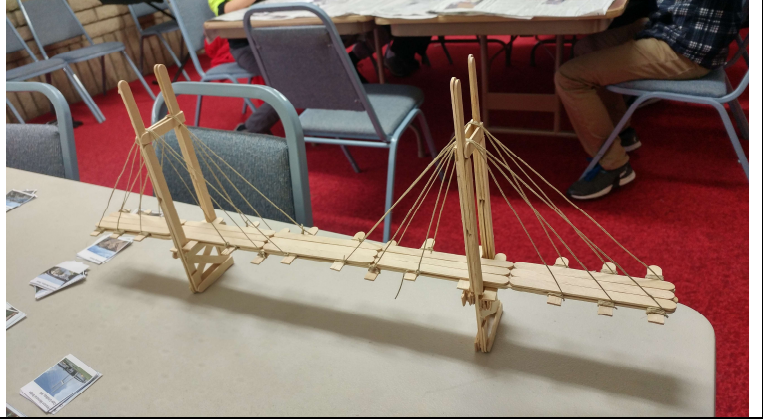
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Stand up your towers and glue the deck on. The deck needs to extend out both ends.

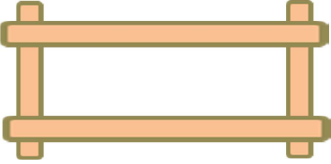



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Finally add string cables. Tie the string onto 1 cable, take it up to the top of the tower, around the top stick pointing up, and down to the corresponding perpendicular stick on the deck. Put a bit of glue on this stick and tightly wrap the cable around the stick, gluing it in place.



Build a Beam Bridge with Popsicle Sticks

Step 1	<p>Make pilings to hold up your bridge. Build them in log cabin fashion with long sticks to span the width of the bridge and short sticks for the length of the piling. Build to desired height. Copy for a 2nd piling</p>	
2	<p>Build the bridge deck at least 3 sticks long. Check how many sticks will fit inside the width of your towers. Glue on overlapping, perpendicular and horizontal sticks for strength. The cables will be attached to the perpendicular sticks. So glue on enough for that purpose.</p>	
3	<p>Stand up your pilings. Support them with clamps. Then glue on your deck.</p>	