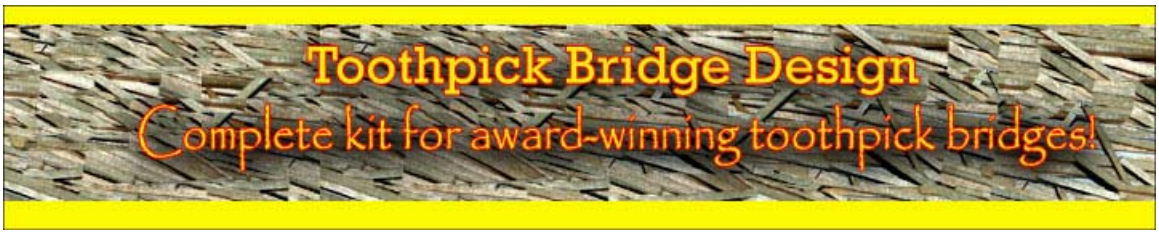

Home

Order Kit

Types of Bridges

Toothpick Bridge Designs

Building Tips

Getting Started

Testing Your Bridge

Competitions

Science Fair Projects

Bridge Forces

Contact Us

About

Privacy

Shipping

Toothpick Bridge Construction Tips

1. START EARLY, PLAN THOROUGHLY, AND WORK STEADILY. Do not put your work off to the night before it is due. Toothpick bridges need time to dry property.
2. Try different constructions. Build as many versions of your prototype bridge as possible. There is a list of suggested bridges - click here.
3. Be creative and have tenacity when building your toothpick bridge, but keep track of time. You may have to consider letting go of an idea so that your final design can be thoroughly tested.
4. Continually monitor the mass of your toothpick bridge during construction. Wet glue weighs more than dry glue and makes weaker joints. Be sure to complete your bridge several days before it is due in order for the glue to thoroughly dry.
5. The spacing between the intersections of toothpicks greatly affects the strength of your toothpick bridge.
6. Test each toothpich BEFORE you use it. When using flat toothpicks to build your bridge, roll the toothpick between your fingers first to see if it can stand a little pressure without breaking. With round toothpicks, apply a little pressure to bend it.
7. Good glue joints make for good strength.
8. Your toothpick bridge's strength is also dependent on its vertical height. However, this is not to say "the higher the better", as there are limits.
9. Consider the strengths and weaknesses of a single toothpick under these three forces: COMPRESSION, TENSION, SHEER. Design your toothpick bridge to use the strengths of each toothpick as much as possible.
10. Watch out for "stress risers". Before failing, your bridge will give and bend under the load of your test weight. If you have made some parts of your toothpick bridge so strong and hard that it will not give, your toothpick bridge will fail in another area sooner than if the whole bridge were able to adjust.
11. To reduce drying time, do initial gluing with SMALL drops of glue (applied with an extra toothpick). You can go back later and reinforce these small drops with more glue after everything dries.

Good luck and have fun.

Our Mission Statement

Building a toothpick bridge is a fun and exciting exercise the most school aged children can do in a couple of days. Our goal is to provide the step by step guide to building a strong toothpick bridge, tips for proper construction, and teach your child about physics and math involved with the project.