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## How much does it cost to build a highway bridge

Skyscrapers and long bridges are prone to resonance created by strong winds and seismic activity. In order to mitigate the resonant effect, it is important to build large dampers into their construction to interrupt the resonant waves. If these facilities are not in place, buildings and bridges can be shaken to the ground, as witnessed whenever an earthquake occurs. Silencers are used in machines you probably use every day, including car suspension systems and clothes washing machines. If you look at How Stuff Works on washing machines, you will learn that damping systems use friction to absorb some of the force from vibration. The damping system in the building is much larger and is also designed to absorb violent earthquake shocks. The size of the dampers depends on the size of the building. There are three classifications for damping systems: Passive - This is an uncontrolled silencer that requires no power for operation. They are simple and generally low cost, but they are not able to adapt to changing needs. Active - Active dampers are power generators that actively push the structure to act against interference. They are fully controllable and require great power. Semi-Active - Combines passive and active damping functions. Rather than push on the structure, they act against movement with controlled resistance force to reduce movement. They are fully controllable, but require a small wattage. Unlike active devices, they do not have the potential to go out of control and destabilize the structure. Mr liquid dampers are semi-active devices that change their damping level by changing the amount of current supplied to the internal electromagnet that controls the flow of MR liquid. Approximately 5 litres of MRi fluid is used to fill the main chamber of the silencer. During an earthquake, sensors connected to the building signal the computer to supply the silencers with an electric charge. This electric charge then magnetizes the coil, turning the MR fluid from liquid to near-solid. Now, the electromagnet will likely pulse as vibrations ripple through the building. This vibration causes the MRI liquid to change from liquid to solid thousands of times per second and may cause the liquid temperature to rise. The thermal expansion battery is attached to the top of the damper housing to allow the liquid to expand when it warms up. This battery prevents a dangerous increase in pressure when the liquid is expanding. Depending on the size of the building, there could be a number of maybe hundreds of dampers. Each silencer would sit on the floor and be attached to chevron braces that are welded into a steel façade. When the building starts shaking, the dampers will move back and forth to compensate Shock. When it's magnetized, mr fluid increases the amount of force that dampers can exert. Related How Stuff Works articles Estimating the cost of building a website is like asking how much it costs to build a building. The obvious answer is: It depends on what you want to do with the building. For small businesses, the answer depends on the main purpose of your website: Is your website solely for marketing purposes? Or do you plan to sell goods and services on it? While one site can certainly do both, its main purpose should be your choice of which hosting platform and design software are best suited to your business. Each website needs a domain name and web hosting services. A domain name is often a business name followed by a period and a top-level domain (TLD) such as .com, .org, or any of the hundreds of special TLDs available. Almost all hosting companies offer services that allow you to search for a domain name that suits your business and package hosting services into a single purchase. You'll find offers ranging from \$1 for a domain name and another \$60 or so for hosting. These are annual fees, and special offers usually expire after the first year. so trade carefully. Bottom line and bottom line and the bottom line and the bottom line and the bottom line and the bottom line: A domain name and hosting can cost only \$60 a year, but ultimately, the best value depends on the options you make when choosing a domain name, hosting provider, and options. Options can include backup services that store your website files, SSL certificates, and many other useful tools. Some hosting services offer these options at no extra cost for the first year or even for several years. Others charge right from the start. A good estimate is a budget of \$200 per domain name and hosting for your first year. Domain name and hostingSmall business sites can be accommodated easily by any of the following well-rated services: OnlyDomains HostGator GoDaddy Bluehost Single-page websiteCall them brochure pages, vanity pages or squeeze pages – these sites are designed to simplify the user experience by removing menus and any other types of navigation. They are also easy to create and maintain because everything is on one page. Carrd.co offers a free version that includes basic hosting or multiple one-page sites for less than \$10 per year. More standard websites start around \$60 a year, but can reach hundreds of dollars a year as you add features. These providers include: Wix Squarespace SiteBuilder.com WordPress and if your primary intention is to sell, consider: Site designDesigning your site is a wild card. Almost every hosting service offers simplified designs that can be modified by non-programmers. However, customizing and adding features always requires pre-built programs that are charged monthly or annually, or hiring an expert to design them for you. Preinstalled add-ons can cost from \$60 to several hundred dollars a year depending on the complexity of the feature and your website. Professional help can range from a few dollars to thousands. To help with finding a web designer, check out Fiverr.com.What will it cost? Start with an initial budget of \$200 for the first year, but add another \$200 for additional features and programming. Once you have some experience with your site, you will be in a better position to decide where to take and what features to add. Be at home on the block from which the bugs are fleeing, 7 Ways to Make Your Yard & Home a Bug-Free Zone More curb appeal, less hassle. That's what these trees offer. 5 trees that can withstand the worst of the storm and still look wonderful will get you more habitable space while getting rid of clutter. It's a win-win! Attic & Basement Storage Ideas to get more space No need to store it all in the garage. Here's how to create tidy storage in your backyard. 3 Nice solution to handle the external clutter these 5 timeless work ideas because they are fun and functional. 5 Things Perfect Outdoor Entertainment Spaces Do (and You Can, Too) In our community wanted to build a new bridge, so we wanted to test whether the design they had in mind was the strongest. First we designed 2 different bridges, a beam bridge and a suspension bridge (which they had in mind), and tested which one was the strongest and which one should be built in our community. What you'll need- Popsicle sticks-Hot glue-glue-glue-drill-bucket-weights-string-block woodResearch Truss Bridgess and suspension BridgesSketch two BridgesCall two bridges Bridge A and Bridge B. Make sure the length (40 cm) width (1 popsicle stick), weight and material is the same for both bridges. Hot glue is faster to use, but it is not as robust as other glue. For most of the bridge we used hot glue, because we needed the glue to dry quickly, so that the pieces did not move. We made sure the weight was the same for both bridges. Both of our bridges weighed 327 Grams in the first, making two pieces of bridge that people walk by. This piece is 1 popsicle stick wide and 40 cm long. Lay the popsicle sticks in a row. Put 4 sticks at the top and then for the next row give one half-way. Start the second row of sticks with half a stick. Make triangle pieces. These will be used on both bridges. Make 11 of them. Take triangle pieces and combine them together. Four on each side. The remaining three will be used on Bridge B.Lay four popsicle sticks to put two right next to each other in the middle and one on each side from two sticks. They should be only the length of one popsicle stick. Take one popsicle stick and place it so that it is diagonal. Then do it the other way around. Connect the popsicle stick through the whole thing to hold it together. Now that you have triangle pieces made to put four in a row and attach them popsicle sticks. Attach the popsicle sticks to bridge A, which are weaned outwards so that triangular figures can attach to it. When you make this step, you need to hold the triangle pieces so that when you place them on it fits perfectly. Attach triangle pieces to the bridge by pushing them on popsicle sticks that are hung out. Sorry we don't have a picture for this move. Push the two attached triangle pieces on to the popsicle sticks that are hung out. Look at page 7 to see the finished version of the bridge. Take two popsicle sticks and connect them to each other at the ends. (Make a lot of them because they will be used at the bottom of the bridge) Through popsicle sticks across the bottom hold the bridge together and make it stand up. The more sticks you use the firmer it will be. Make sure you don't make the bridge difficult. All you do is attach popsicle sticks by crossing them at the bottom so that the sides get up straight. Now you should finish Bridge A. Bridge B is a little harder to build, but it's a better design and is much stronger. Build two pieces of arch and attach triangle pieces between them. Make two arches and use the remaining three triangle pieces for this. First you make both sides of the arch, and then you connect the triangle piece to connect them. Add a total of three triangular pieces to hold the whole thing together. Connect the arch to the part of the bridge that people walk on. This piece was made at the beginning. Extend popsicle sticks from the top of the arch to the part of the bridge that people walk on. Make triangles with these pieces, because they will be stronger. You will need to cut the popsicle sticks to fit them properly. This part is very similar to triangle pieces. Make a triangle because it is stronger. Add railings so people can pass without falling off the bridge. This piece is to add weight to the bridge and help the bridge look realistic. Unfold the popsicle sticks and connect them using more popsicle sticks. This railing should be the length of the bridge. Under the bridge attach triangle pieces hold the bridge together. This part of the bridge would be in the river if this bridge had actually been tested in the river. This piece is to help a sturdy bridge. You connect it diagonally because it is stronger in this way. Bridge B is now completed- Place bridge A over 2 tables-Make a hole in the bridge-Connect the rope to the bucket and pull the rope troy hole you made, how to pull the rope over the block of wood, so the weight is the same divided over the bridge. - Start adding weights in the bucket until the bridge breaks. - Now the same thing with the BHere bridge are some of the photos we took when we tested each bridge : bridge: