

Do You Truss It?

Situation:

There are many bridge systems throughout Hampton Roads including the Hampton Roads Bridge Tunnel, the Monitor Merrimac Bridge Tunnel, James River Bridge, and the Chesapeake Bay Bridge Tunnel. Many people travel these bridges every day; however, many are getting older and falling into disrepair.

Problem & Career Focus:

You will work as a team of Civil Engineers to design and build a prototype of a new bridge system for Hampton Roads. The millions of people that travel to and from work each week are depending on your expertise.

Things to Consider:

- What geometric shape(s) are the strongest?

Criteria The prototype must...		Constraints You must...
<ul style="list-style-type: none"> • be a free-standing structure. • be elevated with the ends fixed to a surface. • be able to hold vehicles that are lined up end to end on both sides, without collapsing. 		<ul style="list-style-type: none"> • use only the materials provided. • be completed by the end of the unit. • work with your group member(s).
Materials: Use any of the following...		Tools: Use any of the following...
<ul style="list-style-type: none"> • Toothpicks • Craft sticks • Straws • Egg cartons • Scotch or masking tape and/or glue 	<ul style="list-style-type: none"> • Aluminum foil • Wax paper • Newspaper 	<ul style="list-style-type: none"> • Scissors • Ruler