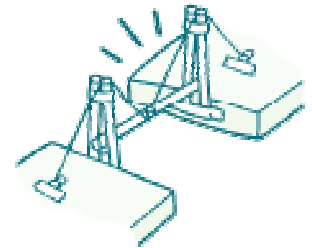


SUSPENSION BRIDGE

WHAT'S THE SECRET OF SUSPENSION?

A suspension bridge's cables are beautiful to look at, but they also enable the bridge to cross large spans. A suspension bridge is a type of bridge in which the load-bearing deck is hung below suspension cables on vertical anchors.



CHALLENGE:

Design and build a suspension bridge that can hold the most weight. Your bridge will need to span a separation of 12" between two tables. For the final test, a cup will be hooked onto the middle of your bridge and pennies will be added until the bridge fails.

MATERIALS

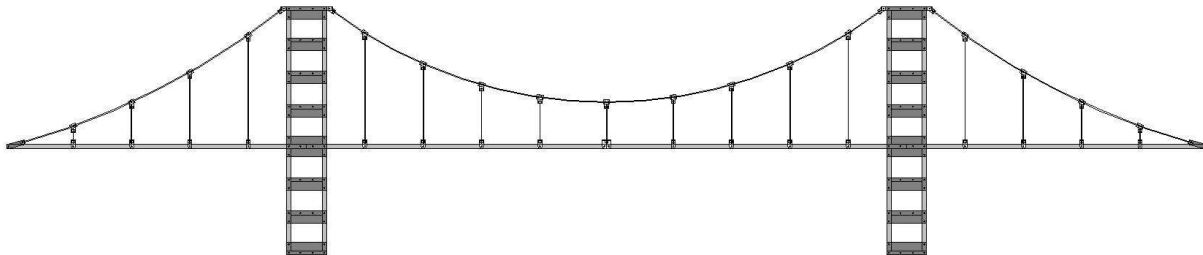
- 7 straws
- 3 ft. string
- 12" masking tape
- 1 piece of newspaper
- 6 small paper clips

TOOLS:

- Scissors
- Ruler

FORCES:

Which members are under tension (pulling), and which are under compression (pushing)?



PART I: BRAINSTORM IDEAS

A. Using a pencil, draw thumbnail sketches that communicate your ideas in the space below.

Idea 1	Idea 2	Idea 3

PART 2: ORTHOGRAPHIC PROJECTION

	Label all materials & show dimensions!	
Top View		
Side View	Front View	

PART 3: CONCLUSIONS

- A. How many pennies did your suspension bridge hold? Explain the results using complete sentences.
- B. How would you change your design to make your bridge stronger?