

Composite Bridge Test and Evaluation Worksheet

Bridge Load Test Instructions

Important safety precautions: All those who are conducting and observing the test should wear **safety glasses**. Individuals should **keep hands, feet clear** of the area below the bridge and bucket during testing to prevent injury should the bridge fail catastrophically.

1. Place your bridge so that it is spanning an elevated gap of 1 ft.
2. Hang an empty 5 gallon bucket from the center of your bridge, or from the test fixture arm if using test fixture, using Nylon straps.
3. Begin filling bucket with sand or whatever you are using as weight.
4. Fill slowly, checking for signs of failure frequently.
5. Stop filling at the first sign of bridge failure.
6. Remove bucket from bridge.
7. Place filled bucket and webbing on a scale to determine the weight the bridge held. Record this number.

	Cost (\$)	Weight (lbs)	Strength (lbs)	Strength/Weight Ratio (lbs/lb)	Strength/Cost Ratio (lbs/\$)
Control Bridge					
Your Bridge					
Improvement Yours/Control					

Evaluation

Answer the following questions in your notebook

1. How well did it meet your design requirements?
2. How did it compare to other bridge designs?
3. What elements worked well?
4. What elements did not?
5. If you were to rebuild your bridge, what might you do differently?