

Bridge Competition Rubric

Name: _____ Block: _____

Partner (if you have one): _____

Element	Description	Points Possible	Points Earned
Final Design Plan	Scaled Top View	2 points	15
	Scaled Side View	2 points	
	Scaled End View	2 points	
	Design Meets Required Dimensions (Length, Width, Height—2pts. each)	6 points	
	Total Wood Calculation	3 points	
Bridge Length	<ul style="list-style-type: none"> Constructed bridge is between 250 and 300 millimeters long. Constructed roadbed is between 200 and 300 millimeters long. 	5	
Bridge Width	<ul style="list-style-type: none"> Constructed bridge is between 50 and 75 millimeters wide. 	5	
Bridge Height	<ul style="list-style-type: none"> Constructed Truss bridge is between 0 and 100 millimeters tall, including optional substructure no more than 20 millimeters beneath the bottom of the roadbed. OR: Constructed Beam bridge is between 0 and 30 millimeters tall. 	5	
General Bridge Specifications	<ul style="list-style-type: none"> Constructed bridge has a clear passage for the 50mm block to slide along the length of the bridge. Block can be positioned and loaded. Roadbed contains at least two but no more than four main girder beams. Joints of the bridge are not laminated or split and contain appropriate amounts of glue. Constructed bridge does not contain any paint or chemicals not allowed and is not suspiciously massive. 	5	
Efficiency	Mass of Bridge (g):	Efficiency of Bridge:	5
	Weight Held (N):		
	The bridge holds the bucket.	2.5 points	
	The bridge holds 200x its weight or less.	+0.5 points	
	The bridge holds 200x to 300x its weight.	+1.0 point	
	The bridge holds 300x to 400x its weight.	+1.5 points	
The bridge holds 400x to 500x its weight.	+2.0 points		
The bridge holds over 500x its weight.	+2.5 points		
Failure Analysis	<ul style="list-style-type: none"> Indicated the strong and weak points of the bridge's design and/or construction. Indicated how the bridge design could be improved. 	5	
Teamwork Grade	How much did you contribute to your team's success?	5	
Overall Grade		50	

See the back of this page for the failure analysis and teammate evaluation.

My Name: _____ My Teammate's Name: _____

Bridge Failure Analysis

After observing your bridge tested to failure, what do you think were the weakest areas of your bridge? Why?

Do you think these areas were weak because of a poor design or because it was poorly executed and constructed? Why? (It's not a good idea to admit that you were lazy or inconsiderate—talk about some *unintended* results that you saw.)

What was a strong area of your bridge? Why do you think so?

How would you change your bridge so that it would have a better efficiency rating if you had a chance to redesign it? Make a sketch as well.

Teammate Evaluation

Using the following 1-5 scale, I would honestly grade my *own contribution* to the project as:

1	2	3	4	5
I did not contribute much		I contributed some		I contributed a great deal

Using the following 1-5 scale, I would honestly grade my *teammate's contribution* to the project as:

1	2	3	4	5
I did not contribute much		I contributed some		I contributed a great deal