

Activity: Thin-Plate Bridge Activity

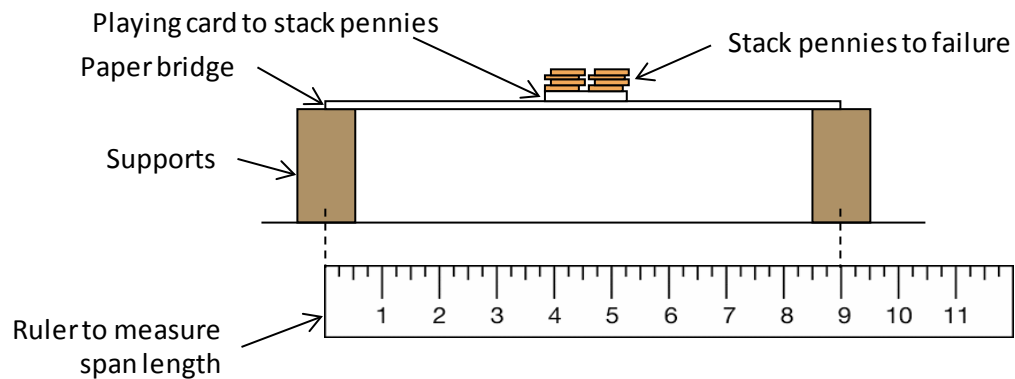
Required Materials (per group)

- 10 sheets of 8.5" x 11" copy paper
- 2 supports (e.g. 2 equal height books, 2 4-inch long 2x4s)
- 12-inch long ruler
- 100 pennies
- Playing card (optional) to serve as a surface to stack the pennies on

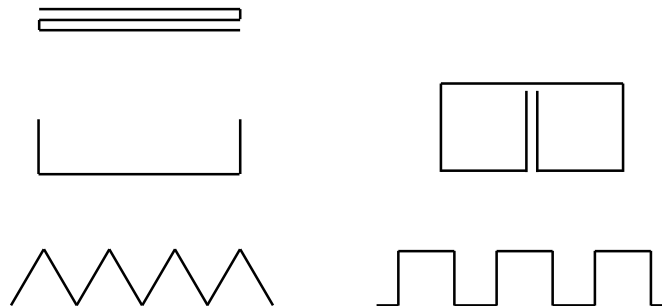
Activity

Students will try folding their sheets of paper in different patterns to create a stronger bridge. Changing the fold pattern and the span length will change the number of pennies the section can hold.

Setup



Fold Patterns to Try



Challenge

Create a fold pattern out of one piece of paper that will hold the most pennies at a span length of 9 inches.



Preliminary Designs

	Sketch of Design	Span Length	Max Load	Notes on Design/Failure
1		9 inches	2 pennies	Paper started to bend several inches when one penny was placed on it.
2				
3				
4				
5				
6				



	Sketch of Design	Span Length	Max Load	Notes on Design/Failure
7				
8				
9				
10				

Best Design

Sketch of Design	Max Load	Notes on Design / Failure