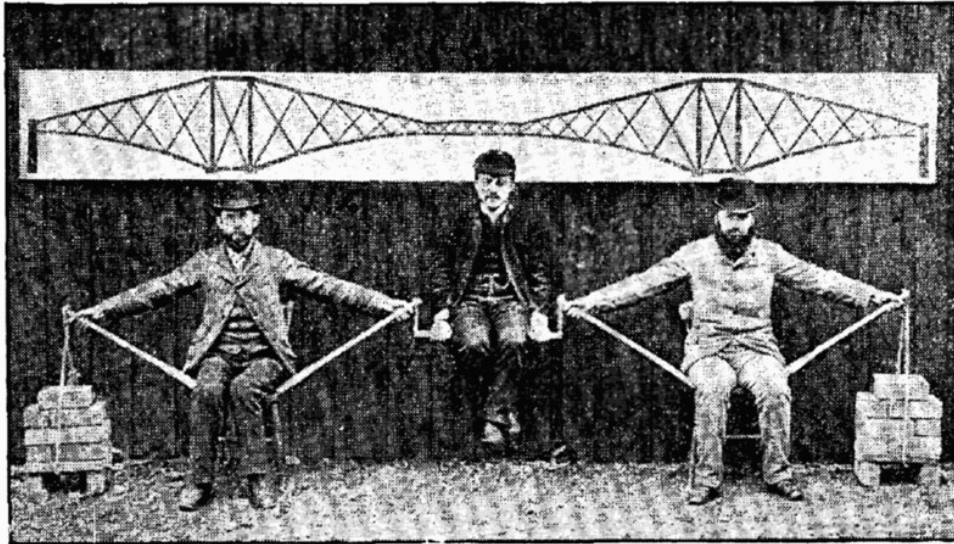


Cantilever Challenge



Working in teams of three or four, students will design and construct a cantilever structure (a structure that is supported on only one side—overhanging) that will support a 2-ounce fishing weight at the unsupported end. Teams may use 10 drinking straws, 24 inches of string, and 24 inches of masking tape to make their structure. Each team will be provided scissors and a ruler in order to measure and cut materials as necessary. The structure may be secured to the table with tape. Be mindful of your materials; a little tape goes a long way. Measurements will be taken horizontally from the edge of the support (table) to the center of the load (fishing weight). Improvements are allowed—though not using additional or replacement materials. Students must document all design ideas using the engineering journal sheets provided by the instructor.

Grading for this activity will be weighted based upon student completion of engineering journals (70%), and cantilever length—performance (30%). The team who builds the longest functional structure will receive an A; the shortest operational structure will receive a C. All other teams who construct successful cantilevers will receive a B. Failure to produce a functional structure in the time allotted will result in a D for performance grade.