**Problem:** You are part of a group of civil engineers that has been chosen to develop a bridge for a new site. With your assigned team, you must complete the model within two weeks and it must meet all of the requirements listed below.

**Specifications:**

1. The bridge must span 12 inches
2. The bridge should be 2 – 4 inches tall
3. A small cube (1 inch sides) should be able to pass completely through the bridge
4. The bridge must support at least 5 kg of weight

**Materials:**

* 100 Popsicle Sticks
* Wood glue

**Constraints:**

1. The bridge cannot be attached to the ground or any other supports (books, etc.) in any way
2. The bridge must be portable
3. Only the materials provided may be used; glue may only be used to secure joints and not to reinforce the structure

**Deliverables:**

Plans due, including a full size top/ road view and a side view:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Bridge testing:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Rubric**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Category | Needs improvement (0-70%) | Basic  (70%-80%) | Good  (80%-90%) | Excellent  (90%-100%) |
| Planning | Missing components, not feasible design | Missing details / labels and some components | Missing details / labels | Detailed, labeled sketch including all components; feasible design |
| Construction | Missing 2 or more designs and not stable construction | Missing 2 specifications OR not stable construction | Missing 1 specification | Stable, well-constructed, includes all specifications |
| Testing | Holds less than 2 kg | Holds 2kg – 3 kg | Holds 3kg – 4 kg | Holds more than 4 kg |
| Requirements | 4 or more requirements not met | 3 requirements not met | 1-2 requirements not met | All requirements met |