Paper Bridge
Template & Force Analysis

Name _____

Teacher _____

Period _____

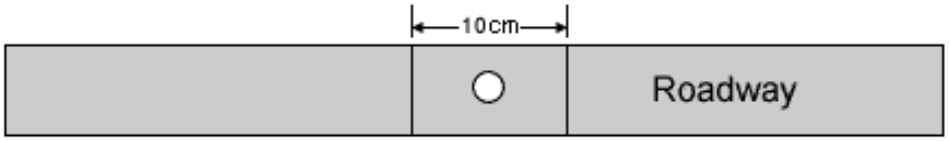
Purpose - To construct a full scale roadway template along with force analysis of the bridge.

Requirements – Template and Force Analysis

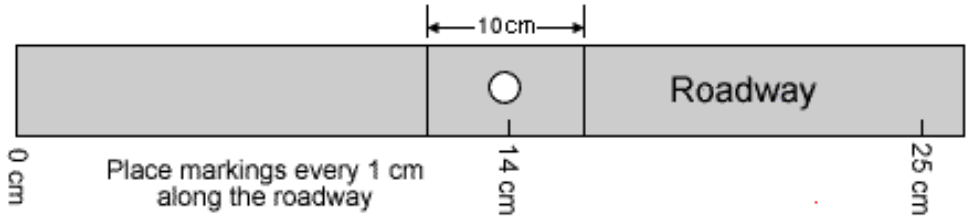
1. The template is a true size construction of the roadway along with the specified details below.
2. Use one piece of paper. Cut a roadway no less than 27.94 cm (11 inches) long by 5 cm wide. (You may use more than one piece of paper.)

3. Cut a hole ½" in diameter or the size of a dime at the center of the roadway.

4. Draw a 5 cm by 10 cm rectangle centered on the hole to indicate the loading zone block. Your bridge construction must include bracing to support this block.



5. Scale the edge of the roadway along one side from 0 to 25 cm.



6. Input your bridge design into the simulation.
7. Print your bridge's force analysis. Either print the analysis in color or color your print out; red is tension and blue is compression.
8. Staple your complete road template on top of the printed force analysis. Be sure to write your name on both the template and the print out.

Rubric

____ 40 points - Bridge Analysis
- ____ -10 points; if sketched
- ____ -10 points; not colored
- ____ -10 points; no force values
- ____ -10 points; no scale

____ 60 points - Roadway
- ____ -10 points; too narrow
- ____ -10 points; too short
- ____ -10 points; no hole
- ____ -10 points; no loading zone
- ____ -10 points; not white copy paper
- ____ -10 points; no 25-cm scale