**Paper Bridge**

**Description:** Teams will build a bridge out of a piece of plain paper and up to 5 paper clips. The bridge that can hold the most pennies will win.

**Materials:**

1 piece of plain paper

5 paper clips

1 ruler

2 blocks of wood

At t least 100 pennies

1 pair of scissors

**Team Members:** Four (4) individuals per team

**Rules and Procedures:**

1. Can you build a bridge that holds 100 pennies (or more), using 1 sheet of paper and up to 5 paper clips?
2. Remember that the area under the bridge must be completely free so that boats can drive under the bridge.
3. You will have 10 minutes to build and test your bridge. You will have an extra 5 minutes to redesign your bridge after the first test.
4. A bridge must support its own weight (the dead load) as well as the weight of anything placed on it, like the pennies (the live load).
5. Your paper bridge must span 20 centimeters (about 8 in.). The sides of your bridge will rest on two blocks and cannot be taped or attached to the blocks or the table.

**Try It Out**

1. Discuss possible ideas with your team before you start building. What can you do to the paper to make it stronger? When you have decided on a design, construct your bridge.
2. Place the bridge across two supports that are 20 cm apart. Remember that the space below the bridge must be clear to allow boats to pass!
3. To test your bridge, load it with pennies one at a time, until it collapses. Record how many pennies your bridge supported.

**OPTIONAL:**

Redesign your bridge and test it again, using a new sheet of paper. How does your second

attempt compare?

**Points are awarded as follows:**

1. 20 points -- The sides rest on two blocks that are at least 20cm apart and not taped or attached to the blocks/table.
2. 1 point per penny -- Number of pennies the bridge holds before it collapses. Only pennies placed on the paper bridge between the blocks count. Pennies supported by one of the blocks do not count.
3. 10 points – Awarded if the team did not need to redesign their bridge.