**BRIDGE designing**

**EVENT SYNOPSIS :-**

The popsicle bridge lesson explores how engineering has impacted the development of bridges over time, including innovative designs and the challenges off creating bridges that become landmark for a city.Students will work in team to design and build their own bridge out of up to 300 popsicle sticks and glue. The main objective to build the strongest bridge ,that is to say,the bridge that will hold the largest applied load failure.

**Rules and regulation:**

* Each group should have only 3-5 members.
* Each group would be allotted 120 minutes to accompanist the task.
* Any external usage of electronic devices would not be entertained.
* Design should differ from modern mega structure.
* Bridge should compute with the specified stability test.
* Use of outside material is not permitted.

**Team Size:**3-5

**Max. team from an Institute:**5

**Minimum Teams criteria for** **validation of cash prize:**10

**Participation Fee: 150**/- per team

**MATERIAL REQUIRED:**

* **Building Materials**: (All materials provided)
  1. Popsicle sticks (3000)
  2. Glue
  3. Clip (if student want then they will bring it)
  4. Hooks
* **Dimensions:**
  1. Minimum Span Length - 50cm. There will be 40cm gap between tables for bridge load testing.
  2. Minimum Span Width - 10cm
  3. Minimum bridge Height - 10cm.
  4. Diagram presented for clarification:



* 1. The bridge must be able to stand on its own.
  2. The bridge must be able to support the load at the centre.

**C. TERMS & CONDITIONS**

1. No more than 50% of planar side of stick glued to other stick.
2. There should not be more than 5 joints at a place.
3. Bridge found in violation of any rule, then there is reduction in loading weight by 3 kg.

**D**. **The Competition**

1. Bridge must be made with given specification.

2. Inspection will test that the construction rules were followed and will record the mass of the bridge.

3. Nothing will be provided to keep the base of the bridge in place during loading.

4. Once the bridge is in position, the loading tray will be attached in the position indicated above. The load will hang below the bridge, supported by two bars which rest on the deck of the bridge, 20 centimeters from each end.

5.Bridges will then be subjected to loading. Bridge failure will be considered the point at which the bridge breaks or the point at which the loading tray drops

**E**. **Judging and Scoring**

1. The greatest load prior to failure will be a bridge's capacity.
2. The capacity divided by the bridge mass will be the bridge's score.
3. The bridge with the highest score wins the event.

**Performane = Load at failure/Self weight**

**F**. **Marks will distributed as follows**

* Strength[30 marks] : awarded to the team,prior to failure whose bridge will be able to support the greatest load to weight ratio.
* Workmanship[10 marks] : awarded to the team whose bridge appears to be the most well craft.
* Team work [5 marks]
* Presentation[5 marks] : awarded to the team which presents their bridge in the most creative and professional manner.

**E. Duration of event**

* 120 minutes on the day of bridge construction.
* After 2:30 hours of construction testing of the bridge would be done.
* 120 minutes after the construction will complete for testing.