



8TH NATIONAL
SCIENCE BEE
2019

Module Guidelines



Bamboo Bridge



INTRODUCTION

Can you combine your civil engineering concepts with creativity and a unique design? Because this module will put such skills to test in this bridge building competition. The material used will be bamboo, popular in many cultures around the world, not only for its beauty and flexibility but also for its tensile strength and ability to bear heavy loads. A bamboo bridge can provide a conduit between nature's soft forms with the external traditional hard industrial world. And this module requires to model such a bridge.



PROCEDURE

- Teams will be given a briefing on how the module works and judgment criteria.
- A limited amount of resources will be provided to teams.
- Teams will build the bridge without help of any electronic devices.
- A limited time will be given to complete the task.
- The model bridges will be tested by experts on the following criteria:
 1. Load bear
 2. Aesthetics.
 3. Design.
 4. Requirements checklist.
 5. Length to weight ratio
 6. Bridge span
 7. Length
 8. Sticks used

9. Weight of glue bar left



RULES AND REGULATIONS

- Bridge must span a length of 21" at the base.
- The load will be hung from the middle of the bridge using a 2" x 2" block and a metal plate to attach the weight.
- Bridge must horizontally make the whole 21" gap as if it were simulating a flat road across the span although this does not need to be planked.
- Sticks may be shaved or cut in any fashion.
- There are no limits as to height, shape, design, or size except that the bridge must have a minimum of 2 inch inside width if other specifications are met.
- Bridge must be wide enough to allow a 2" x 2" block to pass through the middle of it.
- Weight applied to the bridge will start at 25 lbs. and will be added in 10 lbs. increments until failure.
- Use of materials other than provided are not allowed.
- You must stay in your workplace; no roaming is allowed.
- No extra material will be provided.
- Decision of panel will be final.
- Team may be disqualified in case of any misbehavior or usage of outside material.