2026-2027 Middle School Structural Engineering Go No-Go Checklist

Pre-Built Structure (Fall Competition, Regional Fair, & Preliminary Round Technosphere)

Participant Team ID #: _____

- **Participants are required to wear safety-approved eyewear during the on-site phase of this event. State competition phase.**
  - If eyewear comes off, they will be reminded once to put it back on. If eyewear comes off a second time, the team will be asked to leave.
- **Fall Competition and Regional Fair - Teams bring pre-built structures for testing.**
- **State Competition - Teams bring pre-built structures for testing. Semifinalists will return to built another structure onsite.**
- **State Competition - Teams receive 3 hours for structure construction.**
- **Teams provide their own materials and supplies.**
- **Teams must identify their structures with their team ID number.**
- **During testing, the minimum 6" height must be maintained under the testing block for the duration of the test.**

Structural Testing (Pre-built Structure)

Judges Initials: _____

Mass of structure in grams prior to testing					grams
During testing, the minimum 6" height was maintained under the testing block for the duration of the test.					
Failure weight in pounds (Continue applying load to reach the max failure weight)					lbs.
Structural Efficiency (multiply the failure weight by 4.54 and then divide by the mass of the structure)					
Number of violations from below.					
If one violation, record a deduction of 20%.					
If more than one violation, the structure is disqualified.					

Structure Construction Compliance (Pre-built Structure)

Structures that don't meet one requirement below will have a 20% point deduction.
Structures that don't meet two or more requirements below will be disqualified.
A tolerance of + / - 1/8" will be applied for length, width, and height of the structure.

	Point Deduction or Disqualification	Minimum	Maximum	Judges Initials: _____	
Length of structure?	Point Deduction	10"	11"	yes	no
Width of structure?	Point Deduction	2"	3"	yes	no
Height of structure?	Point Deduction	6"	7"	yes	no
Substructure: Not permitted for the 2026-2027 school year	Point Deduction				
Construction Requirements					
Only 1/8" x 1/8" balsa wood used in construction of the structure. Other sizes or other wood types, like bass wood used, will result in a DQ.	Disqualification			yes	no
Maximum of **14 feet** of 1/8" x 1/8" balsa used in entire structure.	Point Deduction			yes	no
Actual amount of 1/8" x 1/8" balsa used?					feet
No treated, conditioned, or coated balsa used.	Disqualification			yes	no
Only balsa and glue is used in the construction of the structure.	Disqualification			yes	no
No hot glue is used in the construction of the structure.	Point Deduction			yes	no
No part of the structure extends above the bottom of the test block.	Point Deduction			yes	no
No part of the structure contacts any surface of the testing block except the bottom.	Disqualification			yes	no
There's a provision for the 1/2" testing rod to pass vertically through the center of the structure.	Point Deduction			yes	no
The structure does not contact any surface of the abutments other than the top.	Disqualification			yes	no
A substructure is NOT present.	Point Deduction			yes	no
No laminations are used. Lamination refers to 2 or more members glued together with the grain of the members running in the same direction.	Disqualification			yes	no
If lap joints are used, angles between members are greater than 15 degrees and less than 165 degrees. If this requirement is not met, it's seen as a lamination and the structure will be DQ'd.	Disqualification			yes	no
No gussets or over-gluing that emulates a gusset is present.	Disqualification			yes	no
No structural members are coated with glue.	Disqualification			yes	no