

KSC Trip: K'Nex Truss Design Challenge: Engineering Report

Before the trip, decide which member of your group will hold each position:

1. Lead Engineer: _____
Responsible for team cooperation and completion of truss according to design specifications.
2. Illustrator: _____
Responsible for sketching the design of the truss before it is tested.
3. Data Collector: _____
Responsible for documenting the length of the truss and how much weight the truss can hold.
4. Structural Engineer: _____
Responsible for determining where the weight should hang from the truss for the testing phase.
5. Demolition and Clean up Supervisor: _____
Responsible for making sure the truss is taken apart and putting pieces away.

All team members are responsible for working together to build the truss.

Phase 1: Initial Design

Design Rules

1. Count your pieces before you begin. If you are missing pieces, see your Educator for replacement pieces.
2. Design specifications:
 - a. The truss has to be at least 60.96 centimeters (24 inches) long but not exceed 91.44 centimeters (36 inches) long.
 - b. Your truss will be tested with a 1.81 kilogram (4 pound) weight and a 3.62 kilogram (8 pound) weight.

Glue or tape this side down in your
interactive science notebook.

Sketch your design below.

Phase 2: Testing

Documentation of the length of the truss and the amount of weight the truss can hold.

Final length of truss _____ centimeters

Final weight of truss _____ kilograms

Follow up Questions

1. Describe what happened when you tested your truss. Include data that provides evidence of your description.

2. What makes your truss work well? _____

3. What needs to be improved? _____
