

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Class: \_\_\_\_\_

# Truss Destruction Worksheet

Your team's truss configuration: \_\_\_\_\_ (letter and formal name)

1. **Describe** your methods of construction (for example, butt joints, overlapping, notched, combinations) and why you chose those methods.

2. **Rank** your classmates' truss designs and construction (1 = weak, 5 = strong)

| Name | Truss Configuration | Shear Performance Prediction |   |   |   |   | Compression Performance Prediction |   |   |   |   |
|------|---------------------|------------------------------|---|---|---|---|------------------------------------|---|---|---|---|
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |
|      |                     | 1                            | 2 | 3 | 4 | 5 | 1                                  | 2 | 3 | 4 | 5 |

### 3. Shear Testing Results

| Team Member:   | 1 | 2 | 3 |
|--|---|---|---|
| Joint Style:   |   |   |   |
| Weight of Truss 1:                                       |   |   |   |
| Failure weight of Truss 1:<br>(shear)                    |   |   |   |
| Shear Strength Ratio:<br>(failure weight / truss weight) |   |   |   |
| Describe how it failed:                                  |   |   |   |

### 4. Compression Testing Results

| Team Member:   | 1 | 2 | 3 |
|--|---|---|---|
| Joint Style:   |   |   |   |
| Weight of Truss 1:   |   |   |   |
| Failure weight of Truss 1:<br>(compression)                    |   |   |   |
| Compression Strength Ratio:<br>(failure weight / truss weight) |   |   |   |
| Describe how it failed:  |   |   |   |

### 5. Calculate the normalized strengths for your teams' truss designs:

1-Normalized shear strength: \_\_\_\_\_ Normalized compressive strength: \_\_\_\_\_

2-Normalized shear strength: \_\_\_\_\_ Normalized compressive strength: \_\_\_\_\_

3-Normalized shear strength: \_\_\_\_\_ Normalized compressive strength: \_\_\_\_\_