# Deformation: Foam Compression Worksheet

**Pre-Activity** Define stress and strain.

Stress is:

Strain is:

**Hypothesis**

What type of object, hard or soft, requires the most compression? Why?

**List Materials**

**Write the Procedure**

**Data Collection**

*Equation 1*: Strain = (L change)/ L

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Object****(hard or soft)** | **Number of motor rotation for compression****(power)** | **L (cm)** | **Lchange (cm)** | **Strain** | **Does the object go back to its original shape?** |
| Play-Doh |  |  |  |  |  |
| bread |  |  |  |  |  |
| marshmallow |  |  |  |  |  |
| foam |  |  |  |  |  |

**Graphing**

Create a graph of the number of rotations (x-axis) vs. the strain (y-axis) for the objects listed in the above table

**Results & Conclusions**

1. Which object had the greatest strain/deformation?
2. Which object had the most rotations?