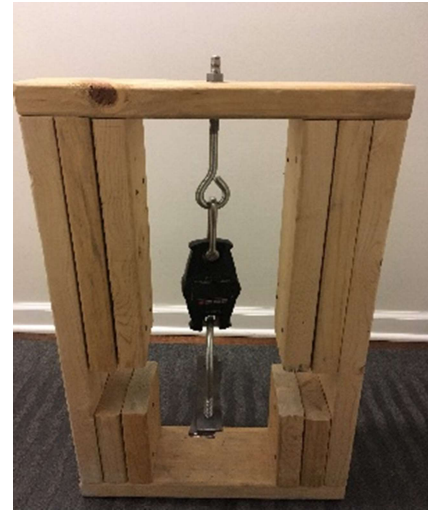


Physical Testing Lab—Strength

Materials:

- block crushing machine (right) including:
 - 1 small crane scale, available at [Amazon](https://www.amazon.com)
- gallon heavy-duty Ziplock bags for drop test: a safe height clear of people (such as a stairwell or off bleachers) **after** having been tested in the block crushing machine
- Extra Individual Assignments sheet: only one block can be tested at a time (optional).
- A premade sample cement block to use as a reference/control (optional).



Procedure:

1. Take pictures of your brick from a couple of angles. Consider including yourself in the picture.
2. Listen to those running the crusher and record your data for your cement as it goes through the crusher apparatus. Every turn of the wrench is equal to 5 millimeters of extension. Record the amount of force applied for every turn.
3. Take pictures of your brick afterwards several angles. Be sure that the viewer can see how the brick broke. This is important to material science engineers; the data helps them redesign/create stronger composite materials.
4. Save the data to your personal files for the final presentation/assessment.

Data Table:

Extension (Turns)	Force (N)

Extension (Turns)	Force (N)

After data collection is complete, create a graph using Google Sheets so you can share it with the rest of the class. The extension will be on the x-axis and the force will be on the y-axis. These graphs will be able to be used to determine the overall effectiveness of the material that makes up your concrete composite block.

Name _____ Date _____ Class _____

Analysis:

1. How did your composite perform? **Be as descriptive as possible.** What was its max load? What was its max extension?

2. Did the results of the test surprise you in any way? Explain.