

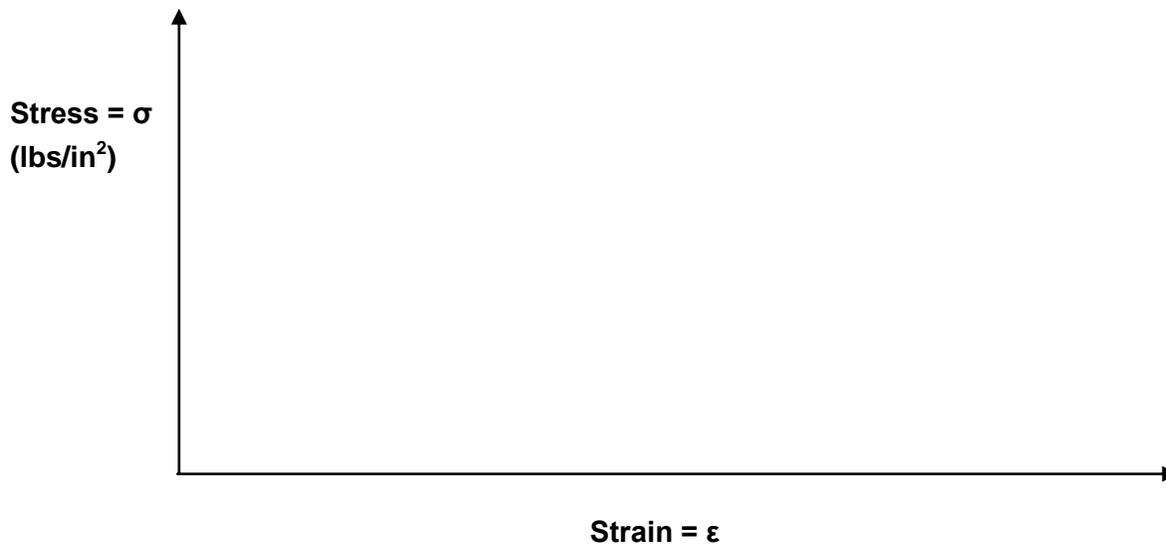
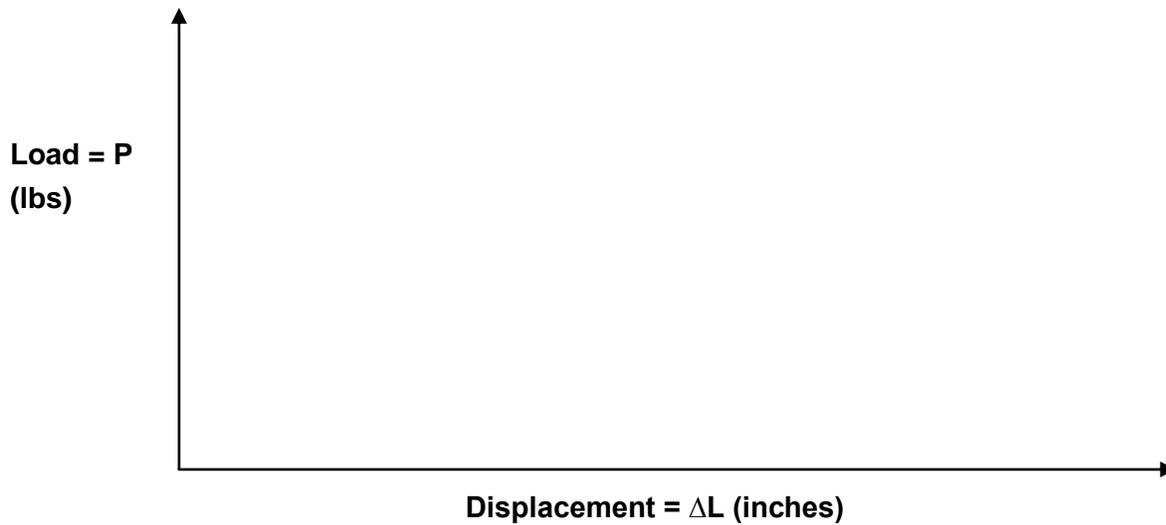


Materials Data Sheet

1. Complete the table below using data obtained from the experiment.

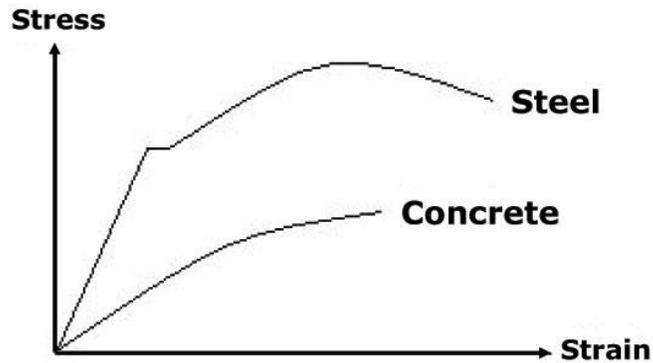
Trial #	Number of books	Weight of books (lbs) P	Height of clay (in) L	Change in height (in) $\Delta L = L_0 - L$	Strain $\epsilon = \Delta L \div L_0$	Area of clay (in ²) A	Stress (lb/in ²) $\sigma = P \div A$
Example	2	2	$L_0 = 3$ $L = 2.5$	0.5	$0.5/3 = 0.17$	1	$2/1 = 2$
Initial			$L_0 =$				
1	1					1	
2	2					1	
3	3					1	
4	4					1	
5	5					1	
6	6					1	
7	7					1	

2. Complete the graphs below using the data from the table. Create an appropriate scale for the horizontal and vertical axes. Calculate the modulus of elasticity using the lower graph.



Modulus of elasticity (E) = rise \div run = Change in height between two data points \div Change in horizontal distance between same points

3. Compare the graph below for steel and concrete with the graphs created for your experiment. How does clay compare to steel and concrete?



4. Compare the modulus of elasticity for steel and concrete given below with the value computed from the experiment. How does clay compare to steel and concrete?

Modulus of elasticity of clay = _____
Modulus of elasticity of steel = 29,000,000 lb/in²
Modulus of elasticity of concrete = 3,600,000 lb/in²