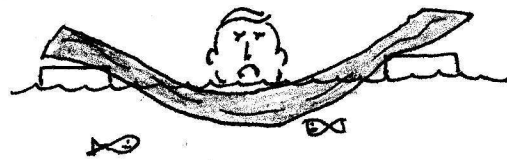
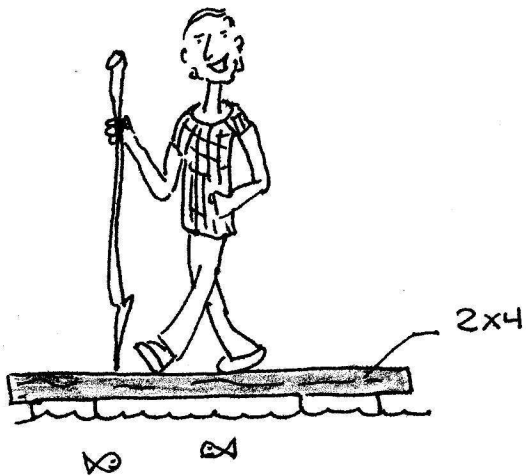
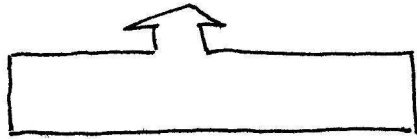
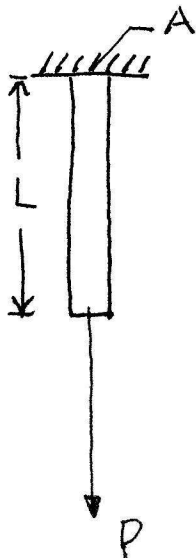


APPLY A LOAD TO A STRUCTURE AND IT CAN CAUSE IT TO _____.

LOAD \rightarrow _____, _____ BUT
 NO _____ OR _____
 _____ OR _____



DEFORMATION IN AXIAL LOADING



PULLING MAKES BAR LONGER.

DEFORMATION IS _____.

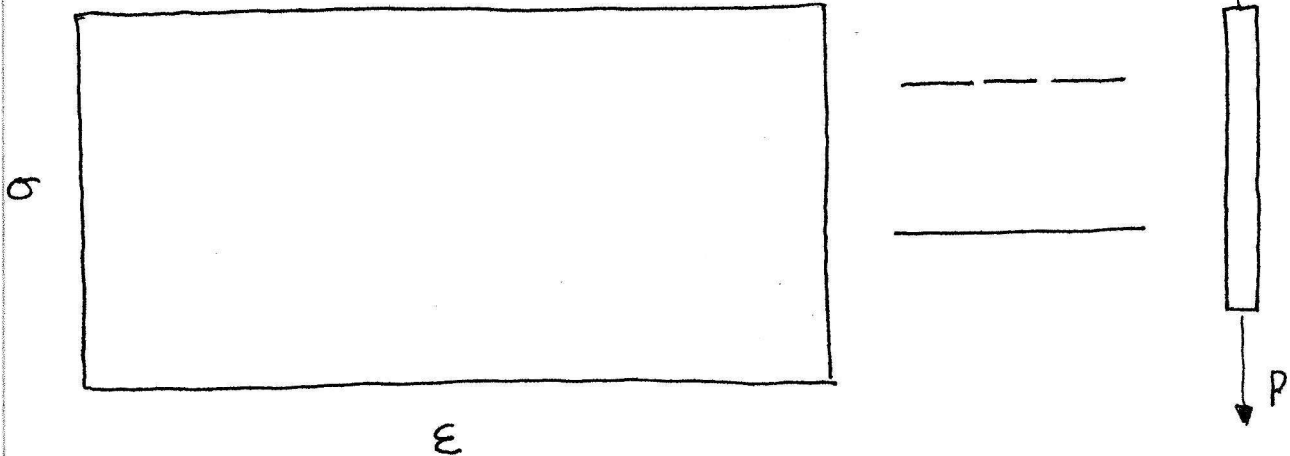
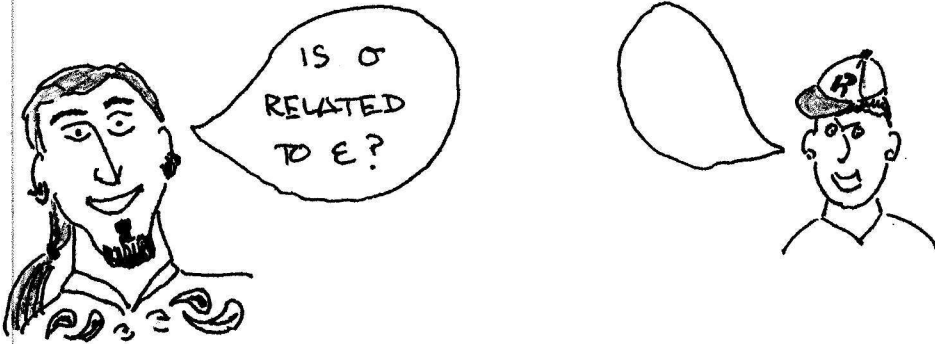


CHANGE IN LENGTH _____

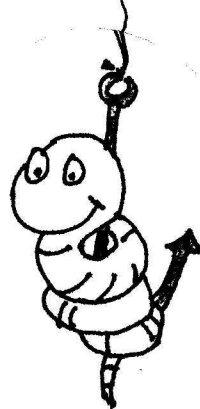
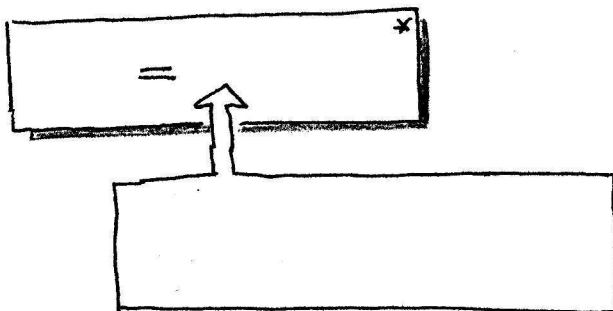
IS



UNITS & DIMENSIONS of ϵ ?



WHEN WE ARE IN THE LINEAR REGION, MATERIAL IS _____ ϵ



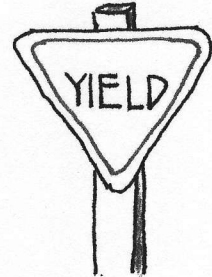
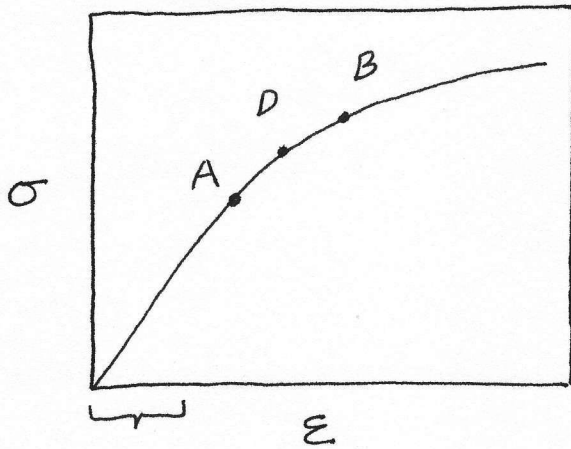
* THIS IS AN EXAMPLE of a CONSTITUTIVE RELATION, SOMETIMES CALLED "LAWS" DESPITE A LACK of UNIVERSALITY. OTHERS INCLUDE OHM'S LAW & THE IDEAL GAS EQUATION.

STAYING IN THE ELASTIC REGION →

FOR SOME MATERIALS ⇒ _____

FOR MOST MATERIALS

_____ ⇒ _____



A:

D:

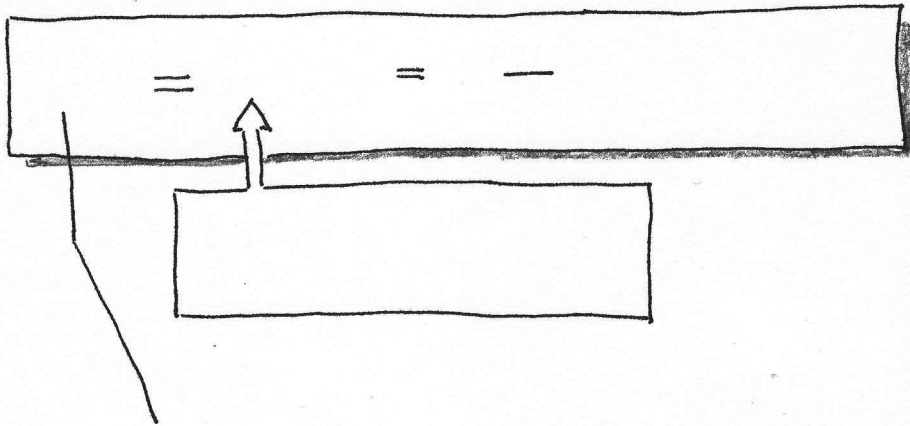
B:



THERMAL STRAIN

ONE WAY TO CAUSE DEFORMATION IS APPLYING STRESS.

ANOTHER WAY IS TO _____



IF APPLY STRESS AND CHANGE T,

$$\epsilon_{\text{TOTAL}} = \quad +$$

$$= \quad - \quad +$$