

Biophysics Flash Cards

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Instructions

Print the flash cards from the templates on pages 2-3. Each page has 4 flash cards.
The concept is on the left side of the template and the explanation is on the right side.

To create individual flash cards:

- 1) Trim the margins on the top, bottom, and sides of the page where you see the scissors icon 
- 2) Cut between the cards where you see the scissors icon to create individual cards.
- 3) Fold the cards in half at the dashed "Fold" line and align the front and back edges of each card.
- 4) Each template makes 4 flash cards of 2.5 x 3.75 inch (H x W). There are 8 cards in a set.

The colored border indicates that the cards are in the same set.

Objectives & Grade Level

Teach students basic concepts about biophysics. Appropriate for middle school to high school students. Students can use the flash cards singly or in groups by studying the cards and testing themselves or others on concepts from the cards.

Acknowledgements

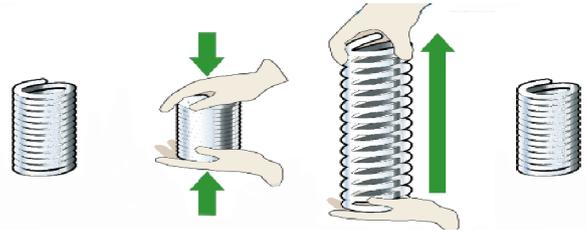
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Elasticity



Ability to return to original shape after being deformed



HowStuffWorks

Stress



Deforming force applied to an object

$$\text{Stress} = F/A$$

F , force

A , area

Strain



Change in length of object upon deformation

$$\text{Strain} = \Delta L/L$$

ΔL , length change

L , original length

Young's Modulus



Ratio of stress to strain

$$E = F/A / \Delta L/L$$

E , Young's Modulus

Stress = F , force / A , area

Strain = ΔL , length change / L , original length

Hooke's Law



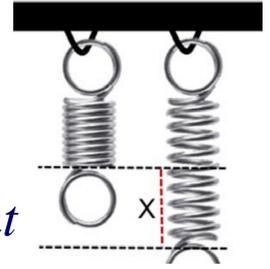
Deformation (x) is linear to force

$$F = kx$$

F , force

k , spring constant

x , distance

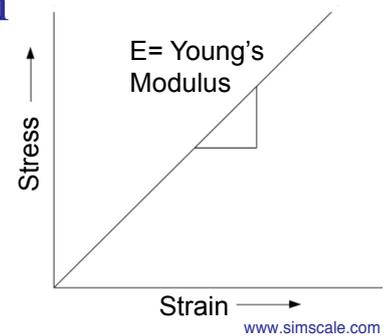


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Linear Elastic Range



Range in which deformation is linear to force



Elastic Limit



Force at which elasticity of the material is lost

Breaking Point



Point at which increased force causes the material to break