Biophysics Flash Cards

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Elasticity 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.

Acknowlegdements

Designed and created as Broader Impacts with support by National Science Foundation Grant #CMMI 1660924 to SAE.

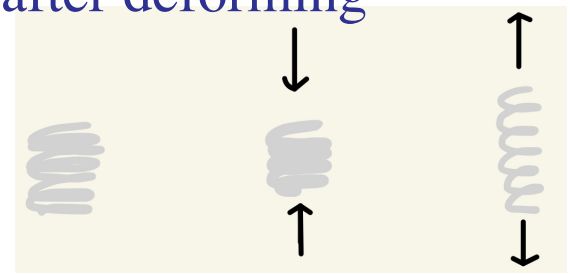
Biophysical Society

BiophysicsWeek

Elasticity

BiophysicsWeek

Return to original shape after deforming



Stress

BiophysicsWeek

Deforming force applied to an object

Stress = F/A

F, force
A, area

Strain

BiophysicsWeek

Change in length of object upon deformation

Strain = ΔL/L

ΔL, length change
L, original length

Young's Modulus

BiophysicsWeek

Ratio of stress to strain

$$E = \frac{F/A}{\Delta L/L}$$

E, Young's Modulus
Stress = F, force / A, area
Strain = ΔL, length change / L, original length

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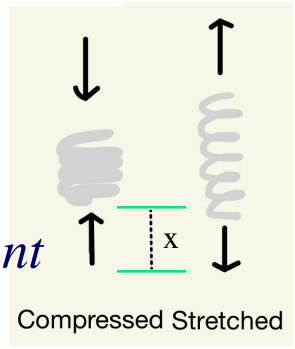
Hooke's Law

BiophysicsWeek

Deformation (x) is linear to force

$$F = kx$$

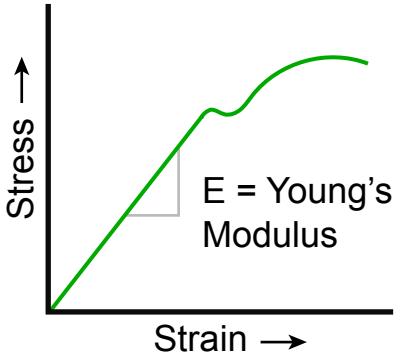
F, force
k, spring constant
x, distance



Linear Elastic Range

BiophysicsWeek

Range in which deformation is linear with force



Elastic Limit

BiophysicsWeek

Force at which elasticity of the material is lost

Breaking Point

BiophysicsWeek

Point at which increased force causes the material to break

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