Teaching Biology: Why it’s Important, and Strategies for Relevance, and Keeping Student Interest

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An understanding of basic biology is fundamental to being a responsibly educated citizen in the modern world.

Real World Issues at Students’ Doorsteps:

• Evolution (yes, Evolution)
• Medicine
• The Environment and Climate Change
• Biomedicine (a redundant term)
• Recreation
• Entertainment
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I believe in evolution, and I believe there’s a difference between science and faith. That doesn’t make faith any less important than science. It just means they’re two different things. And I think it’s a mistake to try to cloud the teaching of science with theories that frankly don’t hold up to scientific inquiry.

Barack Obama
Evolution is [simply, merely] change in genetic frequency in a population over time.

Why is this important?

Why does it threaten some? (It takes a lot of time. It isn’t directed.)
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Why is this important? (We must understand its mechanisms to deal with an enormous number of environmental, social, and medical issues that fact us today.) It is the basis of all biology.

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Why is this important? (We must understand its mechanisms to deal with an enormous number of environmental, social, and medical issues that fact us today.)

Why does it threaten some? (It takes a lot of time. It isn’t directed. It demands UNIFORMITARIANISM.)
William Buckland: professor of geology, Oxford University and ordained minister in very rich parish.

Adam Sedgwick (left) earned more from his church appointment than he did as a professor.
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Present-day San Francisco under 2.25 meter sea-level rise.

Present-day New York under 3.5 meter sea-level rise.
San Bernardino County
2002 Forest Mortality

Ponderosa Pine

Big Cone Douglas Fir

Canyon Live Oak
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TODAY'S LESSON: HUMAN ANATOMY!!
Fig. 61. Baby and adult chimpanzee from Naef, 1926b. Naef remarks: “Of all animal pictures known to me, this is the most manlike” (p. 448).
LARGE HEAD
LONG TORSO
SHORT LIMBS
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CONTACT PHASE vs. SWING PHASE

Contact – approximately 0.16-0.20 second in walking
Swing phase – approximately 0.3 second.
% Time of Overlap to front vs hind legs
Same side

Virtually no time overlap of hind foot and forefoot ON EACH SIDE.

Contact – approximately 0.16-0.20 second in walking
Swing phase – approximately 0.3 second.