



Comparative Biomechanics: Life's Physical World, Second Edition

By Steven Vogel

Download now

Read Online ➔

Comparative Biomechanics: Life's Physical World, Second Edition By Steven Vogel

Why do you switch from walking to running at a specific speed? Why do tall trees rarely blow over in high winds? And why does a spore ejected into air at seventy miles per hour travel only a fraction of an inch? *Comparative Biomechanics* is the first and only textbook that takes a comprehensive look at the mechanical aspects of life--covering animals and plants, structure and movement, and solids and fluids. An ideal entry point into the ways living creatures interact with their immediate physical world, this revised and updated edition examines how the forms and activities of animals and plants reflect the materials available to nature, considers rules for fluid flow and structural design, and explores how organisms contend with environmental forces.

Drawing on physics and mechanical engineering, Steven Vogel looks at how animals swim and fly, modes of terrestrial locomotion, organism responses to winds and water currents, circulatory and suspension-feeding systems, and the relationship between size and mechanical design. He also investigates links between the properties of biological materials--such as spider silk, jellyfish jelly, and muscle--and their structural and functional roles. Early chapters and appendices introduce relevant physical variables for quantification, and problem sets are provided at the end of each chapter. *Comparative Biomechanics* is useful for physical scientists and engineers seeking a guide to state-of-the-art biomechanics. For a wider audience, the textbook establishes the basic biological context for applied areas--including ergonomics, orthopedics, mechanical prosthetics, kinesiology, sports medicine, and biomimetics--and provides materials for exhibit designers at science museums.

- Problem sets at the ends of chapters
- Appendices cover basic background information
- Updated and expanded documentation and materials
- Revised figures and text
- Increased coverage of friction, viscoelastic materials, surface tension, diverse modes of locomotion, and biomimetics

 [**Download** Comparative Biomechanics: Life's Physical Wor ...pdf](#)

 [**Read Online** Comparative Biomechanics: Life's Physical W ...pdf](#)

Comparative Biomechanics: Life's Physical World, Second Edition

By Steven Vogel

Comparative Biomechanics: Life's Physical World, Second Edition By Steven Vogel

Why do you switch from walking to running at a specific speed? Why do tall trees rarely blow over in high winds? And why does a spore ejected into air at seventy miles per hour travel only a fraction of an inch? *Comparative Biomechanics* is the first and only textbook that takes a comprehensive look at the mechanical aspects of life--covering animals and plants, structure and movement, and solids and fluids. An ideal entry point into the ways living creatures interact with their immediate physical world, this revised and updated edition examines how the forms and activities of animals and plants reflect the materials available to nature, considers rules for fluid flow and structural design, and explores how organisms contend with environmental forces.

Drawing on physics and mechanical engineering, Steven Vogel looks at how animals swim and fly, modes of terrestrial locomotion, organism responses to winds and water currents, circulatory and suspension-feeding systems, and the relationship between size and mechanical design. He also investigates links between the properties of biological materials--such as spider silk, jellyfish jelly, and muscle--and their structural and functional roles. Early chapters and appendices introduce relevant physical variables for quantification, and problem sets are provided at the end of each chapter. *Comparative Biomechanics* is useful for physical scientists and engineers seeking a guide to state-of-the-art biomechanics. For a wider audience, the textbook establishes the basic biological context for applied areas--including ergonomics, orthopedics, mechanical prosthetics, kinesiology, sports medicine, and biomimetics--and provides materials for exhibit designers at science museums.

- Problem sets at the ends of chapters
- Appendices cover basic background information
- Updated and expanded documentation and materials
- Revised figures and text
- Increased coverage of friction, viscoelastic materials, surface tension, diverse modes of locomotion, and biomimetics

Comparative Biomechanics: Life's Physical World, Second Edition By Steven Vogel Bibliography

- Sales Rank: #685785 in Books
- Brand: Brand: Princeton University Press
- Published on: 2013-06-17
- Original language: English
- Number of items: 1
- Dimensions: 10.25" h x 8.25" w x 1.75" l, 3.74 pounds
- Binding: Hardcover
- 640 pages

 [**Download** Comparative Biomechanics: Life's Physical Wor ...pdf](#)

 [**Read Online** Comparative Biomechanics: Life's Physical W ...pdf](#)

Download and Read Free Online Comparative Biomechanics: Life's Physical World, Second Edition By Steven Vogel

Editorial Review

Review

"[T]his is a fantastic book! . . . [T]here can be no doubt, this is a science book of the highest and finest quality. Students in biology and physics, including (mechanical) engineers, will find in this book a sound guideline for an alternative view of their respective disciplines. It is a source of inspiration, also for the interested layman, for further reflection on the realm of physics in the biological world."--**Harold Heatwole, *Integrative and Comparative Biology***

About the Author

Steven Vogel is James B. Duke Professor Emeritus of Biology at Duke University. His numerous books include "Glimpses of Creatures in Their Physical Worlds" (Princeton) and "Cats' Paws and Catapults" (Norton).

Users Review

From reader reviews:

Florence Whitney:

What do you ponder on book? It is just for students since they are still students or this for all people in the world, exactly what the best subject for that? Simply you can be answered for that problem above. Every person has different personality and hobby for each and every other. Don't to be forced someone or something that they don't need do that. You must know how great as well as important the book Comparative Biomechanics: Life's Physical World, Second Edition. All type of book are you able to see on many resources. You can look for the internet sources or other social media.

Susan Dixon:

Comparative Biomechanics: Life's Physical World, Second Edition can be one of your nice books that are good idea. We all recommend that straight away because this guide has good vocabulary which could increase your knowledge in vocabulary, easy to understand, bit entertaining but still delivering the information. The article writer giving his/her effort to place every word into satisfaction arrangement in writing Comparative Biomechanics: Life's Physical World, Second Edition yet doesn't forget the main level, giving the reader the hottest and based confirm resource information that maybe you can be among it. This great information could drawn you into new stage of crucial thinking.

Ronda Powers:

Can you one of the book lovers? If so, do you ever feeling doubt when you find yourself in the book store? Aim to pick one book that you just dont know the inside because don't assess book by its deal with may doesn't work at this point is difficult job because you are scared that the inside maybe not seeing that fantastic as in the outside look likes. Maybe you answer might be Comparative Biomechanics: Life's

Physical World, Second Edition why because the excellent cover that make you consider about the content will not disappoint anyone. The inside or content is fantastic as the outside or perhaps cover. Your reading sixth sense will directly assist you to pick up this book.

Gary Games:

This Comparative Biomechanics: Life's Physical World, Second Edition is fresh way for you who has interest to look for some information since it relief your hunger details. Getting deeper you on it getting knowledge more you know otherwise you who still having little bit of digest in reading this Comparative Biomechanics: Life's Physical World, Second Edition can be the light food for you personally because the information inside this kind of book is easy to get simply by anyone. These books produce itself in the form that is reachable by anyone, yep I mean in the e-book type. People who think that in reserve form make them feel tired even dizzy this e-book is the answer. So you cannot find any in reading a reserve especially this one. You can find what you are looking for. It should be here for you. So , don't miss the idea! Just read this e-book kind for your better life as well as knowledge.

Download and Read Online Comparative Biomechanics: Life's Physical World, Second Edition By Steven Vogel #G0OUZSQVD9N

Read Comparative Biomechanics: Life's Physical World, Second Edition By Steven Vogel for online ebook

Comparative Biomechanics: Life's Physical World, Second Edition By Steven Vogel Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Comparative Biomechanics: Life's Physical World, Second Edition By Steven Vogel books to read online.

Online Comparative Biomechanics: Life's Physical World, Second Edition By Steven Vogel ebook PDF download

Comparative Biomechanics: Life's Physical World, Second Edition By Steven Vogel Doc

Comparative Biomechanics: Life's Physical World, Second Edition By Steven Vogel Mobipocket

Comparative Biomechanics: Life's Physical World, Second Edition By Steven Vogel EPub

G0OUZSQVD9N: Comparative Biomechanics: Life's Physical World, Second Edition By Steven Vogel