



## Force and Motion: An Illustrated Guide to Newton's Laws

By Jason Zimba

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**Force and Motion: An Illustrated Guide to Newton's Laws** By Jason Zimba

Isaac Newton developed three laws of motion that govern the everyday world. These laws are usually presented in purely mathematical forms, but Jason Zimba breaks with tradition and treats them visually. This unique approach allows students to appreciate the conceptual underpinnings of each law before moving on to qualitative descriptions of motion and, finally, to the equations and their solutions.

Zimba has organized the book into seventeen brief and well-sequenced lessons, which focus on simple, manageable topics and delve into areas that often cause students to stumble. Each lesson is followed by a set of original problems that have been student-tested and refined over twenty years.

Zimba illustrates the laws with more than 350 diagrams, an innovative presentation that offers a fresh way to teach the fundamentals in introductory physics, mechanics, and kinematics courses.

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### Editorial Review

#### Review

"Force and Motion is an excellent choice for a general physics class supplement, especially if an in-depth analysis of mechanics is important. If not incorporated into a course, the book is still very useful for teachers by providing real-world applications, in-class exercises, conceptual questions, test problems, diagrams and figures, lab exercises, and new ways to explain Newtonian mechanics."

-- John L. Hubisz - The Physics Teacher

"Zimba presents a careful and comprehensive development of the concepts, algebra, and trigonometry underlying Newton's three laws of motion at the high-school and introductory-college level. The text is well written and the diagrams are simple sketches, well suited to a classroom presentation or student's notebook."

-- Choice

"As an exposition on how to teach this crucial topic, it is definitely worth consideration by teachers and, if the approach finds favour, could benefit students too."

-- Rick Marshall - School Science Review

"Problem sets help high school and college students of all backgrounds understand mechanics."

-- Science News

#### About the Author

**Jason Zimba** is a faculty member in physics and mathematics at Bennington College and has taught at Grinnell College and the University of California, Berkeley. He was the recipient in 2006 of the Majorana Prize.

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