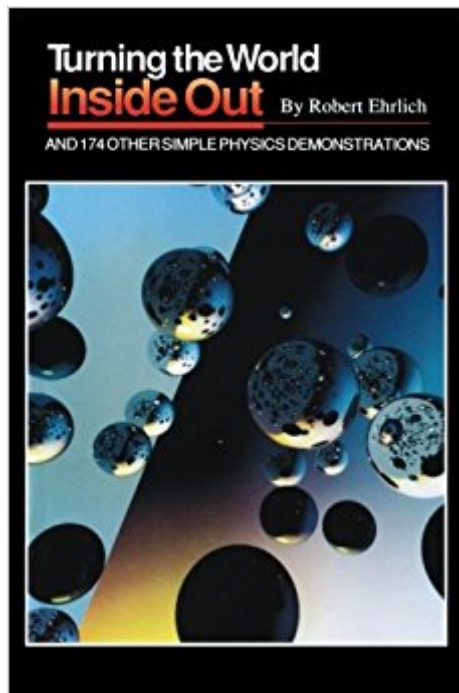




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Turning The World Inside Out And 174 Other Simple Physics Demonstrations



Synopsis

". . . dipping into this collection is much like opening a holiday gift and discovering a marvelous little toy that then holds your attention by some curious performance. . . . This book precisely reflects the way science education should be, especially at the introductory level." --From the foreword Here is a collection of physics demonstrations costing very little to produce yet illustrating key concepts in amazingly simple and playful ways. Intended for instructors, students, and curious lay readers, these demonstrations make use of easily accessible, everyday items: food coloring and glycerine swirled and then "unmixed" in a container demonstrate aspects of the entropy law; raw eggs thrown with full force at a sheet but not breaking illustrate Newton's second law ($f=ma$); and the reflection off a glass Christmas tree ball is the focus of an explanation on "turning the world inside out." Many of the demonstrations are either new or include innovative twists on old ideas, as in the author's simplified version of the classic "Monkey and Hunter" problem, which substitutes "diluted gravity" on an inclined plane for large apparatus. Each demonstration outlines the objective, the equipment needed, and the procedure, including, in many instances, ways for a teacher to perform the demonstration on an overhead projector. Throughout the book concrete examples are accompanied by enough theoretical background to enhance a reader's basic understanding of physical principles. Lab instructors will find that demonstrations containing a quantitative component work well as mini-experiments and as ways to illustrate the results of calculations. These diverse and flexible demonstrations will serve a wide range of educational levels, from middle school physical science to university physics.

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Customer Reviews

This is a great book for those of you who have to teach physics in an environment with little if any lab and teaching demo equipment and a limited budget.

Bought a lot of Physics books....this one is good, especially for sparking new lab ideas.

When I saw the title of the book, I thought it would be a good aid for me in my highschool physics teachings. Some of the demos are not explained in detail, and it is hard to find (at least for me) some materials that are listed by the author for the demo. However, the ideas have been serving as the starting points for me, after some modifications (and spending a few minutes to understand the setting) I could use them in my class. Alright, it is not a tough job, even may be helpfull, but be aware of the fact that you might find some demos hard to implement.

This is definitely the best Ehrlich book I've read. The demos are great because he puts a lot of thought into making them classroom friendly (there's a lot using overhead projectors) and detailed. Most of the details should only be used with high school level and up, but most of the experiments are good anyways. He uses sound, detailed physics - not the vague or sometimes incorrect explanations you find in the lower budget books. There's also a great organization scheme that makes everything easy to find and indicates which experiments are appropriate for certain situations.

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