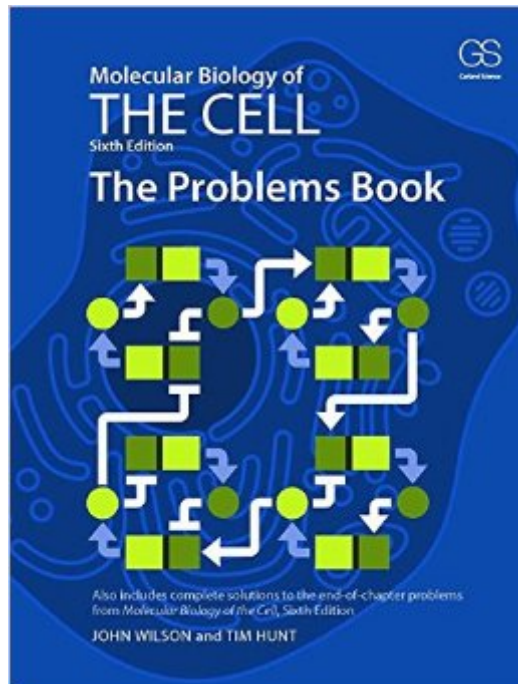


The book was found

Molecular Biology Of The Cell 6E - The Problems Book



Synopsis

The Problems Book helps students appreciate the ways in which experiments and simple calculations can lead to an understanding of how cells work by introducing the experimental foundation of cell and molecular biology. Each chapter reviews key terms, tests for understanding basic concepts, and poses research-based problems. The Problems Book has been designed to correspond with the first twenty chapters of Molecular Biology of the Cell, Sixth Edition.

Book Information

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Customer Reviews

This is the "Problems Book" that goes with the sixth edition of Molecular Biology of the Cell. Doesn't sound all that exciting does it? But actually the problems book is just as fascinating and informative as the textbook it's a companion for. And there have been enormous improvements over the previous (fifth) edition here too. I've been working my way through the new edition of MBoC and loving it, and just got around to taking a look at this new problems book and WOW. The problems typically start out with an interesting fact and then ask you a question about it that will require some creative thought. The background information provided for each question is often fascinating and goes into all sorts of areas with detail that there isn't room for in the main textbook. Here's an example question from p.6:"1-45: Giardiasis is an acute form of gastroenteritis caused by the protozoan parasite Giardia lamblia. Giardia is a fascinating eukaryote; it contains a nucleus but no mitochondria and no recognizable endoplasmic reticulum or Golgi apparatus--one of the very rare examples of such a cellular organization among eukaryotes. This organization might have arisen

because Giardia is an ancient lineage that separated from the rest of eukaryotes before mitochondria were acquired and internal membranes were developed. Or it might be a stripped-down version of a more standard eukaryote that has lost these structures because they are not necessary in the parasitic lifestyle it has adopted. How might you use nucleotide sequence comparisons to distinguish between these alternatives?

Gavin Scott wrote a review for this book too. Read it, it's very good. I disagree with Mr Scott on one point. With the Kindle edition and a PC, you can look at the question and the answer both at the same time, something you can't do with the paper edition (but I suppose book + PC is just as good as Kindle + PC). In any case, by using bookmarks I find that I can go back and forth between q and a nearly as quickly as with a paper book. I have only finished chapter 5 but I assume the rest of the book is more of the same, so I am confident that when I do finish the book, I will not have anything to add or subtract from this review.

The problems in the book are split into categories:

- Definitions: tests your memory
- True/False: tests your memory plus understanding
- Thought Problems: By far the best part of the book. I will go into this in detail later in the review.
- Calculations: Numerical problems. There is a lot more hand-holding here than I am used to from reading physics books, so these problems seem easy to me. If your math background is poor, these will help shore it up, but for me, it's more like eating peanuts.
- Data Handling: This is the meat of science. How to connect theory and fact.
- Medical Links and MCAT style: These are problems of special interest to students in the health sciences. That doesn't include me except in the sense that I am interested in all things.

Now about those thought problems. Any book I ever read went something like this (very contrived) example:

The ATP (adenosine triphosphate) is a molecule containing three phosphates in a chain. Recall that tri- is the Greek prefix meaning three. ADP (adenosine diphosphate) has the same structure but with two phosphates (di- is the Greek prefix for two).

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