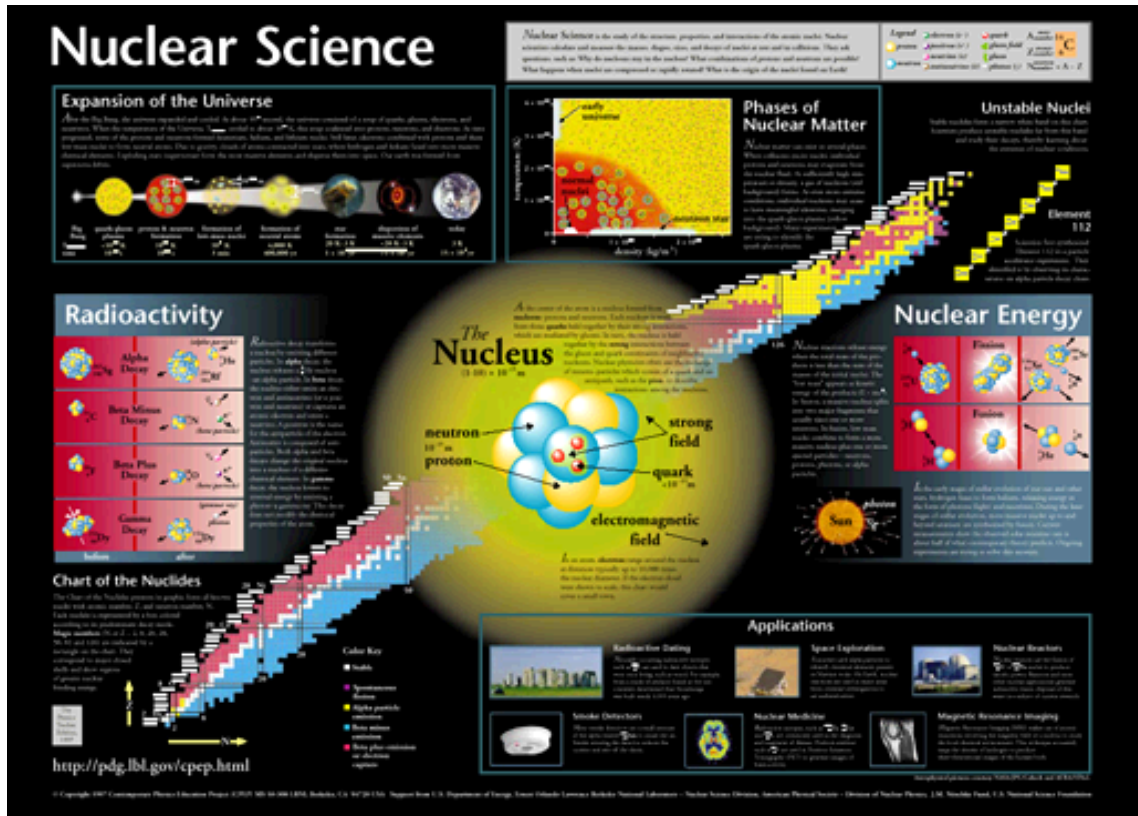


# NUCLEAR SCIENCE



## A GUIDE TO THE NUCLEAR SCIENCE WALL CHART

or

*You don't have to be a Nuclear Physicist to Understand  
Nuclear Science.*

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*Editor's Note:*

In April 1997, we circulated about 300 copies of this booklet throughout the United States and the rest of world. Comments came from teachers who taught all levels and from nuclear scientists throughout the world. From these many excellent comments, we prepared a second version in the summer of 1997. During a week long summer workshop, sponsored by the American Physical Society (APS)—Division of Nuclear Physics, John Cramer, James O'Connell, Ken Krane, Margaret McMahan, Eric Norman, Karen Street and I, completely revised the previous version. Again, we circulated the manuscript and once again, we received many excellent suggestions. We have tried to incorporate as many of these improvements as possible.

This teacher's guide is a work in progress. We welcome your advice and suggestions. We need feedback that describes how useful you have found this guide and what sections you used. We would like success stories as well as discussions of the problems that you have found. We have tried to edit this booklet as carefully as possible. Undoubtedly, there are sections that are too abstract, too abstruse, or perhaps misleading. There are still many typos. Your comments are essential to make the next edition even better. Please send them to

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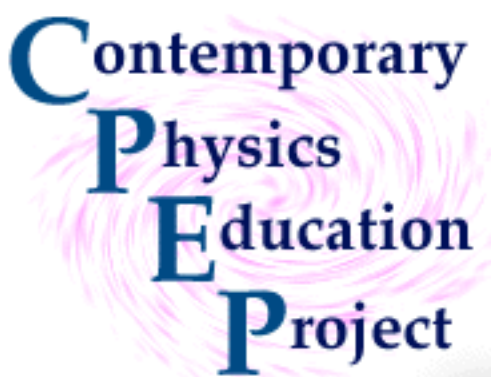
Many other people besides the authors contributed to the creation of this guide. Because of the large number of contributions, we have only been able to acknowledge a few as authors. We thank the Lawrence Berkeley National Laboratory, U.S. Department of Energy, the American Physical Society—Division of Nuclear Physics, and the J.M. Nitschke Fund for their support and encouragement in preparing this manuscript.

*Howard Matis, Berkeley, California, March 1998*  
For the Nuclear Wall Chart Committee

## Notes on the Second Edition

After three printings, we have exhausted the existing booklets. There have been a number of importance advances in our field since the publication of the first editions. For instance, several new elements have been discovered. Most scientists now believe that neutrinos have some very small but unknown mass. The SNO detector and the RHIC accelerator started operation. Because of these changes, we have decided to modify a few chapters and make some typographical changes. In addition, a number of web addresses have been updated. We would like to thank Justin Matis for updating many of the figures and making some corrections to the text.

*Howard Matis, Berkeley, California, April 2001*



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