

baseball, gram-o-rummy, clock rummy and deal-a-gram. There are metric word puzzles, wheels, spinners, graphs, geoboard, fifteen drawings and ideas for bulletin boards, and appendices of English and metric units, comparison and conversion tables, a list of six metric journals and newsletters, and names and addresses of fifty-three suppliers. The book should be valuable as a teacher reference, independent activity book or as a classroom textbook supplement.

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WHAT PEOPLE EAT: AN INTRODUCTION TO CHEMISTRY AND FOOD SCIENCES, by Isaias Raw, Anita Bromley, Ernst R. Pariser, and John Vournakis. Revised experimental Ed. 1975. William Kaufmann, Inc. (One First Street, Los Altos, California 94022), 323 pp. Price not given.

As the title implies, this book is an introduction to chemistry through food sciences. It is an attempt to capitalize on students' interest in their own bodies via the amount and type of food eaten. In a rather singular effort a complete duplicate of everything eaten in one day is collected and analyzed over a period of ten to fifteen weeks. The student is also requested to record all physical activities on that day so as to later correlate the quality and quantity of food eaten with the bioenergetics of the individual.

The stated objective of this rather strange book is to develop a competent laboratory technician by providing experiments (in the first part of the book) that use a variety of laboratory techniques and skills and particular instrumentation related both to the food sciences and chemistry. The unstated objective, however, appears to be some understanding of basic chemistry inasmuch as the major portion of the book is devoted to an understanding of the very basic principles of inorganic, organic, and physical chemistry.

The book is apparently designed for first year college students although both the principles and the mathematics are simple enough to use in high school honors programs in the senior year. The investigative approach lends itself to a higher level of interest and scientific competency. Students should get some feel for the scientific process, sample deviation, and experimental error after successful completion of the course for which this book is the central activity.

Chapters on matter, molecules and chemical reactions, acids, bases, and

pH, are developed in a simple, straightforward, didactic manner with simple illustrations and simple diagrams. The few photographs have historical interest rather than explanatory intent.

Some intriguing experiments are included as optional activities. For example, students are asked to determine whether or not different oils (really fatty acids) spread on water will produce the same size spot for the same number of molecules independent of length of the nonpolar chain. The simple chromatographic separation of various sugars and starch could be organized more systematically in a more linear stepwise order. Occasional sharpening of language is suggested. For instance, use of solvent *front* in description of solvent movement in chromatography clarified the R_f value explanation and even fronts are not easily seen with some solvents. One of the figures must either be brought out with lemon juice or is still in the printing office. Another ambiguous statement "living organisms require about twenty different amino acids" may imply that is the size of proteins (20 a.a.).

There are so many instances of textual material some light-years away from the major theme of "what people eat" that the reader or student has to be reminded frequently that there is a relationship. A protein chemist or biochemist should appreciate the authors' reference to the resourcefulness of living organisms in producing polymers from amino acids in their own metabolism that are not as monotonous as artificial polymers like Tylon or Lucite, although interesting artificial proteins *are* being constructed in vitro.

The book is really a minimal essentials text devoid of philosophical and historical depth, although sufficient acknowledgment is made to historic figures to bring out both the humanistic element and the concept that discoveries, progress in science and invention are the result of new heights reached by men and women standing on the shoulders of earlier scientific giants.

Graphing information is given substantial and excellent coverage even though in one place it appears as an interlude in the determination of coffee extraction. Interpolation and extrapolation are clearly distinguished, as are independent variables versus dependent variables.

There is insufficient correlation between the laboratory part of the book and the text portion and it is difficult to determine how the two parts are interrelated. The interesting lab on saponification discusses fatty acids and soap production, as does the text,

but it appears that the laboratory work precedes the text reading assignment.

The reader finishing this text will have an introduction to chemistry although it is a moot question whether or not the same reader will have an introduction to food sciences or to "what people eat." The few typographical and content errors and misplaced diagrams can be corrected easily in the next printing and printing of the food and nutrition table and the common logarithm table can be improved.

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Social and Ethical Issues

DISCUSSING DEATH: A GUIDE TO DEATH EDUCATION, by Gretchen C. Mills, Ray Reisler, Alice E. Robinson, and Gretchen Vermilye. 1976. ETC Publications (18512 Pierce Terrace, Homewood, Illinois 60430). 140 p. \$8.50 hardback, \$5.50 softback.

Aging and death are topics that have consistently been neglected both at home and in the schools. While many may feel that the home rather than the school should be the setting for the discussion of these topics, this avoids the reality of the situation, which is that honesty demands treatment of this subject at all ages, whether by a parent or by a teacher.

Discussing Death is an excellent resource for teachers and parents who recognize that it is time to face up to the need of all ages of children to discuss aging and death openly and honestly. The guide is divided into four age group levels, beginning with the 5- to 6-year-old and continuing up through high school age. The material included for the high school age student would also be appropriate for use at the college level. Each of the four levels of the guide begins with a short comment on the general understanding of death by persons of that age, then presents concepts dealing with various aspects of death that can be developed, giving specific objectives and suggested activities to help the student accomplish the objectives. The activities range from reports and books for discussion to interviews and role playing. Each level concludes with a complete bibliography for the resources suggested.

The concepts covered in the guide include discussions of life cycles, attitudes toward death and dying, life philosophy and death rituals. The learning opportunities suggested for these concepts explore the theme of death as