

the United States for there is a resource directory for Canada and Australia.

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EDUCATORS GUIDE TO FREE GUIDANCE MATERIALS

by Mary H. Saterstrom. 15th ed., 1976. Educators Progress Service, (Randolph, Wisconsin 53956). 395 p. \$10.95.

This is an amazing compendium which has some usefulness for biology teachers, e.g., a film on African Violets. The subject matter organization is significant: Career Planning, Social-Personal, Responsibility, and Use of Leisure Time. The first and last items are of particular importance to biology teachers. Of course, in these categories are listed visual aids, pamphlets, audio materials, etc. The lead essay is on values. As usual, the indexing is thorough and complete.

Some day and some time biology teachers must come to grips with the increasingly important world of the school counselor. It bears inspection and study.

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General Biology

LABORATORY EXPLORATIONS IN GENERAL ZOOLOGY

by Robert D. Burns and Karl A. Stiles. 6th ed., 1977. Macmillan Publishing Company, Inc. (866 Third Avenue, New York 10022). 399 p. Price not given.

Traditional and archaic materials can be presented in a manner that is refreshing, stimulating and technically correct but such is not the presentation of this manual. It is a compilation of "true and tried" activities, and some of them may have had their origins in this manual. Since it has survived thirty-four years (attesting that "standing the test of time" is not synonymous with "well-written") and six revisions, one may well wonder why it is not written in better form. Examples of overriding the rules of grammar and proper organization abound. At a time when there is much concern over the quality of verbal skills possessed by students, one would be negligent, to say the least, if one required the use of this manual in a course.

The design, according to one of the authors (Burns), is to include more material than can be covered in two

semesters, and he suggests that this provides a choice of exercises and a varied choice from year to year. It is divided into five major sections—Basic Biological Principles, Survey of the Animal Kingdom, Anatomy and Physiology of the Frog, Laboratory and Field Techniques, and Appendix. The anatomical terms and descriptions are accurate. However, the scope is limited. My personal feeling is that something should have been included concerning reptiles, avians, and mammals. (There are some references to humans.) This could have been done by reducing the coverage of the frog (ca. 95 p.), utilizing the rather large number of blank pages, and reducing by a third at least the *Questions and Problems*.

The problems of *Questions and Problems* appear to be the use of questions that cannot be solved by reasoning. One may well consider them superfluous and irrelevant to explorations in general zoology. That is especially true if one feels that a manual should either contain the text material or contain suggested reading. With the exception of a reference to a textbook co-authored by the junior author, this manual has neither.

This book is not recommended for general class adoption but if one wishes a short reference to the anatomy of the frog or some selected invertebrates, it may be useful.

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Genetics

GLOSSARY OF GENETICS AND CYTOGENETICS—CLASSICAL AND MOLECULAR

by R. Rieger, A. Michaelis, and M.M. Green. 4th Ed. 1976. Springer-Verlag Publishing Co. (175 Fifth Avenue, New York 10010). 650 p. \$14.50.

This glossary is the product of three geneticists whose intent is to revise and offer new terms necessary for students and research workers. The users of this text most likely will be general and advanced genetics students and college/university faculty. A high school biology teacher will probably never discuss genetics in sufficient detail to need this glossary. Although limited in this respect, I do not in anyway intend to discount the value of this glossary to someone interested in studying the principles and experimentation of genetics. Of particular value is the bibliography citations accompanying almost all the terms.

The historical perspective along with the listed literature where the term originated or was "coined" is valuable for confirmation and clarification. Misuse of terms in journals and papers can especially be a hindrance to researchers. Sometimes the intent of the author is lost because of misuse or a desire on the part of some geneticists to simplify. To aid the user, cross references are noted by an arrow (→) before relevant terms. The use of experimental data and diagrammatic representation are sometimes included for a more complete definition. A section of terms and bibliography was added in the proofing.

Without reservation it can be stated that this is a thoroughly well-prepared, valuable reference tool for researchers and higher education teachers. The effort to be concise, yet adequate is appreciated. The authors have made great efforts to reduce redundancy and lengthy definitions; the quality is preserved without excessive quantity. The last two pages provide lists of other texts and related journals that would be useful to researchers and academic personnel.

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HEREDITY AND SOCIETY: READINGS IN SOCIAL GENETICS

ed. by Adela S. Baer. 2nd ed., 1977. McGraw-Hill Book Company (866 Third Avenue, New York 10022). 477 p. \$7.95.

This collection of some 45 readings covers a wide range both in time and subject matter. The earliest article, a short, personal comment on the history of genetics by Richard B. Goldschmidt, dates from 1950 while the latest are several selections first published in 1975. The book is divided into nine sections, all but two of which are preceded by brief introductions with some additional references. The subject matter of these sections varies from a section considering some facets of the history and politics of genetics, including the Lysenko affair, through aspects related to agriculture, environmental hazards and their assessment, behavioral and population genetics, medical genetics and counseling, a group of papers on human evolution, race and intelligence and concludes with a section of papers on gene therapy and the future. This last section ends with a "Clone Order Form," supposedly from 1983, which one might consider either as a good spoof or a bit of unnecessary sensationalism.

In general, little argument can be raised with the selection of papers included. Often they are written by pre-

eminent persons in the field, solid and yet accessible to a college student with hardly more than the amount of genetics found in a good introductory biology course. Perhaps the most technical are the papers in the rather irrelevant section on "Heredity and Aging," which deal mostly with some hypotheses on cellular aging and only to a slight extent with genetics. Perhaps a paper on some of the ethical dilemmas, other than abortion, connected with genetic counseling could have been added. Four papers deal with environmentally induced chromosome aberrations—rather too many especially when the possible relationship of the aberrations to overt phenotypic changes is not discussed.

With only a few exceptions, the papers presented in this collection would add depth and interest to a general genetics course or a course dealing more specifically with the human and social aspects of the subject. It is certainly one of the better efforts in its genre.

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GENE ACTIVITY IN EARLY DEVELOPMENT

by Eric H. Davidson, 2nd. edition, 1977. Academic Press, Inc., (111-fifth Avenue, New York 10003). 464 p. \$18.50.

This book is a revision and updating of an earlier edition, published in 1968. The author has done extensive research in the molecular biology of early development, particularly in regulatory mechanisms, repetitive and non-repetitive sequences of DNA and their transcription during the lampbrush state of oogenesis.

The major theme of the book is a quantitative treatment of DNA, the various classes of RNA, and proteins in oocytes and early embryos of many different vertebrates and invertebrates. To clarify concepts, graphs and illustrations are used liberally. There is an abstract at the beginning of each section of the book, and often a summary or conclusions at the end of the section to assist the reader.

The author gives a historical perspective by reviewing the work of early embryologists, such as Kolreuter, Auerbach, the Hertwigs, Driesch and Boveri, but his main emphasis is on the modern, quantitative, sophisticated techniques of DNA-RNA hybridization, the kinetics of DNA renaturation, the measurement of high complexity RNA, radioactive incorporation and decay kinetics for various classes of RNA, and protein synthesis. He also extensively treats the

localization phenomenon whereby certain determinants are found often associated with egg plasma membrane. Finally he deals with lampbrush chromosomes, their synthesis of heterogeneous nuclear RNA and messenger RNA, and the duration of their presence in Amphibians. He asks the question "Is the main function of lampbrush chromosomes the synthesis of maternal messenger RNA precursors?"

The author states that the book is not intended to be encyclopedic, but for those concepts which he feels are not directly pertinent to the main thesis of the book, he cites reviews, which include a total bibliography. In effect, then it becomes encyclopedic. An extensive bibliography of 47 pages is included.

The book should be most useful to the graduate student who is undertaking research in embryology, molecular biology or biochemistry, or to the scientist or teacher who wishes to enlarge his/her understanding of how molecular biology impinges on embryology.

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History and Philosophy

OUR CONTINENT, A NATURAL HISTORY OF NORTH AMERICA

by The National Geographic Society of America. 1976. National Geographic Society (Washington, D.C. 20036). 398 p. \$11.95.

The National Geographic Society has done it again. This book, one of a series of volumes dealing with natural science and history, is superb. The book presents a vivid description of how the continent of North America was formed, recounts various theories of how and when life evolved, and impresses upon the reader the magnitude of the physical, chemical, and biological forces that combined to shape the North American Continent as we know it today. Up-to-date scientific findings are also included.

Fourteen authors, each distinguished in his particular area of expertise, have combined talents to create a book that should be a must especially for teachers of earth and life sciences. The text material is clearly and interestingly written, each chapter blending smoothly into the next, giving the reader a sense of continuity.

Following the introduction that traces the theory of earth's origin, structure, and continent formation, there unfolds a panoramic, evolutionary description of the progression of life and environmental

forces that contributed to the shaping of present-day North America.

The narrative is vividly enhanced by over 300 magnificent pictures and illustrations, of which 248 are full-color photographs. Also included are 88 paintings, drawings, and diagrams as well as 24 maps. A very useful learning device, "The Wheel of Time," is found contained in a pocket on the inside of the back cover. This is a revolving disc that depicts at a glance the sequence of major geologic events as well as life forms throughout the earth's history.

Without a doubt, *Our Continent, A Natural History of North America*, is an outstanding book in every respect. It will be a valuable reference to students and teachers of life and earth sciences.

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LISA

by Matthew Lipman, 1976. Published for The Institute for the Advancement of Philosophy for Children, (Montclair College, Upper Montclair, New Jersey 07043). 153 p. Price not given.

Lisa can be called a novel for it consists mostly of dialogue and interaction of various characters. The characters are a group of junior high students who attempt to resolve situations by logical means or what they call "figuring out." In the text there are various situations that depict issues confronting our youth, among them values, conformity, and rights and privileges.

Each chapter is divided into several episodes concerning individuals in the novel. By "thinking" these characters are able, to the best of their ability, to work out their prejudices and beliefs by redefining them.

This novel would be most useful in role-playing situations in the classroom. The role-playing can encompass values (are they subjective or objective?), and morality (what makes something good or bad?)

This novel can also be useful in a junior high school with regards to discussions on school policies and confrontations with authority. The episodes can be useful as one-act plays and then be evaluated by a method of introspection, that is, looking into the meaning of the dialogues of each of the characters.

This book may be utilized as a guide and reference to a mini-course on values clarification and interpersonal relationships within a school setting.

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