Project 2061

SCIENCE LITERACY AND LEARNING GOALS FOR students—such as those proposed in Project 2061's *Science for All Americans* and *Benchmarks for Science Literacy* and in the National Research Council's *National Science Education Standards*—are gaining widespread acceptance. Yet much remains to be done before teachers and students can address those goals in classrooms throughout the country.

The adoption of science literacy goals for all students is going to require change at many levels of the education system. For example, educators will need a wide variety of materials to create curricula for science literacy. And, equally important, changes will be needed in the way teachers prepare for their work in the classroom.

To respond to these new requirements, Project 2061 is creating *Resources for Science Literacy*, a CD-ROM/print tool for teachers, teacher educators, curriculum developers, and others.

Resources for Science Literacy
Understanding and Implementing Science Literacy Goals

Resources will provide users with access to a broad array of information that will help them to expand their knowledge of science, mathematics, and technology; increase their understanding of science literacy goals for K-12 education; and improve their ability to make better decisions about curriculum materials, classroom instruction, and assessment.

Resources for Science Literacy will be available on CD-ROM with companion print volumes and will be issued in two parts:

Professional Development
Part 1 of *Resources for Science Literacy* will offer a variety of professional development aids that can be used by teachers for self-guided study of *Science for All Americans* and *Benchmarks* or as the basis for preservice or inservice education programs. It provides a carefully selected collection of references, workshop activities, research, analyses, and course plans that teachers can use to explore many aspects of science literacy and its implications for K-12 science education.

Hypertext links will allow users to search for resources that relate to specific topics presented in *Science for All Americans*. For example, users can create a customized list of all recommended trade books dealing with scientific inquiry (found in *Science for All Americans* Chapter 1: The Nature of Science), then review the specific learning goals related to that topic recommended in *Benchmarks for Science Literacy* and the *National Science Education Standards*, go on to explore the available cognitive research on student learning of concepts related to scientific inquiry, and, finally, examine the college course syllabi for some guidance on developing a systematic approach to learning more about the topic. The *Professional Development* CD-ROM will contain:

Science for All Americans. The book's full text is accessible and linked to all of the other components (except the *Workshop Guide*) on the disk.

Workshop Guide. Developed and field-tested by Project 2061 staff, teachers from the Project's School-District Centers, and education consultants, the *Guide* includes a variety of presentations, activities, and supplementary materials that can be used to design and conduct Project 2061 workshops or as a tutorial on *Science for All Americans* and *Benchmarks*. In addition, users can easily access the other *Resources for Science Literacy* components from a number of points within the *Guide*.

Comparisons of *Benchmarks* to National Standards. Included here are analyses of how *Benchmarks for Science Literacy* relates to national content standards developed by the National Research Council, the National Council of Teachers of Mathematics, and the National Council for the Social Studies.

College Courses. Descriptions of 15 undergraduate college courses provide some guidelines for designing syllabi and supplementary materials to teach college students particular concepts from *Science for All Americans*.

Cognitive Research. The full text of *Benchmarks* Chapter 15: The Research Base, its accompanying bibliography of more than 300 references, and a survey of cognitive research literature shed light on what is known—and not known—about the ability of students of various ages to learn many of the topics in *Science for All Americans* and *Benchmarks for Science Literacy*.

Science Trade Books. More than 200 citations identify an array of books written for general readers on all areas of science, mathematics, and technology. Full bibliographic information, reviews, and other descriptive data are provided. Each book is linked to specific chapters and sections in *Science for All Americans.*

Resources for Science Literacy: Professional Development can be used by higher education institutions in planning preservice and inservice education, by school districts in designing staff development programs, and by individual teachers planning their own professional growth. Available: June 1996.

Curriculum Materials
Part 2, scheduled for publications in Spring 1997, will focus on curriculum materials and their match to learning goals in Project 2061's *Benchmarks for Science Literacy* and the NRC's *National Science Education Standards*. The *Curriculum Materials* disk is being created to help anyone who designs curriculum and plans instruction to do so with specific learning goals in mind. This component will provide a detailed explanation of a reliable and valid procedure that can be used to analyze materials so that educators can then perform the analysis themselves. It will also provide various case studies that illustrate the use of the analysis procedure and the range of analysis results that can be obtained.

Resources for Science Literacy will be Project 2061's first tool to be developed primarily for an electronic medium. Companion print volumes will offer a sampling of the kinds of material included on the CD-ROM along with directions for installing and using the disk. Eventually, both parts of *Resources* will be expanded, revised, and merged into a single CD-ROM that will be supported by annual updates available via disk or Internet.

About Project 2061

Project 2061 of the American Association for the Advancement of Science is a long-term initiative to reform K-12 education nationwide so that all high-school graduates are science literate. Its 1989 report, *Science for All Americans* (*SFAA*), outlined what all high-school graduates should know and be able to do in science, mathematics, and technology. Project 2061 is now creating a coordinated set of reform tools to help educators meet those goals in their own districts. Working with six school-district teams of teachers and administrators, Project 2061 has developed *Benchmarks for Science Literacy*, a curriculum design tool that translates the literacy goals of *SFAA* into learning expectations for the ends of grades 2, 5, 8, and 12.

SFAA and *Benchmarks* will soon be joined by *Resources for Science Literacy*, a computer-based tool to help educators improve their own understanding of science literacy and identify and evaluate instructional materials to help students make progress towards it; *Designs for Science Literacy*, a guide to help educators take a systematic design approach to planning a K-12 curriculum; and *Blueprints for Reform*, recommendations for how various aspects of the K-12 education system must change to accommodate necessary curriculum reforms. Eventually, all these tools will be pulled together by a computer-based, interactive, multimedia curriculum-design and resource system.

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Project 2061's print and electronic products are available from Oxford University Press. For ordering information, please call 1-800-451-7556.