

ANCHORAGE SCHOOL DISTRICT

ANCHORAGE, ALASKA

ASD MEMORANDUM #161 (98-99) (REVISED) February 8, 1999

TO: SCHOOL BOARD

FROM: OFFICE OF THE SUPERINTENDENT

SUBJECT: HIGH SCHOOL SCIENCE FRAMEWORKS - BIOLOGY I,  
CHEMISTRY I, GEOLOGY I, PHYSICS I

RECOMMENDATION:

It is the Administration's recommendation that the School Board approve the attached "High School Science Frameworks - Biology I, Chemistry I, Geology I, Physics I." It is further recommended that the changes and additions in the "Science As A Process" Section near the beginning of the attachment be approved as amended for inclusion in the "Science Frameworks - Grades 7-9" document.

PERTINENT FACTS:

ASD Memorandum #161 (98-99) was originally presented for adoption to the School Board on January 11, 1999. During discussion, several concerns were identified. The Board tabled the memorandum, pending further changes. The Administration made changes as follows: Page 2, #3, and #6; Page 3, #9; Page 4, underlined addition; Page 5, Section II, #1; Page 6, #8 and Page 7, #5. We believe that these changes are both reasonable and responsive to the Board's concerns. The memorandum is now being brought forward for adoption.

The "High School Science Frameworks - Biology I, Chemistry I, Geology I, Physics I" document is the culmination of work over the past one and one half years. References used have been Benchmarks for Science Literacy, American Association for the Advancement of Science, 1995; the National Science Education Standards, National Research Council, 1996 (there is a 95% correlation between the two documents); as well as Alaska Standards, Content Standards for Alaska Students. Several other books have been used in developing philosophies that went into the decisions made for science restructuring efforts. It should be noted that committee members have had the documents readily available and

have had training in how to use them. These documents cite research and are developmentally appropriate for each course. It must be stressed that the references were used only so far as to support and localize the philosophy and content for the Anchorage School District.

The "Guiding Principals" (page 2), "Recommendations" (page 3) and "Science As A Process" (pages 4-7) are intended to be infused throughout the entire document. The committee consciously addressed continuity throughout the Anchorage School District. These same pages overlay the "Science Frameworks: Grades 7-9" document. The whole document has been discussed in depth and is supported and recommended by the Science Curriculum Committee.

This frameworks has been reviewed many times by teachers, departments, scientists and community members. The frameworks has been revised based upon input after having been reviewed by high school principals (November 4, 1998), high school curriculum principals (November 19, 1998), and the Anchorage Council of PTAs Executive Board (October 28, 1998). It was reviewed very favorably both in content and format by principals and curriculum principals. The PTA expressed verbal concerns regarding some of the "Guiding Principles," though these were identical to the Board adopted Guiding Principles in the Grades 7-9 document. Our understanding is that a sub committee had been formed to provide a written response from the PTA regarding the frameworks. No such comments had been received prior to winter break. Subsequent to the winter break, the President of the Anchorage Council of PTAs notified the Superintendent that the PTA Executive Board had no continuing concerns about these frameworks.

The frameworks was submitted to the Assistant Superintendent of Instruction and the Executive Directors of Curriculum and High School Education on December 11, 1998, for their input and direction. A presentation was given to the Student Advisory Board with copies to all students in attendance on December 14, 1998. Overwhelmingly their comments supported hands on learning. They seemed to learn more and retain the information longer, as well as liking the course much more. Their comments were interesting and relevant to the curriculum development process. Recommendations have been incorporated from all levels as appropriate.

As a note on reading the document, recognize that the center column of the content frameworks represent **examples** of what students should be able to do. This column could have an infinite number of ideas. It is meant to help teachers and to help clarify the concept for any reader. The section would be an ideal place to add integration of reading, writing, and mathematics into science

curricular fields. Hopefully, this document will prove useful to librarians and teachers in the selection of ancillary materials to support the curriculum.

This document is based on current educational research, presenting frameworks rich in scientific process and hands-on approaches to learning.

BC/FS/DY

Attachment

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