

ANCHORAGE SCHOOL DISTRICT
ANCHORAGE, ALASKA

ASD MEMORANDUM #344 (2006-2007)

June 25, 2007

TO: SCHOOL BOARD

FROM: OFFICE OF THE SUPERINTENDENT

SUBJECT: TEXTBOOK ADOPTION: 6-8 MIDDLE SCHOOL MATH

ASD Goal: Increase student academic achievement using data to guide adoption of curriculum, methods, material, and professional development specifically designed to ensure that each group as designated by No Child left Behind and the Quality Schools Initiative makes adequate yearly progress.

RECOMMENDATION:

It is the recommendation of the administration that the School Board approve and adopt the following math textbooks and materials for Math 6, Math 7, and Math 8.

MathScope: Seeing and Thinking Mathematically, Courses 1, 2, 3. Education Development Center, Inc. Glencoe /McGraw-Hill. 2005.

PERTINENT FACTS:

In November of 2006, the K-8 Math Curriculum Review began with the development of a survey to ascertain if the current K-8 curricula are meeting the needs of all students, the strengths and weaknesses of the curricula, the extent of use of adopted and supplemental materials, the articulation between grade levels, the effectiveness of the parent component, and materials and professional development needs. Between December 2006 and February 2007, elementary teachers at thirty schools and all middle school math teachers completed the survey.

During the spring of 2007, an ad hoc K-8 Math Curriculum Review committee, co-facilitated by Dr. Enid Silverstein, Executive Director of Curriculum and Instructional Support, and Ruth Mount, Middle School Math Support Teacher, began an action research project to examine the Anchorage School District K-8 Mathematics Program. The goals of this committee were to examine the

curriculum in a K-8 context; build a common knowledge base about District demographics; and study current research on instructional strategies, assessment, and how students learn. The tasks of the committee were to build a vision for the K-8 Mathematics Program, establish rubrics (student, teacher, content , assessment) which define the ASD set of non-negotiable beliefs (Attachment A), analyze data of the Curriculum Review Survey, and use the rubrics to perform a fit-gap between the present curricula and the research findings. The committee consisted of fifty-two teachers, support staff and principals with expertise in regular and special education, bilingual, Indian Education, curriculum and standards-based assessment (Attachment B).

The initial summary report of the Math Curriculum Review committee identified issues that needed immediate attention, issues that needed to be further studied, and initial recommendations for improving the ASD K-8 Mathematics program. The committee recommended an immediate materials review and adoption of a middle school curriculum that meets the needs of all students for courses Math 6, Math 7, and Math 8. The data shows the current curriculum is significantly misaligned with the student, teacher, content, and assessment rubrics. Additionally, there has never been a 6-8 math curriculum for the middle schools. A complete report of the Math Curriculum Review Committee will be completed in July 2007 outlining further recommendations.

During May 2007, the committee used the rubrics to evaluate the four standards-based middle school curricula that are available on the market. Middle school math teachers also evaluated the materials in their buildings and held department discussions. The data from the committee and the teachers both support the proposed curriculum (Attachment C).

The math support teachers in Curriculum and Instructional Support have aligned the proposed materials to the Anchorage School District and Alaska Grade Level Expectations (GLEs) and have determined they match well.

PTSAs from middle schools were invited by principals to review the materials. The middle school math support teacher met with parents and identified strengths in the proposed materials and made further suggestions to involve parents for a successful implementation. The Minority Education Concerns Action Committee has been briefed on the proposed curriculum and been provided with materials to preview.

The committee, teachers, and parents identified the strengths of these proposed materials to be the application of mathematical concepts to real world math, the balance between the development of conceptual understanding and skills practice, the variety of engaging activities, and the alignment with the GLEs.

Since the concepts are presented in a variety of ways, this allows for differentiation of instruction for individual student needs. The assessment components of the proposed materials have clearly identified skills and concepts and include both formative and summative assessments using a variety of forms. Assessment materials will help communicate student achievement to students and parents and are well suited for portfolios used in student-led conferences. The student handbook and online resources will support the home/school connection.

Textbooks are available for review in the Superintendent's Office on the second floor of the ASD Education Center at 5530 East Northern Lights Blvd.

CC/RG/ES/RM

Attachments

Prepared by: Enid Silverstein, Executive Director, Curriculum/Instructional Support
Ruth Mount, Middle School Math Support Teacher

Approved by: Rhonda Gardner, Assistant Superintendent, Instruction

K-8 Mathematics Program
Anchorage School District

Student:

The program provides the following for the needs/rights of students:

- know the purpose of learning, including objectives, standards, goals, criteria and evaluation rubrics
- choose from a variety of strategies to explore, solve, and communicate math concepts
- engagement through a variety of activities, which may include independent projects, cooperative learning, manipulatives, technology, collaborative work, etc.
- feel connected and free to take risks
- a belief that math can be learned
- opportunities for self-monitoring and self-reflection
- make connections to real life applications
- support at individual learning levels

Teacher:

- Teacher makes meaningful connections between math and real-life.
- Teacher has high expectations for success and achievement for all students.
- Teacher uses a variety of instructional and assessment strategies (differentiated instruction, cooperative learning, exploration & learning extensions, use of manipulatives and technology, and other best teaching practices).
- Teacher clearly states classroom expectations, and content and language objectives.
- Teacher provides time for student reflection & meta-cognition.
- Teacher communicates with and is available to parents and students.
- Teacher receives appropriate and ongoing professional development & training (knowledgeable of pedagogy, content, and vertical alignment of curriculum).
- Teacher is provided adequate time and opportunity for grade-level and vertical collegial collaboration and support.

Content:

- The curriculum aligns with ASD standards, serves our diverse culture, and bridges the gap between elementary, middle and high school.
- The curriculum provides clearly stated content and language objectives and a suggested pacing guide.
- The curriculum provides options to meet the needs of a variety of students.
- The curriculum offers opportunities for students to apply their understanding to real-life situations.
- The curriculum provides opportunities for interdisciplinary connections.
- The curriculum integrates the use of technology in the classroom to develop and maintain conceptual understanding.
- The curriculum provides an online component for teachers, students, and parents.
- The curriculum provides opportunities for students to process, reflect, justify, and communicate their understanding.
- The curriculum provides opportunities for students to revisit, maintain, and apply previous knowledge.

- The curriculum supports teachers with the background knowledge for the content.
- The curriculum is designed to promote self-direction and self-monitoring.
- The curriculum will provide students with the opportunity to move conceptual understanding from concrete to abstract with the use of manipulatives.
- The curriculum provides parental support for student learning.

Assessment:

- Assessments will be aligned to ASD and Alaska GLEs.
- Evaluation criteria will be given to students prior to assessments.
- A variety of methods will be used to assess student learning.
- Formative assessment will be diagnostic and ongoing. It will provide data to guide instruction and give specific feedback to students to allow for self-adjustment.
- Benchmarks will be used to periodically check on student and class progress and trends.
- Summative assessment will incorporate performance-based projects and skills level competencies.
- Assessments will be a part of the matrix for proper student placement.

Attachment B

K-8 Math Curriculum Review Committee

Gerard Bagsby	Teacher	Clark
Tanya Beck	Teacher	Ursa Major
Tara Bivins	Teacher	Mears
Ryan Blewett	Teacher	Chester Valley
Dawn Broquet	Title I Teacher	Williwaw
Eileen Burnside	Teacher	Abbott Loop
Jyoti Chadda	Teacher	Kincaid
Jason Collins	Teacher	North Star
Dorothea Culbert	Teacher	Alpenglow
Florence Daniel	Teacher	O'Malley
Terry Dannenbring	Teacher	Romig
Ruth Dene	Principal	Muldoon
Bobbi Jo Erb	Teacher	Mirror Lake
Philip Farson	Bilingual Teacher	Willow Crest
Karla Gallagher	Teacher	Hanshew
Patty Gallego	Teacher	Central
Christine Garbe	Bilingual Teacher	ASD Education Center
Virginia Gates	Teacher	Abbott Loop
Kim Girard	Teacher	North Star
Jessica Graziano	Teacher	Clark
Cheryl Hilmes	Teacher	Chinook
Bobby Jefts	Assistant Principal	Romig
Bree Jolin	Teacher	Romig
Joan Karcz	Teacher	Wendler
Patty Kennedy	Math Support Teacher	ASD Education Center
Mike Lanzarone	Teacher	Clark
Amy Laufer	Teacher	Kasuun
Lisa Longlet	Title I Teacher	North Star
Cindy Mans	Teacher	Central
Cindy Martindale	Teacher	Williwaw
Brian McIntire	Teacher	Tyson
Kehle Middleton	Teacher	Wendler
Mary Murphy	Math Support Teacher	ASD Education Center
Brian Nelson	Teacher	Central
Katie Notis	Teacher	Mirror Lake
Jani Oviatt	Teacher	Polaris
Mary Pednault	Special Education Teacher Expert	ASD Education Center
Maureen Petrunic	Teacher	Hanshew

Joel Roylance	Principal	Wendler
Lucas Saltzman	Teacher	Susitna
Sandy Schoff	Math Coordinator	ASD Education Center
George Scott	Special Education Teacher	Mears
Erin Smith	Teacher	Gruening
Sherri Stein	Special Education Teacher	Wendler
Steve Thompsom	Teacher	Goldenview
Karla Vonkennen	Teacher	Ptarmigan
Kristi Waythomas	Teacher	Central
Penny Williams	Math Support Teacher	ASD Education Center
John Wilson	Teacher	Goldenview
Kerri Wood	Indian Ed Tutor	Tyson
Laura Wrenn	Teacher	Gruening
Deborah Zahler	Special Education Teacher	Rogers Park

Math Text Survey 2007: Results

The curriculum materials were reviewed using the standards in the student, teacher, content, and assessment rubrics developed by the K-8 Mathematics Curriculum Review committee.

Rating Scale

- 4 Exceeds standard
- 3 Meets standard
- 2 Partially meets standard
- 1 Does not meet standard
- NA Not applicable

Table 1: Teachers' Mean Responses to Math Text Survey Questions by Text

Curriculum	Student	Teacher	Content	Assessment	Overall Response
CMP	2.46	2.41	2.46	2.32	2.41
Math in Context	2.51	2.53	2.61	2.37	2.51
Math Scope	2.91	3.04	2.93	2.95	2.96
MathThematics	2.84	2.93	2.91	2.81	2.87

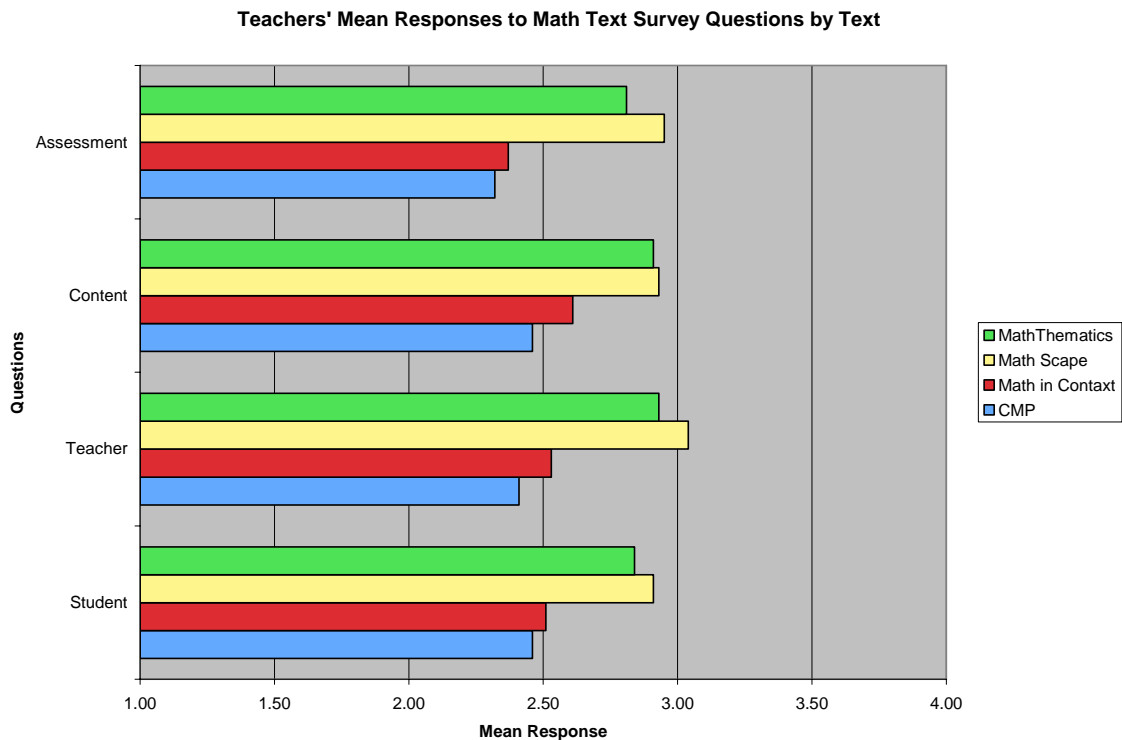


Table 2: Committee Members' Mean Responses to Math Text Survey Questions by Text

Curriculum	Student	Teacher	Content	Assessment	Overall Response
CMP	3.00	3.20	3.20	3.40	3.20
Math in Context	2.71	2.86	2.79	2.85	2.80
Math Scape	3.27	3.36	3.09	3.55	3.32
MathThematics	3.23	3.46	3.08	3.15	3.23

