

Middletown Township Public Schools

Elementary Mathematics Guidelines for Parents 2009-2010

September 2009

"Knowing mathematics means being able to use it in purposeful ways. To learn mathematics, students must be engaged in exploring, conjecturing, and thinking rather than only in rote learning of rules and procedures. Mathematics learning is not a spectator sport. When students construct personal knowledge derived from meaningful experiences, they are much more likely to retain and use what they have learned. This fact underlies teachers' new role in providing experiences that help students make sense of mathematics, to view and use it as a tool for reasoning and problem solving."

Curriculum and Evaluation Standards for School Mathematics: Executive Summary, p. 5
National Council of Teachers of Mathematics

1. THE ADOPTED PROGRAMS:

All grades K-5 use the *Scott Foresman/Addison Wesley Mathematics* program ©2004 along with at least two units from the *Investigations in Number, Data, and Space* program. Teachers are welcome to use additional units from the *Investigations* program as well as the two required units if they wish to do so. Regardless of which program is used for a particular topic or unit, all classes cover the same curricular objectives as indicated in the New Jersey Core Curriculum Content Standards for Mathematics.

The following *Investigations* units are used by ALL students as they are exemplary units for helping students to achieve a deeper understanding of the concepts taught and in helping them to construct knowledge that is meaningful to them:

- Kindergarten: *Collecting, Counting, and Measuring* (Developing Number Sense)
How Many in All? (Counting and the Number System)
- Grade One: *Building Number Sense* (The Number System)
Quilt Squares and Block Towns (2-D and 3-D Geometry)
- Grade Two: *Coins, Coupons, and Combinations* (The Number System, including money)
Putting Together and Taking Apart (Addition and Subtraction)
- Grade Three: *Things That Come in Groups* (Multiplication and Division)
Fair Shares (Fractions)
- Grade Four: *Arrays and Shares* (Multiplication and Division)
Different Shapes, Equal Pieces (Fractions and Area)
- Grade Five: *Between Never and Always* (Probability)
Name That Portion (Fractions, Percents, and Decimals)

2. ASSESSMENTS ADMINISTERED:

a. Formative Assessments: Effective September 2009, students will be assessed and appropriate interventions and progress monitoring done as noted below:

- In grades K to 2, a test of "Number Sense" will be administered twice each year (pre* and post) to all students as well as to all students in grades K-5 who receive, or are recommended for, services.
- In grades 3 to 5, the NJ edition of LEARNIA aligned to the state standards will be administered twice each year (pre and post) to all students.

Data obtained will be discussed at the November parent conference.

b. Inventory/Diagnosing Readiness Test – All teachers of grades 1, 2, 3, 4 & 5 administer the "Diagnosing Readiness for Grade ..." at the beginning of the school year to assess what the student has learned and retained from the previous year.

c. Chapter/Unit Assessments: While the acquisition of basic knowledge and skills will always be important, the need for performance assessments based on authentic tasks such as activities, exercises, or problems that require students to show what they can do is evermore important for our contemporary age. In order to effectively provide a more complete picture of learning and a firmer basis for improving students' educational experiences, we measure student progress in the achievement of core standards of learning as well as their abilities to apply their knowledge, skills, and understanding in authentic contexts. Therefore, in order to reflect the NCTM and NJ "Standards" as well as the types of questions asked on the NJ PASS and NJ-ASK assessments, students are given a variety of assessments including BOTH "Performance Assessments" and traditional chapter tests.

d. Cumulative Tests – Two cumulative assessments are administered each year, mid-year and end of the year.

e. Sequence of Chapters/Units taught is determined by the NJ Core Content Curriculum Standards in preparing students for the NJ ASK in gr. 3, 4, & 5.

f. Pretests are available for grades 1 and 2 only and may be used at option of the teacher *to assess what students may already know prior to teaching a chapter or unit.*

f. Other Assessments included in the SF/AW program such as "Student Self-Assessment", "Portfolio Assessment", "Observation Checklists for Group Skills", and mid-semester "Cumulative Tests" may be used at the discretion of the individual teacher.

--- continued ---

3. SCORING OPEN-ENDED QUESTIONS:

- a. Specific rubrics are supplied to use in scoring the Scott Foresman "Performance Assessments" and the *Investigations* "End-of-Unit Assessment Tasks". (In Scott Foresman, the rubrics are used to score the whole test, not for each individual question. In *Investigations*, each task is scored separately using the rubric supplied.)
- b. In order to ensure a uniform approach to grading the assessments district-wide, the generic math rubric below is to be used to determine how many of 4 points should be assigned for each student's response to the "Writing in Math" questions on the Scott Foresman Chapter Tests (gr. 3 to 5) or Item Banks (gr. 1 & 2) used.

<p>4 - <u>Exemplary Response</u>: (exceptional) Completes the item with a clear explanation. Examines and satisfies all essential conditions of the problem. Appropriately applies mathematics to the situation.</p> <p>3 - <u>Competent Response</u>: Fairly complete response with reasonably clear explanations. Examines & satisfies most essential conditions of the prob. Appropriately applies mathematics to the situation.</p> <p>2 - <u>Minimal Response</u>: Gives response, but explanations may be unclear / lack detail.</p>	<p>Examines & satisfies some essential conditions of the prob. Some attempt to apply mathematics to the situation.</p> <p>1 - <u>Inadequate Response</u>: Response is incomplete & explanation is insufficient or not clear. Fails to address essential conditions of the problem. Fails to apply mathematics to the situation.</p> <p>0 - <u>No Attempt</u>: Provides irrelevant or no response or response is illegible. Copies part of the problem but does not attempt a solution.</p>
--	--

Students are given the opportunity to use rubrics to assess and discuss anonymous responses to open-ended questions on a regular basis throughout the year in class. In doing so they become better at answering such questions themselves.

4. GENERAL EXPECTATIONS:

- a. It is expected that an average of one hour per day be devoted to instruction in mathematics at the elementary level in grades one through five (and one-half of an hour in kindergarten).
- b. Students should be permitted to use manipulative materials if they wish in response to items on "Performance Assessments", "Writing in Math" items on chapter tests, and *Investigations* "End-of-Unit Assessment Tasks" only. (Calculators & multiplication charts are not manipulatives and should only be permitted if a question specifies it.)
- c. When the tests are given back to the students and reviewed, students are provided with the opportunity to discuss their responses with each other, especially for questions that were scored using a rubric— e.g., "Was there a pattern to your answers?", etc.
- d. Teachers assess each child's progress in accomplishing the indicators in the New Jersey Core Curriculum Standards for the particular grade level. These have been correlated to our adopted programs. This data is recorded and shared with the child's teacher the following year.
- e. There are several components of the program available to help teachers prepare students for standardized testing in grades two to five---"Pacing for Test Success" (grades 3 to 5 only) and "Problem of the Day" in Scott Foresman, "Ten Minute Math" and game activities in *Investigations*, etc. Another way teachers may choose to help do this is to use the *Everyday Counts Calendar Math* program (gr. 3-5) or the SF/AW *Calendar Time Kit* (gr. K-2). These "supplemental" programs involves a few minutes each day (or at least two to three times a week) and cover a wide variety of the concepts taught at the grade level. The use of this supplement is at the discretion of the teacher.

Another supplement available to each teacher (grades 1 to 5 only) is the *New Jersey Test Prep* booklet (and teacher's guide) from Scott Foresman. This methods of test preparation, although often the least effective, provides an additional option for review.

The most effective way for students to remember is to help them gain a deeper understanding of the concepts they are learning by having them explore, discover, and apply the concepts involved as much as possible. Students are not likely to remember what they have simply committed to short-term memory and do not truly understand.

5. SCHOOL/HOME CONNECTION:

- a. Early in the school year, information on how to access the **on-line textbook** (iText, grades 1 to 5 only) and the "Take It to the Net" resources (grades K to 5) will be sent home with each student.
- b. Components of the adopted programs that will assist parents in working with their children include the letters and coach notes in the School-Home Connection booklet and the example boxes on top of the "Re-teaching" sheets for the Scott Foresman program. In using the *Investigations* program, the "games" children are asked to play with someone at home will not only reinforcing the skills and concepts covered in class but also help parents to better understand the program. There is also a "Family Letter" accompanying each *Investigations* unit that will explain to parents what the children will be doing in that unit.
- c. Each building has been provided with a copy of the videotape made when Dr. Warren Crown, one of the lead authors of the Scott Foresman program, visited Middletown in October 2004. This tape should help parents to better understand the purpose of the programs we are using. In addition, short segments of videotaped classroom lessons demonstrating use of the programs are available periodically on the district website.