School Improvement Plan

Kessler Elementary School

Goal: All students will improve mathematical problem solving skills.

Type of Goal:

_____Knowledge, ___**X**__Application, _____Behavior, _____Attitude

Essence of the Goal: The Kessler Elementary School staff believes students will be able to develop their decision making and critical thinking skills in order to follow a step by step thought process to improve their ability to solve problems in life.

Support Data (from the Profile):	**Standardized Assessments:**	**Local Assessments:**
Student work identified poor problem solving, and lack of analytical reasoning as the red flag data. Terra Nova and local Problem Solving Assessments.	Terra Nova – Grades 3-6 March 2006 March 2007	LASW Quarterly using grade level rubric (data used to measure the goal for these two boxes)

Intervention:

Implement the 4-step problem solving model to solve problems across the curriculum.

Research:

National Council of Teachers of Mathematics, *Principles and Standards for School Mathematics.*, www.nctm.org, 2003.

A problem-centered approach to teaching mathematics uses interesting and well-selected problems to launch mathematical lessons and engage students. In this way, new ideas, techniques, and mathematical relationships emerge and become the focus of discussion. Good problems can inspire the exploration of important mathematical ideas, nurture persistence, and reinforce the need to understand and use various strategies, mathematical properties, and relationships.

Van De Walle, John A., *Elementary and Middle School Mathematics: Teaching Developmentally*., Pearson Education, Inc., 2007

Understanding and skills are best developed when students are allowed to create and defend solutions to problems, and to participate in a mathematical community of learners. In a mathematical environment students are able to make sense of mathematics through investigations, and discovery.

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Activities to implement the intervention:	Person(s) Accountable: POC	Timeline Beg.	End	Resources Needed	
Teachers will:					
1. Increase math instruction to at least 60 minutes daily.	Carol Lee Kipp-Caldwell	Sep 2006 Sep 2007	May 2007 May 2008	Math Series, Lesson Plans	
2. Conduct a Baseline Data Problem Solving Assessment 2007; Pre/Post 2007-2008. Enter the data on the common drive.	Committee Chairs:	April 2007 Sept 2007	May 2007 May 2008	Math prompt	
3. Implement the 4-Step problem solving model. Poster displayed with steps in classroom and utilized by teacher. (included in math series) Read – Find important information Plan – What do I have to do? Solve – Follow your plan and answer the question. Look Back – Check your answer. Does it make sense? The following are suggested representations (but not limited to); Pre-K – Draw Pictures Kindergarten – Draw Pictures First Grade – Draw pictures verbalize the process Second Grade – Draw pictures with labels and model with manipulatives Third Grade – Graphic organizer and verbalize plan orally and written Fourth Grade – Graphic organizer, articulate, write the	Committee Chairs	Oct. 2006 Aug 2007	May 2007 May 2008	Posters of Model	

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Plan and solution Fifth Grade – Articulate their solution through the use of graphic organizers and written expression. Sixth Grade – Articulate their solution through the use of graphic organizers and written expression.					
4. Use of word walls and math journals during instruction to support math concepts.	Committee Chairs	Sept 2006 Aug 2007	May 2007 May 2008		
Students will:					
1. Complete the baseline problem solving assessment using the grade level prompt.	Classroom teachers	Apr 2007 Apr 2008	May 2007 May 2008	Grade level prompt	
2. Articulate their thought process to obtain the solution (the how).		Aug 2006 Aug 2007	May 2007 May 2008		
3. Solve problems using the 4-step problem solving model.		Aug 06 Aug 07	May 07 May08		
4. Increase their problem solving vocabulary through the use of word walls.		Aug 06 Aug 07	May 07 May08		
5. Write weekly in their math journal to demonstrate their understanding of the problem.		Aug 06 Aug 07	May 07 May08	Create math journals	