School: Challenger Elementary **Grade/Department:** K-5 Elementary **Content Area:** Math

CIP Goal: In 2010, 83% of third, fourth, and fifth grade students will meet standard on the math section of the WASL; Special Education, Title I and English Language Learners will gain 3% on the math section, in all three grade levels, based on 2007scores.

What are the Research-Identified Strategies?	**What are the Desired Student Products and Behaviors?**	**How Will You Accomplish This?** ➢ Steps to implementing this strategy ➢ Professional development ➢ Visits ➢ Additional research	**How Often?** ➢ Frequency ➢ Timeline	**What Evidence Will You Be Gathering Relative to the Desired Student Products and Behaviors?** ➢ Formative ➢ Summative
1. *A viable and guaranteed curriculum has the greatest impact on student achievement.* ~Marzano: *What Works in Schools* *A curriculum is more than a collection of activities; it must be coherent, focused on important mathematics, and well-articulated across the grades.* ~NCTM	Students will develop increased awareness of their daily mathematical progress. This will happen with all teachers using *Everyday Math* (EDM). Students will be actively engaged in the learning process using *EDM.* Only EDM materials will be used during instructional time. • Student discussions • Homework completion • Homework corrections • Self-monitoring progress • Self-reflection	Grade level teams will adhere to EDM pacing guide for consistent content instruction Grade level teams will use the EDM formative assessments throughout the 07-08 school year. Teachers meet in grade level teams to develop a shared vision and understanding of math literacy using *Everyday Math*.	In August 2007, teachers will attend training for *Everyday Math.* They will learn how to organize and keep up with the pacing guide. Grade level teams will meet district-wide in Oct., Jan., and May to support EDM instruction. Monthly grade level time to review curriculum and plan for upcoming units Teachers will use three Wednesday MDSD dates (12/5/07, 4/16/08, and 6/4/08) to learn how to: use Online Assessment Manager, discuss Parental involvement with EDM, and examine assessment with EDM.	Continuous data will be collected regarding students' knowledge using the assessments provided by *EDM*. Student performance on common grade level assessments (mid-year and year-end). Scoring will be recorded on Online Assessment Manager. Teachers will use data from above to look at individual classroom needs. On-going assessments of students' math ability will occur in grade level team meetings.

2. *Opportunities to learn have the strongest relationship to student achievement.* ~Marzano: *What Works In Schools* ~Grouws & Cabella: *Improving Student Achievement in Mathematics*	Students will learn math for at least 75-90 minutes daily. Half day kindergarten will follow EDM standards.	Teachers will schedule math instruction daily for 75-90 minutes. Connections to other content areas will deepen mathematical understanding. For example: • Math in PE – math relevant to fitness goals • Math in music – fractions relevant to calculating beats per measure of music • Math in library – books purchased with district money to support EDM.	September 07 through June 08.	Same as above.
3. A viable and guaranteed curriculum has the greatest impact on student achievement. ~Marzano: *What Works in Schools* A curriculum is more than a collection of activities; it must be coherent, focused on important mathematics, and well-articulated across the grades ~NCTM	Students will demonstrate their proficiency in math through the components of the EDM curriculum: • Math Boxes • Math minutes • Math games • Home Connections • Math Journals • Student Self Reflection • Response to higher level questions • Skills Links • Open Responses • Unit assessments	Staff will: Create shared vision to ensure fidelity and consistent practice and implementation of all program components and resources at every grade level. Develop an understanding of math curriculum and best instructional practices and classroom strategies for teaching EDM	Throughout 2007-2010 Staff Development including studies of program materials and in-depth coverage of resources available Grade and/or cross grade level sharing on pacing, upcoming units, and successful instructional strategies Teachers will access MDSD Wednesday time to attend district training on the EDM	Grade level teams will conduct common district formative assessments two times per year using mid-year and year-end Unit Tests (Part A, Part B and Open Response). Informal data collection included as part of ongoing classroom assessment • Math journals • Math boxes • Whiteboard slate assessments

4. The individual classroom teacher could have the greatest impact on student achievement than any other school-level factor. The teacher factors are in the areas of instructional strategies and classroom management. ~Marzano: *What Works in Schools* ~Linda Darling Hammond: *Right to Learn* The strongest possibility of improving student learning emerges where schools implement multiple changes based on research-supported practice implemented by skilled teachers ~Grouws & Cebulla	Students will increase their ability to reason, discuss and understand mathematical principles and practices. • Student discussions • Tasks requiring students to explain thinking Students will demonstrate increased use of mathematical vocabulary, understanding of math strands, problem solving strategies and communication.	Staff will be provided with training and modeling of effective math instructional strategies. Teachers will encourage and model a fondness for and appreciation of math during instructional times.	Monthly during 07-08 school years. Monthly during 07-08 school years.	Student self –reflection Student performance on common grade level assessments (mid-year and year-end). The data gathering tools will be anecdotal records and tallies of the following behaviors: • Use of math vocabulary • Math “look “fors” o Boys and girls contributing equally? o Students talking as often as the teacher? o Are multiple strategies and approaches modeled? o Are real world connections made? o Is math talked about in a positive manner?
5. Cooperative learning has a positive effect on student learning. ~Marzano: *Classroom Instruction that Works*	Students work in a variety of groupings to learn from one another and explore each others’ thinking through discourse.	Teachers use a variety of grouping strategies as stated by EDM. Grade level discussions on how student groupings impact learning.	Sept. 07-June 08	Annual Family Math Night Ongoing anecdotal notes and observations on student engagement during EDM games.

6. Mathematical text may require a more specialized type of reader in order to gain necessary information. *~Barton et. al.* If students are to share their mathematical arguments & support them with evidence, then communication/language needs to be taught – ~Lampbert, et.al.	Students will communicate their mathematical understanding in multiple ways • Pictures • Words • Charts • Tables • Sentences Students will understand and employ different reading strategies to understand mathematics text.	Teachers facilitate students explaining their math reasoning through oral and written communication. Book studies centered on *EDM* publications and supporting materials. Teachers will integrate reading GLEs along with research-based skills, and strategies during math instructional time.	Sept. 07- June 08	Student performance on common grade level assessments (mid-year and year-end) administered during the year.