

School: Briarwood Elementary School

Grade/Department: Elementary

Content Area: Math

**CIP Goal:** By the spring of 2010, at least 78% of fifth grade students will meet or exceed standard on the math section of the WASL while decreasing the gap for Low Income students by 33% or greater in all math areas.

<p><b>What are the Research-Identified Strategies?</b></p>	<p><b>What are the Desired Student Products and Behaviors?</b></p>	<p><b>How Will You Accomplish This?</b></p> <ul style="list-style-type: none"> <li>• Steps to implementing this strategy</li> <li>• Professions development</li> <li>• Visits</li> <li>• Additional research</li> </ul>	<p><b>How Often?</b></p> <ul style="list-style-type: none"> <li>• Frequency</li> <li>• Timeline</li> </ul>	<p><b>What Evidence Will You Be Gathering Relative to the Desired Student Products and Behaviors?</b></p> <ul style="list-style-type: none"> <li>• Formative</li> <li>• Summative</li> </ul>
<p>1. Using a strong research-based curriculum is critical.</p> <p><i>A viable and guaranteed curriculum has the greatest impact on student achievement.</i></p> <p>~Marzano: <i>What Works in Schools</i></p> <p><i>A curriculum is more than a collection of activities; it must be coherent, focused on important mathematics, and well-articulated across the grades.</i></p> <p>~NCTM</p>	<p>Students will be actively engaged in the learning processes of math using <i>Everyday Math</i>.</p> <ul style="list-style-type: none"> <li>• Student discourse</li> <li>• Homework completion</li> <li>• Students analysis of errors</li> <li>• Self-monitoring progress</li> <li>• Self-reflection</li> </ul> <p>Students will be immersed in mathematical learning through every aspect and component of the <i>Everyday Math</i> curriculum.</p>	<p>All teachers will use all components of <i>Everyday Math</i> as their primary resource for math instruction.</p> <p>Teachers will meet in grade level and building teams to develop a shared vision and understanding of math instruction using <i>Everyday Math</i>. They will also review the curriculum, discuss pacing and challenges and will plan for upcoming units.</p>	<p>All teachers will continue to attend district level training for <i>Everyday Math</i>. They will deepen their understanding of the various components, recommended instructional strategies, organization of the program and pacing. The curriculum will be used exclusively throughout the school years.</p> <p>Monthly</p>	<p>Individual student performance and class-wide progress will be measured throughout the year using common grade level EDM unit assessments. Class data will be collected for grade level, building, and district analysis twice a year using the mid- year and end-of-year EDM assessments.</p> <p>Teachers will collaboratively analyze selected student work samples each trimester to determine classroom needs and individual students' math abilities.</p>

<u>Research Based Strategies</u>	<u>Products &amp; Behaviors</u>	<u>Implementation</u>	<u>Timeline</u>	<u>Evidence</u>
<p>2. Students need multiple and varied learning opportunities.</p> <p><i>Opportunities to learn have the strongest relationship to student achievement.</i></p> <p>~Marzano: <i>What Works In Schools</i></p> <ul style="list-style-type: none"> <li>~Grouws &amp; Cabella: <i>Improving Student Achievement in Mathematics</i></li> </ul>	<p>Students will be actively engaged in the EDM curriculum for 70-90 minutes daily. Half Day K will follow EDM standards.</p> <p>Students will demonstrate knowledge and application in math across the curriculum, and in places outside of classroom.</p> <ul style="list-style-type: none"> <li>Math connections in assignments for other curriculum areas</li> </ul> <p>Math connections in real world scenarios.</p>	<p>Teachers will schedule math instruction daily for a minimum of 70-90 minutes (not necessarily in a block). This will include a combination of the Everyday Math Components (Oral &amp; Slate, Math Boxes, Lesson, Differentiated Options, Open Response Minute Math, Calendar, etc).</p> <p>Connections to other content areas will deepen and extend mathematical understanding. For example:</p> <ul style="list-style-type: none"> <li>Math in PE –math relevant to fitness goals.</li> <li>Math in music – fractions and math problems using musical notes relevant to calculating beats per measure of music</li> <li>Math in library – books purchased</li> </ul>	<p>September '07 through June '10 school years.</p> <p>Staff training: ongoing monthly reflections and staff development training designed around staff input.</p> <p>Oct. '07 – June'08: training-with EMD consultant-</p> <p>Oct. '08 – June '09: EMD training with Elementary Math Coach and ActiveBoard training with Instructional Technology Specialist.</p>	<p>A sampling of classroom pacing will be collected twice over the course of the school year.</p> <p>Data gathered from each trimester EDM Teacher/Administrator checklist.</p>

with district money to support EDM.

- Math in Title I/LAP – math content will be explored within the Title I/LAP reading program when applicable.

Specialists and Title I/LAP teacher will be given a month-by-month calendar with grade level *Everday Math* unit overviews for easier integration of math.

<p>3. Differentiation is a philosophy that enables teachers to plan strategically in order to reach the needs of diverse learners in classrooms today. ~EDM: Gregory, 2003</p> <p><i>Everyday Math</i> intends to meet the needs of all learners-learners who need support in developing concepts, learners needing support in developing language proficiency, and learners ready to extend their mathematical knowledge and skills. ~EDM: Differentiation Handbook</p>	<p><b><u>Products &amp; Behaviors</u></b></p> <p>Students will work in a variety of groupings throughout the school year to learn from one another and explore each others' thinking. Students will have the many opportunities to model their thought processes and explain their thinking.</p> <p>Students will demonstrate ability to serve as resources for one another in a positive and supportive manner.</p> <p>All Students will demonstrate understanding of , and the ability to apply EDM concepts using appropriate vocabulary.</p> <p>Students will engage in hands on inquiry based math projects and games throughout the school year.</p> <p>Students will demonstrate ability to create the following:</p>	<p><b><u>Implementation</u></b></p> <p>Implementation of EDM math games and EDM Projects will allow teachers to incorporate a variety of grouping strategies to meet diverse needs of students:</p> <ul style="list-style-type: none"> <li>• Think-Pair-Share</li> <li>• Flexible groupings</li> <li>• Cooperative Learning groups</li> </ul> <p>Include all modalities in instruction:</p> <ul style="list-style-type: none"> <li>• Use of visual aids</li> <li>• Manipulatives</li> <li>• Math games</li> <li>• Online resources</li> <li>• Direct instruction</li> </ul> <p>Teachers will employ, when appropriate, small group instruction as well as one-on-one instruction using Differentiated Handbook materials and strategies.</p> <p>Identify students not meeting standard (based</p>	<p><b><u>Timeline</u></b></p> <p>Sept. '07-June '10</p> <p>Monthly staff meetings: EDM book study- Differentiation Handbook</p> <p>Implement Student Learning Plans</p>	<p><b><u>Evidence</u></b></p> <p>Informal Data collection on:</p> <ul style="list-style-type: none"> <li>• Multiple strategies and approaches modeled</li> <li>• Real world connections</li> <li>• Differentiated lessons put into practice</li> <li>• Whiteboard slate and/or oral assessments</li> <li>• One-on-One</li> <li>• Recognizing student achievement</li> <li>• End of Unit assessments</li> <li>• Mid Year assessment</li> <li>• End of year assessments</li> </ul> <p>Teachers will measure student performance on common grade level formative assessments administered at pre-determined windows of time.</p> <p>Recording the progress of all students via the EDM Online Assessment Management System.</p>
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- Concrete models
  - Visual models
  - Spatial and /or kinesthetic representations
- (as supported by EDM materials and components)

on SMART goal) and recommend additional practice/school based assistance.



<p>4. Fluency in mathematical literacy- being able to read mathematically, writing mathematically and communicate mathematically- is a fundamental component of mathematics.</p> <p>Mathematical text may require a more specialized type of reader in order to gain necessary information. ~Barton et. al.</p> <p>Writing is a powerful means to help students communicate their thinking and solidify their conceptual understanding. ~Pugalee et.al.</p>	<p>Students will communicate their mathematical understanding in multiple ways</p> <ul style="list-style-type: none"> <li>• Pictures</li> <li>• Words</li> <li>• Charts</li> <li>• Tables</li> <li>• Sentences</li> <li>• Equations and Numbers</li> </ul> <p>Students will use and articulate problem solving and thinking strategies throughout the school.</p> <p>Students will understand and employ different reading strategies to understand mathematics text.</p>	<p>Teachers will facilitate math communication as outlined in <i>Everyday Math</i>.</p> <p>Teachers will post mathematical vocabulary found in <i>Everyday Math</i> as needed in their classroom for immediate student access.</p> <p>Teachers will provide reading strategies for reading mathematical texts- i.e. use of key words in problem that indicate the operation required.</p>	<p>September 2007- June 2010</p>	<p>Teachers will gather data on students mathematical communication skills by using:</p> <ul style="list-style-type: none"> <li>• Informal <i>Everyday Math</i> assessments</li> <li>• Unit Progress Checks</li> <li>• Informal conversations with students</li> <li>• Homework and daily assignments</li> </ul> <p>Teachers will measure student performance on common EDM unit assessments, mid-year and end-of-year summative assessments.</p>
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