Liberty Elementary School

Improvement Goal:
All students will use problem solving skills to think critically and apply knowledge and reason to solve problems.

Expectation(s) for Student Learning:
• All students will think and reason effectively.
• All students will solve problems accurately, and efficiently.
• All students will communicate clearly using mathematical language and representations by demonstrating skills and knowledge.
• All students will use technology research tools to locate, evaluate, and collect information in order to process data, report results, and make decisions for solving problems.

Target Participants:
All students in Liberty Elementary School

Interventions:
Assessment/Differentiated Instruction for Conceptual Understanding
Reasoning and Critical Thinking To Solve Problems
All students will increase mathematical skills by using technology tools across the curriculum
RTI

Evaluation:
ISTEP
NWEA
Standards Based Report Card
Conferring
Checklists/Rubrics
Acuity
mClass

Timeframe for Implementation:
2012 – 2016

Liberty Elementary School

Target Area of Improvement: Problem Solving

ACTIONS	SCHEDULE	RESPONSIBILITIES	MONITORING	RESOURCES
Intervention: Assessment/Differentiated Instruction for Conceptual Understanding 1. All students will increase skills in mathematics as a result of teacher monitoring progress on academic standards to determine instructional needs. A. Classroom Assessments (1-5) B. NWEA will be administered every fall and spring to determine goal areas for each student. (1-2) C. ISTEP data will be analyzed to determine skill areas for instruction (3-5). D. Acuity (3-5) administered every quarter E. mClass (1-2) administered three times a year 2. All students will increase mathematical skills though differentiated instruction across the mathematics curriculum that emphasizes conceptual understanding. A. Students will know basic math facts (These help in acquisition and speed of performing math not in understanding math). (1-5) B. Students will understand units of measurements and apply appropriate techniques and formulas. (1-5) C. Students will understand and solve algebraic equations and understand patterns and relationships between numbers. (1-5) D. Student will construct and interpret graphs throughout the curriculum as part of data analysis, (1-5)	2012-2016	Teachers 1-5	Classroom Assessments ISTEP NWEA(1-2) Acuity (3-5) mClass(1-2)	-Classroom assessments -Manipulatives -Calculator -Software -Flash Cards -Classroom Texts -Time for data analysis, manipulatives, creating and interpreting graphs, tangrams and puzzles -Saxon Math Series -Everyday Math Series -Grade 1: Math Journals, -Grade 2: Daily Word Problems (Evan Moor pub.); Read It, Draw It, Solve It, (Dale Seymour pub.) Math-Worksheets.com Grade 3: Math-Worksheets.com -Grade 4: www.multiplication.com -Grade 5: Daily Math Warm Ups; Drops in the Bucket Review sheets: Teacher developed units on geometry and Measurement; Math Manipulative Cart; workbooks

Liberty Elementary School

ACTIONS	SCHEDULE	RESPONSIBILITIES	MONITORING	RESOURCES
Intervention: Reasoning and Critical Thinking To Solve Problems All Students will use reasoning and critical thinking to solve problems through applied mathematics across the curriculum that provides relevant, concrete and everyday problems. A. Students will build academic vocabulary B. Students will understand and choose the correct mathematical operation to solve problems across the curriculum (Example: Similarities and Difference/Graphic Organizers – Marzano) C. Students will use mental math/estimation to understand when an exact answer or an estimate is sufficient. D. Students will develop a set of problem solving strategies across the curriculum. Example: 1. READ-What is the question? 2. REREAD – What is the necessary information? 3. THINK Putting together = addition Taking apart=subtraction Do I need all the information? Is it a two-step problem? 4. SOLVE Write the equation. 5. CHECK – Recalculate 6. LABEL & COMPARE E. Students will construct and interpret graphs with data analysis. (2-5) F. Students will construct and interpret graphs along with data analysis (1-5)	2012-2016	Teachers 1-5	-Classroom Assessments -Rubrics -ISTEP -NWEA(1-2) -Acuity -mClass(1-2)	*Building Academic Vocabulary* by Robert Marzano -Manipulatives -Textbook

Liberty Elementary School

ACTIONS	SCHEDULE	RESPONSIBILITIES	MONITORING	RESOURCES
Intervention: Technology Tools All students will increase mathematical skills by using technology tools across the curriculum. A. Students will use calculators to calculate, analyze and interpret mathematical equations. (2-5) B. Students will utilize web –based math programs (2-5)	2002-2016	Teachers 1-5 RTI Team	-Classroom Assessments -Teacher Observation	- Calculators -Computers & Software -Internet -Tablets -IPADS -Document Cameras -Google Apps -Learn 360 -Vbrick -Khan Academy -everyday math online
Intervention: Response to Intervention Through the use of research based strategies, subgroup students with low performance will increase mathematical skills beyond regular classroom instruction with increased academic learning time. A. Ability (Readiness) Groups-Strategy Groups (1-5) B. English Learners(1-5)	2012-2016	Principals School Staff Central Office Administration & Technology Department	NWEA (1-2) Acuity (3-5) mClass (1-2)	
Intervention: Family/Community Involvement All students will increase mathematical skills through opportunities for family/community participation. A. Harmony Assignments/Grades/Disciplines/Attendance B. Family Night C. Website – Homework Help and Tips	2012-2016	Administrators Teachers 1-5		

Liberty Elementary School

ACTIONS	SCHEDULE	RESPONSIBILITIES	MONITORING	RESOURCES
Intervention: Professional Learning Communities All students will increase mathematical skills as a result of teacher participation in professional learning communities. A. Data Analysis –NWEA, ISTEP, Classroom Assessments, Acuity, mClass B. Professional Development – In-House Professional Development Calendar, Conferences; building-based grade level meetings C. Grade-level Meetings	2012-2016			-Late Start Wednesdays -Data Meetings