**Description of the Problem: This section will clearly identify a problem derived from school data. The supporting data will be clearly presented.**

In the SOL numbers, things don’t look so bad from 3rd grade to 5th grade. The total percentage of students passing (both pass proficient and pass advanced) rose from 68.7% to 80%. The 3rd grade percentages for actual math knowledge are misleading in that it includes 21 of 112 students (18.8%) that did not take the test. If numbers are recalculated to include those students that only took the test, the passing rate is 84.5% which is even higher than that of the 5th grade.

Another interesting fact between the two grades is that the pass proficient and pass advance numbers flip between 3rd grade and 5th. Pass Prof. (3rd-24 students 5th-55 students) Pass Adv. (3rd-53 students, 5th- 26 students). One explanation is that the previously large group of “did not attempt” students in 3rd grade (21 students) has been reduced to 2 students in 5th grade. There are also 11 less students overall in 5th grade than 3rd. Although the actual number of failing students in both grades are close, their percentages of the class are much different. In 3rd grade, 8% failed. In 5th grade, 17.8% failed.

Next, looking at the benchmarks and the school assessments, there are several students that stand appear in both tables as falling below 60% (I’m using this as the SOL failing cutoff number).

On the benchmark, the following students scored less than 60% on all tests.

24, 16\*, 2, 3, 22

The following students scored less than 60% on multiple tests

7, 1, 26, 10, 11 (plus the group mentioned previously)

\*note student #16 had no data for any of the school assessments.

On the school End of Year Math assessment, the following students scored less than 60%

3, 10, 22, 1, 6, 21, 28, 2, 24, 27

On the school Fall Math assessment, the following students scored less than 60%

3, 10, 22, 1, 2, 24, 27, 7, 11, 26, 20

On the school Winter Math assessment, the following students scored less than 60%

3, 10, 22, 1, 21, 2, 27, 7, 11, 4, 17, 20, 8, 13, 12

Those students highlighted in yellow and magenta total (7) have scored below the passing threshold on both the county benchmark and the school end of year assessment. They represent 7% of the failing SOL scores. These students need remediation. I also suggest including the rest of the students that failed multiple benchmarks as well as those that failed the end of year math assessment—those highlighted in green (7 additional students). With the addition of these 7, the group now represents 13.8% of the 17.8% that failed.

**Project Vision: This section will clearly articulate a vision for the project, specifying exactly what will be accomplished and why the solution if connected to the problem**.

The vision is to carve out a time for both students and a teacher(s) to work with the individual math skills and SOL strands in which the student is not meeting passing assessment. Those students may continue to fail if they don’t receive intervention on current math building block concepts. As the school already offers activity buses on Monday, Wednesday, and Thursday, an afterschool session could be arranged. It wouldn’t be known as tutoring, but something more fun like the “Cool Math Competition” named after one of the on line game sites. Those students that have been identified will be invited and encouraged to attend. If the initial invitation is not appealing enough, parents of the students will also be encouraged to have their child attend.

Once there, students will have a quick snack and receive their ticket. The ticket contains the particular website and particular game that they will be given to enter the competition. This will require a little pre-staging by the teacher to identify the skills or SOL strands in which the student is weak and match it to the appropriate site and game. While the students are “playing” the teacher will walk around and troubleshoot or answer questions. After about 30-40 minutes, everyone will finish their last game they are playing. Students will report their best scores. Simple prizes will be awarded. (An example is a dessert voucher at lunch). Then the teacher will de-brief with students for the last 10-15 minutes asking them what they learned and how they learned it. This not only gets students thinking about math skills in which they have previously been weak, but also about their own thinking as it pertains to math skills.

**Plan of Action: This section will present the steps that will be taken to implement the solution and what kinds of additional data will be used to judge the effectiveness of the project.**

Students will meet once a week in the computer lab (or any classroom with an adequate number of computers). The computer lab would most ideal since students could spread out and focus on their own learning game. The plan of action is to use web based educational learning skills software to pinpoint the areas each student is weak and use engaging, computer graphic games to reinforce skills and concepts. The group teacher will receive reports on which math skills the students have not mastered. The teacher will then match the skill to the appropriate web-based math game.

This will be a small group and closely monitored by a teacher to offer explanation, guidance, and encouragement. Sites that could be used are:

<http://www.ixl.com/awards/>

<http://www.coolmath.com/0-math-help-lessons.html>

<http://www.mathplayground.com/games.html>

<http://www.funbrain.com/brain/MathBrain/MathBrain.html>

<http://www.bbc.co.uk/skillswise/games/>

As part of the grant, the teacher would be compensated for the after school time. Other monies would go toward the small prizes and the snacks served at the beginning of the meeting. After a pre-determined number of weeks, (a nine weeks period would be appropriate), the math benchmark could be given again and students’ scores would be compared. If scores did not improve in a certain skill, further inquiry would be needed in the particular student’s situation. After the benchmark, the reward would be borrowing a video gaming platform and hooking it up to the Promethean Board and allowing everyone to play a group game (such as Mario Kart).

If this method achieves the desired results, the program could expand to include more of the students that are on the borderline of falling under the passing line. This may necessitate having two groups facilitated on different days by different teachers in order to keep the groups small enough for individual attention. Later, math teachers may choose to expand the model to their classes. They could do this every several weeks or perhaps use a few of their weekly computer visits to this goal. Again, it would take a little prep work, but the math teacher could assign each student a particular site and game. This would give extra practice to those who need it and offer higher learning skills for those able.