The purpose of professional development is to improve student learning. What specific changes will you make in your practice as a result of this learning opportunity?

Suggestions for future professional development topics and/or ideas to support your further learning on this topic or other topic.

Workshop Name: Lesson Planning for the New Alberta Math 7 Program
Workshop Code: 09-MA-073
# of Participants: 14
Speaker: Chris Zarski
Date: October 1, 2008

- Engage more game, experiment or hands on activities (x8)
- Use ideas for assessment (x2)
- Use foldables (x4)
- The differentiation learning (x2)
- Quizzes no more than 10%
- Finish up these lesson plans please

- Workshops for all chapters of new textbooks (x5)
- Continuing with assessment is also terrific
- Get lessons posted on website (x2)
- Math games

Workshop Name: Lesson Planning for the New Alberta Math 8 Program
Workshop Code: 09-MA-074
# of Participants: 7
Speaker: Chris Zarski
Date: October 2, 2008

- Try not to have long quizzes
- Use foldables (x4)
- Letting students “play” to learn material (x2)
- Give students more time to explore concepts on their own (x2)
- Adapt existing lesson plans to match my teaching style
- Use some of the ideas and techniques when I begin teaching

- Continue to bring teachers together as Chapter. lessons are completed
- Rest of MathLinks8 chapters (x3)
- Same for Math 9

Workshop Name: Patterns and Pre-Algebra Gr. 4 - 6
Workshop Code: 09-EM-042
# of Participants: 10
Speaker: MaryAnne Nissen
Date: October 15, 2008

- New text- this is most helpful to implement the program
- Implement ideas appropriate to my grade level
- Facilitate the learning of my students within the pattern and pre-algebra section of the program of studies
- Use manipulatives more often, to show equations (x4)
- Use visuals more often
- Use math journal more often
- Creating charts to go along with pattern chapter
- Ways to integrate math into other subject areas
- Integrate the various strands more
- Continue to provide “inservicing”
- Continue to work on patterns using more time to look at each strand

- Teaching more about strands like probability, measurement, problem solving
- Integrating outcomes, activities & assessment

Workshop Name: Mathématiques M – 9 Programmes d'études de l'Alberta
Workshop Code: 09-MA-153
# of Participants: 7
Speaker: Louis Corbeil
Date: October 20, 2008

- I will use specific materials (ex: manipulatives) to assist learning and outcomes; I will use different questions and emphasize and concentrate on strategies not answers
- Put Louis' ideas into practice in my classroom! Everyday math applications not just senseless drills for the sake of memorization of concepts
- This workshop has encouraged me to spend more time and thought in planning my math lessons to make them more engaging for the students
- Keep students thinking, not just finding the right answers
- More hands-on activities and games; develop communication (explain your strategy etc.)
- Use more "real life" applications in math; have more "communication" ex: kids indicating their own strategies, explaining links, etc.

- I found this session very useful and practical. I really appreciate the fact that I can take Louis' ideas and implement them directly into my classroom. Excellent!
- Resources; Internet searches; brainstorms
- Assessment practice – practical suggestions for varying assessment styles and tools
- More French Immersion sessions please (x2). Locally offered is helpful when travelling
- Continue with grade-specific workshops (or bigger group that can be divided into grade-specific pairings)

Workshop Name: Teaching for Understanding in Mathematics 7 – 9 Series Session #1: Fractions & Rates, Ratios & Percent
Workshop Code: 09-MA-075
# of Participants: 15
Speaker: Chris Zarski
Date: October 21, 2008

- More hands-on activities; more student discovery
- I will introduce / use foldables (x3)
- Foldables as review documents
- Using foldables as summative assessment; try math games as a final assessment
- Use paper-folding
- Use more manipulatives for math
- Hands-on, meaningful learning; providing students with multiple ways to learn
- I will use more "experimental" learning methods for my students
- I have received adapted things I can use; I have learned more than one way to show my students how to do things
- I need more PD like this – learned lots of ways to teach "more than one way" with students

- Another course offered on the beginning chapters (for those of us who missed them)
- Other Math 7 – 9 topics
- More chapter specific sessions like this (x2). I can not wait for the next one!
- Continuing to present workshops that provide tools for learning
- Continue on with the chapters in grade seven curriculum

Workshop Name: **Patterns and Pre-Algebra Grades K - 3**
Workshop Code: 09-EM-043
# of Participants: 23
Speaker: MaryAnne Nissen
Date: October 22, 2008

- Balance scale; dominoes activity
- I will now use the scale to show / practice "equal" (x2)
- I'll use the balance beam and a lot more patterning
- I will be more sequential in my delivery
- I will work hard at using manipulatives even more as I teach patterns. I heard a great variety of ways to teach patterning today – ways I haven't heard of or had forgotten (ex: chains activity, cups game, use of balance scale) and I look forward to trying these
- I will ensure that I use manipulatives on a much more regular basis! (x5)
- I will use more of a variety to teach patterns (charts, balances…)
- Use the suggested activities and resources presented in the workshop (x2); lots if excellent resources (ex: games)
- Incorporate many of the unique ideas – ex: various patterning strategies
- The different activities to use with all the manipulatives – so many different ways to make patterns (x2)
- Bigger variety of manipulatives used – more discussion
- Use more examples for each concept; try to get funding for more manipulatives; do lots of hands-on activities with students (x5)
- Vary resources that are available to teach patterning
- Use patterning as 5 minute "opener" discussions
- Being more aware of algebraic concepts and incorporating them into my daily classes
- Read more literature related to math concepts

- MaryAnne, thanks for being so well prepared!
- Thank you for a great day. Practical (x2), informative (x2) and fun ideas. I appreciated the handouts (x2) & CD! Excellent hands-on materials
- Spent too much time talking about upper grades instead of K – 3 (got sidetracked) – had to rush at the end
- Use colored booklet covers
- A lot of the in-service focused more for grades two and three
- Workshop specific to grade one (x2) as some activities presented (especially in the afternoon) were too difficult especially when teaching French Immersion
- Excellent hands-on sessions for Division I Math (x2) (especially with the implementation of the new curriculum). It is helpful when you can use what you learn the next day.
- A website where the PowerPoints and other materials could be available to all
- Games / activities / strategies when teaching addition and subtraction (x2)
- Differentiation in the new math curriculum
- Please increase the number of SMARTBoard sessions (x2)

Workshop Name: Math Worksheets Won't Grow Dendrites
Workshop Code: 09-MA-001
# of Participants: 54
Speaker: Marcia Tate
Date: October 23, 2008

- Twenty brain compatible strategies will be implemented in my classroom teaching (x9)
- I will definitely be able to incorporate into my lessons the strategies outlined and explained by Marcia (x6)
- I'll use the brain strategies more frequently (x4) – especially try those I haven't tried before
- More application of brain compatible strategies in my classroom (x2) to engage students in math and not just independent seat work
- I will incorporate and / or increase the use of the following strategies / activities in my classroom: music (x9); movement (x19); games (x4); role play (x3); humor (x2); graphic organizers; storytelling (x3); visuals
- Increase interactive opportunities in all core classes; increase cross-curricular projects (and stop feeling guilty about it!)
- Greet each student every day
- Incorporate a math word wall
- More and more positive affirmations – increase students' self esteem daily (x4)
- I will be more aware of how my students are learning. I will be aware of their eight minute attention span and I will try to make learning fun for both my students and me
- I intend to change my delivery and the processes students will experience in their search for mathematical learning
- Relate ideas to teachers
- Continue to explore problem solving scenarios to keep math relevant and meaningful (x4). Many ideas and inspirations presented!

- Marcia provided a plethora of knowledge, research and skills to back up the strategies
- Marcia really makes the movement of math come alive with energetic ideas that will make our students enjoy math more
- A follow-up to this session
- Opportunity to develop / swap projects
- This should have been a half day – the afternoon was repetitive
- I would love to attend another session with Dr. Marcia Tate (x5)
- More…more…more…practical ideas / activities / strategies that we can take and use the next day are always appreciated (x3)
- How students brains work and more strategies
- More on the math curriculum – using relevant, fun learning activities / strategies
- Power of Ten; Brain Gym
- Writing and spelling strategies
- Handicapped students – integration with movement and curriculum
- I'd like to see the Anne Davies session – Building an Assessment Plan repeated in the spring
- Specific training in fields of Special Education – ex: students with ADHD or ODD, etc…

Workshop Name: Coming to Know the Mathematics Children Know – Thinking About Classroom Assessment Practices in the New K, Grades 1 & 4
Workshop Code: 09-EM-072
# of Participants: 11
Speaker: Florence Glanfield
Date: October 28, 2008

- Ask the students to explain how they arrive at an answer in mathematics
- To go back and ask the questions that will allow my students to be able to demonstrate their knowledge
- I will be able to apply what I have learned to an actual activity (developed today) and be able to assess
- We developed an activity that I can take back to my classroom – see what works and then revamp it
- How I ask questions to assess in math
- I will share in the group here in professional conversation
- I will be designing lessons around questions I want answered
- Search out the many books Florence recommended

- I am looking forward to coming back together to discuss what we have all tried and to get further ideas for my math classes
- Questions for Math Journals to show understanding
- Examples of resources for assessment
- Assessment with Florence

Workshop Name: Teaching Through Problem Solving Grades 4 - 6
Workshop Code: 09-EM-044
# of Participants: 16
Speaker: MaryAnne Nissen
Date: October 29, 2008

- Use problem solving as a more “open ended” activity with many solutions to a problem (x2)
- Preparing students for problem solving (x2)
- Make context relevant to students
- Highlight previous knowledge (x2)
- Take examples to classroom (x2)
- More selective with which problems to use in class
- Use problem solving in groups (x2)
- Developing problems rather than questions they know
- Students share answers on chart paper
- Break down lessons so learning is more meaningful
- Use geoboards to teach fractions
- Teaching SLE’s through problem solving

- Grade 6 new mathematics curriculum
- Less theory and more hands-on activities (x2)
- How to differentiate in a math class
- Specific ideas for teaching concepts

Workshop Name: **Using Manipulatives Effectively in the New Math 7 & 8**
Workshop Code: 09-MA-214
# of Participants: **6**
Speaker: Enzo Timoteo
Date: November 3, 2008

- Use more manipulatives during my math instruction (x3)
- Use of hands-on activities in math

- Remind people to bring a memory stick to save the presentation on
- Save topic for other grades
- Could be a 2 or 3 day workshop
- Manipulatives broken down into strands

Workshop Name: **Teaching Through Problem Solving Grades 4 - 6**
Workshop Code: 09-EM-123
# of Participants: **10**
Speaker: Lori Weinberger & Joel Canete
Date: November 3, 2008

- More open-ended questions (x3)
- Use different problem solving strategies
- Be more open-minded
- Let students explain their thought-process
- Do problem solving more often
- More problem solving lessons and less focus on the text
- Examine my tasks and make them more rich
- How to implement new math next year
- Post problem solving strategies in classroom and encourage students to use them

- Session like this once a month
- Types of questions to ask
- How to combine grades (split classes) effectively
- More examples of traditional problems turned into open-ended problems (x2)
- Keep supporting the modules/strands to be implemented
- Session to work with other teachers to create questions
- More hands-on activities incorporating manipulatives

Workshop Name: **Teaching Math Through Problem Solving**
Workshop Code: **09-MA-055**
# of Participants: **13**
Speaker: Larry Buschman
Date: November 4 & 28, 2008

- Use ideas in class
- Use more open ended problems (x3)
- Mathematician's Chair (x2)
- Use cartoons as sources
- Use compare and share to encourage students talking about how they solve problems
- Develop and use more authentic problems
- Share the book lists and websites with teachers across the district
- Include ideas in workshops
- More math through problem solving
- Encourage "mathematically" talking before you write it
- Put students in the proper frame of mind for problem solving
- Encourage agree/disagree and why (x2)
- Begin a math journal with the solutions inside and questions dictated

- Larry was very knowledgeable

Workshop Name: Teaching Through Problem Solving Grades K - 3
Workshop Code: 09-EM-124
# of Participants: 20
Speaker: Lori Weinberger & Joel Canete
Date: November 5, 2008

- Use more open-ended questions (x6)
- Be supportive of all solutions not just the "best"
- Student led problem solving
- Use a hook to engage and excite
- Incorporate more literature (x6)
- Use context/real life problems (x4)
- Daily or weekly problem
- Re-evaluate the questions I ask in class

- Anything that provides more new, exciting ideas for math
- Support for teachers of weak students
- Different ways to assess students in math
- Workshop on manipulatives
- Assessing student work and using this info to generate report card marks (x4)
- Using technology to teach math objectives (x2)
- Discuss and evaluate new program
- Grade specific session with overview of strands and practical lessons (x2)

Session Name: Teaching Through Problem Solving Grade 7-9
Workshop Code: 09-MA-125
# of Participants: 14
Speaker: Joel Canete & Lori Weinberger
Date: November 6, 2008

- Increase use of problem solving in classroom (x5)
- Use real life examples that students relate to (x2)
- Have a weekly problem solving question (x2)
- Give more time for students to explore situations
- More open-ended tasks & reflection time (x5)
- Offer more differentiated learning strategies
- Have students play larger role in creating questions (x2)

- Another similar session in order to share what we have done in our classrooms
- One day for creating open-ended questions
- More French resources for problems and banks of problems (x2)

Workshop Name: **Developing Personal Strategies in Mathematics, Grades 4 - 6**
Workshop Code: 09-EM-060
# of Participants: 10
Speaker: Cindy Wilson
Date: November 13, 2008

- More mental math warm ups
- More student led strategies (x2)
- Math journals (x2)
- Math Word Wall (x2)
- More mental strategies and hands on activities to meet outcomes (x2)
- Use a variety of personal strategies and development with my students

- Smartboard Math ideas
- Workshop on new Grade 6 curriculum

Workshop Name: **Measurement, Grades K - 3**
Workshop Code: 09-EM-046
# of Participants: 19
Speaker: MaryAnne Nissen
Date: November 26, 2008

- Ready to use activities directly coordinated with the new math curriculum (x2)
- More hands-on activities (x8)
- Inquiry based activities
- Create math kits with a readily available set of outcomes
- New learning activities to use (x3)
- Do activities with students instead of as demonstration
- Not limit capacity to water, be more creative in activities
- Utilize material for measurement unit in January
- Be more open-ended when using non-standard units
- More direct questioning techniques
- More comfortable with new curriculum
- More use of manipulatives

- Assessment (x2)
- Other math topics
- Space and shape session (it was cancelled) (x2)
- Workshops are very helpful with new math curriculum
- Would prefer workshops for each grade
- “Math Manipulatives & Materials for Grade 1”
- Any grade 1 math session for new curriculum
- Continue with different math strands (SMART boards, FSL for non-French speaking teachers)
- All topics covered in Grade 1
- 3-D and 2-D shapes
- Problem solving

Session Name: Teaching to Big Ideas Grade 4-8
Workshop Code: 09-MA-012
# of Participants: 39
Speaker: Marian Small
Date: November 27, 2009

- Focus more on “big ideas” and less on teaching strategies (x3)
- Importance of asking the right question
- New examples were great
- Use this information to support teachers
- Use manipulatives more
- Allow students more time to show different ways to calculate
- Encourage teachers to focus on big ideas and not outcomes (x2)
- Communicate the “big idea” clearly to students at the beginning and end of each class
- Think more globally
- More group work with open/directed questions in problem solving (x2)
- Demonstrate multiple ways to solve a problem
- Teach concepts in a way that will engage the students while focusing on the most important concepts
- Turn my goals into big ideas
- Show students how to create a formula for all polygons
- Pass on neat math tricks to my students
- Be more open in my interpretation of students work/logic/explanation (x2)
- Help students look at the relationships between the new things they learn and the things they already know

- I would like to learn how to integrate all of my new learning to implement a great program
- Additional workshop with Dr. Small
- More shape and space strategies
- Grades 4-8 is too wide of a group range
- “Developing Personal Strategies in Mathematics” (x2)
- Bring teachers together to have the conversations needed to identify the big ideas in math and other subjects
- Using all of the resources and teaching methods to create one great math program
- Problem solving, how to develop better number sense in students
- Mental math strategies for Grades 4-6
- Another session on developing personal strategies Grades 4-6 (x2)
- Bring presenter back for division workshops (Gr 4-6, Gr 7-8)
- Linking of outcome to real situations
- How to make books more problem friendly

Session Name: **Junior High Math - Fractions**
Workshop Code: 09-MA-063
# of Participants: 8
Speaker: Susan Ludwig
Date: December 9, 2008

- Make more use of manipulatives in my fraction unit and be more reflective of my use of manipulatives (x5)
- I will be able to use representation and models with more confidence

- Cover every “major idea” in a workshop like this one

Workshop Name: **Developing Personal Strategies in Mathematics, Grades K - 3**
Workshop Code: 09-EM-047
# of Participants: 19
Speaker: MaryAnne Nissen
Date: December 10, 2008

- I will try to incorporate personal strategies within the boundaries of the program that I teach
- The teaching on my class well be more along the philosophy of the new curriculum.
- Analyzing student errors
- More discussion on different strategies
- Allow students more thinking time and less questioning (x4)
- I will ensure my math lessons are motivated to student needs
- I will leave behind the ancient algorithms that have been the focus of my teaching for a more child-centered, mental math approach

- It would be nice to see more K-1 activities
- Specific grade level workshops (x3)
- Journaling in math grade 1-3
- More work with actual problems to use in our classroom
- A problems resource to go with this course
- Continue the problem solving session (x2)

Session Name: **The Revised K - 9 Program of Studies for Math**
Workshop Code: 09-MA-064
# of Participants: 14
Speaker: Susan Ludwig
Date: January 14, 2009

- Incorporate manipulatives in my classroom x5
- Copy of material was helpful to show other teachers
- Prepare for grade 8 implementation
- More emphasis on personal strategies x5
- Visual/hands-on learning x2
- Feel more confident discussing the philosophical changes with my staff

- New math curriculum on the Smart Board
- Detailed General Outcome Strategies Workshops
- Workshops that pertains to specific grades
- A list of resources and how to access materials

Workshop Name: **Measurement, Grades 4 - 6**
Workshop Code: 09-EM-048
# of Participants: 9
Speaker: MaryAnne Nissen
Date: January 14, 2009

- Time for exploration. Reinforcement/discussion of math concepts. Use of manipulatives
- A number of changes that will use experience for students
- Incorporate more problem solving activities related to concept
- Very appropriate for immediate application into the classroom
- Lots of hands-on ideas and handouts that we can use right away

- Other mathematics strands (Program of Studies)
- Language Arts/Writing assessment Gr. 4-6. 6+1 Writing Traits Gr.4-6

Workshop Name: **Developing Personal Strategies in Mathematics, Grades K - 3**
Workshop Code: 09-EM-049
# of Participants: 19

Speaker: MaryAnne Nissen
Date: January 21, 2009

- I have specific activities I can use in my classroom where I know students will be using personal strategies
- I will try to encourage students to create personal strategies & communicate their ideas
- Use "doubles" strategy to aid in problem solving
- Allowing more personal strategies (x2)
- More student directed
- Give more time for students to share their strategies (x2)
- I have more knowledge related to many different strategies
- To continue helping my class to use math language & to communicate their strategies & to share. To try to be more flexible in my teaching of algorithms
- More exploration and group and peer learning. Verbalizing strategies. Explaining reasoning
- Now that I am more aware of specific strategies, I will be much more aware of how to guide the students (and the parents) in their thinking
- Don't force algorithms

- I want to know more about how to keep a math learning log
- More time to actually play the games so we understand the ins and outs
- Anything related to new math curriculum, re: changes
- It would be nice to see more PD offered for science and L.A. (reading specifically)
- I would like to have even more specific ideas & examples for teaching personal strategies for grade 1 (x3)
- Grade 1 ideas – chance to gather & share ideas we each use in the classroom to support the program of studies
- More learning tasks to support the curriculum. More ideas to teach the strategies
- Too much analyzing student samples. Didn't learn too much about helping students develop strategies. Liked end of day when we got to work with grade level

Workshop Name: **Problem Solving: Inquiry and Problem-based Learning**
Workshop Code: 09-MA-202
# of Participants: 50
Speaker: Trevor Brown
Date: January 23, 2009

- Try to incorporate more rich learning activities and questions at the appropriate level (x2)
- Loved the GEO board. Loved the problems used. Will definitely use in classroom
- Incorporate a number of the introduced activities in my classes. Discover other similar types of activities on my own
- Using more concrete tools and asking the question: "What if?"
- More "fun breaks" for students
- Strive to get students to reach a higher level of thinking & understanding
- Incorporate more H.O.T.S into my classroom
- Math is beautiful! Get students to be energized for math
- I will implement more rich questions & let them investigate (x4)
- I will continue to try to implement questions that help foster the WOW experience
- I will use the fundamental ideas in my classroom
- More time for investigation. (x2) Encourage students to prove their work
- Dig deeper when teaching a concept
- Deeper questioning in Math (x2)
- Try to incorporate more "rich tasks" in my lessons
- Incorporating more problem solving/rich open ended questions in class. (x2) Less rote practice
- Confirm that I need to keep using problems
- I will look for more opportunities to investigate
- Try more activities. Enrichment lessons – to focus student learning
- Less routine questions, more concept questions. Have students arrive at formulas on their own by doing activities

- Starting to use more rich problems to develop student ownership of learning. I will try to have more fun in the classroom with the beautiful things about math
- Redesign my lesson plans. I will use the activities suggested as unit opener. I hope to stimulate some students to think
- Work from answer backwards
- Inspire students to think outside the box and explore mathematics. Offer different and new strategies to solve problems

- Hands on with manipulatives in math. Ways to introduce "labs" in math (x2)
- Need to explore ways of creating more investigation and exploration in classes, workshops to stay current
- More speakers like Trevor Brown
- Specific higher level thinking activities for each specific unit and grade level
- New Math 8/9 curriculum in-services on any topic
- We need to dialogue about how to make this part of real lessons
- More of the same. (x3) To many of us, looking at math this way is new. I could use another full day to play!
- This was incredibly useful; easy to implement
- I want more problems like these. There were tons of good examples
- Use of a computer to see/visit sites discussed at session
- I would "very!!" much enjoy the opportunity to see Trevor again so he could share more of his deep thinking math ideas. Particularly if they were organized to fit into specific areas of curriculum. For example: "When starting linear relations in math 10 pure, you should try this activity…"
- Assessment (authentic) in junior high math. Using SMART Boards in junior high math
- More information on use of technology in support of the new mathematics initiatives
- I would like to see a PD on science lab development or fun labs to do with 7-9
- Same topic for elementary teachers

Workshop Name: **Developing Personal Strategies in Mathematics, Gr. 4 - 6**
Workshop Code: 09-EM-065
# of Participants: 24
Speaker: Cindy Wilson
Date: January 27, 2009

- I think I have started to reframe math according to the new curriculum philosophy (x2).
- I will allow for more time for discussion.
- Use a visual number line show percentages, fractions, and decimals. Half and double strategy for multiplication.
- Beginning with problems and letting students solve using their own problems (x5).
- I will use some of the personal strategies presented (x3). They were awesome and user-friendly.
- A lot of great mental math/personal strategies (x3).
- I will teach algorithms (as a strategy) last.

- More of the same – focus on the "big changes"
- Assessment strategies for a new approach to math
- Different manipulatives that could be used to apply personal strategies
- Elaborate games/ hands-on activities (x3)
- How to focus on students with math learning disabilities
- More grade specific sessions
- Problem solving sessions
- Assessment in math (x2)

Workshop Name: **Teaching Through Problem Solving Grades K - 3**
Workshop Code: 09-EM-051
# of Participants: 24
Speaker: MaryAnne Nissen

Date: February 11, 2009

- New stories, problems and ideas to use (x5)
- Use "rich problems" to develop more quality in my problem solving teaching (x2)
- Use literature based activities (x2)
- Use problem solving to engage my students in new concepts (x2)
- Use the pocket and napping house lesson
- Allow students time to think first
- Providing students more opportunities to come up with their own strategies
- Talk less and listen more

- More hands-on problems
- Math through literature (x2)
- Sessions for individual grade levels (x2)
- More brainstorming for activities
- Workshops that give teacher materials to cover the concepts in a grade
- Program and discussing assessment strategies
- More math sessions for Division 1 (x2)
- Please offer the personal strategies session again

Session Name: **Junior High Math: Algebra**
Workshop Code: 09-MA-066
# of Participants: 16
Speaker: Susan Ludwig
Date: February 12, 2009

- Use the strategies/activities that we learned in this session (x4)
- Continue/expand use of manipulatives (x4). More "open-ended" tasks to further experiment/discovery
- Work more slowly building up to symbolic algebra
- I have had a good experience and feel more comfortable using manipulatives
- Increased hands-on application

- Smartboard applications (x2)
- Fractions
- More help integrating new J.H. program
- Multiple day workshop

Workshop Name: **The Revised K-9 Alberta Program of Studies for Math: Making Changes**
Workshop Code: 09-EM-201
# of Participants: 19
Speaker: Lori Weinberger & Joel Canete
Date: February 4, 2009

- Better use of manipulatives (x5)
- More exploratory risk taking
- I will not question myself when it comes to re-teaching. I will just include more of a variety of technique
- More group work with problem solving. Writing down different strategies (x2)
- I will try to incorporate some of the strategies in class (x5)
- I will be able to understand the new outcomes and apply them in my class
- I will be much more aware of self-discovery in my classroom

- More training on the new curriculum and manipulatives (x6)
- Unit preparation
- Give more examples of things to do in the curriculum. Create a blackline master booklet for teachers
- Grade specific (x2)

Workshop Name: **Measurement, Grades 4 - 6**
Workshop Code: 09-EM-239
# of Participants: 13

Speaker: Lori Weinberger & Joel Canete
Date: February 12, 2009

- Will use all
- Implement; the various activities
- I will take the hands on activities from this workshop and use them in place of the Math Makes Sense text book because it was great to see how the activities connect to the curriculum. It's great to know how the hands on activities meet the outcomes just as well as the text
- I will employ more activity based lesson ideas – the activities presented here were all very useful
- More opportunity to explore math before moving to a worksheet.
- I have a toolbox to take to my class. A deeper understanding of measurement. I will apply more open-ended activities to my class
- More hands on allow time for students to teach/discover things on their own.
- Continue to try to have students explore and come up with their own personal strategies
- Try the different strategies and examples/activities in my classroom.
- I have great ideas to use in the class – activities that meet many outcomes and are open ended. To know I can do activities outside of the math program
- Allowing students more time to explore their own ideas even if they are not correct at first
- Try more strategies shown in workshop
- I must continue a diligent effort in using the manipulatives more often and allowing the students to explore and share

- I hope these math PD workshops continue to be offered because they are extremely helpful and motivating!
- More on strands – particularly Stats and Problems and Number Sense
- A day full of activities on how to use manipulatives. Also, if you do not have all the manipulatives how to make inexpensive "kits" of manipulatives for students
- Other units
- More workshops! I hope we can have the 2D/3D shapes one
- Would be nice to have one on every topic/unit prior to teaching the unit
- These are great workshops and teachers benefit from them. Please continue
- Continue offering workshops in relation to the Math Makes Sense program