What does, "Making Mathematical Connections" mean? How does it fit into our Saskatchewan Mathematics curriculum?

These are questions that I hope to answer in this short article. Please visit the support wiki that I created for your added support.

http://saskmathstandards.wikispaces.com/

A while back when the new K-1-4-7 curriculums were introduced, the division gave every teacher a copy of "Reflections on Research in School Mathematics" by Florence Glanfield. It provides a summary of the changes in mathematics.

"Students must encounter process in mathematics program in order to achieve the goals of the mathematics education-namely, to develop thinking skills. Processes need to be integrated into student learning," page 22 "Reflections on Research in School Mathematics" by Florence Glanfield

"Student’s understanding of mathematics is a measure of the quality and quantity of connections they make between new ideas and ideas they already have." page 24 "Reflections on Research in School Mathematics" by Florence Glanfield

There are three different types of connections important in the learning of mathematics:
1. Connecting ideas in mathematics
2. Connections between symbols and procedures in mathematics
3. Connections between math and the real world

When teachers provide opportunities for students to make connections that are meaningful to them (from their own ideas), understanding of these mathematical concepts will be much deeper. You can do this in your classroom by supporting your students in making connections among topics that you are teaching in the classroom. Connect mathematical ideas from one lesson to the next, or relate your math lesson to real world ideas that they are familiar with.

The NCTM process standards (problem solving, reasoning and proof, communications, connections and representation) are reflected in the different provincial curricula

Note: The NCTM has also content standards (number and operations, patterns functions and algebra, geometry and special sense, measurement, data analysis statistics and probability

Sask. 7 Processes Standards- communicating, making connections, mental math and estimating, problem solving, reasoning, and visualizing along with the use of technology

Take a look at the NCTM rubric (or the Exemplar rubric, they are one in the same). What do you notice along the top?

Problem Solving, Reasoning and Proof, Communications, Connections and Representations

When we evaluate curricula outcomes these processes are important in the student achievement of the various outcomes.

### Workshops and Resources

I have been working on a new blog that will "house" all of my lessons and resources.

It is a slow process, but I am excited to be able to share what I am doing with other teachers.

Included in the grade K-4 resources, there is a tab at the top that says webinars. Click on the tab and it will take you to previous workshop Wednesday materials and any new workshops that I provide during the year.

On the main page there are also links to wikis that I like or may have been involved in creating.

1. Getting Organized in the Math Classroom
2. Planning a Math Night
3. The Power of Ten Frames and Making Ten
4. Increasing Communication Skills in Mathematics
5. Tools for Classroom Assessment

http://blogs.gssd.ca/smuir/

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The Relationship Between Representation and Mathematical Connections

I have had many teachers ask me how they can increase student achievement in mathematical connections. Remember that connections is not something isolated. Making mathematical connections comes from linking ideas and problems from day to day. Providing opportunities for student discovery between different mathematical representations that have the same meaning.

Imagine if you will, a ten frame that has 7 dots and a number sentence 7+3=10. Have engaging conversations that connect the representation of the ten-frame to the number sentence. “Creating a learning environment in which students are encouraged to make connections among different representations has been a central feature of mathematics reform for at least the past decade” Teaching Children Mathematics-Aug. 2010

What sort of discussions could you have with these three numbers? 3 7 10

How are these numbers related?

How many different ways can you represent these numbers?

Does this make you think of anything in your life?

Is there a connection between 7+3=10 and 10-3=7?

“Engage students in discussions and interactions with representations to enhance their knowledge of the relationship among multiple representations and promote representational competence” pg.46 Teaching Children Mathematics Aug 2010

Take photos of your lessons and use them the next day to have discussions, journal writing and make connections to new learning.

I see... I think... This reminds me of...

Technology

Math Mentors (Group 3) just participated in a Math-Tech Boot Camp on November 8th.

Visit the wiki and experience it for yourself:
http://mathtechcamp.wikispaces.com/

3 Ways to Share Today:
1. At the top of each wiki page there is a Discussion Tab ... you can post comments or questions
2. Post Sticky Notes on our Wiki Wiki page
3. Join the conversation on the Math Coaching Tool
4. Go back to your school and share... share... share!

What do we want you to do today?
We want you to be ready to learn and then share what you’ve learned with others.

Visit the wiki and experience it for yourself:
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