

WHAT MIGHT YOU EXPECT TO SEE IN A MATHEMATICS CLASS?

Classroom Climate

well-established routines

high expectations

positive attitudes

problem-solving "spirit"

a community of learners

students motivated on a task

friendly, relaxing non-threatening

Groupings

- independent activities
- whole-class instruction
- teacher-directed groups
- self-directed groups
- learning groups with another class
- small co-operative groups
- peer partners
- centre activities

Physical Environment

- students' math work on display
- interactive math bulletin boards where students are challenged to solve a problem or ask their own
- models, concrete materials that are used freely by students
- computers and calculators that students use frequently
- math displays in school hallways

Going Beyond the Classroom

- field trips to math in the real world (nature, places of work, construction sites, etc.)
- resource people invited into the classroom to talk about how they use math skills on the job

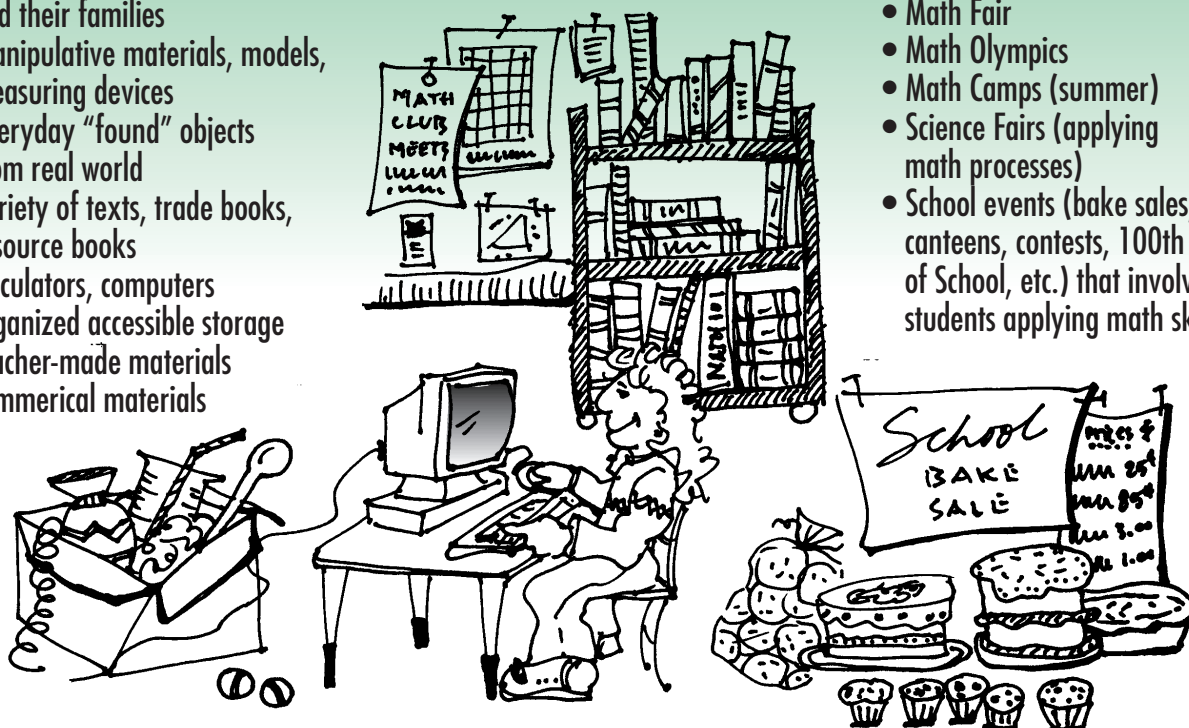
Learning Materials

- games, puzzles
- materials collected by kids and their families
- manipulative materials, models, measuring devices
- everyday "found" objects from real world
- variety of texts, trade books, resource books
- calculators, computers
- organized accessible storage
- teacher-made materials
- commercial materials

TECHNOLOGY

Special Events

- Family Math Nights
- Math Club
- Math Fair
- Math Olympics
- Math Camps (summer)
- Science Fairs (applying math processes)
- School events (bake sales, canteens, contests, 100th Day of School, etc.) that involve students applying math skills



Many times during parent-teacher interviews,
parents say things like:

- I never was much good at math myself, so I won't be surprised if my child doesn't do well either.
- I hated math when I was a kid.
- Once I got into high school, I couldn't understand math anymore. So I dropped it as soon as I could.
- I always found mathematics a very difficult subject, and I dreaded it.

HOW CAN PARENTS AND TEACHERS HELP CHILDREN DEVELOP A **POSITIVE ATTITUDE** TOWARDS MATHEMATICS?

I can do it.

Be positive and encouraging;
show you believe they can succeed.

Be enthusiastic.

Be an enthusiastic problem
solver yourself.

Be willing to try.

Help children see that they are
successful if they just make
progress toward a solution.

Be willing

to stick with it.

Reward perseverance; set
a good example yourself.



Be confident.

Encourage them to trust their own
abilities; don't solve the problem for them.

**Don't be afraid to make
mistakes.**

Help them see that mistakes are an
opportunity for further learning.

Be patient.

Compliment a child for taking time
to think through a problem.

**Find satisfaction in solving
a problem.**

Compliment a child for good
mathematics thinking.

MATH IS EVERYWHERE

You can help your child see the value of math as a way of understanding the world around us. You can help him or her to see that "math is everywhere!" You can provide experiences for your child to apply skills learned at school to real-life situations at home.

A sample of activities is included here to give you an idea of some of the possibilities. By extending their math learning from the classroom into the real world, children will come to appreciate math as meaningful and important in our world.



music

- learn to play an instrument, note rhythm patterns



newspapers and magazines

- do surveys, check computations in media (sports pages, ads, stock market) and how per cent is used in advertising



TV and radio

- estimate hours of TV watched last week, last month, last year



cooking

- figure time cooking, adjust recipe to yield a certain number, measure ingredients (fractions), oven temperature



books

- read books that have mathematical content (pattern in story, counting, etc.)



travel

- use maps, figure speeds, estimate distances, how many kilometres per litre, estimate time needed to get from A to B, duration of trip, estimate arrival & departure times



money

- go banking, calculate sales, make a budget, calculate allowance, figure the cost of one video game if three cost \$1.00 (ratio)



construction

- look at scale drawings, use construction toy sets, work together on a small building project or repair job

MATH IS EVERYWHERE



home decorating

- do estimating/measuring around the home (perimeter, area, angles), estimate/calculate how much material, estimate/calculate costs of projects



sewing

- estimate/measure material, calculate how much material would be needed for a project, estimate/calculate costs



shopping

- figure discounts, 3 kg for \$1.99 (ratio), sales tax (per cent), estimate items in package and then count them, estimate cost of groceries for week



sports

- figure rate of speed, win/loss percentages, games behind, estimate/measure lengths, heights, distances, understand and compute batting averages



weather

- figure hours of daylight, temperatures, rainfall, averages



time

- calendar talk, close eyes for estimated length of time, one-minute challenges (kitchen timer), estimate how many (?????) you could do in a minute



games

- play cribbage, card games, puzzles, logic games, board games



collections and hobbies

- look at junk collections, sort, sequence, compare, extend/create patterns, estimate number, estimate measurement (buttons, shells, rocks, stamps, cards, etc.)

It makes a great difference to the success of students when teachers clearly communicate to them and their parents what needs to be learned and what their expectations are.

This Parent Report is a first step in spelling out for parents what the goals for math education are in the new Manitoba curriculum frameworks. Throughout the school year, parents and teachers need to keep in touch. There should be regular school-home communication and homework assignments that encourage “family math.” There should be many special events throughout the year that will allow you to see what’s going on at school. Talk to educators at your child’s school about joining a math class!

WHY ??? CHANGE THE MATHEMATICS CURRICULUM

- Mathematics is an important language in the 21st century.
- Mathematics gives students an opportunity to use technology, which is another important tool of the 21st century.
- The workplace is changing.
- Workers need to solve problems in a variety of ways and work together co-operatively.

Mathematics is the study of relationships, the recognition of patterns and the building of structures.

The new mathematics curriculum frameworks

- Offer students a broad view of mathematics.
- Encourage them to see the part math plays in their lives.
- Present different courses for different purposes in Senior 2 - 4, such as Pre-Calculus Mathematics, Applied Mathematics and Consumer Mathematics.
- Offer Accounting Principles as a Senior 3 mathematics credit.
- Offer Accounting Systems as a Senior 4 mathematics credit.