Communicating Mathematically – Karen Greaux, SD75

Goals of the BC Ministry of Education Mathematics IRP 2007
Source: BC Ministry of Education Mathematics IRP 2007

The Mathematics K-7 Curriculum is meant to start students toward achieving the main goals of mathematics education:

- using mathematics confidently to solve problems
- using mathematics to better understand the world around us
- communicating and reasoning mathematically
- appreciating and valuing mathematics
- making connections between mathematics and its applications
- committing themselves to lifelong learning
- becoming mathematically literate and using mathematics to participate in, and contribute to, society

Students who have met these goals will ….

- gain understanding and appreciation of the contributions of mathematics as a science, philosophy and art
- be able to use mathematics to make and justify decisions about the world around us
- exhibit a positive attitude toward mathematics engage and persevere in mathematical tasks and projects
- contribute to mathematical discussions
- take risks in performing mathematical tasks
- exhibit curiosity

Mathematical Processes
Source: BC Ministry of Education Mathematics K to 7 IRP 2007

Communication	Students need opportunities to read about, represent, view, write about, listen to, and discuss mathematical ideas.
Connections	Mathematical ideas connected to each other or to real-world phenomena allow students can begin to view mathematics as useful, relevant, and integrated.
Mental Mathematics and Estimation	Mental math is a combination of cognitive strategies that enhance flexible thinking and number sense.
Problem Solving	Problem-solving based activties must ask students to determine a way to get from what is known to what is sought. If students have already been given ways to solve the problem, it is not a problem, but practice.
Reasoning	Mathematical reasoning helps students think logically and make sense of mathematics. High-order questions challenge students to think and develop a sense of wonder about mathematics.
Technology	Technology contributes to the learning of a wide range of mathematical outcomes and enables students to explore and create patterns, examine relationships, test conjunctures and solve problems.
Visualization	Thinking in pictures. Visual images and visual reasoning are important components of number, spatial, and measurement sense. Number visualization occurs when students create mental representation of numbers.

Types of Journals
Source: www.geocites.com/kaferico/writemat.htm

Affective or Attitudinal (How do you feel?)

- My best kept secret about math is …
- If math could be a colour (shape, sound) it would be … because ….
- I want to become better at math so that I ….
- People who are good at math ….

Mathematical content (What is it about?)

- How would you describe a …
- What patterns do you notice in …
- How do you use … in your life?
- Explain how …

Process (Explain how!)

- Find something that you learned today that is similar to something you already knew. Write about these similarities.
- You know several ways to … Which method is you favourite? Why?
- The key idea of the lesson today was …
- Write possible test questions for this unit.

Journal criteria we used …

1. 3-4 sentences (please use capitals and periods)
2. Use math words
3. Draw a picture

Grade 3 pattern outcomes
Source: BC Ministry of Education Mathematics IRP 2007

B1 Demonstrate an understanding of increasing patters by

- describing
- extending
- comparing
- creating patterns using manipulatives, diagrams, sounds, and actions (numbers to 1000)

[C, CN, PS, R, V]

B2 Demonstrate an understanding of decreasing patterns by

- describing
- extending
- comparing
- creating patterns using manipulatives, diagrams, sounds, and actions (numbers to 1000)

[C, CN, PS, R, V]

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