

System Needs - Elementary Mathematics

**Assessment Data
Mathematics**

**Student
Engagement in
Mathematics**

**Support Professional
Development - Content
KU for Teaching/Learning
Mathematics**

**Family Path
Home Connection**

**Learning for All
ELL
Intervention**

**Improvement
Planning
Admin Dashboard**

Testimonials

- NDSB - System leaders, Admin, Teachers, Parents and KIDS!
- NCTM Past President - [Skip Fennel](#)
- Mathematics Teaching and Learning Author - [Cathy Fosnot](#)
- HDSB Program Staff - aligns with our work with teachers and kids

Our Process

- discussions with other boards: Addressing the Achievement Gaps in mathematics and professional learning models/directions
- examination of delivery models to develop content knowledge for teaching/learning mathematics
- visit to DSBN classroom to see DreamBox “in action”
 - piloted 2011-2012
 - purchased licenses 2012-2013
 - expanding to more schools 2013-2014
 - system wide training Fosnot and [Contexts for Learning Resources](#)
- follow up discussions with DSBN and HDSB Program staff - transfer to teacher practice
- alignment with Professional Learning (Ministry) directions
 - [Creating the Conditions for Learning Mathematics](#) - Fosnot references
 - [Doug Clements: Learning Trajectories](#)
- communication with Administrators - Admin Program Newsletter
- RFI for similar products
- IT review - HDSB team
- Pilot applications and training - volunteer schools and Learning Centre
- Research component for pilot and implementation
- communication strategy for 2013-2014 and PD alignment

[DreamBox - Addition Using the Open Number Line](#)

Addition Using the Open Number Line

[Play this 2nd grade math lesson](#)

The open number line is a powerful tool that helps students visualize making jumps forward and backward on a number line and use a variety of strategies for both addition and subtraction. These strategies include "Making Jumps of 10" (e.g. $79+33 = 79+10+10+10+3$) and "Using Landmark Numbers" (e.g. $79+33 = 79+1+20+10+2$). Students learn flexible thinking and efficient, accurate problem solving. You can also view the



Strategies for Teachers: Primary Division

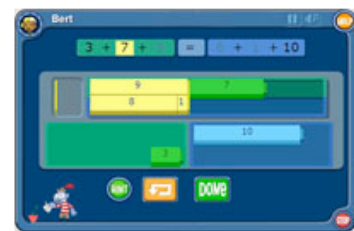
PRIMARY DIVISION: MATHEMATICS (continued)	
Observations	Strategies for Improvement
<p>Number Sense and Numeration</p> <p>Scorers of the open-response question requiring students to add two-digit numbers to make piles of 10 noted that many students were able to total the numbers but were less successful determining the number of 10s.</p>	<p>Continue to use a variety of manipulatives and concrete materials when teaching the concepts of place value. Provide students opportunities to use place value when problem solving.</p> <p>Continue to promote mental math. Give opportunities for students to be exposed to a variety of mental math strategies.</p>

[Dream Box - Building Equal Expressions with Snap Blocks](#)

Building Equal Expressions with Snap Blocks™

[Play this 2nd grade math lesson](#)

Snap Blocks lessons let students build and evaluate expressions with multiple addends (like $3+4+6 = 1+6+6$), to build understanding of the equal sign. We increase the difficulty by increasing the number of addends on each side of the equation, using larger addends, and more. This series ends with quick true/false, equal/not equal, and less than/equal to/more than lessons, to build fluency and efficiency. You can also view the [Snap Blocks™ tutorial](#).



<p>Patterning and Algebra</p> <p>In 2012, the general population performed best on the questions from this strand.</p> <p>Students were successful on the questions requiring them to complete and extend number patterns, both growing and shrinking.</p> <p>Students continue to have difficulty determining missing numbers in equations.</p> <p>Scorers of the open-response question requiring students to use a number pattern and a calendar to solve a problem noted that some students skip-counted by 1s or 2s instead of 3s, and some students' explanations were incomplete.</p>	<p>Have students extend number patterns using a variety of starting points and pattern rules. Continue to provide various manipulatives for students to use to display their patterns.</p> <p>Reinforce the appropriate use of the equal sign, to signify a relationship and not a requirement to perform an operation.</p>
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