



A One Night Session for Schools

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Family Math Canada – A plan for schools

Introduction

The session can begin in the gym or library where all families gather to open (and close) the evening.

Welcome to Family Math Night

This evening is a step in lifelong math learning for your families. Working together in a relaxed and enjoyable way, we will help you make connections to real life that are important to math understanding and development.

Math does not have to be mystifying or frightening. Tonight you will participate in some activities that develop math skills that are directly related to the Ontario Mathematics Curriculum. And we are sure you will all have some **fun** doing it.

Parents, while working on the activities we would like you to:

- Ask your children to tell you about what they are doing. Don't tell them the solutions.
- Ask "why" they did or said what they did.
- Listen and build on what your child already knows
- Recognize that math takes practice. Your child won't be perfect and that's OK.

And students, we ask you to tell you parents what you are doing and why.

By talking together about mathematical thinking you will all understand the math better.

And by the end of the evening you will all begin to see that math is everywhere.

Activities

1. Show the Video "Math Walks" as an example of one way for families to engage in mathematics during daily events.
2. Read the Book "One is A Snail Ten is a Crab" (Sayre & Sayre) .
 - Encourage prediction, e.g. "How many? How do you know? What might have 5 legs, 7 legs,"
 - As children count the legs be sure to stress the idea of "counting on" (a spider has 8 legs and one more makes 9 . Rather than counting 1, 2, 3, 4, 5, 6, 7, 8, .. and one more is 9)

3. Give instructions for the evening sessions. (Make a chart , slide)
 - Room numbers and session titles
 - Possible grade levels for each room
 - ½ hour time limit to allow participation in only 3 sessions.
 - Reconvene in this place for conclusion.

4. Adapt some or all of the following into your concluding gathering as best fits your community.
 - An evaluation form for the evening.
 - A book and/or list of books that lead to mathematics.
 - A Math Walk developed to fit your community.
 - A small container to be used as an estimating jar.
 - A school-wide (or grade wide) commitment to weekly estimation done in both the home and school.

Declaration of Estimation

On Monday we will estimate.

On Friday we will count.

Remind parents that research shows **students do better at school when their parents are involved in their education**. This evening is just the **beginning** of the families' positive participation – along with the school – in their students' mathematics education.

Activities by Grade Level

To be held in Different Locations

Introduction Activity for each location	Age/Grade appropriate	Activity	Count (Use numberline and ten frame)	Where's the Math (Have a chart with all math strands in each location)
<p>Location 1</p> <p>Estimating Jar with Teddy – shaped snacks Estimate the number of teddy-shaped snacks. Post-it note on numberline will show answer. (See Activity Book for full details)</p>	<p>K-3</p>	<p>Teddy Patterning Model activity with paper bears. Families take their package of teddy grams; make a pattern; read their pattern to parents and/or leader; make another pattern. Repeat. (See Activity Book for full details)</p>	<p>Count teddy snacks using number line and ten frames. (See Activity Book for full details)</p>	<p>On a “Where’s the Math Chart” Mark these strands:</p> <ul style="list-style-type: none"> • Number and Numeration • Patterning <p>Post a written Explanation of Patterning (See Message to Parents below)</p>
<p>Location 2</p> <p>Estimate the amount of feathers in the jar. Post-it note on numberline will show answer. (See Activity Book for full details)</p>	<p>K-3</p>	<p>Ten in the Bed Model patterning of people and bed cover . Model falling out of bed (people hidden behind – practice number facts of ten (See Activity Book for full details)</p>	<p>Count feathers using number line and ten frames (See Activity Book for full details)</p>	<p>On a “Where’s the Math Chart” Mark these strands:</p> <ul style="list-style-type: none"> • Number and Numeration • Patterning

Introduction Activity for each location	Age/Grade appropriate	Activity	Count (Use numberline and ten frame)	Where's the Math (Have a chart with all math strands in each location)
<p>Location 3</p> <p>Estimate the number of rocks in the jar. Post-it note on numberline will show answer. (See Activity Book for full details)</p>	<p>K - 3</p>	<p>Turtle Model making geometric shapes by cutting squares and circles Make their turtles. Talk about the shapes - how many triangles, squares etc. - how many more? Is their a pattern? (See Activity Book for full details)</p>	<p>Count rocks using number line and ten frames (See Activity Book for full details)</p>	<p>On a "Where's the Math Chart" Mark these strands:</p> <ul style="list-style-type: none"> • Geometry • Number and Numeration • Patterning

<p>Location 4</p> <p>Estimate the number of paperclips in the jar. Post-it note on numberline will show answer. (See Activity Book for full details)</p>	<p>1 - 4</p>	<p>Paper Airplanes Model folding of paper. "Predict, discover, discuss" the landing distances. (See Activity Book for full details)</p>	<p>Count paperclips using number line and ten frames (See Activity Book for full details)</p>	<p>On a "Where's the Math Chart" Mark these strands:</p> <ul style="list-style-type: none"> • Geometry • Data Management and Probability • Measurement
<p>Location 5</p> <p>Estimate the number of bingo chips in the jar. Post-it note on numberline will show answer. (See Activity Book for full details)</p>	<p>3 - 6</p>	<p>Crossing the River Explain the game but allow families to discover the best solutions for themselves. (See Activity Book for full details)</p>	<p>Count bingo chips using number line and ten frames (See Activity Book for full details)</p>	<p>On a "Where's the Math Chart" Mark these strands:</p> <ul style="list-style-type: none"> • Number and Numeration • Data Management and Probability
<p>Location 6</p> <p>Estimate the number of pieces of "Doublemint" Gum in the jar. Post-it note on numberline will show answer. (See Activity Book for full details)</p>	<p>2 - 6</p>	<p>Double the Fun Demonstate the game using large cards. Families play the game. (See Activity Book for full details)</p>	<p>Count the pieces of gum using number line and ten frames (See Activity Book for full details)</p>	<p>On a "Where's the Math Chart" Mark this strands:</p> <ul style="list-style-type: none"> • Number and Numeration

<p>Location 7</p> <p>Estimate the number of Shreddies in the jar. Post-it note on numberline will show answer. (See Activity Book for full details)</p>	<p>3-6</p>	<p>Cut A Card Distribute materials and lead all participants in doing the activity. (See Activity Book for full details)</p>	<p>Count Shreddies using number line and ten frames (See Activity Book for full details)</p>	<p>On a “Where’s the Math Chart” Mark this strand:</p> <ul style="list-style-type: none"> • Geometry
<p>Location 8</p> <p>Estimate the number of measuring tapes in the jar. Post-it note on numberline will show answer. (See Activity Book for full details)</p>	<p>all</p>	<p>A Pair of Hands Model tracing hands and using them to measure height. Model predict discover discuss. (See Activity Book for full details)</p>	<p>Count measuring tapes using number line and ten frames (See Activity Book for full details)</p>	<p>On a “Where’s the Math Chart” Mark this strand:</p> <ul style="list-style-type: none"> • Measurement

Message to Parents

<p>Estimation</p>	<p>Estimating develops a sense of number. This skill is developed through practice and reflection. The more we estimate and the more we think about why we estimate, the better we become. This activity also develops risk-taking, problem solving and the idea that there is a range of possible answers when estimating. Finding a reasonable answer demonstrates an understanding of quantity.</p>
<p>Teddy Grams</p>	<p>A pattern is a sequence that is repeated so that future items in the sequence can be predicted.</p>

Ten in the Bed	Children will see the grouping of ten as an anchor or “friendly” number which is a basic understanding of place value and our base ten system. Reminding children of their 10 fingers and 10 toes will make further links to this key number in place value. Note that children will see the grouping of ten in the 10 frame used in the estimation count.
Turtle	It is good when children recognize and name shapes in their world, but it is better when they can describe those shapes.
Paper Airplanes	The simple framework of “Predict Discover Discuss” reinforces estimation skills, active involvement and opportunities for discussion of mathematical thinking. Children are encouraged to use previous knowledge – a problem solving skill- to improve their airplane flights.
Crossing the River	Exploring probability and learning for themselves which numbers are most likely are better ways of understanding than being “told” the rules.
Double the Fun	Memorization is important but drill doesn’t have to be deadly.
Cut A Card	Investigation and manipulation allows children to construct their own meaning of shapes, relationships and spatial awareness This activity is a beginning for transformational geometry.
A Pair of Hands	Non Standard Measure Using lots of different everyday items is a good way for kids to begin measuring with a purpose. Real world stuff makes more sense to young children than centimeters and meters. It is a necessary, personal beginning for understanding measurement.