

# Any math in baseball?

## What questions might you ask?

Scoreboard showing the top 9th inning of a game between Texas (TEX) and Toronto (TOR). The scoreboard displays runs, hits, and errors (R, H, E) for both teams across the 9 innings.

	1	2	3	4	5	6	7	8	9	R	H	E
TEX	1	0	1	0	0	0	1	0		3	8	3
TOR	0	0	1	0	0	1	4	0		6	7	1

TOP 9TH

THIS POSTSEASON

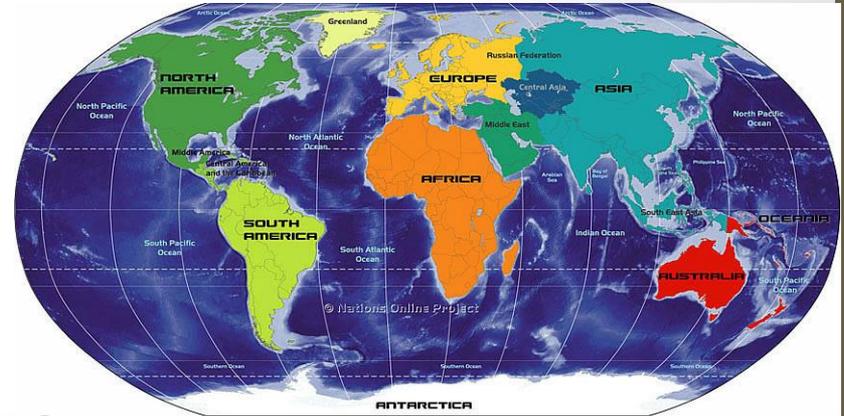
**30 DIONER NAVARRO**  
C .250 (1 FOR 4) 0 HR 0 RBI .750 OPS

REG. SEASON: .246 AVG, 5 HR, 20 RBI

DIEKMAN 1 PITCH

TEX	3	8
TOR	6	1-0

GAM ALDS



# Looking for Mathematics in our World (Elementary)

Come and explore ways to support your child in seeing that mathematics is all around them. We'll work together on finding ways for you to continue to question and wonder about mathematics with your child on a daily basis

# Goals for this session

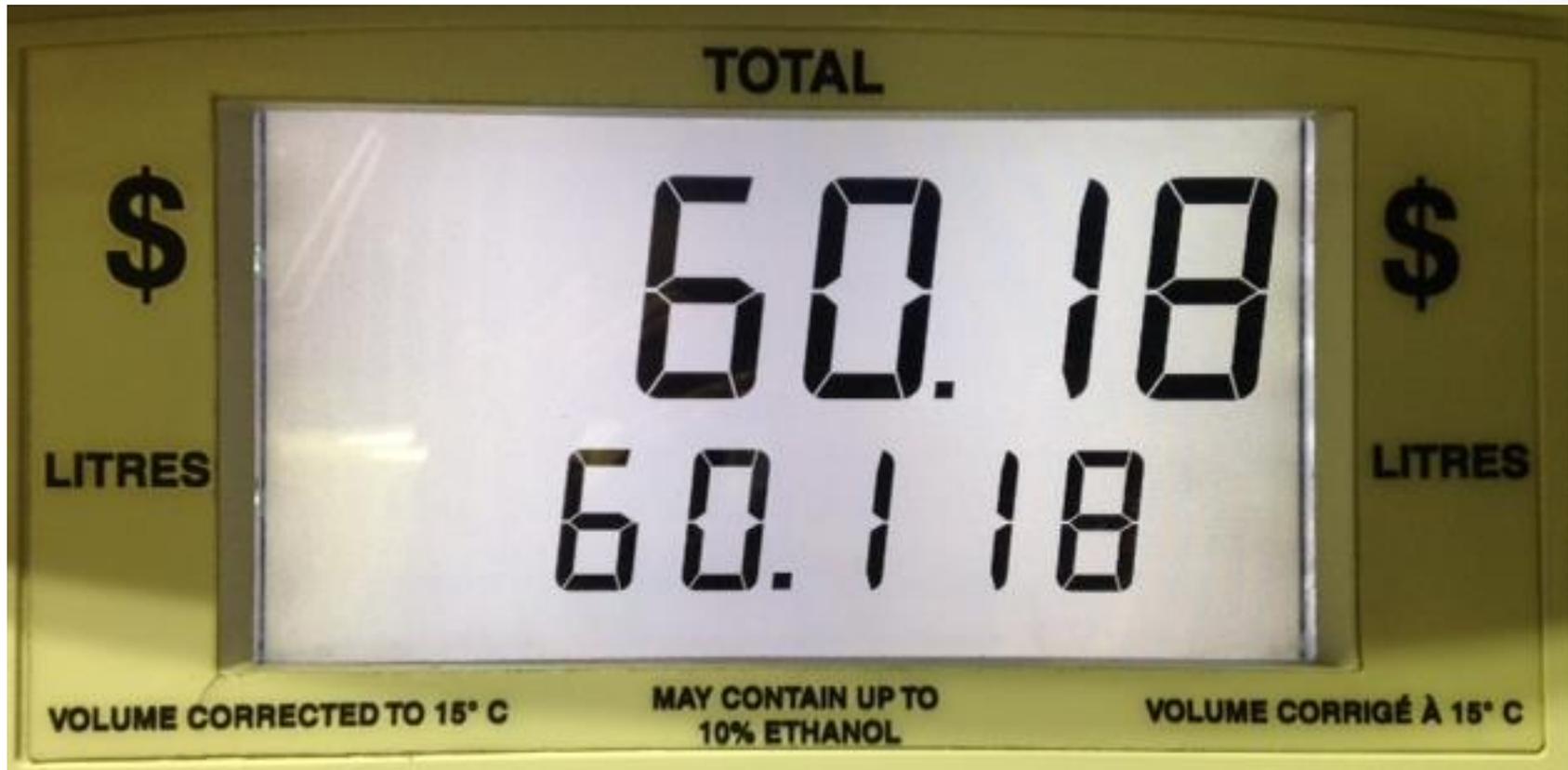
- We hope to provide you with:
  - Experiences looking for and finding mathematics in your world
  - Strategies and ideas about how to interact with your child on developing their math thinking
  - A bit of the WHY behind the math curriculum
- Questions – please ask as we go along



# How do we support our children with language?

- Read to them before bed
  - Write a letter to Gramma
  - Ask them to tell us about the movie they watched
  - Sing and play rhyming games in the car
  - Look for letters and words when we're out and about
  - And lots more...
- 
- What do we do for math? Why do I find it so much harder to find regular, natural support for mathematics?

# What are you wondering?



# Listen to and explore your child's wonderings

- Daddy, how many squares are there on your shirt?



# Ontario Curriculum

## Mathematical Process Expectations

These actions describe how children actively learn and apply mathematical understanding

- Problem Solving
  - Reasoning & Proving
  - Reflecting
  - Selecting Tools & Computational Strategies
  - Connecting
  - Representing
  - Communicating
- 
- How can we support our children in being mathematicians at home?
  - Ask them 'How do you know?'

'Productive struggle' involves children in sense making and develops mathematical reasoning

# What is mathematics?

- The abstract science which investigates deductively the conclusions implicit in the elementary conceptions of spatial and numerical relations, and which includes as its main divisions geometry, arithmetic, and algebra. [Oxford English Dictionary](#), 1933
- The study of the measurement, properties, and relationships of quantities and sets, using numbers and symbols. [American Heritage Dictionary](#), 2000
- The science of structure, order, and relation that has evolved from elemental practices of counting, measuring, and describing the shapes of objects. <sup>[11]</sup> [Encyclopaedia Britannica](#)
- Did the math you learn in school align with these definitions?

# What is math?

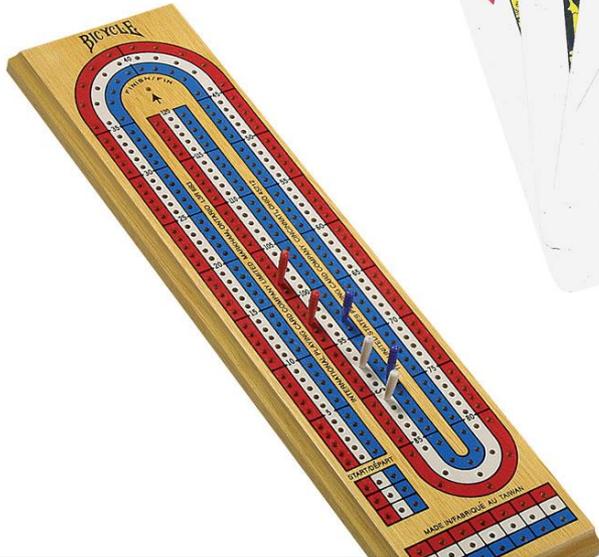
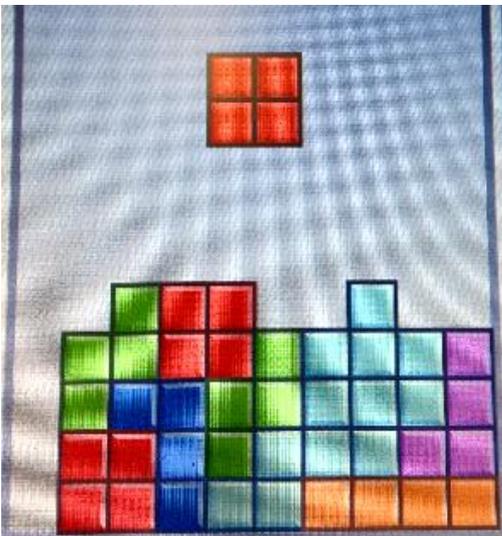
- What math is here?
- Number?
- Measurement?
- Geometry?
- Patterning?
- Data Management?
- Probability?
  
- Spatial Reasoning
- Proportional Reasoning
- Algebraic Reasoning



# Math in the Car? Shopping?

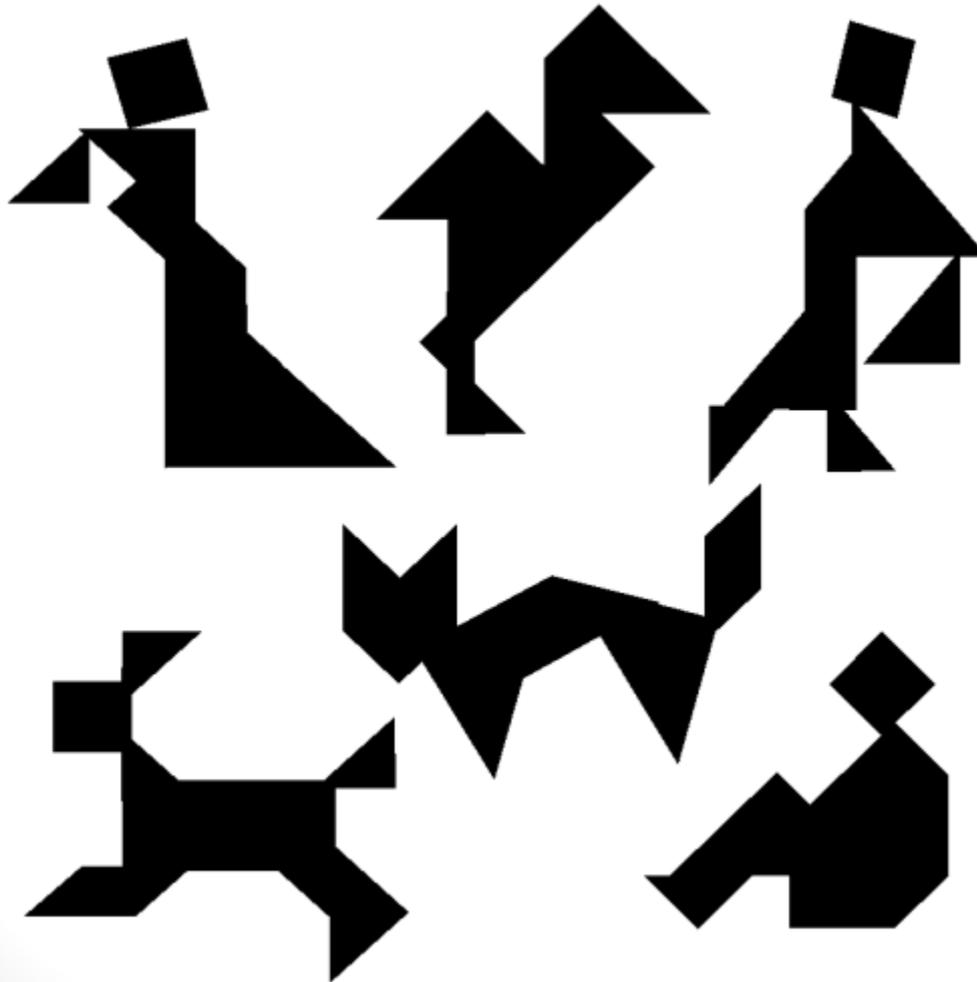


# Math in Games?



# Let's Play

- Use tangrams to make one of these designs.



# DreamBox.com

- DSBN is committed to having our students use DreamBox (K-Gr. 6). We are using it as a supplement to our classroom instruction.
- Please encourage your child to use DreamBox at home or at the library.
- Watch their thinking.
- We are suggesting 1 hour per week, minimum of 15 minutes at a time (in class/home total)
- Let's look at a few [examples](#).



# Questions to help with homework

- “What do you need to figure out? What is the problem about?”
- What words are confusing? What words are familiar?
- Did you solve problems like this one in class today?
- What have you tried so far?
- What else can you try?
- Can you make a drawing to help you think about the problem?
- Does your answer make sense?
- Is there more than one answer?
- What words or pictures do you use in your class?”

Teaching Student Centered Mathematics, Van de Walle

# More Technology Options

- A website/blog
- [www.talkingmathwithyourkids.com](http://www.talkingmathwithyourkids.com)
- Bedtime Math App
- “...found that even small amounts of use with children by parents who are anxious about math resulted in substantial gains in school math achievement.”
- “...make talking about math something that kids and parents do together. No pressure; no deadlines; no “ways to do it””

#tmwyk

# Math Questions from Bedtime

## Math App

- *Wee ones:* What shape are the eyes on this jack-o-lantern?
- *Little kids:* If you carve triangles for the 2 eyes and the nose, how many straight lines have you cut in total? *Bonus:* What if you make that nose into a hexagon instead?
- *Big kids:* If your pumpkin has 11 ridges and your friend's pumpkin has twice as many, how many does your friend's pumpkin have? *Bonus:* If each ridge lines up with a row of 20 seeds, but every 9th ridge starting with the 9th lines up with 100 seeds, how many seeds does the ridgier pumpkin have?



# I Spy



- I spy with my little eye, something that...
  - Has the number five on it
  - There are three of in the room
  - There are more than one hundred of in the room
  - There are less than twenty of in the room
  - Is round
  - Has a cylinder shape
  - Has a length more than 1 m or more than the length of your foot
  - Has a mass less than 1 kg or less than a package of butter
  - Has an area greater than 1 m<sup>2</sup> or more than a placemat
  - Has a perimeter less than 20 cm or 20 paper clips
  - Tessellates
  - Any others?

# Math in nature? Art? I spy...



# Reflect

- How did the activities we have done support your understanding of the experiences your child may need to:
  - “Develop mathematical understanding
  - Learn important facts, skills and procedures
  - Develop the ability to apply the processes of mathematics
  - Acquire a positive attitude towards mathematics”

Ontario Mathematics Curriculum, 2005



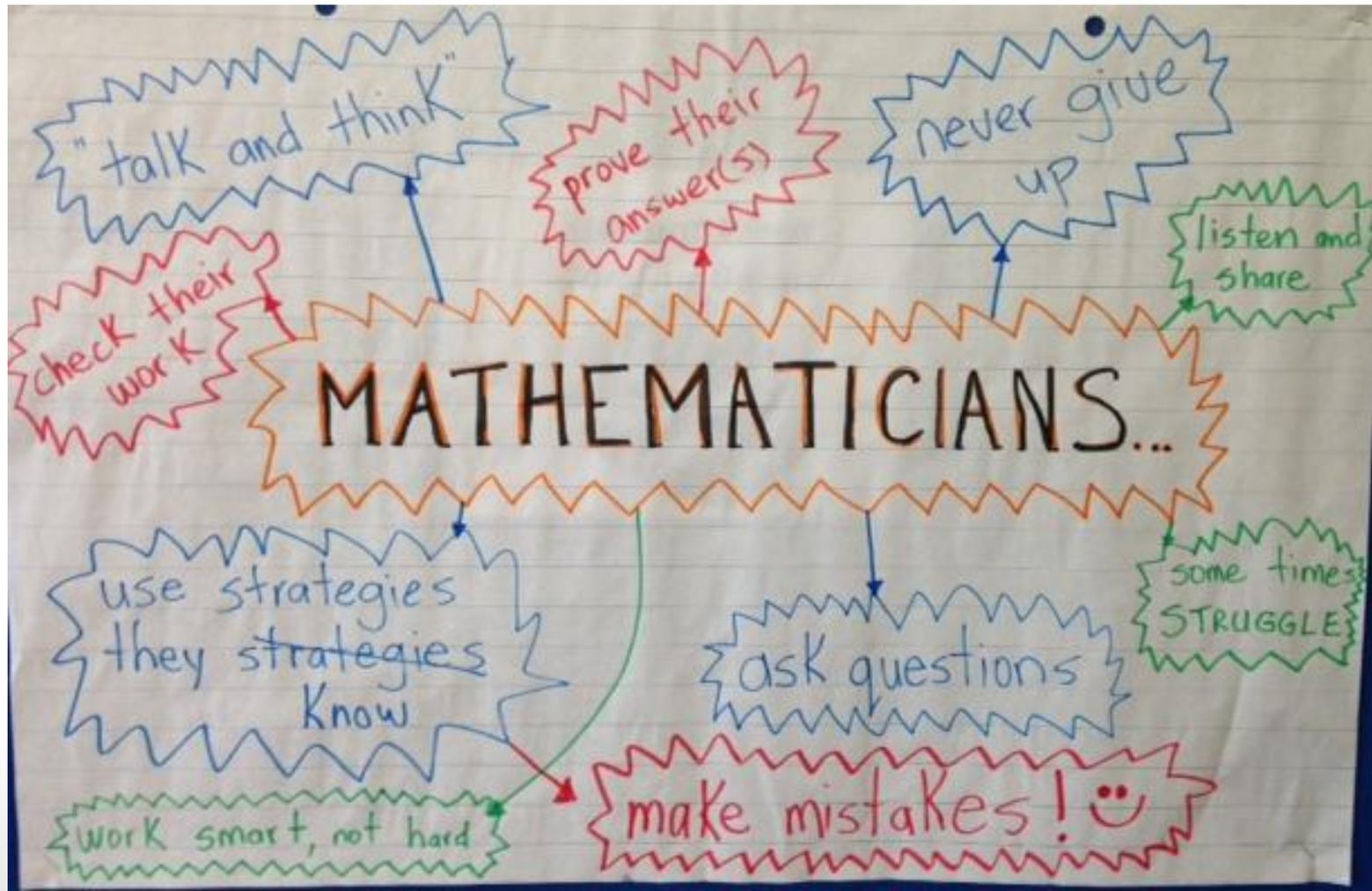
# DSBN Mathematics Goal

To develop life-long mathematicians who have the knowledge, thinking skills, confidence and perseverance to solve problems in their current and future lives.



I used to think  
mathematicians  
were super smart people  
who knew everything but  
now I think they are  
everyone who does math.

In classrooms, we are supporting the mathematicians (as well as their mathematics)



# How to Support Your Child...

## Growth Mindset

- Carol Dweck & Jo Boaler
- [www.youcubed.org](http://www.youcubed.org) for more info and ideas

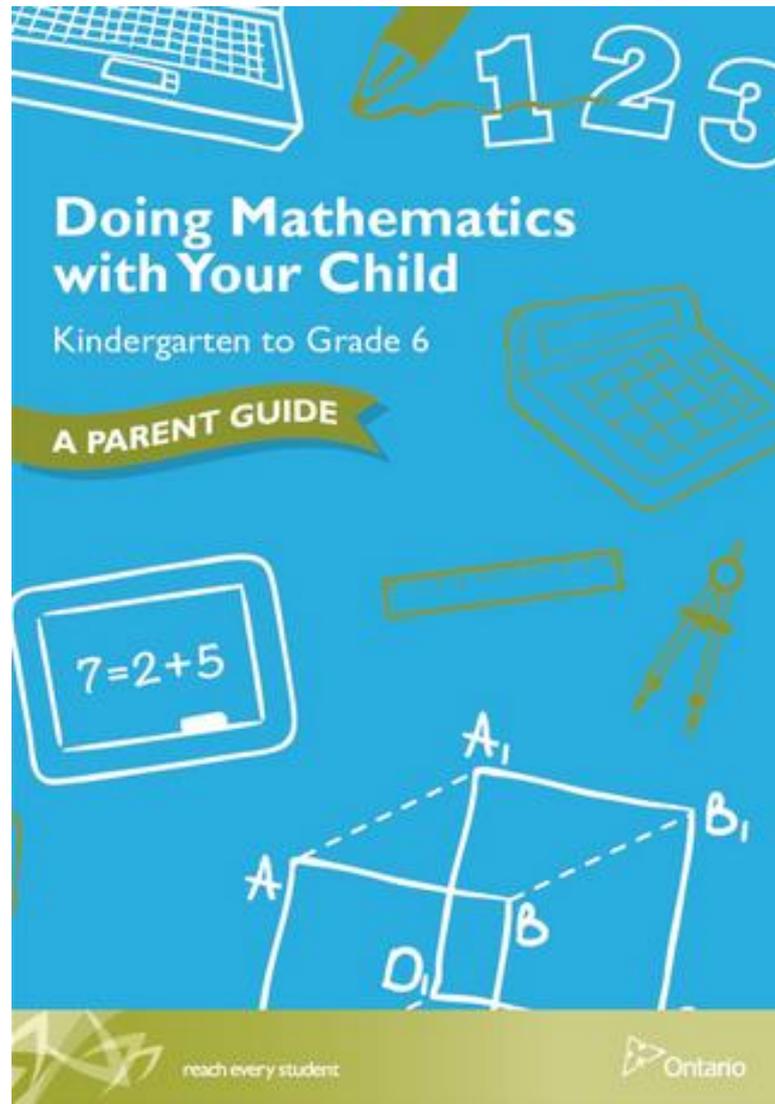


# Fixed vs. Growth Mindset

## Feedback

Fixed Mindset	Growth Mindset
Wow! You did that so quickly!	I prefer to work on questions that challenge me rather than questions I find easy.
Look, you didn't make any mistakes! You are smart at this!	It's okay to make mistakes in math. When you realize you made a mistake a new brain connection is made.
You're so brilliant! You got an A without even studying!	Math ability is like a muscle you strengthen with effort and practice.
Some students have more potential than others to be more successful.	Trying a math problem you don't know how to solve is a great way to learn new math skills.
Some students are naturally more gifted at math than others.	Everyone learns in a different way. Let's keep trying to find the way that works for you.

# Ontario Ministry of Education – Parent Guide & other handouts



# Now what...

- What did you learn about mathematics?
- What did you learn about supporting your child in developing their passion for mathematics?
- What is something that you are going to do with your child?

