



Mathematics and the Home Connection

“Children’s and parent’s understanding in mathematics improves when they are able to make connections between school mathematics and real world mathematics”

(Adams, Waters, Chapple, & Onslow, 2002, p. ii)

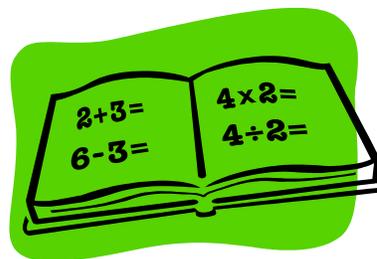
Math Around Home

Working with children to help them discover mathematics in their daily lives is an excellent way for families to enjoy mathematics together. Here are some ideas to help support concepts taught in the classroom

- Encourage explorative math play at home (build, measure and compare different structures, hopscotch, catch, and hide-and-see)
- Explore opportunities for your child to make connections with mathematics in daily routines (estimating distance, measuring time)
- Bake or cook together and follow directions for favourite recipes (make a third, fourth, half, or double a simple recipe)
- Read numbers in newspapers, in telephone books, on addressed envelopes, on bills, on household thermostats, on measuring tapes, and so forth
- Have your child estimate and then count items in the house
- Sort a variety of items at home
- Keep a family yearly calendar with upcoming events. Count the number of days, weeks, months, and year until an event
- Play a variety of math board games
- Talk about math experiences in daily events (e.g., measuring laundry detergent, packing a suitcase, creating a grocery list, setting an alarm clock)
- Help your child think of different kinds of data that people or organizations collect and why they collect data (e.g., data about consumer preferences from telephone opinion surveys, numbers of hits at a website)
- Invite your child to save his or her change in a piggy bank. Identify coins and bills, and estimate and count money
- Create and describe a pattern together
- When you are waiting in line to pay for your groceries, ask your child to estimate how much the bill will be.
- Discuss examples of perimeter and area in every day life.

Math Homework

While students are engaged in mathematics homework activities, parents should ask probing questions rather than provide answers. Some examples are:



- What do you know?
- What do you need to know?
- What do you need to find out?
- What can you try to do to solve this problem?
- How can you show your work?
- Do you think that your plan is working?
- Is there anything else that you need to do?
- Do you think that your answers make sense?
- Is there any other way to solve this problem?

Problem Solving

Here are some ideas for when your child is working on problem solving at home.

Can your child:

- Explain the problem
- Decide on a plan for solving the problem
- Try other ways if something doesn't work
- Stick to the task
- Explain his or her thinking while working



Helpful Websites

www.mathk8.nelson.com

www.coolmath.com

www.figurethis.org/index.html

www.funbrain.com

www.eworkshop.on.ca

www.nlvm.usu.edu/en/nav/vlibrary.html

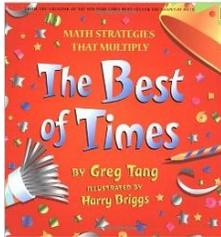
www.nctm.org/families

www.edugains.ca/newsite/math2/index.html

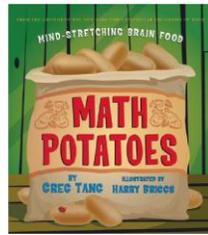
Problem Solving Strategies

Strategy	When to Use It	How to Use it
Draw a diagram	<ul style="list-style-type: none"> • The problem gives information that can be shown in a diagram • The question asks for a solution that can be found, using a diagram 	<ol style="list-style-type: none"> 1. Find the information needed for the diagram. 2. Draw and label the diagram with information from the problem. 3. Use the diagram to answer the question.
Find a Pattern	<ul style="list-style-type: none"> • The problem gives information that follows a pattern • The question asks for a solution related to the problem 	<ol style="list-style-type: none"> 1. Find the information that follows a pattern. 2. Find the rule for the pattern. 3. Use the rule to solve the problem.
Act it Out	<ul style="list-style-type: none"> • The problem gives information that can be acted out • The question asks for a solution that can be found by acting something out 	<ol style="list-style-type: none"> 1. Find information that can be acted out. 2. Act out the information as many ways as possible. 3. Choose the way that answers the question.
Make a Table	<ul style="list-style-type: none"> • The problem gives more than one set of data • The question asks for the data to be continued 	<ol style="list-style-type: none"> 1. List the sets of data. 2. Make a table of the data. Circle the information needed to answer the question.
Write an Equation	<ul style="list-style-type: none"> • The problem tells about a situation • The question asks for an unknown amount 	<ol style="list-style-type: none"> 1. Write what the situation is. 2. Write what the unknown is. 3. Choose a letter for the unknown. 4. Write an equation, and solve for the unknown.
Guess and Check	<ul style="list-style-type: none"> • The problem gives a total amount • The question asks for the kind and number of items in the total 	<ol style="list-style-type: none"> 1. Find the total amount. 2. Find the different items that make up the total. 3. Make a reasonable guess about the kind and number of items; then check it. Continue guessing and checking until the guess is correct.

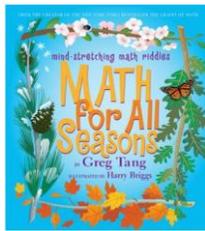
Math and Literature



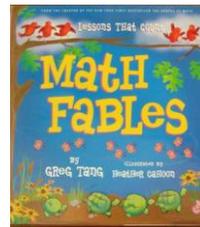
The Best of Times
By Greg Tang
(Multiplication
Tables)



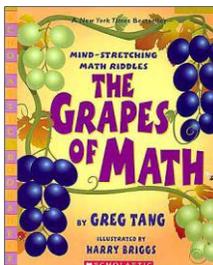
Math Potatoes
By Greg Tang
(Addition and
Subtraction Problem
Solving)



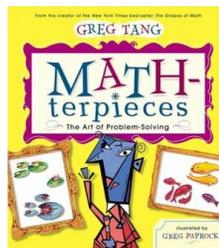
Math For All
Seasons
By Greg Tang
(Problem Solving
using patterning
and grouping)



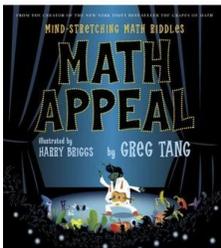
Math Fables
By Greg Tang
(Counting and
Grouping)



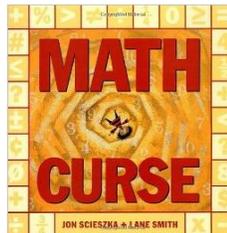
The Grapes of Math
By Greg Tang
(Multiplication
Problem Solving)



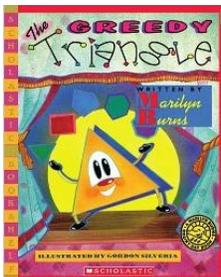
Math-terpieces
By Greg Tang
(Problem Solving
Skills)



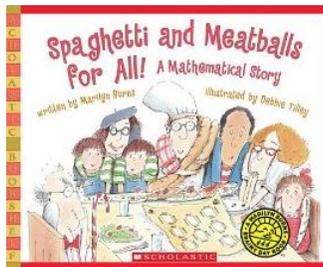
Math Appeal
By Greg Tang
(Addition Problem
Solving)



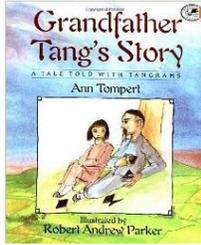
Math Curse
By Jon Scieszka and
Jane Smith
(Application of math)



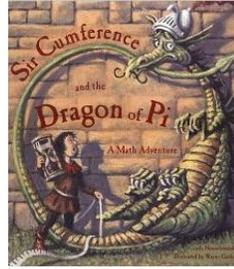
The Greedy
Triangle
By Marilyn Burns
(2-D Shapes)



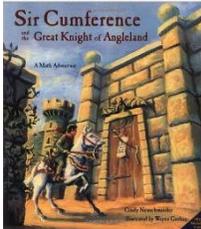
Spaghetti and
Meatballs for All
By Marilyn Burns
(Perimeter, Area,
Grouping)



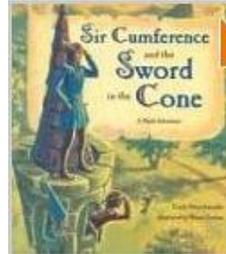
Grandfather Tang's Story
By Ann Tompert
(2-D Shapes)



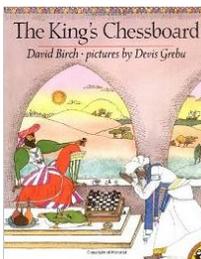
Sir Cumference and the Dragon of Pi
By Cindy Neuschwander
(Circles)



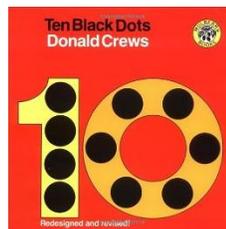
Sir Cumference and the Great Knight of Angleland
By Cindy Neuschwander
(Angles)



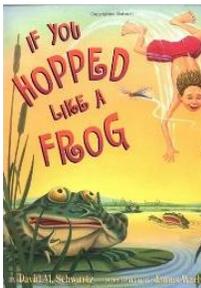
Sir Cumference and the Sword in the Cone
By Cindy Neuschwander
(3-D Figures)



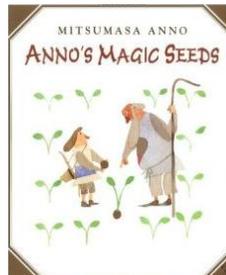
The King's Chessboard
By David Birch
(Patterning)



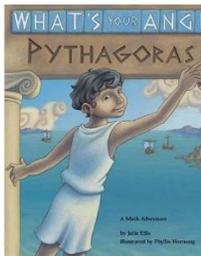
Ten Black Dots
By Donald Crews
(Counting)



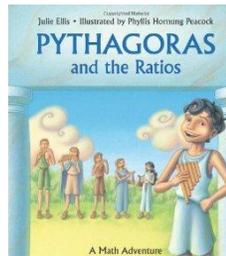
If You Hopped Like a Frog
By David M. Schwartz
(Ratios and Proportions)



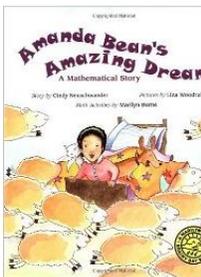
Anno's Magic Seeds
By Mitsumasa Anno
(Patterning)



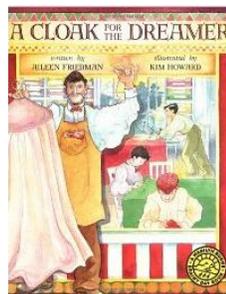
What's Your Angle Pythagoras
By Julie Ellis
(Pythagorean Theorem)



Pythagoras and the Ratios
By Julie Ellis
(Ratios)



Amanda Bean's Amazing Dream
By Liza Woodruff
(multiplication)



A Cloak for the Dreamer
By Aileen Friedman
(2-D Shapes)

