Chapter 7: Mathematics at Home

Books

Adding Math, Subtracting Tension: A Guide to Raising Children Who Can Do Math, Prekindergarten–Grade 2 by Francis Lynn Stern.

This book addresses topics in the school curriculum for pre-K–grade 2. It discusses the math ideas children learn and also explains how these ideas are related to more general topics in mathematics. Some topics are also addressed in *It's Elementary.*

http://www.nctm.org/store/Products/Adding-Math,-Subtracting-Tension--A-Guide-to-Raising-Children-Who-Can-Do-Math,-Prekindergarten-Grade-2/

Adding Math, Subtracting Tension: A Guide to Raising Children Who Can Do Math, Grades 3–5 by Francis Lynn Stern

This book addresses topics in the school curriculum for grades 3–5. It discusses the math ideas children learn and explains how these ideas are related to more general ideas in mathematics. It also provides activities that you can try at home with your child. Some of the same topics are also highlighted in *It's Elementary.*

http://www.nctm.org/store/Products/Adding-Math,-Subtracting-Tension--A-Guide-to-Raising-Children-Who-Can-Do-Math,-Grades-3-5/

Websites

Base 12

This YouTube video provides a 9-minute introduction to counting in base 12 and some historical perspective on why we have the base-ten system we use today.

https://www.youtube.com/watch?v=U6xJfP7-HCc

Calculation Nation®

This website, created by the National Council of Teachers of Mathematics, offers games that help children practice fundamental skills as they explore mathematical content. There is also a link for parents and educators that provides additional information about math games.

https://calculationnation.nctm.org

Doing Math Together

This site provides helpful suggestions on working with your child, including expectations for learning and questions to ask as your child reasons out problems. It also discusses why it is not only important for your child to solve problems but to explain and justify his or her reasoning as well.

https://investigations.terc.edu/families/doing_math/index.cfm

Greg Tang Math

Among other features, this site includes many different games for children of all ages that they can play alone or with a friend. You can also find information about parent workshops in your area (click on "Math Plus 2015" on the home page).

http://gregtangmath.com

Illuminations

This website has different games, brainteasers, and interactive tools for learning mathematics.

http://illuminations.nctm.org/

Investigations in Number, Data and Space: For Families

This website addresses how parents can support their children's math learning throughout early childhood and elementary school. It also lists some suggested online and offline activities you might find helpful.

https://investigations.terc.edu/families/

NRICH

This website has an abundance of enrichment problems for students of all ages and covers a wide range of mathematical topics.

http://nrich.maths.org/frontpage

24® Game

This site provides information about how to play the game and how to compete in tournament play. Players use the four numbers on the card in play exactly once to obtain the number 24. Players can use any combination of the four basic operations during play. Appropriate for grades 4 and above.

https://www.24game.com

Youcubed at Stanford University

This site, developed by Stanford University, provides links to different information about teaching and learning mathematics. You can view video clips of students working together to solve problems, students and a teacher engaged in a class discussion, and so on. Appropriate for parents, teachers, and others interested in new trends in mathematics education.

http://www.youcubed.org/category/papers-videos/videos/

Interactives and Apps

Alien Addition

This is a game that children who are ready to practice addition facts can play. The player compares a given sum with space ships displaying different basic facts. The player selects the fact that matches the sum. If correct, the ship is zapped by a laser beam. Appropriate for grades 2 and above.

http://www.arcademics.com/games/alien/alien.html

Penguins

Players practice two-digit multiplication as their canoes, paddled by penguins, race to the finish line. Contains links for games that are appropriate for each grade level.

http://www.arcademics.com/games/canoe-penguins/canoe-penguins.html

Concentration

For this game, the player matches two squares displaying counters, the number word, or the numeral for the same number. The player needs to remember the position of cards on the game board. Appropriate for pre-K–grade 1.

http://www.nctm.org/Classroom-Resources/Interactives/Concentration/

Concentration (multiplication)

For this game, the player(s) matches two cards that represent the same product, basic fact, or array. To make the game more challenging, the player(s) can play with the cards facedown. Appropriate for grades 3–5.

http://www.nctm.org/Classroom-Resources/Interactives/Concentration/

Concentration (fractions)

For this game, the player(s) matches two cards that represent the same fraction number, region, or collection. To make the game more challenging, the player(s) can play with the cards facedown. Appropriate for grades 3–4.

http://www.nctm.org/Classroom-Resources/Interactives/Concentration/

Concentration (fractions, decimals and percent)

For this game, the player(s) matches two cards that represent the same fraction, percent, or region. To make the game more challenging, the player(s) can play with the cards facedown. Appropriate for grades 4–5.

http://www.nctm.org/Classroom-Resources/Interactives/Concentration/

Factor Game

Players find the factors for a given number. Once a number has been selected, it cannot be used again. It is also a game of strategy. Appropriate for grades 4–5.

http://www.nctm.org/Classroom-Resources/Interactives/Factor-Game/

Five Frame

For these activities, the child follows prompts to count and add counters using a five frame. Appropriate for grades K–1.

http://www.nctm.org/Classroom-Resources/Interactives/Five-Frame/

Fraction Feud

For this game, players are prompted to make fractions that are larger or smaller than those of their opponents. Appropriate for grades 4–5.

https://calculationnation.nctm.org/Games/GameDirections.aspx?GameId=791a122f-bfcb-4b10-9dec-217d5aafb6af - DirectionsGeneral

Group and Grazing

Children practice counting by fives and tens, or solve simple addition or subtraction problems. There is also a free-explore feature. Appropriate for K–grade 2.

http://www.nctm.org/Classroom-Resources/Interactives/Grouping-and-Grazing/

Kakooma

For this game, a player chooses one of the five numbers on a game board that is the sum of two other numbers on the board. It is an interactive game your child can play with you or other children to practice adding sums up to 20. Appropriate for K–grade 2.

http://gregtangmath.com/kakooma

Meteor Multiplication

This game is much like Alien Addition, but the object is to practice multiplication basic facts. Appropriate for grades 3 and above.

http://www.arcademics.com/games/meteor/meteor.html

NeXtu

Players move hexagons, squares, and triangles with different point values to fill the design. It is also a game of strategy; players can collect more points by capturing adjacent regions occupied by the opponent that have a lesser value. Appropriate for grades 3–5.

https://calculationnation.nctm.org/Games/GameDirections.aspx?GameId=c8c7c7c7-624d-4cdd-b761-7e0b364404e1 - DirectionsGeneral

Numskill

For this game, players use a game board with numbers that are one of four colors: red, yellow, blue, and green. A set is made by adding two numbers, each a different color, that sums to the third number, also a different color. Appropriate for grades 1–2.

http://gregtangmath.com/numskill

Oswego City School District

This site, created by the Oswego City School District (New York), has many games from which to choose.

http://resources.oswego.org/games/

Pan Balance – Numbers

The child inserts one or more numbers in each pan to balance the pans using the four operations, parentheses, and square and cubic numbers. Appropriate for grades 3–8.

http://www.nctm.org/Classroom-Resources/Interactives/Pan-Balance-%E2%80%93-Numbers/

PBS Kids

The PBS Kids website has games for both younger and older children.

http://pbskids.org/games/math/

http://pbskids.org/cyberchase/math-games/

Satisfraction

In this game, the player can choose from different options, including identifying the same fractional amounts, comparing fractions, and calculating with fractions.

http://gregtangmath.com/satisfraction

Set®

This is a game everyone in the family will enjoy. The object of the game is to identify a set of three cards that are either all the same or all different for a particular feature (shape, color, number, or shading). It can also be played online, and apps are available for your smartphone.

http://www.setgame.com/set

http://www.setgame.com/set/daily_puzzle

http://www.setgame.com/apps

Times Square

Players choose factors using the numbers 1–9 to find the product on the game board. The first player to fill four squares in a row wins. Appropriate for grades 3–5.

https://calculationnation.nctm.org/Games/GameDirections.aspx?GameId=c80cc5f0-624d-4cdd-b761-7e0b364404e1 - DirectionsGeneral