

# Summer Math Ideas – 3<sup>rd</sup> Grade



Mathematics concepts are more meaningful when they are rooted in real-life situations. To help your child review some of the concepts he or she has learned in third grade, here are some suggestions for simple and routine math activities for you and your child to do together over vacation.

- Continue to practice addition, subtraction, multiplication, and division facts.
- Provide multidigit addition and subtraction problems for your child to solve; encourage your child to write number stories to go along with the number models.
- Make combinations of bills and coins using money from your wallet or a piggy bank. Have your child write the amount shown using a dollar sign and a decimal point. For example, suggest 4 dollar bills, 3 dimes, and 2 pennies. Your child would write \$4.32.
- Ask questions that involve multiples of equal groups (multiplication stories) or equal sharing (division stories). Allow your child to draw pictures or use counters or beans to represent the stories as needed. For example:
  - *“Pencils are packaged in boxes of 8. There are 3 boxes. How many pencils are there?”*
  - *“Seven children share 49 baseball cards. How many cards does each child get? How many cards are left over?”*
- Write down two 4- or 5- digit numbers. Ask your child to tell which is larger and explain why. Try a few more and then switch roles.
- If you receive a daily newspaper, record the time of sunrise and sunset once a week. Draw conclusions about the length of a day during vacation months.
- Over a period of time, have your child record the daily temperatures in the morning and in the evening. Keep track of the findings in chart or graph form. Ask questions about the data—for example, to find the differences in temperatures from morning to evening or from one day to the next.
- As you are driving in the car or going on walks, search for geometric figures and identify them by name along with some of their characteristics. For example: A stop sign is an octagon, which has eight sides and eight angles; a brick is a rectangular prism in which all faces are rectangles.
- Help your child find fractions in the everyday world—in advertisements, on measuring tools, in recipes, and so on.
- Name items around the house that weigh less than 5 pounds, 10 pounds, and 20 pounds. If you have a scale, place the items on the scale to check your guesses.
- Go to [www.paloaltoparentresources.wordpress.com](http://www.paloaltoparentresources.wordpress.com) for links to free internet resources for mathematics games and activities.



## Building Skills through Games

- Games are an entertaining way to practice math skills. The following games can be played at home with simple materials. Use number cards used made from 3" by 5" index cards.
- For more ideas, see the list of commercial games that use mathematics.

### Division Arrays

#### Materials

- number cards 6–18 (3 of each)
- 18 counters, such as pennies
- 1 regular die
- scratch paper for each player



Players 2 to 4

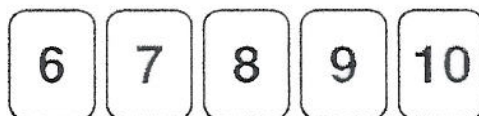
#### Directions

Shuffle the cards and place the deck facedown on the playing surface.

At each turn, a player draws a card and takes the number of counters shown on the card. Next, the player rolls the die. The number on the die specifies the number of equal rows the player must have in the array he or she makes using the counters.

The player's score is the number of counters in each row. If there are no leftover counters, the player's score is double the number of counters in each row.

Players take turns. They keep track of their scores on scratch paper. The player with the highest total at the end of five rounds wins.



### Three Addends

#### Materials

- paper and pencil (for each player)
- number cards 1–20 (1 of each)

Players 2

#### Directions

Shuffle the cards and place the deck facedown on the playing surface.

In turn, players draw three cards from the top of the deck.

Both players write addition models using the three numbers on their sheets of paper. (The numbers can be written in whatever order they find easiest for solving the problem.)

Players solve the problem and then compare answers.

*Option:* For a harder version, players take turns drawing four cards from the top of the deck. Players thus solve problems with four addends.



Many games you have at home or see at the local store involve mathematical thinking. Children develop their skills in an almost effortless way when they play these games with each other and adults. The ages shown are suggested by the manufacturer, however, let the interest and motivation of your child be your guide when selecting and playing the games.

## Counting, Adding, and Subtracting

Chutes and Ladders® (3+)

Hi Ho! Cherry-O® (3+)

Sorry!® (6+)

Trouble® (5+)

Uno® (6+)

## Attributes, Patterns, and Geometry

Crazy Eights—traditional card game (4+)

Guess Who?® (6+)

Guess Where?® (6+)

jigsaw puzzles

Rummikub® (8+)

tangrams (5+)

## Strategy and Spatial Perception

The a-MAZE-ing Labyrinth® (8+)

Battleship® (7+)

checkers (3+)

Clue® Jr. (5+) and Clue® (8+)

Connect Four® (7+)

Jenga® (6+)

mancala (6+)

memory (many names exist for this game of matching face-down pictures) (3+)

Mille Bornes® (8+)

Othello® (8+)

Pretty Pretty Princess® (5+)



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More excellent games can be found on the Internet by searching under “educational math games.”

# Vacation Reading with a Mathematical Twist

Books can contribute to children's learning by presenting mathematics in a combination of real-world and imaginary contexts. The book titles listed below all feature fun mathematical themes and connections. They are organized by mathematical topic. Visit your local library and check out these books with your child.

## Geometry

*A Cloak for the Dreamer* by Aileen Friedman

*Fractals, Googols, and Other Mathematical Tales* by Theoni Pappas

*Sir Cumference and the First Round Table: A Math*

*Adventure* by Wayne Geehan

## Measurement

*How Tall, How short, How Far Away* by David Adler

*Math Curse* by Jon Scieszka

*The Story of Money* by Betsy Maestro

*If You Made a Million* by David Schwartz

*Measuring on Penny* by Loren Leedy

## Numeration

*Fraction Fun* by David Adler

*How Much Is a Million?* by David Schwartz

*Pigs in a Blanket* by Amy Axelrod

*Three Days on a River in a Red Canoe* by Vera B. Williams

## Operations

*The Grapes of Math* by Gregory Tang

*The King's Chessboard* by David Birch

*The I Hate Mathematics! Book* by Marilyn Burns

*A Remainder of One* by Elinor J. Pinczes

*Anno's Mysterious Multiplying Jar* by Masqichiro Anno

## Patterns, Functions, and Algebra

*Eight Hands Round: A Patchwork Alphabet* by Ann Whitford Paul

*A Million Fish...More or Less* by Patricia C. McKissack

