

How Parents Can Help Their Child with Mathematics

School is not the only place children learn math concepts and skills!

Math can be fun and young children enjoy solving math problems. They begin solving mathematical situations long before they come to school. They use real objects that can be manipulated to develop understanding of numbers as they learn to add, subtract, multiply, and divide. Once understanding with real objects occurs, they naturally move to paper and pencil practice and memorization of basic facts. Parents and teachers can provide the encouragement for children to apply their knowledge to more challenging problems.

It is important to encourage your children to think of themselves as mathematicians who can reason and solve problems. Calculators and computers are used in school and have changed the way math is taught, but these machines are tools just like pencil and paper. A calculator can compute, but it cannot think. Therefore, parents and teachers must help our children to become thinkers and to recognize which answers are reasonable and which are outrageously large or small.

A positive attitude about math is also important if our children are to be successful. Most parents will agree that it is a wonderful experience to cuddle up with their child and a good book, but how many of us would say the same thing about flash cards or pages of math problems? For that reason, we have also included in the following suggestions, math activities which you and your child can easily do as you go about your normal daily activities. These activities will help your child explore relationships, solve problems, and recognize that math is an important - and enjoyable - part of our daily lives.

Pre-Kindergarten

- Read stories that reinforce numbers such as: *The Three Bears*, *The Three Little Pigs*, *This Old Man*, *El Barco Chiquito*, and *Orima de Chocolate*.
- Select household chores which teach one-to-one correspondence like setting the table, serving guests, or sharing snacks with friends.
- Create opportunities for your child to explore shapes with different tactile media like clay, crayon, sand, paint, or pencil.
- Give your child kitchen items to sort by color, shape, or size like silverware, measuring spoons, cookie cutters, or mixing bowls. Give your child household items to sort like buttons, sock, books, or keys.
- Talk to your child about likenesses and differences in the illustrations of stories.
- Teach positional words like inside, outside, under, next, and between by playing popular children's games like *Simon Says*, *Red Rover*, or *Mother May I?*

Kindergarten

- Practice basic skills such as rote counting, counting objects (such as clothing, foods, buttons, etc.) and comparing objects in terms of sizes.
- Talk about all the numbers and math in your daily routine at home.
- Sing counting songs and chant number rhymes to help children learn rote counting.
- Sort all the shoes in your closet by type of closure (buckle, Velcro, tie, slip-on).
- Sort other familiar household items.
- Play math games such as "Guess My Number".
- Play board games that involve counting spaces or identifying shapes and patterns (such as "Chutes and Ladders").
- Cook together and discuss measurement.
- Go on a "shape hunt" in your house or neighborhood.
- Clap patterns together.

First Grade

- Start a piggy bank.
- Use coins for sorting and talk about the value of each coin. Trade coins such as pennies for one nickel.
- Allow your child to buy things and handle the money when you shop.
- Keep a monthly calendar. Discuss concepts of day, week, month, yesterday, today, and tomorrow.
- Keep track of family events on a calendar. Ask questions such as "How many days until _____?"
- Gather ten different shoes. Put them in order from smallest to largest.
- Look for geometric shapes in the environment.
- Demonstrate probability by placing 5 white socks and 1 black sock in a bag. Predict and then record what colors are drawn in 10 tries (replace sock after each draw).

Second Grade

- In the grocery store, weigh fruits and vegetables.
- Have your child help with measuring amounts of food when cooking.
- Look for geometric shapes in buildings, advertising, magazines, and the grocery store.
- Sort and classify stuffed animals, books, money, and household items.
- Use the numbers on car license plates to add, subtract, and create largest and smallest numbers.
- Collect and record data (example: plant seeds and record growth of plants).
- Talk with your child about events and situations as being likely or unlikely.

Third Grade

- Provide opportunities to use measurement (cooking, telling time, sewing).
- Give your child more responsibility with money (budget, allowance, shopping).
- Discuss how many different coin combinations can you make to equal \$1.50.
- Practice using addition, subtraction, multiplication, and division in real life situations.
- Practice mental mathematics and mathematics facts.
- Create a daily, weekly, and monthly schedule for events using time spent for each event and total time spent for each event.
- Encourage your child to play games which use mathematics.
- Assure that your child has mastered the basic number facts for addition and subtraction.

Fourth Grade

- Provide opportunities to manage money. Discuss the use of checkbooks and ATM's.
- Provide opportunities to use measurements (carpentry, sewing, exact time, cooking).
- At the grocery store, have your child estimate the total cost of your groceries.
- Ask your child mathematical questions and look for reasonable answers. Examples: How many miles is it from our house to the beach? How long will it take us to travel from our house to the zoo?
- Practice mental mathematics and mathematical facts, without using paper, pencil, calculators, or other materials. (Example: How many eggs are in 3 dozen?)
- Find the perimeter and area of the outside of your house. Is your child using appropriate units of measure?
- Estimate the amount of time spent on a family event daily, weekly, and monthly (Example: watching TV, eating dinner). Record actual amount of time and compare results.
- Encourage your child to play games involving mathematics.
- Explore geometric shapes in nature.
- Assure that your child has mastered the basic facts for multiplication and division.

Fifth Grade

- Budget money for allowance, clothing, and entertainment.
- In your everyday life, find examples of fractions, decimals, and percents and explain what they mean (such as buying gas, newspaper ads, shopping, sports).
- Draw or build a model of one room in your home. Plan a room addition. Be exact, include windows, doors, carpet, etc.
- Build a structure of 4 - 6 blocks. Draw the top, side, and front views. Can someone else in your family rebuild the structure from your drawings?
- Play mathematical board and computer games.
- Create estimation problems for everyday events.
- Practice mental math and math facts with your child.
- Use the newspaper to gather data for decisions (compare savings account interest rates).
- Chart a daily event for two weeks (such as the length of time it takes the family to eat dinner) and determine your family's averages.
- Look for examples of tessellations, regular and irregular three-dimensional shapes in the environment.

Sixth Grade

- Discuss the appropriate units of measure needed for a variety of projects: laying carpet, building a fish tank, sewing fabric clothing, upholstery projects.
- Help your child develop monetary goals and design tables to show how the goals can be achieved.
- Show the time involved. Show $\frac{1}{4}$, $\frac{1}{2}$, and $\frac{3}{4}$ gains made.
- Measure a room in your house and determine the cost of reflooring it with a variety of materials.
- When shopping, compare unit pricing, calculate savings with deductions, and figure tax on items.
- Plan the family menu and purchase items within a budget.
- Double a recipe or divide it in half.
- Estimate the cost of a meal for the entire family at a restaurant.
- Assure that your child has mastered the basic number facts for addition, subtraction, multiplication, and division.

Seventh Grade

- Play board games and computer games that include logic and problem solving.
- Provide experiences with comparison shopping by unit pricing.
- Provide access to a scientific calculator for your child.
- Assure your child is responsible for simple repetitive memorization tasks such as addition and multiplication facts, rules of division, etc.
- Have your child maintain a daily assignment calendar and schedule a time for homework to be completed.
- Help your student keep a budget of personal income and expenses.
- Cook with your child and discuss fractional amounts and types of measurements. Increase and /or decrease the recipe.
- Figure the tax on items or cost of an item after a percent is discounted.
- Calculate the gas mileage with distance and miles per hour to and from destinations.
- Figure the interest on saving accounts.

Eighth Grade

- Help your child create a reasonable budget for personal expenses.
- Ask your child to buy and prepare a family meal with your food budget.
- Have your child measure the floor space and windows in his room. Investigate the cost of new floor covering and window coverings.
- Pretend to purchase a share of stock (or several). Read the stock market page in the newspaper to see if you made or lost money.

