Math on the go:

Ease on Down the Road

Grades 2-5

What to do

1. A gallon of gas costs $1.24 a gallon. What does it cost for 5 gallons? 10 gallons? 15 gallons? 20 gallons? What is an easy way to figure this out? How can you estimate the cost by rounding the cost per gallon?
2. The speed limit is 55 miles per hour. How far will you go in 1 hour? Two hours? Three hours? How long will it take to go 500 miles? *Use a calculator to check your answers.*

Parent Pointer

An important algebra concept is finding relationships between two quantities such as miles per hour or cost per gallon.

Math for the fun of it:

What Are the Coins?

Grades 2-5

What you'll need

Some coins

What to do

Ask your child the following questions:

1. I have three coins in my pocket. They are worth 7 cents. What do I have? (a nickel and 2 pennies)
2. I have three coins in my pocket. They are worth 16 cents. What do I have? (a dime, a nickel, a penny)
3. I have three coins in my pocket. They are worth 11 cents. What do I have? (2 nickels and 1 penny)
4. I have three coins in my pockets. They are worth 30 cents. What do I have? (3 dimes)
5. I have six coins in my pocket. They are worth 30 cents. What could I have? (1 quarter and 5 pennies or 6 nickels). This problem has more than one answer. It is challenging for children to experience problems like this.
6. I have coins in my pocket, which have a value of 11 cents. How many coins could I have?

You get the idea! Give your child a few coins to figure out the answers.

Parent Pointer

Use this activity to help your child develop an understanding of patterns and variables (the unknown) to solve a problem. This is critical to understanding algebra.

Math outside of school.

Some ways you can help to develop your child's math skills

All activities in this brochure come a website called

"Helping your child learn math"

The web address for this site is

http://www.ed.gov/pubs/parents/Math/index.html

You can also find other activities and games at

www.frodonz.com

Math in the home:

Newspaper Search

Grades 3-5

What you'll need

Newspaper, calculator, pencil, paper, and graph paper (can be hand-drawn)

What to do

1. **List it.** Give your child the grocery section of the newspaper in order to make up a list of foods that will feed the family for a week and also meet a budget of a certain amount of money. Have your child make a chart and use mental math or a calculator to figure the cost of a few items. If the total for the groceries is more than you have budgeted for, talk about which items can be eliminated. Could the list be cut down by a few items or by buying less of another item? What will best serve the needs of the family?

2. **Shop around.** Have your child search for advertisements in the newspaper for an item they have been wanting, such as a piece of clothing or tennis shoes, in order to find the lowest price for the item. After your child finds the best buy, have him or her compare the best buy to the rest of the advertised prices. Are this store's prices lower for everything or just items in demand?

3. **Highs and lows.** Have your child search the newspaper for daily temperatures and create a graph showing weekly trends. Ask your child for the differences in temperature from day to day.

Five-Day Forecast

TODAY	TUE	WED	THU	FRI
Showers	Rain	Mixed	Rain	Showers
HI/LO °F				
43/38	45/38	43/41	45/41	46/44

Parent Pointer

This activity helps children see how much math is used in everyday life. It also helps in the variety of ways in which math is used to tell a story, read a timetable or schedule, plan a shopping list, or study the weather.

Math in the grocery store:

Weighing In

Grades 3-5

What you'll need

A grocery scale or your scale at home

What to do

1. Help your child examine the scale in the grocery store or the one you have at home. Explain that pounds are divided into smaller parts called ounces and 16 ounces equal a pound.
2. Gather the produce you are purchasing, and estimate the weight of each item before weighing it. If you need 1 pound of grapes, ask your child to place the first bunch of grapes on the weighing scale, and then estimate how many more or fewer grapes are needed to make exactly 1 pound.
3. Let your child hold an item in each hand and guess which item weighs more. Then use the scale to check.
4. Ask questions to encourage thinking about measurement and estimation. You might want to ask your child: How much do you think 6 apples will weigh? More than a pound, less than a pound, or equal to a pound? How much do the apples really weigh? Do they weigh more or less than you estimated? Will 6 potatoes weigh more or less than the apples? How much do potatoes cost per pound? If they cost 10 cents per pound, what is the total cost?
5. Try weighing items using the metric system. How many grams does an apple weigh? How many kilograms does a sack of potatoes weigh? How does a kilogram compare to a pound?

Let your child experiment with the store scale by weighing different products.

Parent Pointer

There are many opportunities to increase estimation and measurement skills by weighing objects in the produce section of the grocery store.

Math on the go:

License Plate Special

Grades 2-5

What you'll need

License plates, paper, pencil, and ruler

What to do

1. Copy down a license plate number as you are traveling in your car, walking around the neighborhood, or sitting on a park bench watching cars go by. Read the license plate as a number (excluding the letters). For example, if the license were 663M218, the number would be six hundred and sixty-three thousand two hundred and eighteen.
2. Find other license plates and read their numbers. Is the number less than, greater than, or equal to yours?
3. Estimate the difference between your number and another license plate. Is it 10, 100, 1,000, or 10,000?
4. Record the names of the states of many different license plates as you see them. From which state do you see the most? Which has the fewest? Prepare a chart or graph to show your findings.

Parent Pointer

This license plate activity encourages reading, recognizing numbers, noticing symbols, writing, counting, and graphing.

Total It **Grades 3-5**

What you'll need

License plates, paper, pencil, and calculator

What to do

1. As you are traveling in your car, or on a bus, each person takes turns calling out a license plate number.
2. All players try to add the numbers in their heads. Talk about what strategies were used in the mental math addition. Were the numbers added by 10's like 2+8? Were doubles like 6+6 added?
3. Try different problems using the numbers in a license plate. For example, if you use the plate number 663M218, ask "Using the numbers on the plate, can you make 5?"
   - 5 using two numbers? "Yes, 3+2 = 5"
   - 5 using three numbers? "Yes, (3+2) x 1 = 5"

Parent Pointer

The problem-solving and computational skills your child uses in this activity are very important to mental math skills, and they also help your child to be creative with numbers.