



## Exploring Math With Your Children\*

### What You Can Do At Home!

According to research, the single most important predictor of how well children do in reading is the amount of time an adult spends reading with them. There is no comparable research in math at this time, but it makes sense that time spent on math outside of school can have the same benefits. You can make a difference!

This packet provides a number of ideas to keep your children thinking about math over the summer and also during the school year outside of school time. We have included:

-  A list of math activities and number games
-  A list of computer web sites
-  A list of card and commercial games
-  Actual games
-  A list of math literature

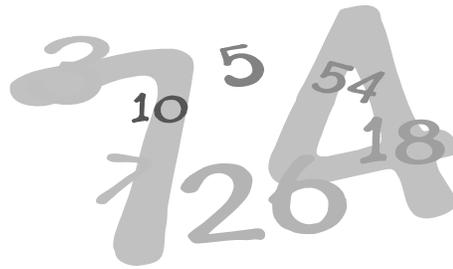
\*This packet was created for students entering 3<sup>rd</sup> grade in the fall.  
MMSD. Teaching and Learning Department. Elementary Math Resource Team



## Coupon Activities

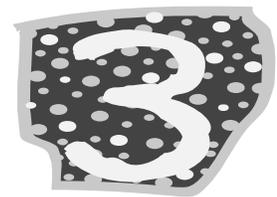
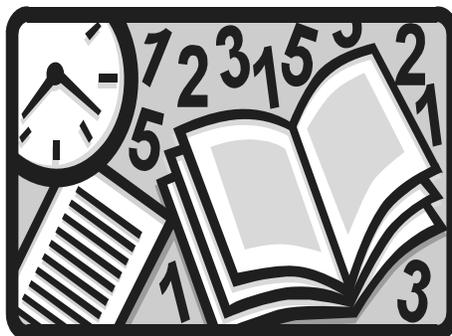
Have your children go through the grocery coupons and cut out the ones they think your family might use. Ask the following questions:

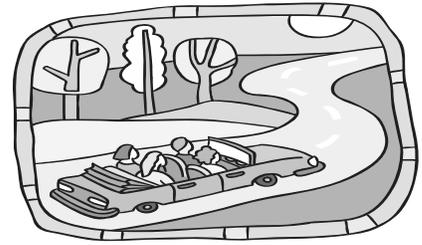
1. Find five coupons that save us at least 40 cents.
2. How many coupons do we have that save us more than 50 cents?
3. Find the coupon in your collection that saves us the most money. How much does it save us?
4. Which coupon saves us the least amount of money?
5. Find two coupons that, together, will save us more than a dollar. Try to find another combination that saves us more than a dollar.
6. Find as many combinations of two coupons as you can that are exactly equal to \$1.00. See if you can find combinations of three or more coupons that are exactly equal to \$1.00.



## Number Games

1. Identify what day of the month it is. Take turns making up different ways of making that number.
  - a. Example: Today is the 12<sup>th</sup> of April. That is  $4+4+4$ . It's also  $2 \times 6$  or  $20 - 8$  or  $3+3+3+3$  or  $100 - 88$ .
2. Give each letter of the alphabet a value:  
A is \$1, B is \$2.00...Z is \$26.00. List the values on a piece of paper so your child can see them. Without using pencil and paper if you can, find: a) The value of your first name, b) The value of your last name, c) Who in your family has the "most valuable" name, d) What is the most expensive first name you can find, e) Can you find a word worth exactly \$50.00.
3. (A Challenge) If your child gets to choose a treat for him/herself when food shopping, ask how much change they expect to get from a \$1.00 bill. (a \$5.00 bill)





## Math on Trips

### (Challenging Questions)

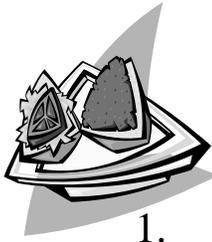
1. Ask questions such as “How long do you think it will take us to go one mile? 10 miles? 20 miles? (Have your child predict first and then do the actual timing with a watch with a second hand while someone else watches the odometer.)
2. If it took us 65 seconds to go 1 mile how long will it take us to go 2 miles? 10 miles? 20 miles? The rest of the way to \_\_\_\_\_?



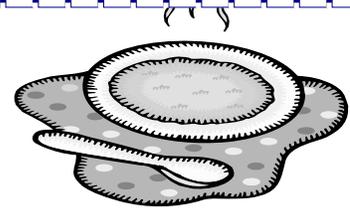
## Returnable Cans and Bottles\*\*



1. How many cans does our family use in a week? How many bottles does our family use in a week? Make a chart and keep track. Find a box for these cans/bottles. How many fit in one box? In 5 boxes? In 10 boxes? (Challenging Question.)
2. About how many cans does our family use per week per person? Given this information, how many would each person use in a month? In a year? (Challenging Question)

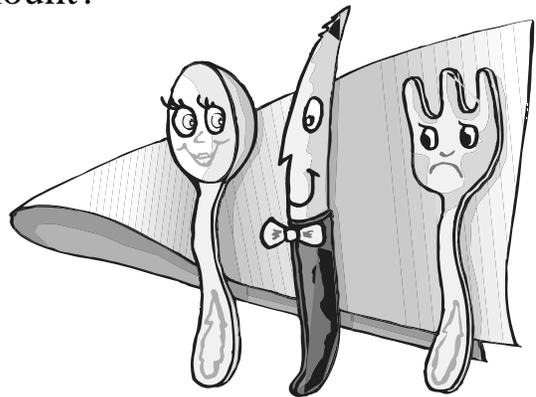


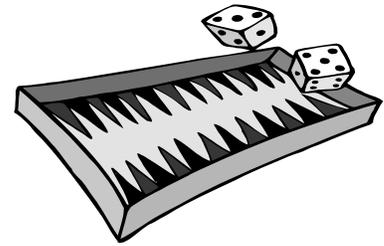
## Mealtime Math



1. Bring out a pan of brownies, lasagna, etc. Say, “If we have to divide this pan into 12 equal pieces, how should we divide the food? Let the child make the cut marks.
2. Ask your child to find out how many rolls, pieces of chicken, etc. everyone will eat. Based on that information, have them figure out if there is enough food for everyone.
3. How much food should we make? Ask your child to help you figure out how much food is needed for a meal, a set of lunch boxes, or a party. They’ll practice counting, adding, or multiplying. Examples follow...
  - a. How many sandwiches do we need if each adult eats two, Ana eats half, and the other children eat one?
  - b. We need enough soup for three meals. Will we have enough if we double this recipe? What if we triple it?
4. What do we need for this recipe? Involve your child in reading and adjusting recipes as you prepare meals. The work involves measurement, fractions, volume, and ratios.
  - a. Can you measure out exactly three-fourths of a cup of flour?
  - b. I’m going to make one-third of this recipe. It calls for twelve carrots. How many do we need?
  - c. For this punch mix, we need two ounces of lemon juice per cup of soda. How much lemon juice will we need if we use a gallon of soda? Can you find a container that holds a gallon?

5. What do we need to set the table? Enlist the help of young children when setting the table to give them practice counting and combining things that come in two and threes.
- Put out a knife, fork, and spoon for everyone. How many pieces of silverware did you put out?
  - We have two guests. How many plates do we need? How many spoons, if everyone gets two?
6. What's fair? Next time your child clamors for fair division of a favorite food, invite him/her to propose his/her own solution. For food that comes in small pieces, children practice with counting, arithmetic, or fractions. For food that comes in pans or large pieces children work with shapes and area.
- How can we divide these cherries fairly among three children so that each child gets the same amount?
  - What's the fairest way to share these three brownies among the four of us so that everyone gets the same amount?
  - How can we split up this tree-shaped pan of Jell-O so that everyone gets the same amount?





## Board Games

(There are many commercial board games involving math ideas on the market. Following are only a select few. Also, ask your child to show you how to play the card games they have learned in school.)

1. Monopoly Jr. (*counting, money, adding, subtracting*)
2. Dominoes (*counting, patterns, adding, subtracting*)
3. Parcheesi (*spatial relations, counting*)
4. Sorry (*number sequence, counting*)
5. Checkers (*spatial relations, patterns*)
6. Backgammon (*decomposing numbers*)
7. Chess (*spatial relations, logic*)
8. Yhatzee (*adding*)
9. Mastermind (*logic*)
10. Uno (*matching numbers and colors*)
11. Chutes and Ladders (*number sequence, counting*)
12. Racko (*number order*)
13. Battleship (*coordinate grids*)



**School Zone** and **McGraw Hill** are two publishing companies that create good math practice books for students. You can purchase these practice books at most drug and variety stores such as Walgreens and Target. Let your child choose a practice book he/she is interested in doing.. Please remember to have your child explain his/her strategies to you rather than encouraging them to use your strategies.