

# Helping Your Child Solve Math Word Problems

Your third and fourth grade children have probably begun doing math word problems in school. Perhaps they have brought home word problems to do as homework. In addition, the math section of the fourth grade MCAS includes word problems. So, how can parents help their children learn problem solving techniques? Just remember: **Q.I.O.D.S!**

- Q stands for QUESTION
- I for INFORMATION
- O represents the OPERATION
- D means DO the problem and
- S asks us, does it all make SENSE?

## SAMPLE WORD PROBLEM:

*Mary has 80 baseball cards. She gives 35 of them to her sister. How many cards does Mary have left?*

Before doing anything, have your child read the entire word problem. Then,

- Step I: Have your child find the **question** in the word problem, and then underline it. In this word problem, the question is: "How many cards does Mary have left?" Usually, the **question** comes at the end of the problem...but not always!
- Step II: Have your child find all of the **information** in the problem. Information in word problems is marked with numbers and labels, for example, **80 baseball cards**, **35 of them** (explain that 'them' means 'baseball cards' in this problem). Have your child circle all of the information in the problem, then decide what information is necessary for solving the problem, and what information is extra. Cross out any unnecessary information. (In this problem, all information is necessary. However, some word problems contain useless information to distract the problem solver.)
- Step III: Now your child must decide what **operation** to use based on the information. Is this an addition word problem, or a subtraction one? Teach key words to help your child determine what kind of problem it is. In this case, the key word "left" tells us that it is a subtraction problem. Therefore, the **operation** is subtraction. (SEE OTHER SIDE OF THIS SHEET FOR MORE KEY WORDS.)
- Step IV: It is time to do the problem. Make sure your child labels the answer.

$$\begin{array}{r} 80 \text{ (baseball cards)} \\ - 35 \text{ (baseball cards)} \\ \hline 45 \text{ baseball cards} \end{array}$$

- Step V: Have your child double check the answer to see if it makes sense.

OVER...



This tip sheet was created with information prepared by Cambridge College professor John R. Grassi, Ph.D., and Donna Melia, a teacher at the Beebe Elementary School in Malden, Massachusetts.

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Recognizing and understanding key words in math problems can help your child better solve those problems. Here is a list of many of the terms found in math word problems.

### Addition Key Words

Total	Both
Sum	Combined
Plus	In all
Add	Altogether
And	Additional
Increase	Together
More	Joined
Raise	

**Example:** The team scored 4 runs the first game, 6 runs the second game, and 8 runs the third game. How many **total** runs has the baseball team scored? (4 runs + 6 runs + 8 runs = 18 runs.)

### Multiplication Key Words

Product  
Multiplied  
Times  
Total  
Of  
Per  
As much  
Twice  
By  
Area  
Volume  
Each

**Example:** I have 6 pieces of candy. Margaret has **twice** as many as I do. How many pieces of candy does Margaret have? (6 pieces of candy  $\times$  2 = 12 pieces of candy). The **product** is 12.

### Subtraction Key Words

Remain	Dropped
Reduce	Change
Decrease	Nearer
Bigger	Left
Less than	Smaller
Difference	Lost
Remainder	Farther
Compare	Fell
How many more	More than
Other '-er' comparison words	

**Example:** It takes Joe 20 minutes to get to school. It takes Sue 15 minutes to get to school. It takes John 45 minutes to get to school. How many **more** minutes does it take John to get to school than Joe? (45 minutes - 20 minutes = 25 minutes.)

### Division Key Words

Quotient  
Divided  
Split  
Cut  
Each  
Equal pieces  
Average  
Every  
Out of  
Ratio  
Shared

**Example:** I had 24 cupcakes that I shared with my 3 friends. How many cupcakes did **each** friend get? (24 cupcakes/3 friends = 8 cupcakes each.)

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