Literacy Strategies
SQRQCQ

The ***SQRQCQ*** literacy strategy was specially designed to assist students in learning mathematics. The steps include the following:

SURVEY	First, the students survey the problem rather quickly to get a general idea or understanding of it.
QUESTION	Then they come up with questions — what they believe the problem is asking for.
REREAD	The third step is to reread the problem to identify facts, relevant information, and details they will need to solve it.
QUESTION	Now another question is formulated that focuses on what mathematical operation(s) to apply.
COMPUTE	The students actually compute the answer — solving the problem.
QUESTION	The question to be asked at this point involves the accuracy of the answer. Is it correct? Does the answer make sense?

A transparency master is included in this chapter that you can use with your students to help them see the steps involved in using ***SQRQCQ***.

In fact, ***SQRQCQ*** is almost like a "secret" for solving word problems, which have long been a nemesis for nearly every math student. When students encounter a word problem, they frequently think, "I have never been good at word problems, and this time will be no different." In actuality, what most students need is a plan to attack a problem systematically and to make the best use of all the information that the problem offers. Below we will look at some actual examples in which ***SQRQCQ*** helps them to do just that:

Suppose that students are given the following problem:

> *Chris had some glass bears. He was given 8 more for his birthday. Now he has 15. How many glass bears did he have before?*

Using ***SQRQCQ***, students would:

- **SURVEY** the problem and notice that Chris has 8 items and receives some more to make a total of 15 items.
- The **QUESTION** the problem is asking would seem to be "How many items did he start out with?"
- **REREADING** would cause students to think "8 plus some number equals 15."
- Students would **QUESTION** themselves:

  When I know a sum and one of the two addends, how can I find the other addend? or If 8 + N = 15, the how can I find N?

  The students would realize that they have to subtract the find the answer, since subtraction is the inverse operation of addition.
- Next, they would **COMPUTE** the solution to the equation as follows:

  8 + N = 15
  8 - 8 + N = 15 - 8
  N = 7
- Finally, they would **QUESTION** themselves again:

  Is it true that 7 + 8 = 15? or if Chris started with 7 glass bears and received 8 more, would he have 15? The answer is "Yes", so the computed answer is correct.

SQRQCQ

Here is another example:

> *Each school T-shirt costs the same amount. Anita paid $15 for 3 T-shirts. What was the cost of each shirt?*

The following steps show student thinking:

SURVEY	*I notice that Anita has 3 shirts and paid $15 total for the 3 of them.*
QUESTION	*I'm looking for the cost of each of the 3 shirts Anita bought.*
REREAD	*Since the problem says that each shirt costs the same amount, I know that the cost I find will be the same for each one.*
QUESTION	*If I know that 3 shirts cost $15, then what operation do I use to find the cost of one shirt?, or 3 times the cost equals $15, so I must divide $15 by 3 to find the cost of one shirt (since division is the inverse of multiplication).*
COMPUTE	3 X N = 15 (3 X N) divided by 3 = 15 divided by 3 N = 5
QUESTION	*If one shirt costs $5, would 3 shirts cost $15, or Is it true that 3 time $5 is $15? Yes it is, so the answer must be correct.*

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