

learning activity

SQRQCQ



MATERIALS

word problems

PREPARATION

- Prepare a handout or display describing the steps of SQRQCQ.
- Prepare to model using SQRQCQ to solve at least one problem.

learning
strategies



question, recognize
patterns, infer

learning
cycle stage



investigate

future-ready
competency



express ideas, reason
quantitatively, design solutions

time
recommended



30-60 minutes

DESCRIPTION

This activity, adapted from Barton and Heidema's Teaching Reading In Mathematics (2009), helps to guide learners through the process of solving a mathematical word problem. Learners follow a consistent set of steps to organize their approach to solving the problem, and to reflect metacognitively on their process. learners use the acronym SQRQCQ to recall and monitor the following steps:

- **Survey:** learners skim the problem to gather a general understanding of the nature of the problem and what they are solving for;
- **Question:** learners ask what the problem is about, and what information it requires,;
- **Read:** learners read the problem carefully and identify important information, relationships, and details that they will need to solve it;
- **Question:** learners ask what they need to do to solve the problem;
- **Compute/Construct:** learners perform the operations necessary to solve the problem;
- **Question:** learners ask if the solution makes sense, and if they solved the problem correctly.



ACTIVITY STEPS

TEACHING TIPS

1

Model

Teacher introduces SQRQCQ, explaining its use. Models the process, thinking aloud to illustrate decision-making steps.

2

Survey

Provide problem(s). Learners skim the problem, gaining a general understanding of its content and requirements. Teacher circulates for mini-conferences, guiding learners towards deeper thinking.

3

*Question
(Understanding)*

Learners ask questions, altering problem wording, or highlighting crucial details.

4

Read

Learners read the problem carefully, seeking critical information and relationships. Encourage slow, audible reading and possible highlighting of essential details.

5

*Question
(Solving)*

Learners question how to solve the problem, considering operations, numbers, and order.





ACTIVITY STEPS

TEACHING TIPS

6

Compute

Learners solve the word problem, performing necessary computations and arriving at an answer.

7

*Question
(Verification)*

Learners question the validity of their answer, checking calculations, units, and overall relevance. Give guidance on responding to answer discrepancies or errors.

8

*Independent
Practice*

Learners apply SQRQCQ steps to additional word problems, working alone or in groups.

9

Reflection

Alone or in groups, learners reflect on the learning process. Respond to questions such as:

- a. *How did this activity impact your understanding of word problems?*
- b. *How will this activity enhance your accuracy in solving word problems?*
- c. *In what other contexts might you employ this problem-solving strategy?*

ADAPTATIONS AND MODIFICATIONS

Provides learners with one or more word problems, varying in difficulty. Allows flexibility for individual or group work, differentiating instruction as needed.

