

## Mnemonics for Solving Word Problems

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Maccini, P., & Hughes, C. A. (2000). Effects of a problem-solving strategy on the introductory algebra performance of secondary students with learning disabilities. *Learning Disabilities Research and Practice, 15*, 10-21.

Fuchs, L. S., Seethaler, P. M., Powell, S. R., Fuchs, D., Hamlett, C. L., & Fletcher, J. M. (2008). Effects of preventative tutoring on the mathematical problem solving of third-grade students with math and reading difficulties. *Exceptional Children, 74*, 155-173.

Heater, M. J., Howard, Lori, A., & Linz, E. (2012). Solving word problems: As easy as PIES! *Journal of Science Education for Students with Disabilities 16*, 15-22.

**This targeted intervention helps students use a mnemonic device for organizing word-problem information and remembering the steps in solving word problems.**

### Materials:

Teachers can use mnemonics that have already been created or create their own.

- Teachers should select one mnemonic that can be generalized and used to solve word problems.
- Visual image of mnemonic

### Mnemonic Examples:

#### **CUBES**

**C**ircle the numbers

**U**nderline important words

**B**ox the question

**E**liminate unnecessary information

**S**olve and check

#### **RIDE**

**R**ead the problem

**I**dentify the relevant information

**D**etermine the operation and unit for the answer

**E**nter the correct numbers and calculate, then check the answer

**SOLVE**

Study the problem

Organize the facts

Line up the plan

Verify the plan with computation

Examine the answer

**RIDGES**

Read the problem

I know the statement

Draw a picture

Goal statement

Equation development

Solve the equation

**DRAW**

Discover the sign

Read the problem

Answer, or draw and check

Write the answer

**SKATE**

Survey and identify the question

Keep and highlight important information

Attempt to estimate an answer

Take time to solve

Examine your answer

**STAR**

Search the word problem

Translate the words into a math picture and equation

Answer the problem

Review your answer

Maccini & Hughes (2000)

**RUN**

Read the problem

Underline important information

Name the problem type

Fuchs et. al. (2008)

**PIES**

Picture – draw a simple picture showing the situation

Information – find important facts (information) and list them next to the picture

Equation – find an equation which matches the information on the picture

Solve – insert information from the picture into the equation and solve.

Heater et. al. (2012)

**Steps:**

1. The teacher explicitly introduces the mnemonic and demonstrates solving a word problem using it.
2. The teacher provides multiple examples with different types of word problems and allows for guided and independent practice with feedback.