

Plan to Solve the Problem: Hypothesize & Estimate

Reys, R. E., & Bestgen, B. J. (1981). Teaching and assessing computational estimation skills. *Elementary School Journal* 82(2), 117-127.

Reys, R. E., Rybolt, J. F., Bestgen, B. J., & Wyatt, J. W. (1982). Processes used by good computational estimators. *Journal for Research in Mathematical Education* 13, 183-201.

This targeted intervention uses a graphic organizer to help student(s) plan an educated guess and determine the reasonableness of their answers. (Estimation is considered the foundation for more advanced math skills and is considered a higher-level thinking skill.)

Materials:

- Word Problems
- **What is My Hypothesis?** Graphic Organizer

Steps:

1. Students are taught that an educated guess is a hypothesis and that the purpose of estimating is to determine the reasonableness of answers.
2. The teacher and the student(s) read the word problem together and the teacher paraphrases the problem.
3. The student(s) use the graphic organizer to write a possible solution for the word problem.
3. The teacher and student(s) discuss what would be a reasonable answer and the student(s) are given an opportunity to change their hypothesis.
4. The teacher and student solve the word problem together.
5. The final estimate is checked with the solution to see if the estimate was reasonable.