

MENTAL MATH COUNTS

Performance Standard 6C.A

Use counting-on and counting-back strategies when shown a basic fact, determine whether the sum or difference of a given number sentence is more or less than ten:

- *Mathematical knowledge:* count on and count back to obtain correct answer, estimate sum and differences.
- *Strategic knowledge:* use appropriate mental math strategy for the addition and subtraction facts.
- *Explanation:* explain completely what strategy was used and why.

Procedures

1. ***In order to compute and estimate using mental mathematics, paper-and-pencil methods, calculators, and computers (6C)***, students should experience sufficient learning opportunities to develop the following:
 - Use mental math counting strategies.
 - Describe reasonable and unreasonable sums and differences.
2. Assessment should be videotaped for evaluation of individual students.
 - a. Teacher flashes subtraction and addition fact cards to students. All fact cards should be random addition and subtraction of 1,2, or 3 (count-ons and count-backs).
 - b. Students look at the card and verbally count– on or back to determine the solution. For example, $6 + 3$ would be counted 6...7,8,9 and $8 - 2$ would be counted 8...7,6.
 - c. With a separate set of flashcards including count-ons, count-backs, count-ups, doubles and other facts to 20 (excluding 10 facts), teacher will flash the card to the student who will tell whether the sum or difference is more or less than ten.
3. Evaluate student's answers to determine whether he/she is using the correct mental math counting strategy (counting-on to add and counting-back to subtract). Keep track of right and wrong answers by sorting them as you flash.
4. Evaluate student's answers to the sum or difference estimation and keep track of right or wrong answers by sorting them as you flash.

Examples of Student Work not available

Time Requirements

Five to ten minutes and must be given individually

Resources

- One set of flash cards including only count-ons and count-backs
- A second set of flash cards including all addition and subtraction facts to 20, excluding 10 facts
- Mathematics Rubric