

Making Change – Grade Three

Student Work Commentary

Although subtraction of decimals is not addressed in the academic content standards until Grade Four, some students may attempt to use a formal subtraction algorithm. This was evident in some student papers from the field test where the students were to show the amount of change to be received from a ten dollar bill when Alex's lunch cost \$3.17. The sample student work shows different ways students attempted the algorithm.

Student A understood that regrouping was needed in order to subtract; however was challenged to carry the procedure to a correct solution. There is insufficient evidence to support how Student B arrived at the answer. This student should be encouraged to explain the strategy used to arrive at the amount of change. Student C brought down the cents and subtracted the dollar amounts. In each case, the use of physical materials would aid in the understanding of calculating change.

Students may experience less difficulty using bills and coins in finding the total cost of several items. One strategy to use may be placing the bills and coins for each item on the table. The student would then consolidate and count the bills and coins. The student may also trade some of the coins into bills to make the count easier.

Student D shows a flawed strategy for calculating the total cost. The student added the digits in each price to get the total cost (e.g. $\$1.25 + \$0.75 = 1+2+5+7+5 = \$20$). An intervention by the teacher first involves determining if the student knows the value of each coin, then having the student find the value of a collection of different coins.

Encourage the student to talk through the activity. Ask questions pertaining to the use of other coins in place of many coins (a nickel for five pennies, etc.). Using bills and coins would aid in helping this student understand how to calculate the total cost.