



Making Change - Estimates and Calculations (Subtraction)

Suggested time: 45 minutes

What's important in this lesson:

It is important for you to be able to create different combinations of bills and coins that represent the same dollar value. You will need to remember both the estimation skills and calculations skills that you have already covered in this course.

Complete these steps:

1. Read through the Lesson portion of the package independently.
2. Complete the required 'Practice' questions.
3. Seek assistance from teacher as needed. If you have questions about the examples or the 'Practice' questions.
4. Use 'Practice' Answer Keys to check their answers as they work through the package. If you are making errors, have your teacher review these questions with you.
5. Complete the Making Change Assignment.

Hand-in the following to your teacher:

1. Practice Problems from the Student Handout
2. The Making Change Assignment

Questions for the teacher:



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Part A - Change It!

Example

1. How many different ways can a cashier give \$5.00 in change?

- | | |
|-----------------------------|--------------------------------------|
| a. 1 five dollar bill | Give 3 other ways to make \$5 below: |
| b. 2 toonies and 1 loonie | 1. _____ |
| c. 5 loonies | 2. _____ |
| d. 4 loonies and 4 quarters | 3. _____ |

If you were the CASHIER, which of these would you prefer to give as change?

Probably the 1 five-dollar bill, since it is the least number of coins/bills

If you were the CUSTOMER, which of these would you prefer to give as change?

Probably the 1 five dollar bill, unless you need the coins for something.

Example

2. What is the LEAST number of coins that you can use to make \$3.45?

- Count these:
- a) using 12 coins - 3 loonies, 4 dimes, 5 pennies
 - b) using 7 coins - 3 loonies, 1 quarter, 1 dime, 2 nickels
 - c) using 5 coins - 1 toonie, 1 loonie, 1 quarter, 2 dimes

Although all 3 of these add up to \$3.45, we can see that 5 is the least number of coins that we can use to make \$3.45!



Practice Problems

For each amount below, write out the LEAST number of coins/bills possible to make that amount:

(You can use PENNIES, NICKELS, DIMES, QUARTERS, LOONIES, TOONIES, \$5 BILLS, \$10 BILLS and \$20 BILLS)

1. \$7.50 - _____

(_____ coins/bills)

2. \$2.95 - _____

(_____ coins/bills)

3. \$12.63 - _____

(_____ coins/bills)

4. \$9.87 - _____

(_____ coins/bills)

5. \$28.48 - _____

(_____ coins/bills)

6. \$31.77 - _____

(_____ coins/bills)

*** Check the answers to these questions before moving on to part B!**



Part B - Estimating and Making Change

For this lesson, sales taxes do not need to be calculated!

Example

1. a. ESTIMATE and CALCULATE the answer: **20 - 3.90**

<u>Estimation</u>	<u>Calculation</u>
Round 3.90 to 4 then $20 - 4 = 16$	$20 - 3.90 = 16.10$

- a. Are the estimate and answer close? **Yes, 16 and 16.10 are very close!**
- b. Why is the ESTIMATION LOWER than the exact answer?

When we rounded 3.90 to 4, we rounded UP, so it looked like we were subtracting MORE!

- c. How is this useful to us?

If we have to pay for a \$3.90 item, and we only have a \$20 bill, we can estimate how much change we will get - about \$16.

2. Imagine that you wish to buy the following items:

shirt - \$21.95
socks - \$3.95
hat - \$12.85

- a. You only have \$40 cash on you. ESTIMATE if you can buy all 3 items:

Round the items to the nearest DOLLAR - shirt: \$22, socks: \$4, hat: \$14

The ESTIMATED TOTAL is $\$22 + \$4 + \$13 = \39

- b. So, will you have enough money?

Since you rounded all prices UP, it looks like you will have enough money.



Making Change Assignment

1. Write out 3 different ways that you can use coins and/or bills to make \$17.43

a. _____

b. _____

c. _____

2. For each amount below, write out the LEAST number of coins/bills possible to make that amount:

a. \$8.98 - _____

(____ coins/bills)

b. \$23.66 - _____

(____ coins/bills)

3. If you use a \$20 bill to pay for a CD costing \$16.95, ESTIMATE (by rounding) and then CALCULATE the change that you will receive.

<u>Estimation</u>	<u>Calculation</u>

4. Imagine that you have \$30 in your wallet, use rounding (to the nearest dollar) to ESTIMATE if you have enough money for the following items:

movie ticket (\$13.05), large popcorn (\$7.90), large drink (\$5.95), candy (\$4.20)

Student Evaluation: Unit 2 Lesson 4



5. ESTIMATE and then CALCULATE the change that you will receive when you use a \$20 bill to pay for the following items:

hot dogs (\$2.99), buns (\$1.79), ketchup (\$2.19), mustard (\$1.88)

<u>Estimation</u>	<u>Calculation</u>

6. List the coins that you will most likely get back as change from #5.