

**“PACKING” COINS AND BILLS**

4-A9

**Objective 4-A:** Associate number name, number symbol, and place value meaning for dimes and pennies.

**Sub-Objective:** Given a collection of \$1 bills, dimes, and pennies, determine the correct value.

**Type of Lesson:** Reinforcement

**Instructional Method:** Game (2 players)

**Description:** Given a collection of bills, dimes, and pennies, students “pack” pennies, dimes, and dollars to determine the amount of money in the collection.

**Materials:** 1-blocks, small holders, decimal blocks, play money (\$1 bills, dimes, pennies), decimal place value mat

**Procedure**

*Note: This lesson teaches the connection between packing blocks and “packing” coins. It ends with a game in which students take a collection of different bills, dimes, pennies and count the total amount of money.*

Set-up: Give each player a decimal place value mat.

**Blocks**

1. Use blocks to demonstrate organizing and determining the value of a collection of blocks.

A. Show a collection of blocks consisting of 13 1-blocks, 21 tenth-blocks, and 15 hundredth-blocks.

B. Organize the blocks by placing them in the correct columns on the decimal place value mat.

C. Determine the “value” of the blocks by packing them as much as possible, starting with the hundredth-blocks, the smallest value.

When working with decimal blocks, trading replaces packing. Use the constructions you made in Lesson 1 to reinforce the 1:10 relationship between a hundredth-block and a tenth-block and between a tenth-block and a 1-block. Help students understand that the packing *principle* they used with whole-number blocks applies to decimal blocks, as well.

D. Record the digits at the bottom of the mat.

2. Using the table on the top of the next page as a guide, repeat step 1 with other collections, drawing students in to the procedure until they are able to perform it on their own.

row #	ones	tenths	hundredths	number
1	12	10	15	13.15
2	7	22	8	9.28
3	20	5	30	20.80
4	14	16	19	15.79
5	27	36	0	30.60
6	46	0	21	46.21
7	15	26	8	17.68
8	0	42	31	4.51
9	30	47	12	34.82
10	2	10	16	3.16

### Money

3. Use play money to demonstrate organizing and determining the value of a collection of bills, dimes, and pennies.

A. Show a group of bills and coins consisting of 13 \$1 bills, 21 dimes, and 15 pennies. Point out the connection between the bills and coins you are using now and the blocks you used earlier in the lesson.

B. Organize the money by placing the bills and coins in the correct columns on the decimal place value mat.

C. Determine the “value” of the money by “packing” each denomination as much as possible, starting with pennies, the smallest value.

When working with bills and coins, trading replaces packing. Help students understand that the packing *principle* they used with blocks applies to bills and coins, as well.

D. Record the digits at the bottom of the mat.

4. Repeat step 3 with a few more collections, drawing students in to the procedure until they are able to perform it on their own.

### Game

When students have gained proficiency in “counting” play money by using the packing principle on the decimal place value mat, they are ready to play the following game.

5. Taking one row at a time of the table on the top of the next page, give each student a collection of the designated bills and coins. Tell students to race to be the first player to . . .

- Organize the money by placing the bills and coins in the correct columns on the decimal place value mat.

- Determine the “value” of the money by “packing” each denomination as much as possible, starting with pennies, the smallest value.

- Record the digits at the bottom of the mat.

The player who records the correct digits first must verbalize the results correctly, as in this example. Then, that player is the winner of the round.

- “I have 1 \$10 bill, 3 \$1 bills, 2 dimes, and 5 pennies.
- That’s 10-11-12-13 dollars, and 10-20-21-22-23-24-25 cents.
- The total amount is 13 dollars and 25 cents.”

row #	\$1	\$0.10	\$0.01	Amount
1	12	10	15	\$13.15
2	7	22	8	\$9.28
3	20	5	30	\$20.80
4	14	16	19	\$15.79
5	27	36	0	\$30.60
6	46	0	21	\$46.21
7	15	26	8	\$17.68
8	0	42	31	\$4.51
9	30	47	12	\$34.82
10	2	10	16	\$3.16

**Evidence of Learning:** Given a collection of bills, dimes, and pennies, the student determines the correct value of the collection.