

Newark Charter School Units/Lessons

Mathematics ~ Grade 2

Newark Charter School Instructional Unit

Unit Title: Money! Money! Money!

Content Area: Mathematics

Grade Level(s): 2nd grade

Unit Summary:

Money is everywhere! Children encounter money and economic lessons in their everyday lives. As teachers, it is our duty to teach children a basic understanding of how money works. Through this unit, children will learn money concepts as described in the Core Knowledge sequence, such as: identifying coins, coin values, and that equal amounts can be reached through different coin combinations. We will build on these concepts through hands-on explorations, activities, and integration of the Core Knowledge sequence and other literature.

Common Core State Standards:

CCSS.Math.Content.2.MD.C.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?

Big Idea(s):

- We can operate with money using what we know about numbers operations.

Enduring Understandings:

- Recognize the relative value of penny, nickel, dime, quarter, and dollar.
- Writing amounts of money using \$ and signs and the decimal point
- Show how different combinations of coins equal the same amounts of money

Essential Question(s):

- How does being able to work with money helpful to people?
- Can I work with money the same way I operate with other numbers?

Knowledge and Skills:

Students will need to know...

- Coins have different values that we can use to solve problems
- We use coins and money to exchange for items and services

Students will be able to...

- Coin recognition
- Counting coins
- Correct usage of \$ and signs
- Comparing coin values
- Showing equivalent coin values using various coin combinations

Assessment Evidence

Performance or Transfer Tasks:

- Coin recognition
- Counting coins
- Correct usage of \$ and signs
- Comparing coin values
- Showing equivalent coin values using various coin combinations

Rubrics:

Other Evidence:

Teacher-student conferences about using money in real settings

Student Self-Assessment/Reflection:

Student notes to parents

Learning Plan

Key Learning Events:

Lesson One: Introduction to Money

1. Objective/Goal: Students will...
 - a. identify the value of pennies, nickels, and dimes through 99.
 - b. use combinations of coins to show specified amounts.
 - c. compare equivalent amounts using different coin combinations.
2. Materials
 - a. Play money (10 pennies, 10 nickels, 10 dimes per student)
 - b. Piggy bank workmat for each student
 - c. Large display set of pennies, nickels, & dimes
3. Prior Knowledge for Students - Counting patterns (by 1's, 5's, 10's to 100)
4. Key Vocabulary
 - a. Penny d. Value
 - b. Nickel e. Cents
 - c. Dime
5. Procedures/Activities
 - a. Read Let's Find Out About Money, a picture book by Kathy Barabas, to discover how coins go from rocks in the ground, to the U.S. Mint, to your piggy bank!
 - b. Teacher uses the set of large coins to display, identify, and compare the heads and tails sides, as well as the value, of each coin.
 - c. Have the students sort their play money into piles of similar coins. Lead the students to determine the total value of each pile by counting in unison, count the penny pile by ones, the nickel pile by 5's, and the dime pile by 10's.
 - d. Model various examples of counting combinations. Point out that it is often easiest to start with the coin of greatest value.
 - e. Write an amount on the chalkboard up to 99. Show the students that the symbol "" may be used in place of the term "cents."
 - f. Ask students to use their play money to show that amount with their coins on their workmats. Discuss the different combinations of coins the children used to show the

amount. Determine who used the fewest or most coins. Point out that there can be different ways to make the same amount of money.

6. Evaluation/Assessment

Have the children pair up with a partner to take turns calling out and making values less than 99. Observe those having difficulty, and reteach with additional examples as necessary.

Lesson Two: Money Challenge Cards

1. Objective/Goal: Students will...

- a. practice finding various ways to make equivalent amounts of money using combinations of pennies, nickels, and dimes.
- b. work cooperatively with a partner.

2. Materials

- a. Play money
- b. Piggy bank workmat (Appendix A)
- c. 1 set of challenge cards per pair of students
- d. paper and pencils for students

3. Prior Knowledge for Students

- a. Coin recognition
- b. Counting mixed coin values

4. Key Vocabulary

- a. b. value

5. Procedures/Activities

- a. Have students pair up with a partner and sort their play money. After sorting, one partner picks a card from the pile placed face down between the two players and reads it to the other partner.
- b. Together the two players together follow the instructions on the card. On a piece of paper, the child who did not choose the card writes down the amount and records what they did with the coins.
- c. The partners switch roles as they continue the activity, choosing another card until all the challenge cards have been read.

6. Evaluation/Assessment

When the partners are finished, group two pairs together and have them exchange papers and check each other's work; teacher has each group report out on their activity and the various ways they found to make money amounts.

Lesson Three: Money War

1. Objective/Goal: Students will...

- a. practice counting amounts of money up to 99 using pennies, nickels, and dimes.
- b. compare values of sets of money up to 99 to determine which is more or less.

2. Materials

- a. 2 different colored sets of money cards (one set per child)
- b. pencils for students

3. Prior Knowledge for Students

- a. Coin recognition
- b. Counting coin values to 99
- c. Knowledge of how to play the card game "war"

4. Key Vocabulary

- a. More
- b. Less
- c. Equal
- d. Penny
- e. Nickel
- f. Dime

5. Procedures/Activities

- a. Pair students with a partner. Give each partner a different colored sheet of cards,

each depicting various coin combinations. Students should count and write down the value of each card before playing.

b. When all the values have been recorded on the cards, the players should cut apart the sheet into the cards and place them face down in a pile.

c. The players simultaneously turn over the top card in their pile. Whoever has the larger amount on his card wins that pair of cards. If the players flip cards that show equal amounts, then they declare "money war" by leaving the equivalent cards showing and flipping the next pair of cards to see which of those shows the larger amount. That player then takes all 4 cards.

d. Players continue until they have flipped every card in their piles. The player with the most cards wins the game. If time allows, the players may then sort their cards by color and play again.

6. Evaluation/Assessment

Teacher circulates to ensure student comprehension and provide assistance where needed.

Lesson Four: The Quarter

1. Objective/Goal: Students will...

a. identify the value of a quarter.

b. count quarters to \$1.00.

c. count values of mixed coins by adding on from the quarter.

2. Materials

a. Play money

b. Large display model of a dollar bill cut into 4 equal sections

c. Piggy bank workmats

d. Follow-up worksheet

3. Prior Knowledge for Students

a. Fractions

b. Counting mixed coins

4. Key Vocabulary

a. Counting on

b. Quarter

c. Dollar / \$

d. Dime

e. Penny

f. Nickel

5. Procedures/Activities

a. Ask students to show 2 dimes and 1 nickel on their workmat. After they determine the value of 25, ask if anyone knows any other ways to make 25. After exploring their suggestions, introduce the quarter.

b. Display and discuss both the heads and tails sides of a large model of the quarter. Explain that the coin is named the quarter because it is one quarter, or $\frac{1}{4}$, of a dollar. At this point, you may introduce the symbol \$ to be used interchangeably with the term "dollar."

c. Demonstrate the concept of a quarter dollar by using the large display model of a dollar bill cut into 4 equal parts. As the teacher puts up each part of the dollar on the board, have the students place the number of quarters representing that amount onto their workmats. For example, when you put up only $\frac{1}{4}$ of the dollar, the students should only show 1 quarter or 25; when you show $\frac{2}{4}$ of the dollar, the students should show 2 quarters or 50; when you show $\frac{3}{4}$ of the dollar, the students should show 3 quarters or 75; and when you show the entire dollar bill, students should show 4 quarters or \$1.00

d. On their workmats, have students place 1 quarter, 3 dimes, 3 nickels, and 3 pennies. Model counting on from 25 to determine the combined value of the coins.

Have the children touch the corresponding coins as they count aloud with you: 25, 35, 45, 55, 60, 65, 70, 71, 72, 73.

e. Repeat using various amounts of coins and having the students share their solutions.

6. Evaluation/Assessment

a. As students count the given amounts, observe whether they are starting with the larger value coins.

b. Provide students with the follow-up worksheet with additional examples if needed

Lesson Five: "Smart"

1. Objective/Goal:

a. Students read the poem "Smart" by Shel Silverstein.

b. Students make the coin amounts given in the poem with play money.

2. Materials

a. The poem "Smart" by Shel Silverstein

b. Play money for each student

3. Prior Knowledge for Students

a. Counting mixed coins

b. Relative value of coins

4. Key Vocabulary

a. Penny

d. Quarter

b. Nickel

e. Value

c. Dime

f. Swap

5. Procedures/Activities

a. Teacher reads the poem to the class.

b. Teacher and the students reread the poem together.

c. Teacher leads and encourages student discussion of the poem.

d. As the teacher reads each stanza to the class, the students determine the amount the boy in the poem has. The students act out the "swap" described in the poem and compare the amounts. (May be continued on during dramatic play as students reenact the poem)

6. Evaluation/Assessment

a. Teacher observes student participation.

b. Teacher addresses any difficulty students may experience

Lesson Six: Money Bingo

1. Objective/Goal:

a. Students practice counting and recognizing combined values of pennies, nickels, dimes, and quarters to \$1.00.

b. Students write the and the \$ correctly.

2. Materials

a. 3 versions of bingo grid

b. Total amount cards

c. 9 markers (or counters) per student

d. pencils for students

3. Prior Knowledge for Students:

Counting mixed coins

4. Key Vocabulary

a. Penny

d. Quarter

b. Nickel

e. Value

c. Dime

5. Procedures/Activities

a. Distribute a bingo grid to each student. Have students count the values of the 9 different sets of coin combinations displayed on their bingo cards and record the total

value in each square.

b. After all the values have been determined, the teacher pulls cards from a bag with a total amount written on them. The students should cover the corresponding squares with markers (these can be cut from construction paper).

c. The students may continue playing until one or more reaches "Bingo" by either covering 3 spaces in a row or the entire card, as determined by the teacher.

6. Evaluation/Assessment

a. Teacher observes student participation.

b. Teacher addresses any difficulty students may experience.

c. Have students report out on what happened as they played the game

Lesson Seven: Race to \$1.00

1. Objective/Goal:

a. Students recognizes denominations of coins.

b. Students adds coins to equal \$1.00.

2. Materials

a. Money die for each pair of students

b. Copy of 100s board for each student

c. Crayon for each child

3. Prior Knowledge for Students

a. Relative coin values for penny, nickel, dime, quarter

b. Equivalent coin combinations to \$1.00

4. Key Vocabulary

a. Penny

d. Quarter

b. Nickel

e. Roll (as in roll the die)

c. Dime

5. Procedures/Activities

a. The teacher shows the class a blank 100s board on the chalkboard or overhead.

b. The teacher asks the students how many pennies equal a dollar (100).

c. The teacher rolls the money die and tell the students the coin she rolled.

d. The students tell the teacher how much the coin is worth, and the teacher colors that many squares on the graph.

e. The teacher continues until all students have answered.

f. The teacher divides class into pairs. Each pair of students receives two grids, one money die, and two crayons.

g. Students rolls the die and color in their grid. First student to \$1.00 in each pair is "The Winner."

6. Evaluation/Assessment

a. Teacher calls on all students during the demonstration. Students who answer incorrectly can be remediated during the game. Use as a differentiation opportunity. Teacher may engage those student having difficulty in a game with her at another time.

b. To monitor student progress, the teacher circulates among groups as they race to \$1.00.

Lesson Eight: Slide Show and Money Dominoes

1. Objective/Goal:

a. Students review relative value of coins.

b. Students add coins.

c. Students match like amounts.

d. Students write the and the \$ correctly.

2. Materials

- a. Money Slide Show
 - b. Teacher set of (Money Dominoes)
 - c. Money Dominoes Sheet for each student (Appendix K)
 - d. Scissors for each student
 - e. Pencil for each student
3. Prior Knowledge for Students
- a. Relative coin values for penny, nickel, dime, quarter
 - b. Coin combinations to \$1.00
 - c. Knowledge of how to play dominoes
4. Key Vocabulary
- a. Penny
 - b. Nickel
 - c. Dime
 - d. Quarter
 - e. Cents
 - f. Domino
 - g. Match (as in match like pairs)
5. Procedures/Activities
- a. Teacher shows the Money Slide Show. Students identify amounts shown.
 - b. Teacher then models the game of dominoes, using the Teacher Set of Money Dominoes.
 - c. Teacher passes out student materials. Students cut apart dominoes and write amounts on each, using the and \$ signs.
 - d. Teacher divides class into pairs. Students play dominoes with their partners. Teachers should send game home with children, including directions to parents on playing at home.)
6. Evaluation/Assessment
- a. Teacher monitors student answers to Slide Show and provides assistance when needed.
 - b. Teacher circulates among students to monitor progress, asking questions to verify student understanding and giving feedback where needed.

Lesson Nine: Money Menus

1. Objective/Goal:
- a. The student creates a menu from a template.
 - b. The student assigns amounts to each food item on the menu.
 - c. The student uses play money to purchase items off a menu.
 - d. The students use the and \$ signs correctly.
2. Materials
- a. Restaurant menus
 - b. Menu template
 - c. Pencil for each student
 - d. Play money for each student
3. Prior Knowledge for Students
- a. Menus are used in restaurants to order food
 - b. Relative coin values for penny, nickel, dime, quarter
 - c. Coin combinations to \$1.00
4. Key Vocabulary
- a. Penny
 - b. Nickel
 - c. Dime
 - d. Quarter
 - e. Cents
 - f. Menu
5. Procedures/Activities
- a. Teacher shows student menus from restaurants.
 - b. Students brainstorm ways menus are alike.
 - c. Teacher shows students the menu template. Teacher models moving items from the template to the menu screen. The teacher then adds amounts to her items.
 - d. The teacher guides students in making their own menus.
 - e. After completing the menus, students trade menus with a partner and try to purchase

- items with the play money. (Provide a center for restaurant dramatic play)
6. Evaluation/Assessment
 - a. Teacher monitors student progress in making the menu.
 - b. Teacher monitors student progress in ordering from the menu and paying.

Lesson Ten: Set up the Store

1. Objective/Goal:
 - a. With the teacher's help the students set up a small class store.
 - b. The students organize the store by sorting.
 - c. Students use the and \$ correctly.
2. Materials
 - a. Boxes and cans brought from home
 - b. Permanent marker to write prices
 - c. Table or area to keep store items
 - d. Tape to divide area into categories
 - e. Play money for students
 - f. Crayons or markers for students
 - g. Paper for "grocery store" fliers
3. Prior Knowledge for Students
 - a. Items in the grocery store have prices
 - b. Coin combinations to \$1.00
4. Key Vocabulary
 - a. Price
 - b. Penny
 - c. Nickel
 - d. Dime
 - e. Quarter
5. Procedures/Activities
 - a. Collect all items the students have brought.
 - b. Ask students to brainstorm ways that items are grouped in the grocery store.
 - c. Assign categories for items. Choose one item at a time and set a price under \$1.00 for the item.
 - d. Place items in the correct categories until all items are placed.
 - e. Have students create a flier for the grocery store. The flier should show the item and its price for 5-10 items.
6. Evaluation/Assessment
 - a. Teacher monitors the sorting of grocery items and intervenes when needed.
 - b. Teacher reviews student work to ensure the correct usage of and \$

CULMINATING ACTIVITY:

The Store...

The class can use the store to complete several different activities.

1. The students create grocery lists from the grocery store fliers made the day before.
2. The students take turns at the grocery store purchasing items from a list.
3. The students take turns being the grocer and accepting the play money.

Teacher will hold an exit conference with each student after they participate in the store experience and will discuss what they have learned, re: spending their money or selling items to others. Students will write brief letters "home" to parents telling them what they know about using money.

Resources:

A. Teacher Resources:

1. Math Section, What Your First Grader Needs to Know, E.D. Hirsch, Jr.
2. Math Section, What Your Second Grader Needs to Know, E.D. Hirsch, Jr.

B. Student Resources:

1. Plastic coins in all denominations

2. Oversized display set of classroom money
3. Restaurant menus
4. "Smart" by Shel Silverstein
5. Let's Find Out About Money by Kathy Barabas
6. Grocery store fliers

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Technology Integration

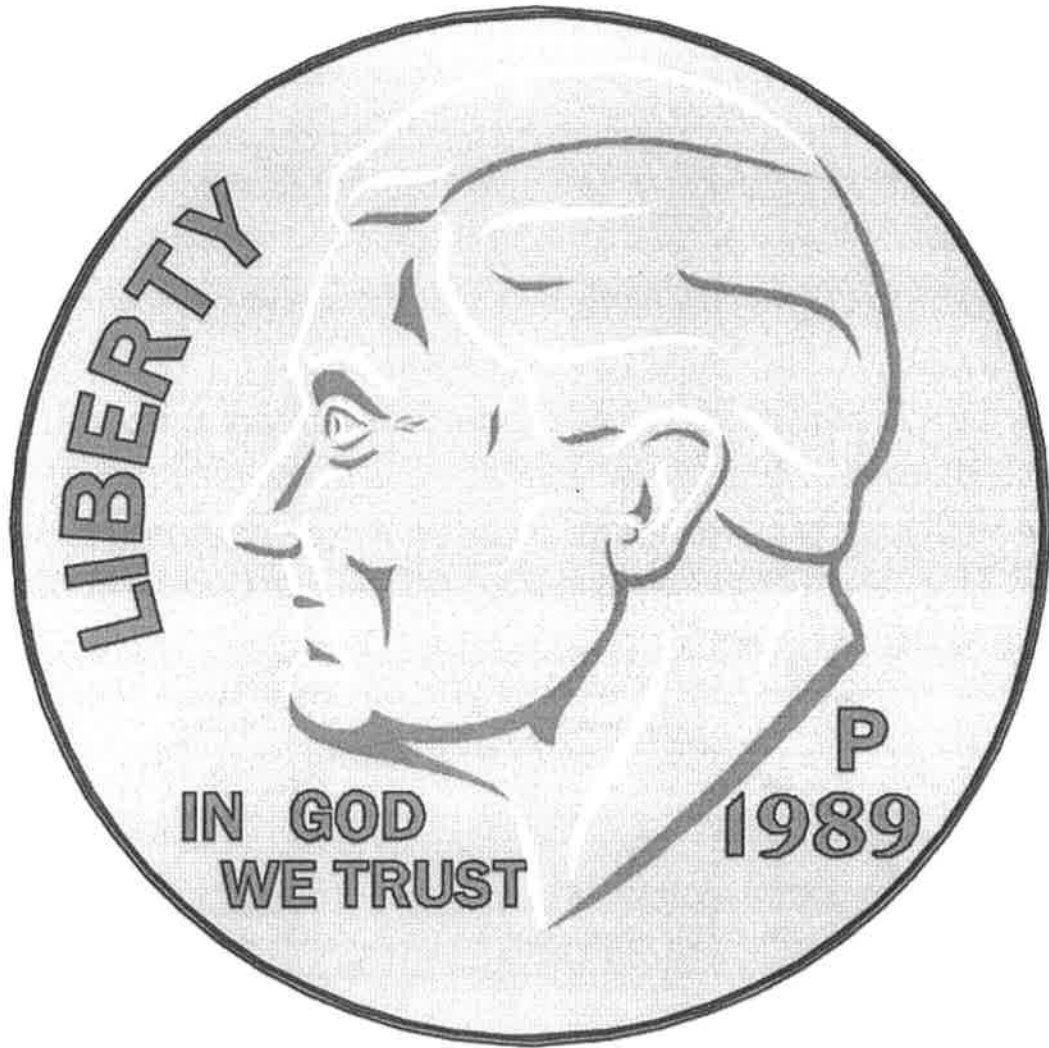
Pixie software program – coin stamps to create money problems
Smart Tutor – to practice money problems
Use of Elmo/projector with coins set to count various amounts

Content Connections

Students connect use of currency to economics, purchasing and earning and selling

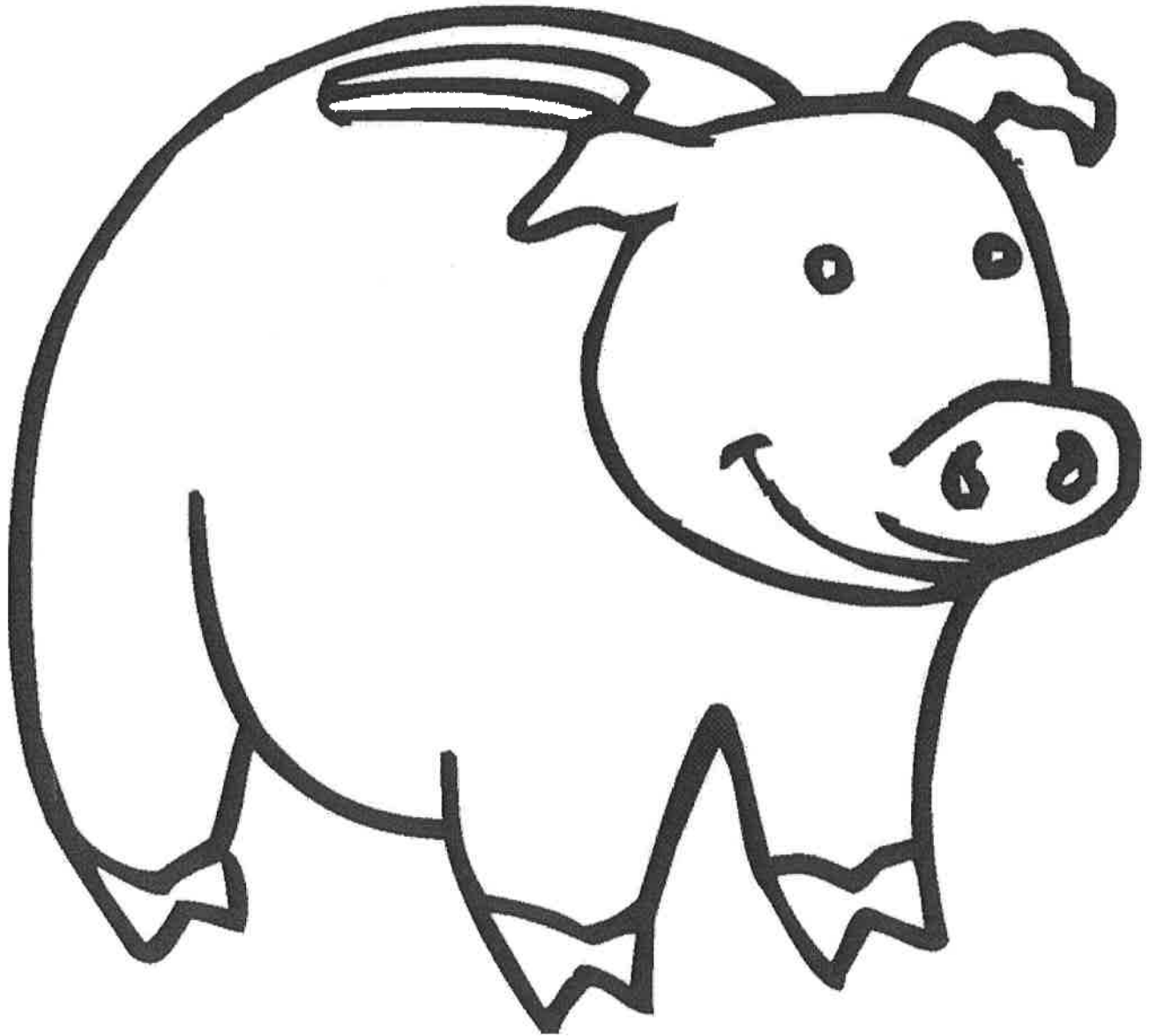


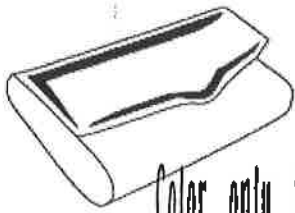






Piggy Bank





Penny Purses



Color only the pennies, then skip count by 1's to see how much money you have.



Pennies are worth 1¢, skip count by 1's:





Nickel in a Pickle



Color only the nickels, then skip count by 5's to see how much money you have.



Nickels are worth 5¢, skip count by 5's:

_____ ¢





The Dime is Mine!



Color only the dimes, then skip count by 10's to see how much money you have.



Dimes are worth 10¢, skip count by 10's:

_____ ¢





Quarter = Back



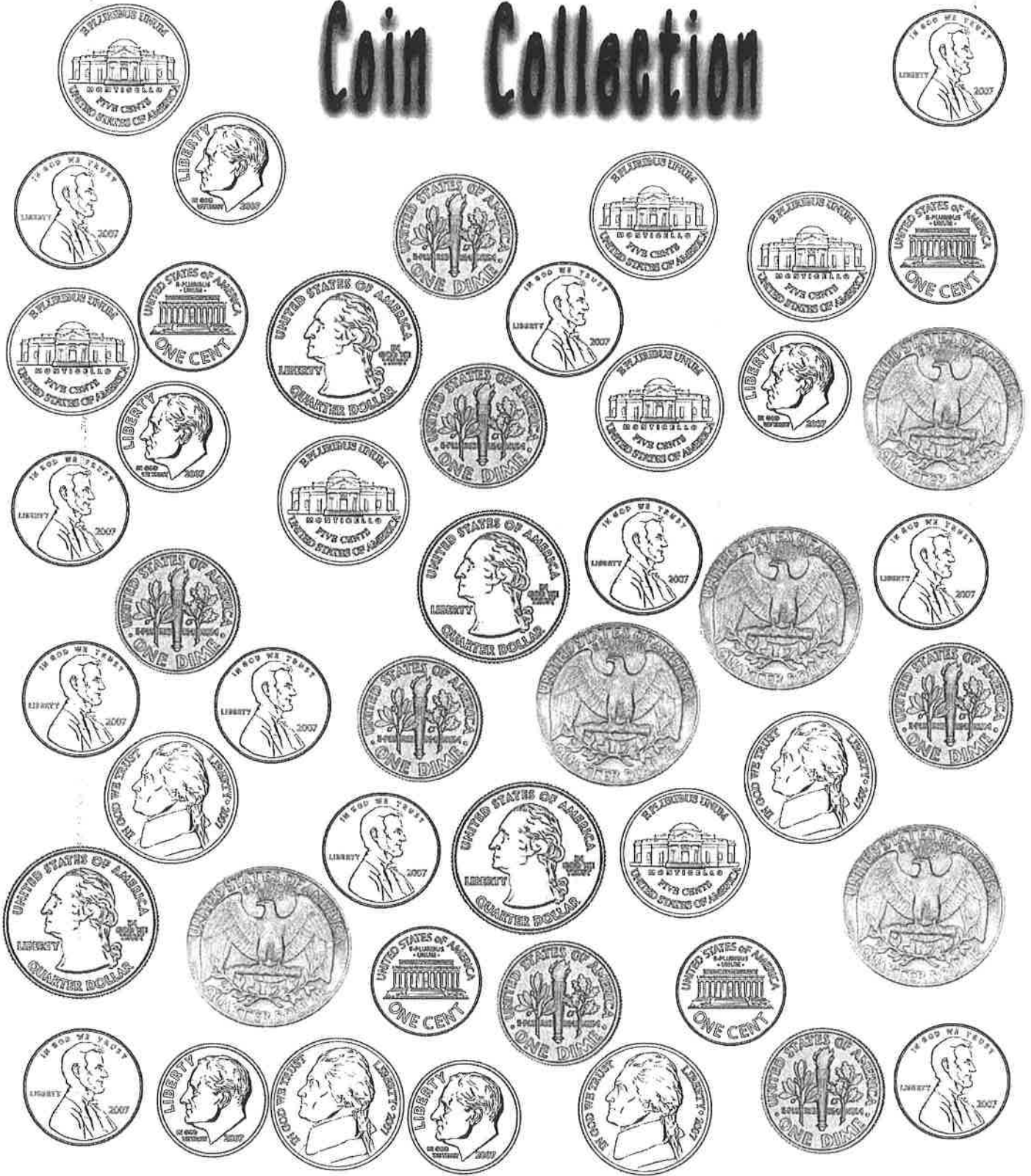
Color only the quarters, then see how many dollars you have.



There are 4 quarters in a dollar, how many groups of 4 do you have?

\$ _____

Coin Collection



1¢ color RED	10¢ color GREEN
5¢ color BLUE	25¢ color YELLOW