

Title: Super Cents**Brief Overview:**

In this unit, students will learn how to add money amounts of less than a dollar using different types of coins. Students will participate in activities and literature experiences that focus counting money.

NCTM Content Standard/National Science Education Standard:

- Understand numbers, ways of representing numbers, relationships among numbers, and number systems.
- Count with understanding and recognize “how many” in sets of objects.
- Connect number words and numerals to the quantities they represent using various physical models and representations.
- Develop fluency with basic number combinations for addition.
- Use a variety of methods and tools to compute, including objects, mental computation, estimation, paper and pencil, and calculators.

Grade/Level:

Grade 2

Duration/Length:

Three lessons – 60 minutes per lesson

Student Outcomes:

- Students will use concrete materials to compose quantities up to 100
- Knowledge of Money
- Students will determine the value of a given set of mixed currency up to \$1
- Students will represent money amounts up to \$1
- Students will compare the value of 2 sets of mixed currency up to \$1

Materials and Resources:

Day 1

- Where the Sidewalk Ends by Shel Silverstein
- Paper or plastic coins including pennies, nickels, dimes, quarters, and half-dollars
- Pencils
- Scissors
- Masking tape

- Plastic bags
- Classroom Hundreds chart
- Classroom Number line

Day 2

- Learning About Coins by Rozanne Lanczak Williams ISBN 0-8368-4110-7
- Paper or plastic coins including pennies, nickels, dimes, quarters, and half-dollars
- Plastic bags
- Pencils
- Scissors
- Classroom number line
- Hundreds chart
- Paper clips

Day 3

- The Coin Counting Book by Rozanne Lanczak Williams ISBN 0-88106-326-6
- Paper or plastic coins including pennies, nickels, dimes, quarters, and half-dollars
- Pencils
- Plastic Sheet protector
- Dry erase markers
- Dry Erase Boards
- Masking tape
- Grocery Store Advertisements
- Classroom number line
- Hundreds chart
- Calculators
- Scissors
- Blank Paper
- Glue

Development/Procedures:

Day 1

- Pre-assessment
 - Distribute copies of “Graphing Coins” and one bag of coins to each student, Student Resource 1.
 - Instruct students to count the coins in the bag, draw the coins, add all of the coins together, and put the total amount on the worksheet.
 - Beforehand, put 1 penny, 2 nickels, 1dime, 1 quarter, and 1 half-dollar into each plastic bag.
 - Answers can be found on Teacher Resource 1.
- Engagement

- Conduct a read aloud of “Smart” by Shel Silverstein, which is found on page 35 in Where the Sidewalk Ends. Read the poem again, and discuss each amount of money that the child has in the story. Use masking tape to create a blank number line on the floor or board approximately 5 feet long.
- Exploration
 - Prior to lesson, cut out amounts on Teacher Resource 2.
 - During the lesson, start with 0¢ and ask students where it should go on the number line.
 - After the number is placed on the number line, ask students why they would place the number at that point and why they would not place it at another point.
 - Repeat with 100¢ and ask the students again, why they would place the number at a certain point.
- Explanation
 - Distribute 50¢ to an individual student and have the student show where it would be placed on the number line.
 - Ask student how they determined where to place the number and discuss with the class. Continue with 30¢, 20¢, and 5¢.
 - Compare the results using a hundreds chart or another number line in the classroom.
- Application
 - Distribute Student Resource 2 to each student.
 - Explain that the students will be looking at the values in the box and determining where they would be placed on the number line.
 - Explain that the number line goes from 0¢ to 100¢ similar to the last activity.
 - Choose an amount from the box and ask students where it should be placed on the number line.
 - Show students how to write the amount on the number line.
 - Then have the students complete the remainder of the sheet independently.
 - Answer key can be found on Teacher Resource 3.
- Differentiation
 - Reteach
 - Distribute Student Resource Sheet 3, which is a modified version of Student Resource 2.

- Follow directions under the applications section allowing students to use resources around the room. (For example, the hundreds chart or number line.)
 - Answers are found on Teacher Resource 4.
- Enrich
 - Students will be able to make up their own number line and place numbers in the appropriate places on Student Resource 4.
- Assessment
 - Collect Student Resource 2 and check to see if the students understand the concept of ordering money on a number line.
 - Answers can be found on Teacher Resource 3.

Day 2

- Engagement
 - Conduct an interactive read aloud of; Learning about Coins. Discuss with the students different ways of making the same amount of money. For example, five pennies is the same amount as one nickel.
- Exploration
 - Distribute paper coins to each student.
 - Show the students one dime and five pennies.
 - Ask the students what other coins equal the same amount of money.
 - Have the students take turns showing different combinations of coins that equal the same amount.
 - For example, the same amount can be shown using three nickels or one dime and one nickel. Continue showing different amounts of money to the students and have them find different ways to make the same amount.
- Explanation
 - Use Student Resource 5, Student Resource 6, pencil, paper clip, and paper coins to model the “Race to One Dollar” game.
 - Show the students how to spin the paper clip with the pencil on the spinner.
 - Use coins to model the amount that was spun and place the amount on Student Resource 6 in the proper column.
 - For example, if 25 cents is spun, show how to make that amount whether it is a quarter or 2 dimes and a nickel.
 - Place the coins on Student Resource 6 in order to count to one dollar.
 - Continue to spin and count up the amounts spun to equal one dollar.
- Application

- Distribute Student Resource 5, Student Resource 6, paper clips and paper coins to the students.
 - Instruct the students to work in pairs in order to race to see who can get to one dollar first. The students will continue to play the game finding different ways to make the same amount in order to get to one dollar.
- Differentiation
 - Re-teach
 - Assemble the students having difficulty in a small group.
 - Use Student Resource 7 and repeat the steps to the “Race to One Dollar” game.
 - Enrich
 - The other students will work in partners in order to find different ways to make the same amount of money.
 - For example, what are the different ways to make 25 cents using the greatest amount of coins and the least amount of coins?
 - The answer can range from 1 quarter to 5 pennies and 2 dimes.
- Assessment
 - Distribute copies of Student Resource 8 to the students and have them complete the page independently.
 - Collect Student Resource 8 after it is completed.
 - Answers can be found on Teacher Resource 5.\

Day 3

- Engagement
 - Distribute coins to each student and conduct an interactive read aloud of The Coin Counting Book.
 - As you are reading the book, instruct students to use the coins and count along.
- Exploration
 - Distribute strands of masking tape to individual students and wrap the tape around their hands, sticky side out.
 - Place various amounts of coins on the table.
 - The students will place a hand on differing amounts of coins and count the amount that they collected with the tape.
 - Have each student show the class the coins they picked up and the class will assist in counting the amount by writing each amount on dry erase boards.
 - Challenge students with a few more examples repeating the same method as above.

- Explanation
 - Using 2 copies of Student Resource 9, show students how to construct a cube.
 - Use Student Resource 10 and show the students how to play the game “Making Cents,” by rolling the 2 assembled cubes, adding the amount on each cube and crossing off the number added.
 - After the explanation, ask a student to model how the game is played in front of the class.
 - Have other students add the amounts on each cube.

- Application
 - Distribute copies of Student Resource 9 to each student and have students assemble the cube.
 - After the cube is assembled, distribute copies of Student Resource 10 and a plastic sheet protector to each student.
 - Have students use a dry erase markers and erasers to mark the game board.
 - Have students work with a partner to play the game.

- Differentiation
 - Re-teach
 - Distribute Student Resource 11 with a plastic sheet protector, dry erase marker and eraser.
 - Collect a small group of students to work together on the game.
 - The students will be able to use a calculator, number line or hundreds chart, to play the game.

 - Enrich
 - Distribute coins and various grocery store advertisements to the students.
 - Instruct the students to work in pairs to find items in the advertisements that are less than one dollar.
 - The students will use the coins to pretend to purchase the items on the advertisement. Students will cut and paste items to the blank paper to show what they purchased for less than one dollar.

Summative Assessment:

- Distribute copies of Student Resource 12 and have students independently complete the page.
- Answers are found on Teacher Resource 6.

Authors:

Kathryn Meyers
 Harford Hills Elementary School
 Baltimore County Public Schools

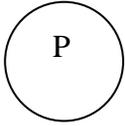
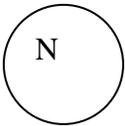
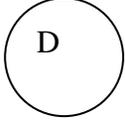
Kristy Petralia
 Berwyn Christian School
 Prince George's County Public Schools

Name: _____



Graphing Coins

1. Given your set of coins, divide the coins into the appropriate categories and draw your coins. For example:  = penny. Then, count up the total amount of coins in each category.

Penny 						Total amount of Pennies: _____
Nickel 						Total amount of Nickels: _____
Dime 						Total amount of Dimes: _____
Quarter 						Total amount of Quarters: _____
Half-Dollar 						Total amount of Half-Dollars: _____

2. Now add up all your coins together!

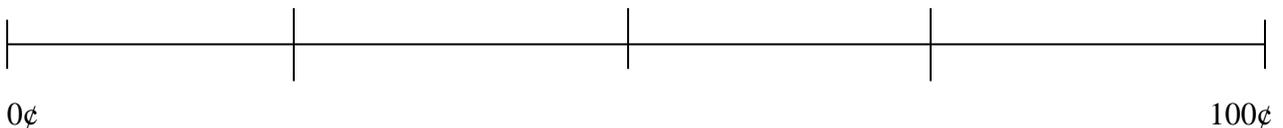
$$\frac{\quad}{\text{Pennies}} + \frac{\quad}{\text{Nickels}} + \frac{\quad}{\text{Dimes}} + \frac{\quad}{\text{Quarters}} + \frac{\quad}{\text{Half-Dollars}} = \frac{\quad}{\text{Total of all coins}}$$

Name: _____



Directions: Given the coin values in the box decide where on the number line you would place the different values and write down your answers.

45¢	63¢	99¢	54¢
10¢	25¢	50¢	75¢



Name: _____



Directions: Given the coin values in the box decide where on the number line you would place the different values and write down your answers.

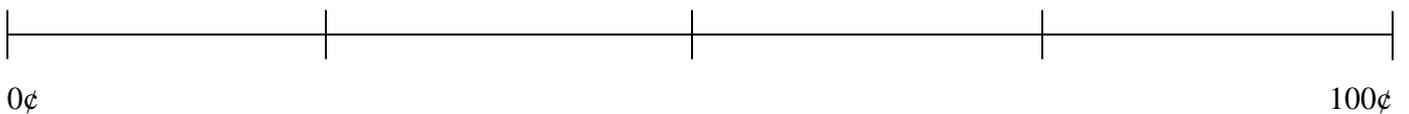
99¢

10¢

25¢

50¢

75¢



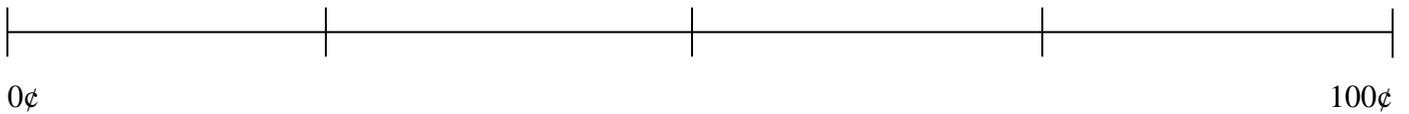
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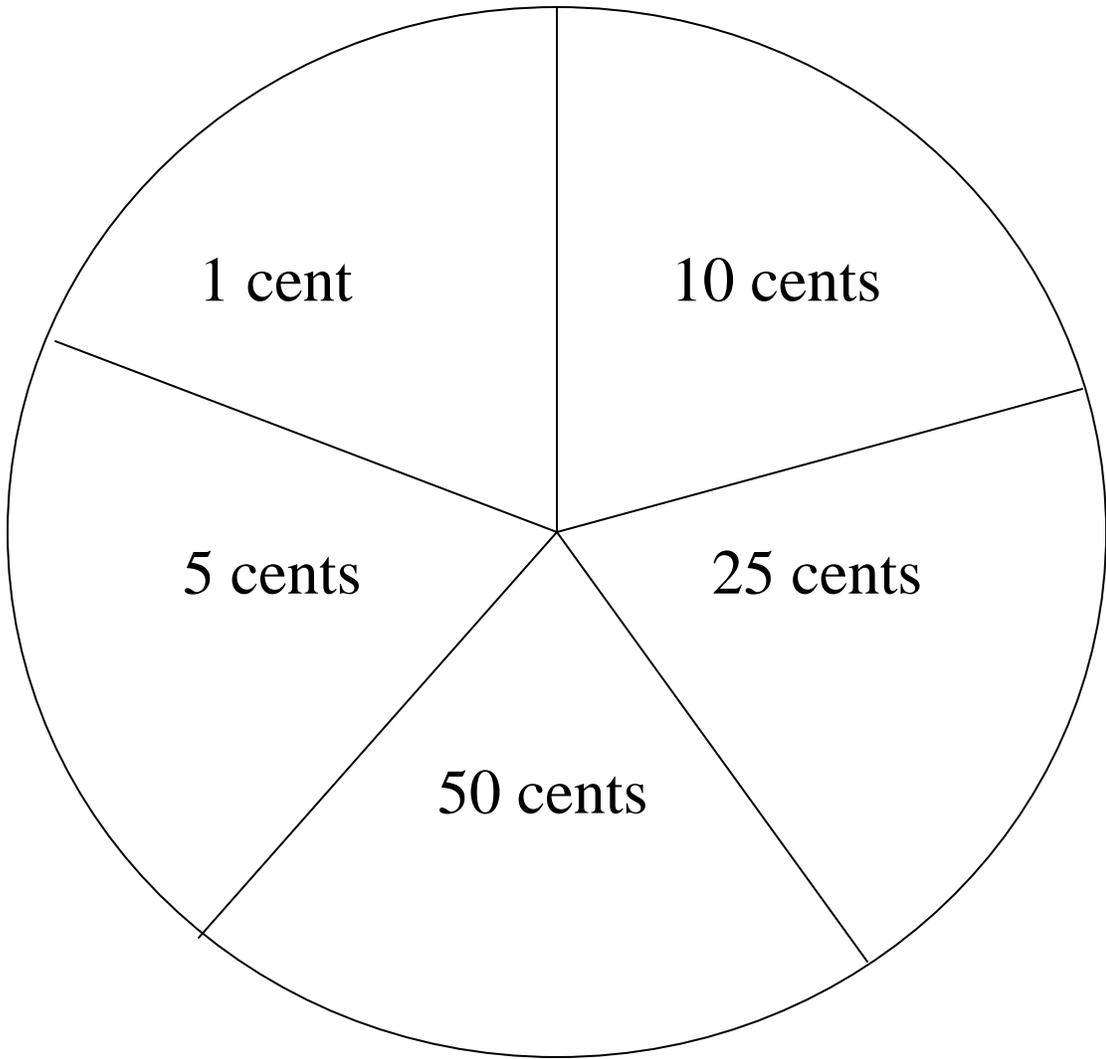
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Directions: Choose your own monetary amounts and place amounts in the box. Have another student decide where he/she would place the different values on a number line and have him/her write down the answers. Then work together to check the answers.

_____ ¢	_____ ¢	_____ ¢	_____ ¢	_____ ¢	_____ ¢
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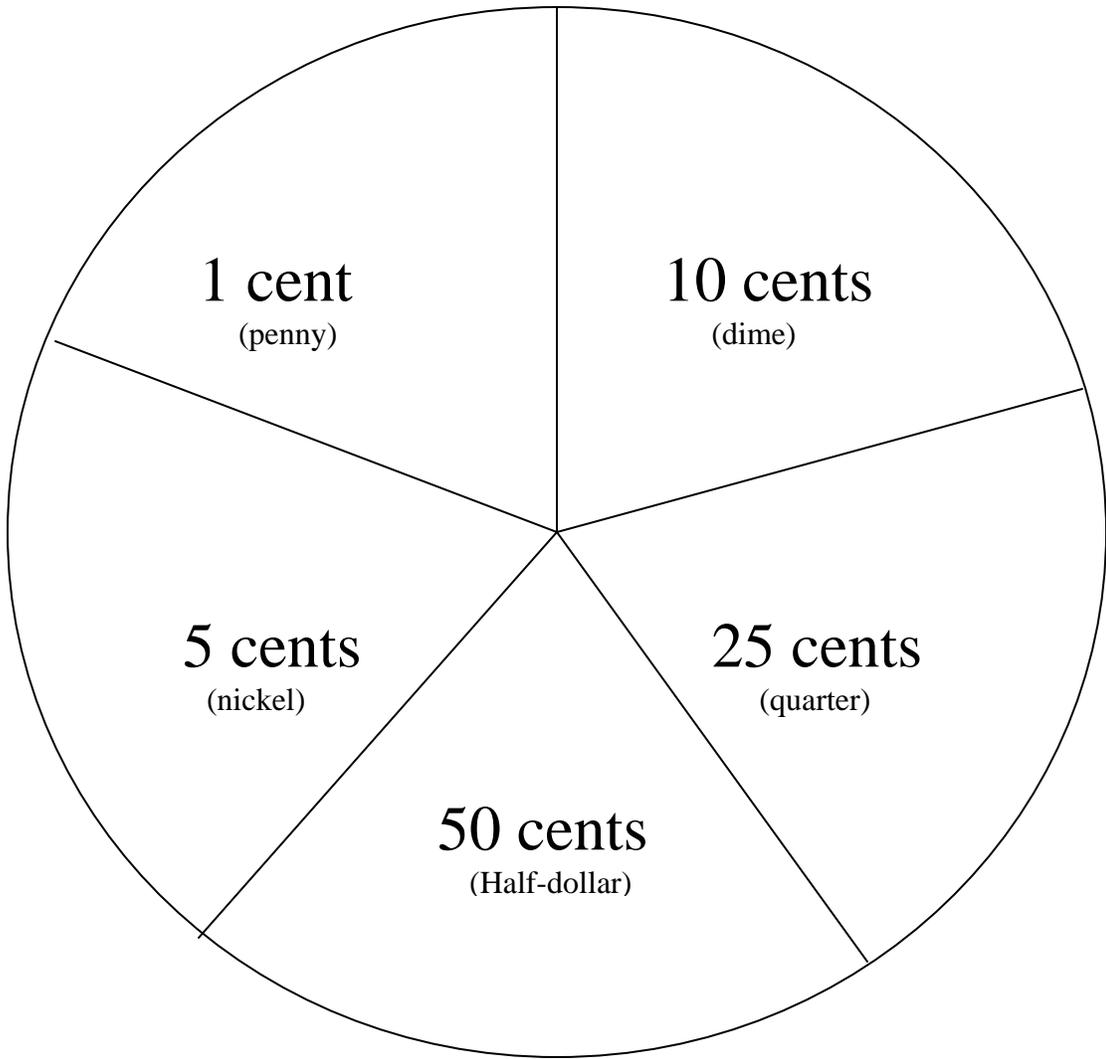


Name: _____



Directions: As you play Race to \$1.00 with a partner, place your coins in the appropriate columns and then decide if you can make any trades.

Penny	Nickel	Dime	Quarter	Half-dollar



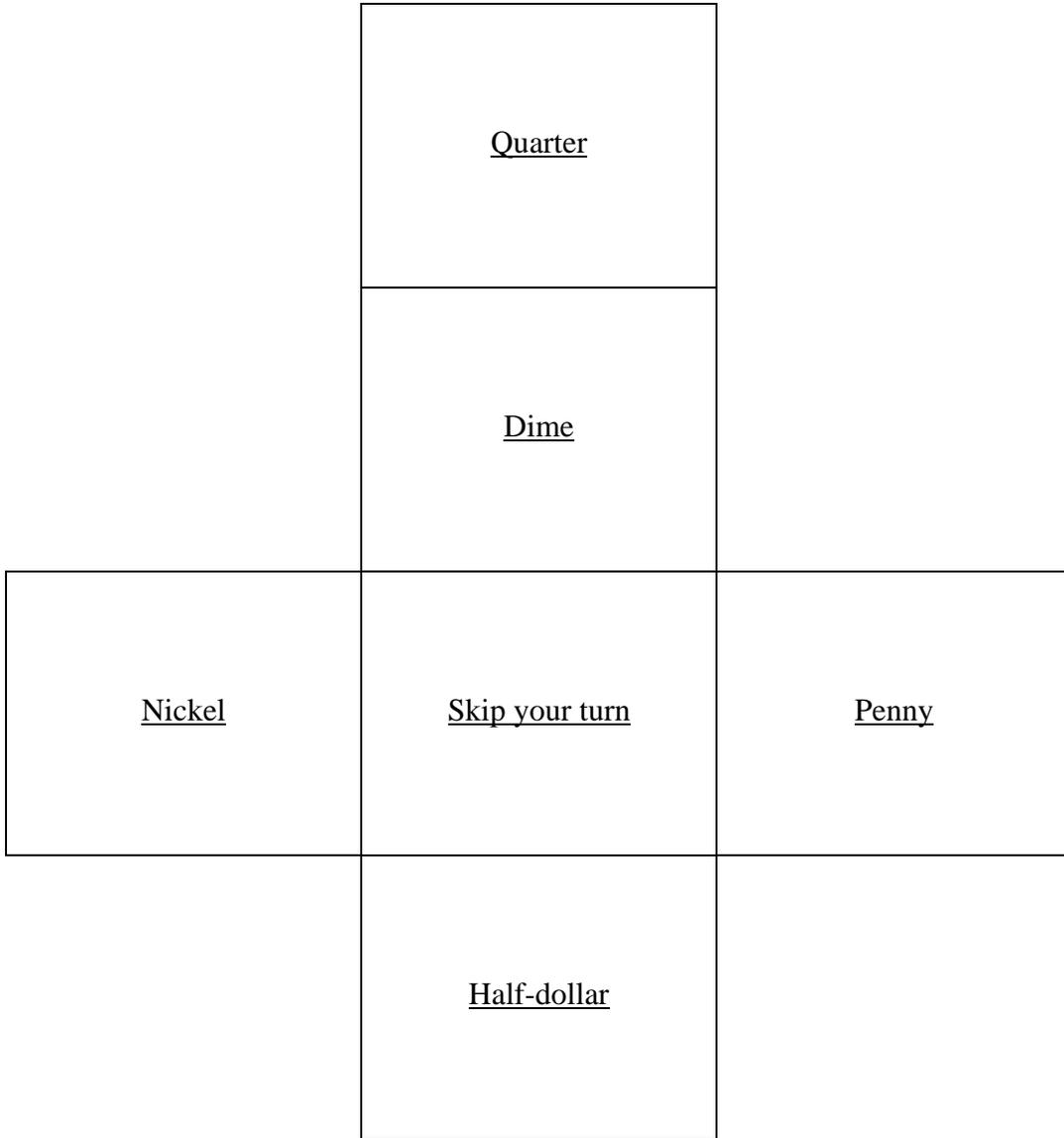
Name: _____

Directions: Read each question and solve the word problem. Use words, numbers, or symbols in your answer.

1. I have 5 pennies, 2 nickels, and 1 dime. Decide how much money I have. Show this amount using the least number of coins.

2. In my pocket there is 1 quarter, 2 dimes, and 13 pennies. How much money is in my pocket?

3. On the table I have 3 dimes, 1 quarter, and 3 nickels. Then my friend gave me 4 more nickels. How much money is there in all?



Name: _____

Making Cents

Directions: Working with a partner and using both of your money cubes, roll the cubes and add the amount shown. Then find the amount below and cross out your total. The first person to cross out all of the amounts wins!

2¢	6¢	10¢	11¢	15¢	20¢	26¢	30¢	35¢	50¢	51¢	55¢	60¢	75¢	100¢
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Name: _____

Making Cents

Directions: Working with a partner and using both of your money cubes, roll the cubes and add the amounts shown. Then find the amount below and cross out your total. The first person to cross out all of the amounts wins!

2¢	6¢	10¢	11¢	15¢	20¢	26¢	30¢	35¢	50¢	51¢	55¢	60¢	75¢	100¢
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Write the amounts of the money cubes below and add the amounts together using a calculator, a hundreds chart, or a number line.

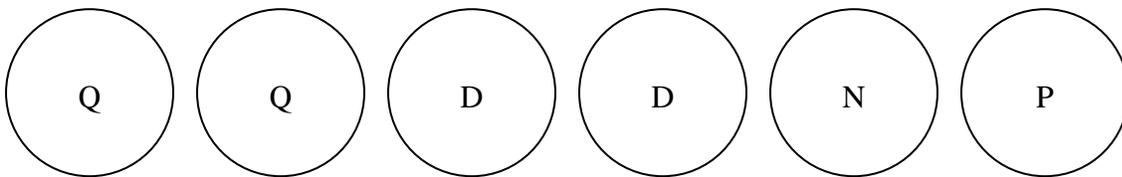
Name: _____

Directions: Read each question and solve using words, pictures, numbers, and/or symbols.

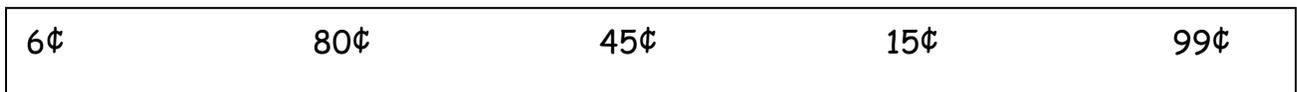
1. What coins can you use to make 36¢? Show two different ways to make 36¢.

2. If I have 75¢ and my friend has 23¢ what is one possible combination of the coins that we have?

3. Given the following coins find the total amount.



4. Place the following amounts on the number line below.

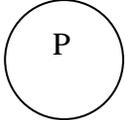
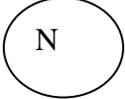
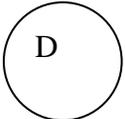


0¢
100¢

Name: _____

Graphing Coins

1. Use your set of coins and place the coins in the appropriate categories. Draw your coins (for example;  = penny). Then, add the total amount of coins in each category.

Penny 						Total amount of Pennies: 1 cent
Nickel 						Total amount of Nickels: 10 cents
Dime 						Total amount of Dimes: 10 cents
Quarter 						Total amount of Quarters: 25 cents
Half-Dollar 						Total amount of Half-Dollars: 50 cents

2. Now add all your coins together!

$$\underline{1 \text{ cent}} + \underline{10 \text{ cents}} + \underline{10 \text{ cents}} + \underline{25 \text{ cents}} + \underline{50 \text{ cents}} = \underline{91 \text{ cents}}$$

Pennies all coins	Nickels	Dimes	Quarters	Half-Dollars	Total amount of
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Directions: Cut out and use for a blank number line.

0¢

100¢

50¢

30¢

20¢

5¢

Answer sheet for **Student Resource 2**

45¢	63¢	99¢	54¢
10¢	25¢	50¢	75¢

Approximate placement of amounts:



Answer sheet for Student Resource 3



Approximate placement of amounts:



Name: _____

Answer sheet for Student Resource 8

Directions: Read each question and solve the word problem. Use words, numbers, or symbols in your answer.

1. I have 5 pennies, 2 nickels, and 1 dime. Decide how much money I have. Then show ths amount using the least number of coins.

Students should show 1 quarter to make 25¢.

2. In my pocket there is 1 quarter, 2 dimes, and 13 pennies. How much money is in my pocket?

58¢

3. On the table I have 3 dimes, 1 quarter, and 3 nickels. Then my friend gave me 4 more nickels. How much money is there in all?

90¢

Directions: Read each question and solve using words, pictures, numbers, and/or symbols.

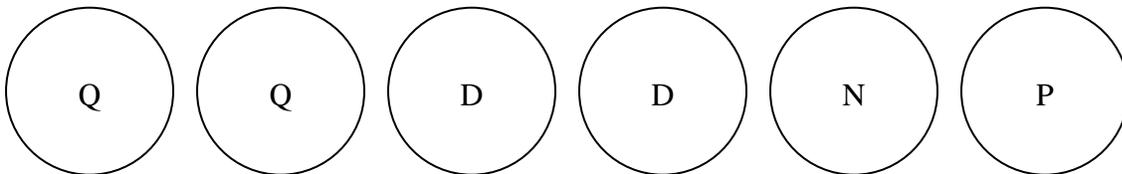
1. What coins can you use to make 36¢? Show two different ways to make 36¢.

Students will show a variety of combinations that equal 36¢.

2. If I have 75¢ and my friend has 23¢ what is one possible combination of coins that we ha?

Students will show a variety of combinations that add up to 98¢.

3. Given the following coins find the total amount.



78¢

4. Place the following amounts on the number line below.



(approximate placement of above amounts)

