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# 6: Great Graph!

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## OBJECTIVE:

Students will compare sets of coins and determine which group is greater than, less than, or equal to the other according to the number and value of each set. Students will read and interpret a simple bar graph to answer questions.



## MATERIALS:

- The “Great Graph!” price list and worksheet
- Set of edible items
- Items to compare
- Cents, nickels, dimes, and quarters
- Calculators (1 per student, optional)



## PREPARATIONS:

Make copies of the “Great Graph!” price list and worksheet (1 set per student).



## GROUPINGS:

- Whole group
- Individual work
- Small groups



## CLASS TIME:

1 30- to 45-minute session



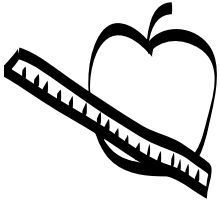
## CONNECTIONS:

Mathematics



## TERMS AND CONCEPTS:

- Cent (penny)
- Nickel
- Dime
- Quarter
- Greater than ( $>$ )
- Less than ( $<$ )
- Equal to ( $=$ )
- Graph



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# Charting Coin Values and Quantities

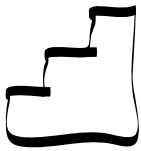
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## BACKGROUND KNOWLEDGE:

Students should have basic knowledge of:

- Greater than ( $>$ ), less than ( $<$ ), and equal to ( $=$ ).
- Use of dollar sign (\$), decimal point (.), and cent sign ( $\text{¢}$ ).
- Reading a bar graph
- Using calculators with decimals



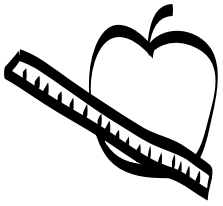
## STEPS:

1. Review the concepts and symbols of “greater than,” “less than,” and “equal to” by comparing different quantities of the same items (pencils, crayons, etc.).
2. Use a set of edible items such as cookies, and ask students to identify how many items are in each group. Write these numbers on the board.
3. Tell students that there is a way to show which group or number is larger. Ask them which pile of food a really hungry person would want to eat.
4. After students correctly identify the larger group, draw the greater than (or less than) symbol between the two numbers written on the board. Point out to students how the symbol resembles the mouth of a hungry person eating the largest amount.
5. Do several more sets of numbers for practice, varying the use of the “greater than” and “less than” symbols (also incorporate “equal to”). Tell students that almost anything can be compared using this method—even money, specifically coins.
6. Review the value of a cent (penny), nickel, dime, and quarter as a class.
7. Introduce the “Great Graph!” worksheets. Review the directions with the class and model using coins to determine the value of the penny column.
8. Pass out coins and ask students to continue completing the worksheet in small groups or individually as modeled.



## ENRICHMENTS/EXTENSIONS:

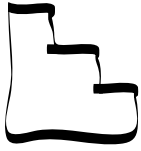
“What’s In My Pocket?”: Students can take a poll of family members to record how much change is in their pockets, then construct their own graphs based on number of coins and total of each type.



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# Great Graph!

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## DIFFERENTIATED LEARNING OPTIONS:

- Have students orally answer and discuss the questions on the worksheet.
- Allow students to use play money to represent the amounts in the graph.
- Add sublines to the “Great Graph” worksheet to help students better read the graph.



## HPC CONNECTIONS

Were your students captivated by this math activity? Then test out the other coin-related math lesson plans available in HPC’s “Teachers” area!

### “GREAT GRAPH” ANSWER KEY

1. Pennies: 27 (\$0.27)  
Nickels: 19 (\$0.95)  
Dimes: 23 (\$2.30)  
Quarters: 14 (\$3.50)
2. \$7.02
3. pennies, 27
4. quarters, \$3.50
5. 12
6. a.  $27 > 19$   
b.  $19 > 14$   
c.  $23 > 19$   
d.  $14 < 23$
7. a.  $\$0.27 < \$0.95$   
b.  $\$0.95 < \$3.50$   
c.  $\$2.30 > \$0.95$   
d.  $\$3.50 > \$2.30$
8. Answers will vary, but an appropriate answer should reflect that in some cases a column with more coins was actually worth less than a column with fewer coins.
9. 27

NAME \_\_\_\_\_

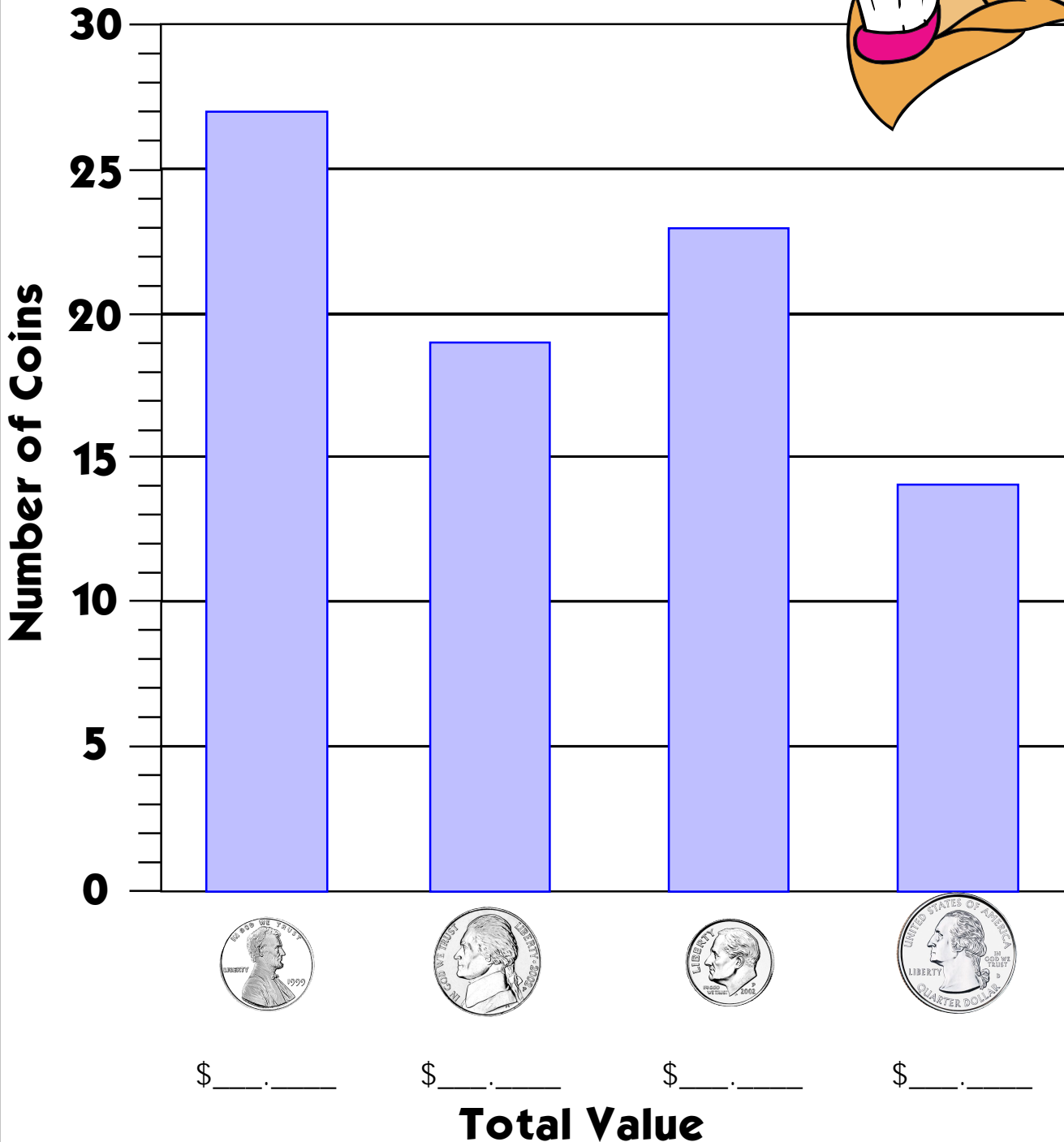
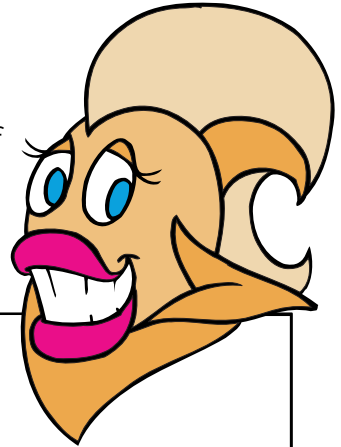
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# Great Graph!

## DIRECTIONS:

Goldie the Mint Fish owns a shop and has lots of coins in her register. Read the bar graph and answer the questions that follow.



Number of Coins

30

25

20

15

10

5

0

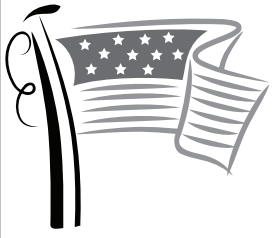
\$ \_\_\_\_\_

\$ \_\_\_\_\_

\$ \_\_\_\_\_

\$ \_\_\_\_\_

Total Value



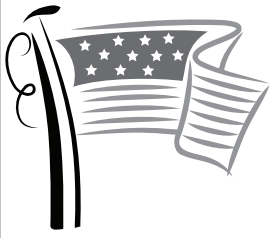
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# Great Graph!

## PART 1

1. Add up the value of the coins in each column, then write each total under its column.
  
  
  
  
  
  
  
  
  
  
2. What is the total amount of money that Goldie has in her register? \_\_\_\_\_
  
  
  
  
  
  
  
  
  
  
3. What type of coin does Goldie have the most of? \_\_\_\_\_  
How many does she have of that coin? \_\_\_\_\_
  
  
  
  
  
  
  
  
  
  
4. What type of coin adds up to the greatest value? \_\_\_\_\_  
What is that total? \_\_\_\_\_
  
  
  
  
  
  
  
  
  
  
5. How many more dimes would Goldie need so that they add up to the highest total? \_\_\_\_\_



NAME \_\_\_\_\_

DATE \_\_\_\_\_

# Great Graph!

## PART 2

6. In the blanks below, write the number of each kind of coin. Write the "greater than," "less than," or "equal to" symbol in the space between the pairs to compare the numbers (for example, pennies 12 [ > ] 3 nickels).

a. pennies \_\_\_\_\_ [     ] \_\_\_\_\_ nickels

b. nickels \_\_\_\_\_ [     ] \_\_\_\_\_ quarters

c. dimes \_\_\_\_\_ [     ] \_\_\_\_\_ nickels

d. quarters \_\_\_\_\_ [     ] \_\_\_\_\_ dimes

7. In the blanks below, write the total value of each kind of coin that Goldie has in her register. Write the "greater than," "less than," or "equal to" symbol in the space between the pairs to compare the values (for example, pennies \$0.12 [ > ] \$0.05 nickels).

a. pennies \$\_\_\_\_.\_\_\_\_ [     ] \$\_\_\_\_.\_\_\_\_ nickels

b. nickels \$\_\_\_\_.\_\_\_\_ [     ] \$\_\_\_\_.\_\_\_\_ quarters

c. dimes \$\_\_\_\_.\_\_\_\_ [     ] \$\_\_\_\_.\_\_\_\_ nickels

d. quarters \$\_\_\_\_.\_\_\_\_ [     ] \$\_\_\_\_.\_\_\_\_ dimes

## CHALLENGE ACTIVITIES

8. What did you notice about your answers to question 6 and 7?

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9. How many more nickels would Goldie need to equal the value of the dimes? \_\_\_\_\_