

McRuffy Second Grade Math

The second grade curriculum is arranged into 160 daily lessons. Each lesson plan states lesson objectives, materials, and teaching directions. The objectives briefly state the concepts or exercises covered by the lesson. They are numbered. The numbers correspond to the teaching section. The materials section lists any special materials needed for the lesson. Basic materials such as pencils are not listed. Words typed in **bold** print can be stated directly to the students.

Each lesson contains several objectives. This allows for frequent review, also called spiraling of concept. This keeps the skill level of the students up. The workbook pages reflect this approach. Each lesson has two workbook pages. The first exercise is always an auditory drill.

The directions for the worksheets are printed in the lesson plans. The number to the far left of the directions indicates the objective that section of the workbook page is reinforcing.

The teacher's manual consists of the following: Introduction, list of materials, unit tests and directions, timed tests, scope and sequence, and workbook answers. Permission to copy timed tests and unit tests is granted for personal or classroom use (not for resale). Workbooks are not reproducible. Copies are available from McRuffy Press.

The curriculum consists of a teacher's manual with reproducible pages, and two workbooks. Students will also need math manipulatives. The curriculum and the manipulative kit can be purchased from:

McRuffy Press
PO Box 212
Raymore, MO 64083

888-967-1200

www.mcruffy.com
sales@mcruffy.com

Manipulatives **(kit sold separately)**

Quantity	Manipulative
250	Circle counters: These are interchangeable in most lessons for the bear counters. They provide a greater variety of colors and a greater quantity of counters.
50	Bear counters
100	Cubes (base ten) are one centimeter cubed. They can be used for measuring as well as base ten activities.
20	Rods (base ten) represent 10 cubes
10	Base Ten Flats represent 100 cubes.
1	Clock dial
1	Tangram Set: Seven piece set.
1	Fraction Pieces Set
1	Geoboard and rubber bands
1	Pentominoes: Twelve piece set.
1	Coin Bank
4	Dice

Copy Masters

Materials are provided for one student, but they may also be reproduced.

Tests 1 to 5
Timed Tests
Geoboard Grid
1-100 Chart
Letter Cards

Pattern Block Pieces (This is a paper set. This has replaced the plastic set in the kit because of their limited use in the curriculum ñ Lessons 6 and 60. Students will cut out and color the shapes.)

Scope and Sequence

Lessons 1 to 45

Number review
Review addition
Ordinal numbers
Commutative property
Story problems
Visual analysis skills using:
 Tangrams
 Pentominoes
 Geoboards
Skip Counting 2, 5, 10
Subtraction Facts Review
Pattern Recognition
Graphing
Place value 1, 10, 100
Adding 2 two-digit numbers
Adding 3 numbers
Attribute recognition
Measuring (cm)
Inequalities
Counting money
Adding 3 two-digit numbers
Adding 4 one-digit numbers
Reading clocks
Regrouping
Test 1

Lessons 47 to 68

Reading graphs
Place value 1000
Odd and even numbers
Skip counting by 3
2-digit # + 3 digit #
Adding 4 numbers
Visual analysis skills
Coins ñ quarters
Attributes
Adding 3 two-digit #ís
Subtraction of 2-digit #ís
Reading clocks
Reading diagrams
Test 2

Lessons 69 to 90

Adding 2 and 3 digit #ís
Measuring (inches)
Two-digit ñ one-digit
Visual analysis skills
Mixed operations
Time to 5 minutes
Perimeter
2-dig. ñ 2dig. w/regrouping
Attributes
Adding 2 three-digit numbers
Story problems
Graphing
Test 3

Lessons 91 to 125

Three digit number ñ one digit
Fractions halves, fourths, thirds
Adding 2 three-digit numbers
Temperature (F and C)
Story problems
Adding 4-digit # + 2-digit #
Multiplying by 0, 1, 2, 3, 4, 5
3-digit number - 2-digit number
4-digit number + 3-digit number
Adding 3 numbers
Inequalities
Roman numerals I to X
Skip counting 3, 4
Measure to ° inch
Test 4

Lessons 126 to 160

Multiplying by 6, 6, 8, 9, 10
Fractions: fifths
Roman numerals to XXXIX
Mixed operations
Adding two 4 digit numbers
Division
4-digit number ñ2 & 3-digit numbers
Test 5

Lesson 26

Objectives

1. Students will identify place value (hundreds).
2. Students will find the missing addend in a three number problem.
3. Students will complete a pentomino pattern.

Materials

- * Workbook pages 51 and 52
- * Base Ten rods, cubes, and flats (hundreds)
- * Pentomino sets

Teaching

1. Use the base ten blocks. Have students show numbers with the blocks. For example the number 463 would be represented by 4 flats, 6 rods, and 3 cubes. Repeat with other numbers.
2. Write a three number addition problem with a missing addend. For example: $3 + 2 + \underline{\quad} = 11$ Ask students how they can find the missing addend. Students should add the given addends and subtract the sum of the two addends (5) from the sum of the three addends (11). The missing addend is 6. Repeat with other problems.
3. Students should use pentomino pieces to make the design on page 52. Students may trace the pieces to show their answers. More than one answer is possible. Not all the pieces will be used. Have students compare their answers to the answers of other students. Have students make the answers of other students.

Workbook Pages 51 and 52

1. **Auditory Section:** Boxes A to J are for auditory exercises. Say the numbers. Students will listen for the digit **3**. If the three is in the ones place, students will write the letter O in the box. If 3 is in the tens place, students will write the letter T in the box. If the 3 is in the hundreds place, students will write the letter H in the box.

A (731), B (423), C (935), D (397), E (813), F (360), G (325), H (753), I (534), J (238)

1. **Section 1:** Write the numbers as hundreds, tens, and ones.
2. **Section 2:** Find the missing addends.
3. **Section 3:** Complete the design (full directions given in teaching section #3).

Math Journal: Have students write the word **hundred** and show an example of a digit in the hundreds place.

Lesson 27

Objectives

1. Students will review place value.
2. Students will compare numbers using $>$ and $<$ signs.
3. Students will subtract.
4. Students will take a timed test (13).

Materials

- * Workbook pages 53 and 54
- * Base ten rods, cubes, and flats (hundreds)
- * Timed test 13 (addition and subtraction)

Teaching

1. Review hundreds place value using base ten materials. Follow the same procedure used in Lesson 26.
2. Write two numbers 567 and 576. Ask students which number is greater. Ask students which number is less. Write the sign $=$. Ask students what the sign means. Next, ask the students if $567 = 576$. Tell students that other signs are needed to show how these two numbers are related.

Write the signs $>$ and $<$. Tell the students the first sign is the greater than sign. The second sign is the less than sign. The small part of the arrow always points to the lessor number. Write $567 < 576$. Tell students to read from left to write just like a sentence with words. So five hundred sixty seven is less than five hundred seventy six.

3. Solve the problems on the workbook page to review subtraction.
4. Give the timed test.

Workbook Pages 53 and 54

2. **Auditory Section:** Boxes A to J are for auditory exercises. Say the two numbers. Students will write $>$ or $<$ to compare the numbers.

A (241 and 214), B (890 and 888), C (711 and 751), D (310 and 502),

E (444 and 474), F (225 and 229), G (500 and 800), H (612 and 597),

I (315 and 323), J (998 and 992)

2. **Section 1:** Fill in the correct sign ($>$, $<$, $=$) to compare the numbers.
1. **Section 2:** Write the numbers represented by the pictures of base ten materials.
3. **Section 3:** Solve the problems.

Math Journal: Write the signs $<$ and $>$ and their meanings. Chart test score.

Lesson 28

Objectives

1. Students will count money (pennies, nickels, dimes).
2. Students will review two digit addition (no regrouping).
3. Students will review measuring (centimeters).

Materials

- * Workbook pages 55 and 56
- * Coins
- * Rulers (centimeters)

Teaching

1. Review the values of the coins (penny = 1¢, nickel = 5¢, dime = 10¢) Use the nickels to review skip counting by fives. Use dimes to review skip counting by tens. Have children make the following group of coins: 2 dimes and one nickel. Have children find the total value of the coins (25¢).

Make sure students know the ¢ sign. Have children write 25¢. Repeat with other groups of coins. Students should count the largest value coin first, followed by the next largest, pennies should be added last.

2. Have students solve the problems on the workbook page.
3. Show children the centimeter scale on the rulers. Have students measure objects using the rulers.

Workbook Pages 55 and 56

1. **Auditory Section:** Boxes A to E are for auditory exercises. Students may use coins to help think through the problems. Describe a group of coins. Have students write the totals in the boxes.

A (4 dimes, 2 pennies) B (2 nickels, 1 dime) C (8 pennies, one nickel)

D (1 dime, 1 nickel, 1 penny) E (3 dimes, 1 nickel, 5 pennies)

2. **Section 1:** Solve the problems.
 1. **Section 2:** Count the coins. Write the total in the box. Don't forget the ¢ sign.
 3. **Section 3:** Measure the lines using centimeters.

Math Journal: Write the words dime, nickel, penny and pennies along with their values.

Write the word cent and the ¢ sign.

Lesson 29

Objectives

1. Students will count money.
2. Students will add two digit numbers (no regrouping).
3. Students will label patterns.
4. Students will solve logic word problems involving money.

Materials

- * Workbook pages 57 and 58
- * Coins

Teaching

1. Review counting dimes, nickels, and pennies. Follow the procedure from Lesson 29.
2. Students will add monetary amounts. For example: $34\text{¢} + 52\text{¢}$ Answers should include the ¢ sign.
3. Use coins to make a pattern. For example: nickel, dime, nickel, dime. The pattern could be labeled ABAB (or just AB). The patterns on the workbook page will include up to 4 different elements (ABCD).
4. Use the problems on the workbook page. Students will solve the problems using coins. These problems require logic.

Workbook Pages 57 and 58

1. **Auditory Section:** Boxes A to E are for auditory exercises. Students may use coins to help think through the problems. Describe a group of coins. Have students write the totals in the boxes.

A (3 dimes, 4 pennies) B (6 nickels, 2 dimes) C (7 pennies, 2 nickels)

D (2 dimes, 2 nickel, 2 pennies) E (4 dimes, 1 nickel, 3 pennies)

2. **Section 1:** Solve the problems. Don't forget to include a ¢ sign with the answers.
3. **Section 2:** Label the patterns. The patterns will use up to 4 letters (ABCD).
4. **Section 3:** Read the stories. Find the answers.

Math Journal: No assignment.

Lesson 30

Objectives

1. Students will solve money story problems.
2. Students will write a story problem.
3. Students will record data and make a graph.
4. Students will take a timed test (14).

Materials

- * Workbook pages 59 and 60
- * Coins
- * Timed test 14 (addition and subtraction)

Teaching

1. Read the students this problem: **Liz had 5 nickels. She gave three nickels to her friend. How much money does she have left?** If students say two nickels, ask how many cents does she have left. Make up other stories.
2. Have students make a group of coins consisting of two dimes, a nickel, and three pennies. Ask students to make up a story using these coins. They can write the story in their math journal.
3. Students will toss a group of three coins. Students record the results of how the coins land (heads or tails). There are four possible results: three heads, three tails, two heads and one tail, two tails and one heads. The group of coins will be tossed 20 times. The students will then make a graph of the results. Have students discuss the graphs. Compare graphs among students. See if students can detect a pattern in the results.
4. Give the timed test.

Workbook Pages 59 and 60

1. **Auditory Section:** Boxes A to E are for auditory exercises. Students may use coins to help think through the problems. Describe a group of coins. Have students write the totals in the boxes.

A (6 dimes, 8 pennies) B (4 nickels, 3 dimes) C (12 pennies, 3 nickels)

D (3 dimes, 3 nickels, 3 pennies) E (2 dimes, 5 nickels, 11 pennies)

1. **Section 1:** Solve the story problems. Students may use coins to help find the answers.
3. **Section 2:** Complete the table and graph.

Math Journal: Students should write a story problem involving coins.

Auditory Section O = ones T = tens H = hundreds

A

B

C

D

E

F

G

H

I

J

1. Write the numbers as hundreds, tens, and ones. For example:
235 is 2 hundreds, 3 tens, and 5 ones.

894 is _____ hundreds, _____ tens, and _____ ones.

612 is _____ hundreds, _____ tens, and _____ ones.

745 is _____ hundreds, _____ tens, and _____ ones.

309 is _____ hundreds, _____ tens, and _____ ones.

568 is _____ hundreds, _____ tens, and _____ ones.

2. Find the missing addends.

$$\begin{array}{r} 5 \\ 3 \\ + \square \\ \hline 11 \end{array}$$

$$\begin{array}{r} 8 \\ 4 \\ + \square \\ \hline 14 \end{array}$$

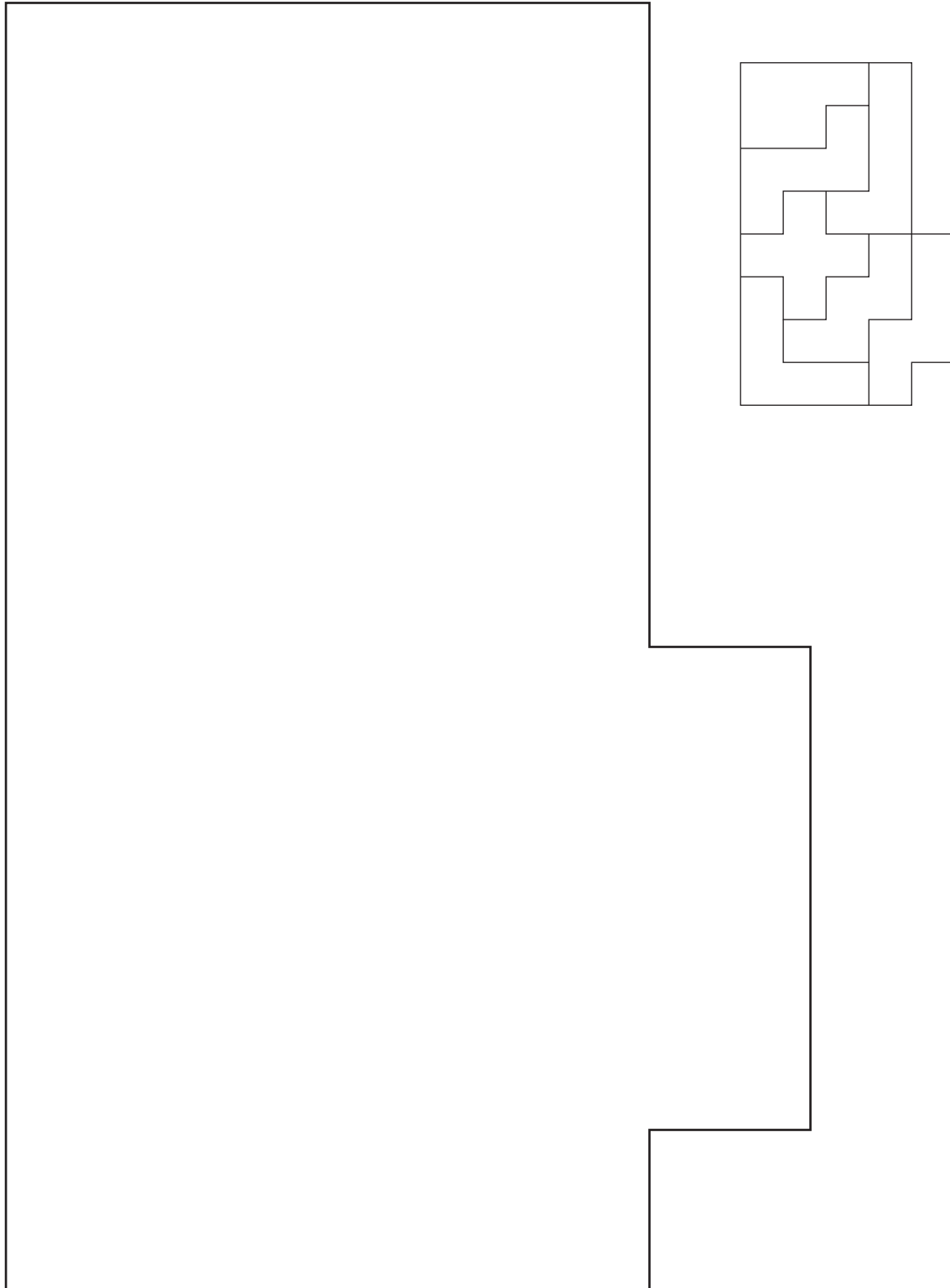
$$\begin{array}{r} 7 \\ \square \\ + 8 \\ \hline 17 \end{array}$$

$$\begin{array}{r} \square \\ 2 \\ + 8 \\ \hline 19 \end{array}$$

$$\begin{array}{r} \square \\ 6 \\ + 7 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 3 \\ \square \\ + 5 \\ \hline 10 \end{array}$$

3. Make the design using pentominoes. Use the diagram.
Trace your answer.



Auditory Section > or <**A**
B
C
D
E
F
G
H
I
J

1. Fill in the correct sign: <, >, =

$967 \underline{\hspace{2cm}} 977$

$352 \underline{\hspace{2cm}} 350$

$191 \underline{\hspace{2cm}} 191$

$542 \underline{\hspace{2cm}} 509$

$711 \underline{\hspace{2cm}} 730$

$184 \underline{\hspace{2cm}} 481$

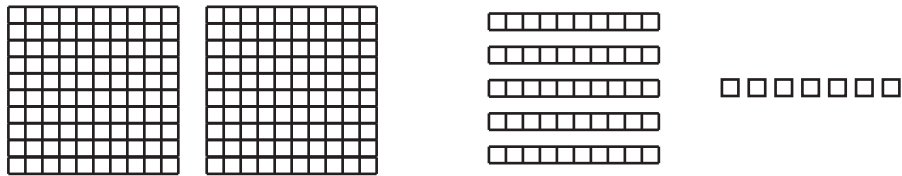
$452 \underline{\hspace{2cm}} 452$

$899 \underline{\hspace{2cm}} 899$

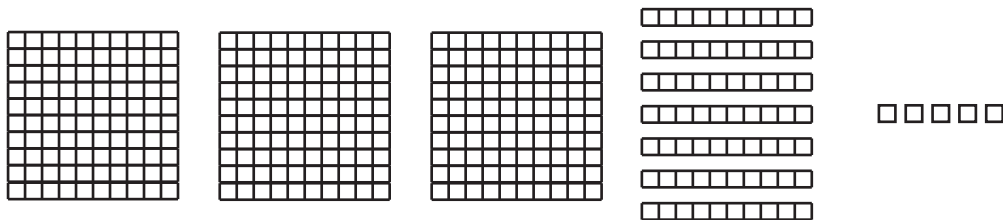
$555 \underline{\hspace{2cm}} 444$

$700 \underline{\hspace{2cm}} 699$

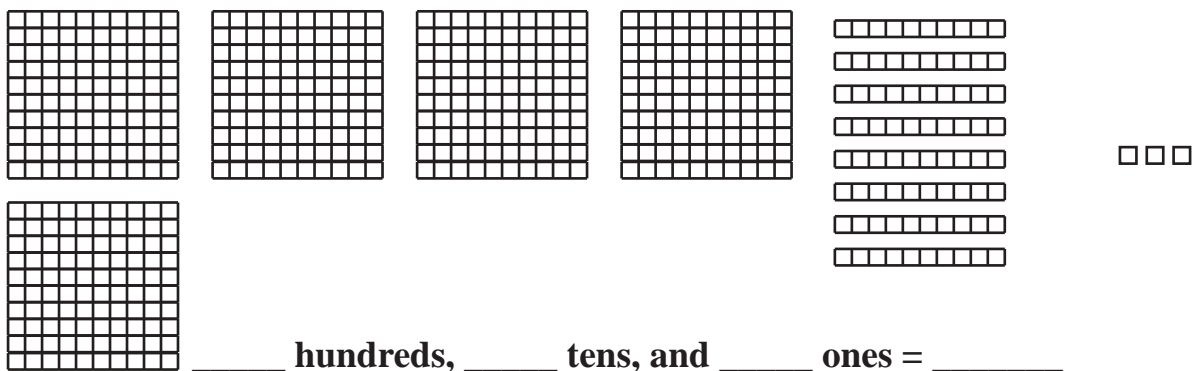
2. Write numbers for the flats, rods and cubes.



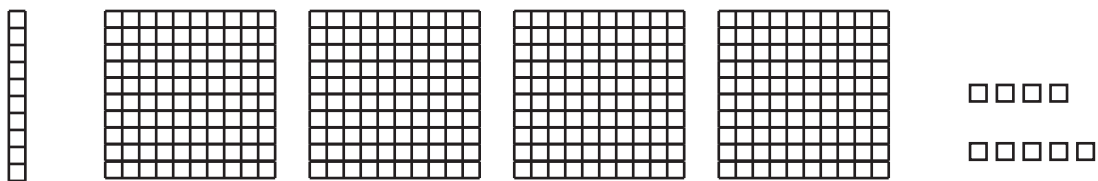
_____ hundreds, _____ tens, and _____ ones = _____



_____ hundreds, _____ tens, and _____ ones = _____



_____ hundreds, _____ tens, and _____ ones = _____



_____ hundreds, _____ tens, and _____ ones = _____

3. Solve the problems.

$$\begin{array}{r} 13 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 16 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ - 4 \\ \hline \end{array}$$

Auditory Section

A

B

C

D

E

1. Solve the problems.

$$\begin{array}{r} 78 \\ +11 \\ \hline \end{array}$$

$$\begin{array}{r} 31 \\ +24 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ +41 \\ \hline \end{array}$$

$$\begin{array}{r} 99 \\ +0 \\ \hline \end{array}$$

$$\begin{array}{r} 17 \\ +71 \\ \hline \end{array}$$

$$\begin{array}{r} 24 \\ +33 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ +14 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ +42 \\ \hline \end{array}$$

$$\begin{array}{r} 28 \\ +70 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ +61 \\ \hline \end{array}$$

$$\begin{array}{r} 54 \\ +22 \\ \hline \end{array}$$

$$\begin{array}{r} 44 \\ +15 \\ \hline \end{array}$$

$$\begin{array}{r} 25 \\ +32 \\ \hline \end{array}$$

$$\begin{array}{r} 81 \\ +13 \\ \hline \end{array}$$

$$\begin{array}{r} 40 \\ +40 \\ \hline \end{array}$$

$$\begin{array}{r} 63 \\ +15 \\ \hline \end{array}$$

$$\begin{array}{r} 26 \\ +71 \\ \hline \end{array}$$

$$\begin{array}{r} 44 \\ +33 \\ \hline \end{array}$$

$$\begin{array}{r} 22 \\ +11 \\ \hline \end{array}$$

$$\begin{array}{r} 81 \\ +18 \\ \hline \end{array}$$

2. Count the coins. Write the total in the box.

Row 1: 3 one-dollar coins, 2 Roosevelt dime coins, 2 Kennedy half-dollar coins.

Row 2: 2 one-dollar coins, 2 Roosevelt dime coins, 2 Kennedy half-dollar coins.

Row 3: 3 one-dollar coins, 2 Roosevelt dime coins, 2 Kennedy half-dollar coins.

Row 4: 3 one-dollar coins, 4 Roosevelt dime coins.

Row 5: 3 one-dollar coins, 2 Roosevelt dime coins, 2 Kennedy half-dollar coins.

3. Measure the lines. Use centimeters.

Line 1:

Line 2:

Line 3:

Line 4:

Auditory Section

A

B

C

D

E

1. Solve the problems.

$$\begin{array}{r} 35 \text{ ¢} \\ +23 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 40 \text{ ¢} \\ +50 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 25 \text{ ¢} \\ +62 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 12 \text{ ¢} \\ +13 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 48 \text{ ¢} \\ +20 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 52 \text{ ¢} \\ +32 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 89 \text{ ¢} \\ +10 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 55 \text{ ¢} \\ +31 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 26 \text{ ¢} \\ +22 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 32 \text{ ¢} \\ +45 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 38 \text{ ¢} \\ +60 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 71 \text{ ¢} \\ +26 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 83 \text{ ¢} \\ + 4 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 5 \text{ ¢} \\ +92 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 43 \text{ ¢} \\ +34 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 41 \text{ ¢} \\ +36 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 17 \text{ ¢} \\ +72 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 64 \text{ ¢} \\ +33 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 80 \text{ ¢} \\ +19 \text{ ¢} \\ \hline \end{array}$$

$$\begin{array}{r} 66 \text{ ¢} \\ +22 \text{ ¢} \\ \hline \end{array}$$

2. Label the patterns.

3. Read the stories. Answer the questions.

Tom had 37¢. He had only 1 dime and only 2 pennies.
How many nickels did he have?

Jan had seven coins. She had only one nickel. The rest were dimes and pennies. She had more than one dime and penny. What is the greatest amount of money she can have?

What is the least amount of money she can have?

Auditory Section

A

B

C

D

E

1. Read the stories. Solve the problems.

Beth had 47¢. She spent two dimes.
How much money does she have now?

Pete had 6 dimes, 3 nickels, and 8 pennies.
How much money did he have?

A candy bar costs 59¢. If you had three dimes and four pennies,
how many more nickels would you need to buy the candy bar?

A pencil costs seven cents. How many pencils can you buy with
three nickels and six pennies?

Matt had 53¢. He was given another nickel and a dime. How
much does he now have?

3. Complete the table and graph.

Table

3 heads	3 tails	1 tail 2 heads	2 tails 1 head

