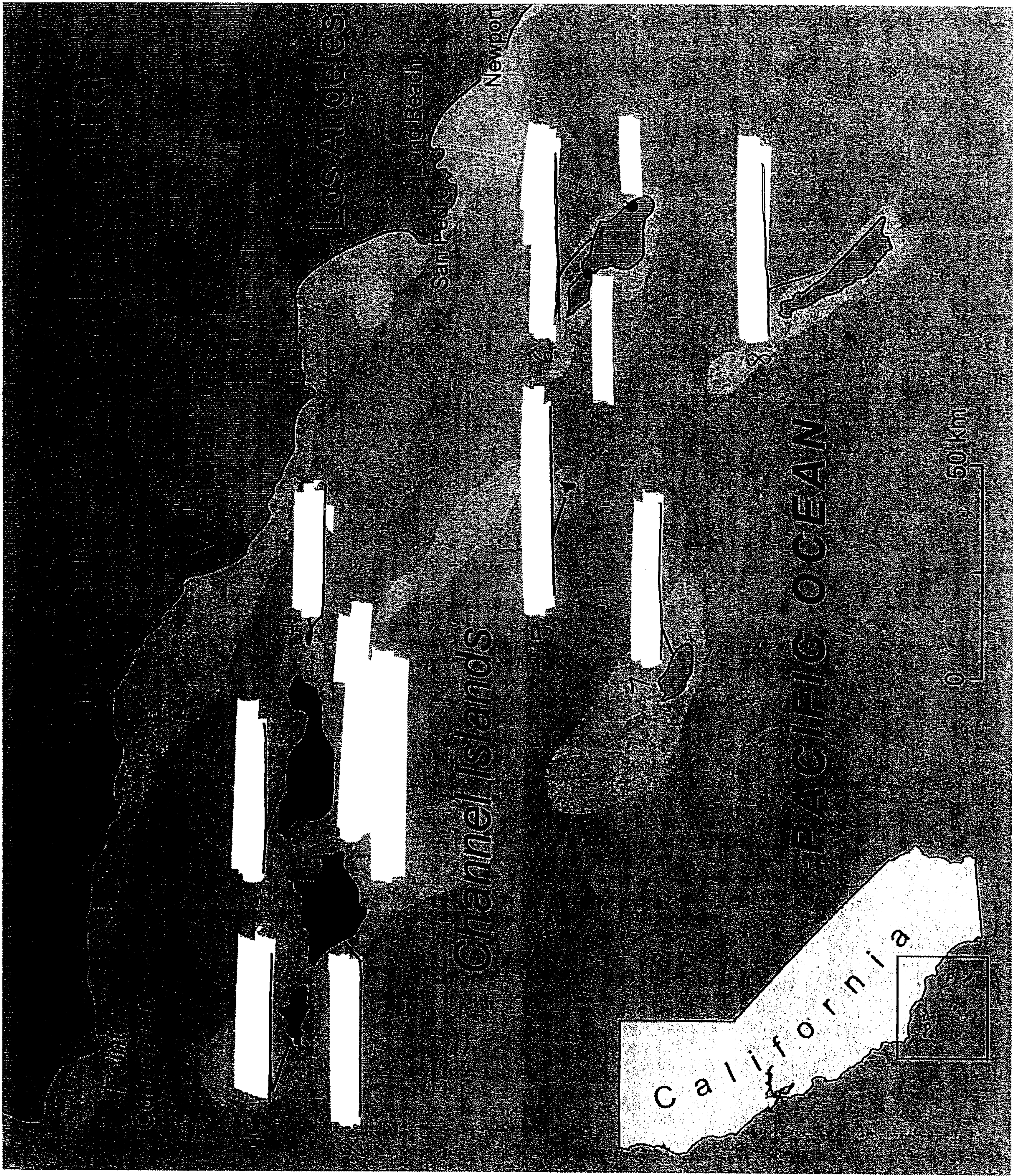


**K-8**  
**Student Worksheets**  
**5th Grade**

January 2011

Map worksheet Day 2  
Lang. Arts



## **What is figurative language?**

DAY 5-Language Arts

Whenever you describe something by comparing it with something else, you are using figurative language.

### **Simile**

A simile uses the words "like" or "as" to compare one object or idea with another to suggest they are alike. Example: busy as a bee

### **Metaphor**

The metaphor states a fact or draws a verbal picture by the use of comparison. A simile would say you are like something; a metaphor is more positive - it says you are something. Example: You are what you eat.

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### **Personification**

Personification is a figure of speech in which human characteristics are given to an animal or an object. Example: My teddy bear gave me a hug.

### **Alliteration**

Alliteration is the repetition of the same initial letter, sound, or group of sounds in a series of words. Alliteration includes tongue twisters. Example: She sells seashells by the seashore.

### **Onomatopoeia**

Onomatopoeia is the use of a word to describe or imitate a natural sound or the sound made by an object or an action. Example: snap crackle pop

### **Hyperbole**

An exaggeration that is so dramatic that no one would believe the statement is true. Tall tales are hyperboles. Example: He was so hungry, he ate that whole cornfield for lunch, stalks and all.

### **Idioms**

According to Webster's Dictionary, an idiom is defined as: peculiar to itself either grammatically (as no, it wasn't me) or in having a meaning that cannot be derived from the conjoined meanings of its elements (as Monday week for "the Monday a week after next Monday")

### **Clichés**

A cliché is an expression that has been used so often that it has become trite and sometimes boring. Example: Many hands make light work.

## Sandwich Book Report

Note: You may use the provided sheets or create your own.

Here is the recipe for your sandwich book report!

1. Write the book title, author, and your name on the BREAD (brown) top.



2. Describe the setting on the LETTUCE (green).

3. Describe the main character on the TOMATO (red).

4. Write about the other characters of the book on the CHEESE (yellow).

5. Write about a happy time in the story and a sad time in the story on the ONION (Purple).

6. Write a summary of the book on the MEAT (white or pink).

7. Write about the author's style on the BREAD (brown) bottom.

8. Assemble your sandwich by stapling it together.

The form is a rounded rectangle with a decorative border of a cross-hatched pattern. Inside, there are four horizontal lines for writing, each preceded by a label. The labels are: "Title:", "Author:", "Illustrator:", and "Your Name:". The form is otherwise blank, with some faint, illegible markings scattered throughout.

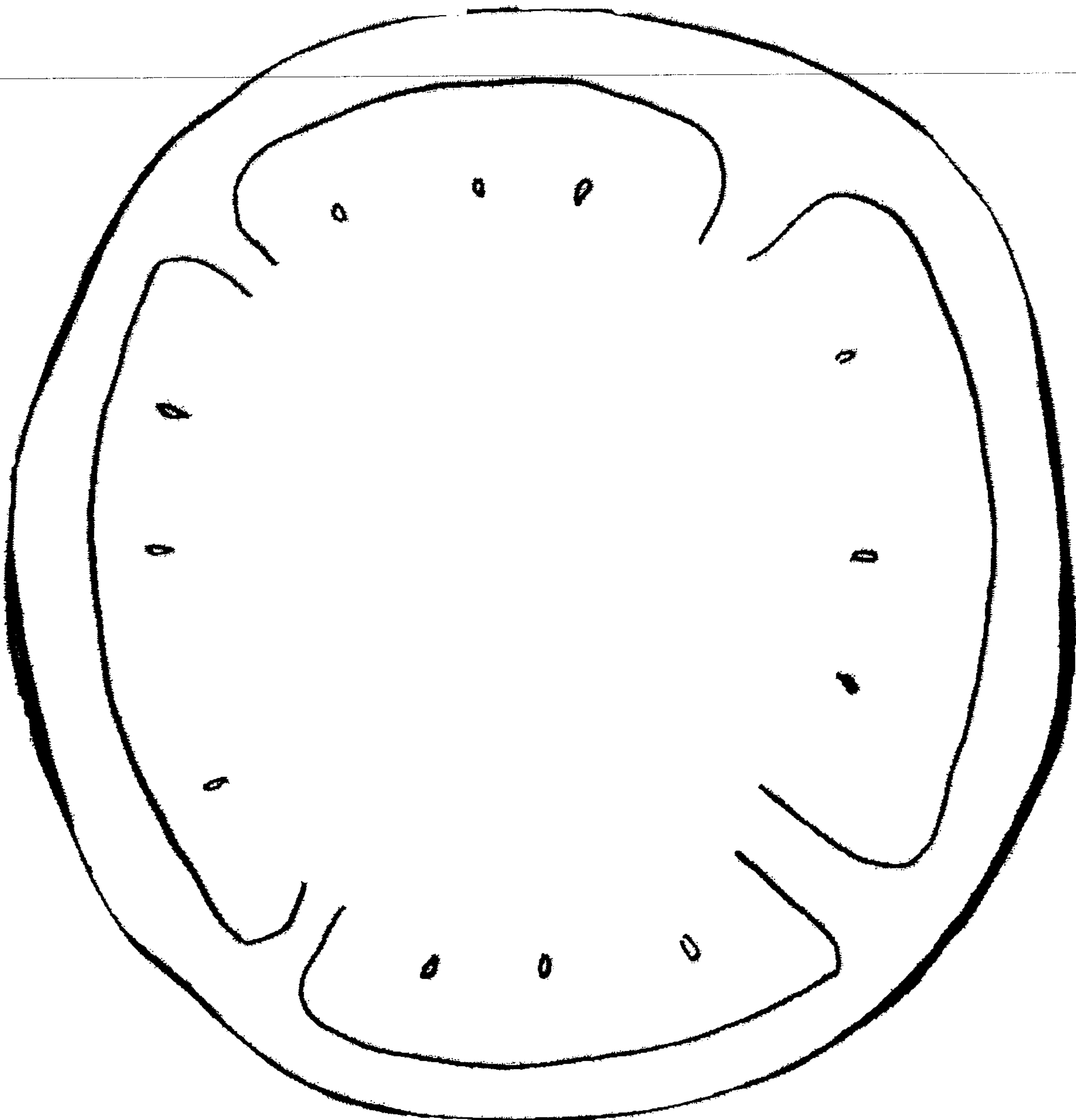
Title: \_\_\_\_\_

Author: \_\_\_\_\_

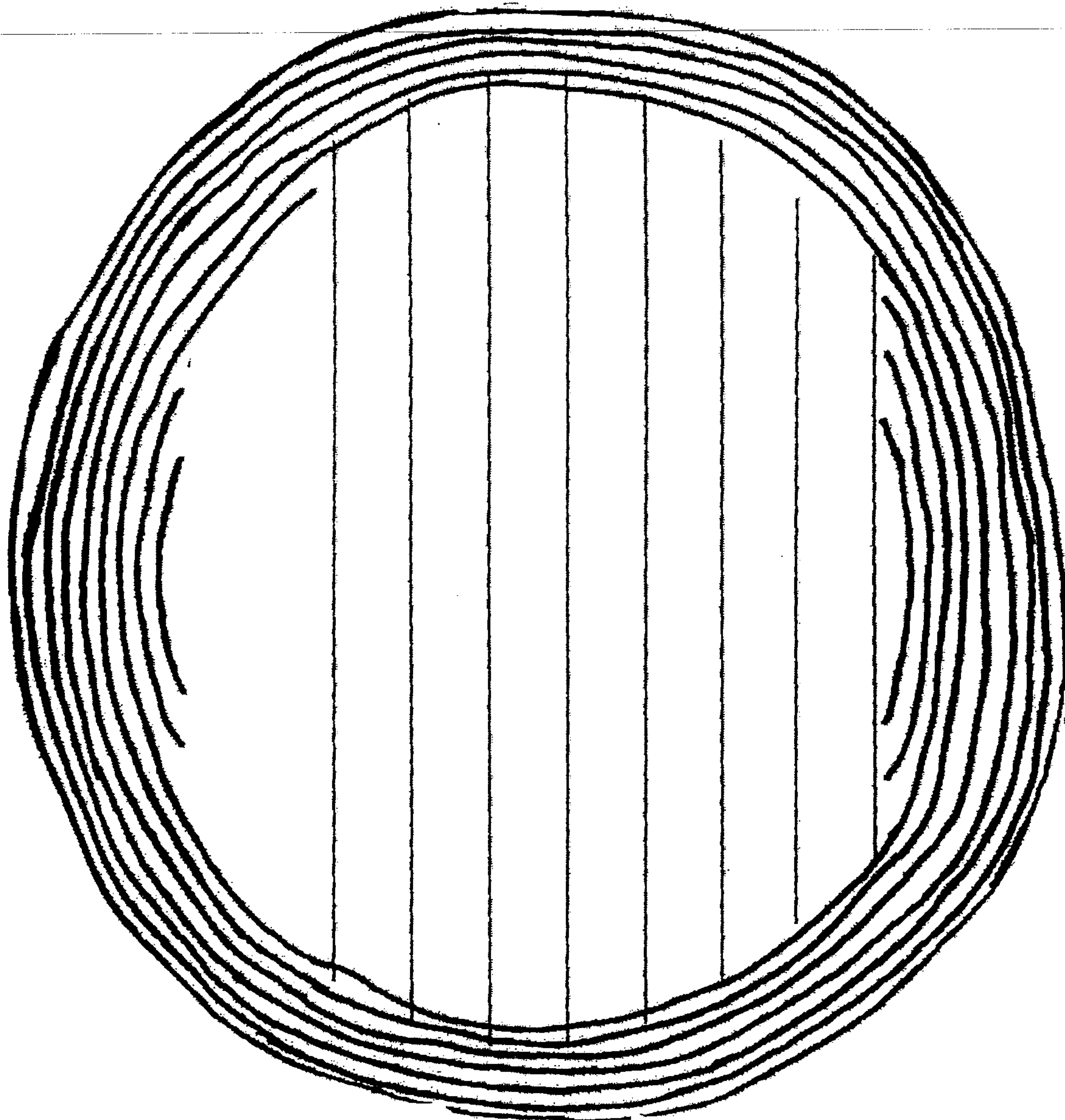
Illustrator: \_\_\_\_\_

Your Name: \_\_\_\_\_

A large, hand-drawn, irregularly shaped box with a scalloped border. Inside the box, there are ten vertical lines, creating nine columns for writing. The box is intended for a book report.



The image shows a large, rounded rectangular box designed for a book report. The central part of the box is filled with ten vertical lines, creating ten columns for writing. On the left and right sides of this central area, there are decorative elements: a vertical column of circles and dots. Each side has a large circle at the top, followed by a small dot, a medium circle, another small dot, a large circle, a small dot, and a final large circle at the bottom. The entire box is outlined with a thick black border.



A large, hand-drawn rounded rectangular box occupies the center of the page. Inside this box, there are eight vertical lines that divide the space into nine columns. This layout is designed for a student to write a book report, with each column likely representing a different section of the report.

A large, rounded rectangular box with a thick black border, designed for writing. The box contains seven vertical lines that divide the interior into eight columns. The lines are evenly spaced and extend from near the top to near the bottom of the box. The box is centered on the page and is intended for a student to write their book report for days 5-10.

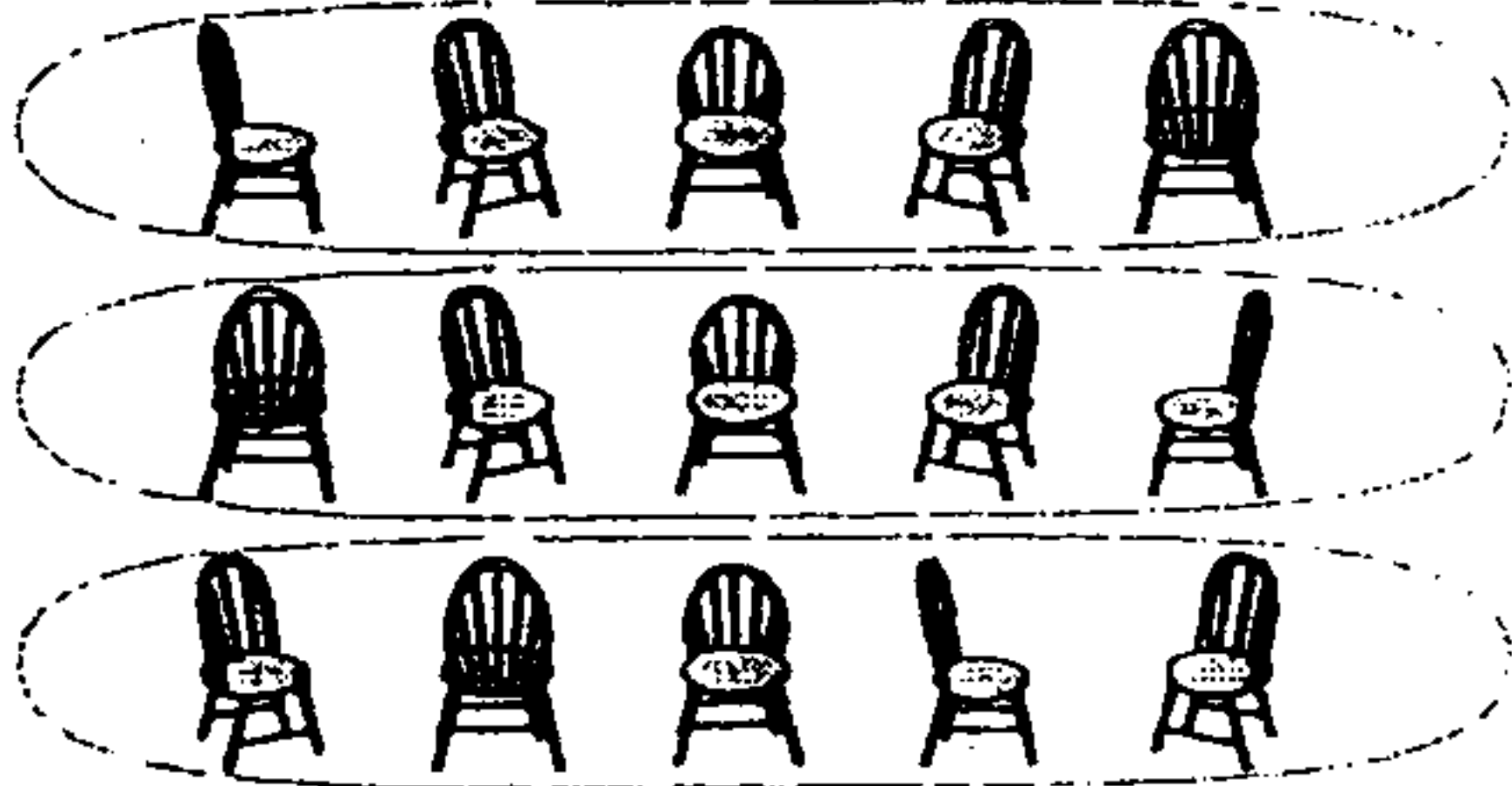
Name \_\_\_\_\_

Date \_\_\_\_\_

# WHOLE NUMBER MULTIPLICATION AND DIVISION

Multiplication and division are opposite operations.

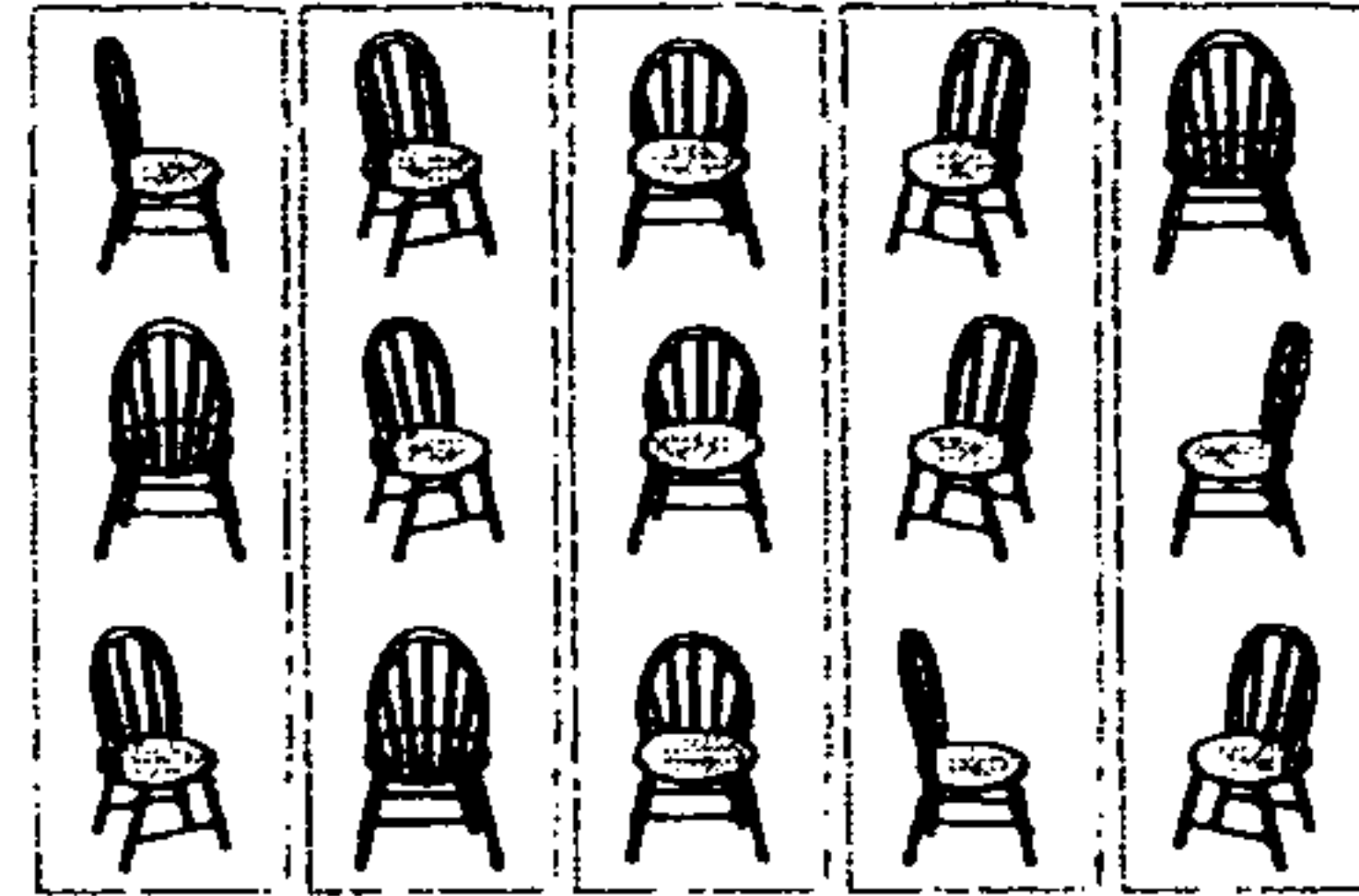
Circle each of 3 rows.  
How many chairs are in each row?



$$3 \times 5 = 15 \quad 15 \div 3 = 5$$

There are 5 chairs in each row.

Draw a rectangle around each of 5 columns.  
How many chairs in each column?



$$5 \times 3 = 15 \quad 15 \div 5 = 3$$

There are 3 chairs in each column.

## Multiply.

1.  $4 \times 8 =$  \_\_\_\_\_

2.  $9 \times 3 =$  \_\_\_\_\_

3.  $6 \times 5 =$  \_\_\_\_\_

4.  $3 \times 7 =$  \_\_\_\_\_

5.  $8 \times 6 =$  \_\_\_\_\_

6.  $9 \times 4 =$  \_\_\_\_\_

7.  $6 \times 3 =$  \_\_\_\_\_

8.  $5 \times 7 =$  \_\_\_\_\_

9.  $8 \times 8 =$  \_\_\_\_\_

## Divide.

10.  $18 \div 2 =$  \_\_\_\_\_

11.  $24 \div 8 =$  \_\_\_\_\_

12.  $28 \div 4 =$  \_\_\_\_\_

13.  $40 \div 5 =$  \_\_\_\_\_

14.  $12 \div 3 =$  \_\_\_\_\_

15.  $45 \div 9 =$  \_\_\_\_\_

16.  $20 \div 4 =$  \_\_\_\_\_

17.  $21 \div 7 =$  \_\_\_\_\_

18.  $36 \div 6 =$  \_\_\_\_\_

## CHALLENGE

Explain how to use repeated addition to find the product:  $5 \times 26$ .

\_\_\_\_\_

Name: \_\_\_\_\_

Multiplication 0 - 3

# SPEED MULTIPLICATION

$$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 0 \\ \times 3 \\ \hline \end{array}$$

Time: \_\_\_\_\_ Score: \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_

## WHOLE NUMBER MULTIPLICATION AND DIVISION

Multiplication and division are opposite operations.  
Use multiplication facts to help you divide.

There are 344 seats at the stadium. The seats are arranged in 4 equal size sections.  
How many seats are in each section?

Divide:  $344 \div 4$ .

**Step 1** There are not enough hundreds to divide. Divide 34 tens.

$$4 \overline{)344}$$

**Step 2** Divide the tens. Multiply. Subtract. Compare.

$$\begin{array}{r} 8 \\ 4 \overline{)344} \\ - 32 \quad 4 \times 8 \text{ tens} \\ \hline 2 \quad \text{Compare} \\ 2 < 4. \end{array}$$

**Step 3** Divide the ones. Multiply. Subtract. Compare.

$$\begin{array}{r} 86 \\ 4 \overline{)344} \\ - 32 \\ \hline 24 \quad \text{Bring down.} \\ - 24 \quad 4 \times 6 \text{ ones.} \\ \hline 0 \quad \text{Compare.} \\ 0 < 4. \end{array}$$

Use multiplication to check.

$$\begin{array}{r} 86 \\ \times 4 \\ \hline \end{array}$$

$$344 \quad \text{Think: } 4 \times 6 = 24 \quad \begin{array}{l} \text{Regroup as 2 tens and 4 ones} \\ 4 \times 8 \text{ tens} = 32 \text{ tens} \\ 32 \text{ tens} + 2 \text{ tens} = 34 \text{ tens} \\ 34 \text{ tens} + 4 \text{ ones} = 344 \end{array}$$

### Multiply.

1.  $\begin{array}{r} 37 \\ \times 6 \\ \hline \end{array}$

2.  $\begin{array}{r} 94 \\ \times 3 \\ \hline \end{array}$

3.  $\begin{array}{r} 158 \\ \times 5 \\ \hline \end{array}$

4.  $\begin{array}{r} 206 \\ \times 4 \\ \hline \end{array}$

### Divide.

5.  $6 \overline{)168}$

6.  $9 \overline{)405}$

7.  $3 \overline{)186}$

8.  $4 \overline{)868}$

### CHALLENGE

Find the missing number. \_\_\_\_\_  $\div 7 = 52$

Name: \_\_\_\_\_

Multiplication 0 - 4

# SPEED MULTIPLICATION

$$\begin{array}{r} 4 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$$

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

$$\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 10 \\ \hline \end{array}$$

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

$$\begin{array}{r} 1 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 10 \\ \hline \end{array}$$

Time: \_\_\_\_\_ Score: \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_

## WHOLE NUMBER MULTIPLICATION AND DIVISION

Use multiplication facts to help you divide.  
 Then use multiplication to check division.

There are 928 seats available at the stadium in 16 different sections.  
 Each section has the same number of seats.  
 How many seats are in each section?

Divide:  $928 \div 16$ .

**Step 1** Divide the tens.

$$\begin{array}{r} 5 \\ 16 \overline{)928} \end{array}$$

$- 80$  ← Multiply:  $16 \times 5$   
 $\underline{12}$  ← Subtract.  
 Compare.  
 $12 < 16$

**Step 2** Divide the ones.

$$\begin{array}{r} 58 \\ 16 \overline{)928} \end{array}$$

$- 80$  ← Bring down.  
 $\underline{128}$  ← Divide:  $128 \div 16$   
 $- 128$  ← Multiply:  $16 \times 8$   
 $\underline{0}$  ← Subtract.  
 Compare.  
 $0 < 16$

**Step 3** Check.

$$\begin{array}{r} 58 \\ \times 16 \\ \hline 348 \\ + 580 \\ \hline 928 \end{array}$$

← Multiply ones.  
 ← Multiply tens.

### Multiply.

1.  $\begin{array}{r} 28 \\ \times 34 \\ \hline \end{array}$

2.  $\begin{array}{r} 47 \\ \times 19 \\ \hline \end{array}$

3.  $\begin{array}{r} 56 \\ \times 38 \\ \hline \end{array}$

### Divide and check.

4.  $27 \overline{)972}$

5.  $23 \overline{)966}$

6.  $35 \overline{)805}$

### CHALLENGE

Find the missing number. \_\_\_\_\_  $\div 34 = 276 \text{ R}10$

DISCOVERING MATH



Name: \_\_\_\_\_

Multiplication 0 - 5

# SPEED MULTIPLICATION

$$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 0 \\ \hline \end{array}$$

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

$$\begin{array}{r} 5 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 0 \\ \hline \end{array}$$

Time: \_\_\_\_\_ Score: \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_

## PROPERTIES AND RELATIONSHIPS OF ARITHMETIC OPERATIONS

Inverse operations are opposite operations, one operation reverses the other.

### Addition and Subtraction

Addition and subtraction are inverse operations.

Addition sentences:  $6 + 8 = 14$      $8 + 6 = 14$

Related subtraction sentences:  $14 - 8 = 6$      $14 - 6 = 8$

### Multiplication and Division

Multiplication and division are inverse operations.

Multiplication sentences:  $3 \times 7 = 21$      $7 \times 3 = 21$

Related division sentences:  $21 \div 7 = 3$      $21 \div 3 = 7$

**Complete each number sentence. Then write a pair of number sentences using the inverse operation.**

1.  $9 + 2 = \underline{\quad}$

2.  $7 + 5 = \underline{\quad}$

3.  $15 - 8 = \underline{\quad}$

4.  $13 - 4 = \underline{\quad}$

5.  $4 \times 7 = \underline{\quad}$

6.  $9 \times 8 = \underline{\quad}$

7.  $36 \div 4 = \underline{\quad}$

8.  $40 \div 5 = \underline{\quad}$

### CHALLENGE

Write  $+$ ,  $-$ ,  $\times$ , or  $\div$  to make each number sentence true.

$(20 + 4) \bigcirc 8 = 3$

$(5 \times 6) \bigcirc 4 = 26$

Name: \_\_\_\_\_

Multiplication 0 - 6

**SPEED MULTIPLICATION**

$$\begin{array}{r} 6 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 10 \\ \hline \end{array}$$

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

$$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$$

Time: \_\_\_\_\_ Score: \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_

## PROPERTIES AND RELATIONSHIPS OF ARITHMETIC OPERATIONS

Inverse operations reverse each other.

Addition and subtraction are inverse operations.

$$8 + 11 = 19 \quad \text{Subtraction reverses addition.} \quad 19 - 11 = 8$$

$$16 - 3 = 13 \quad \text{Addition reverses subtraction.} \quad 13 + 3 = 16$$

Multiplication and division are inverse operations.

$$5 \times 4 = 20 \quad \text{Division reverses multiplication.} \quad 20 \div 4 = 5$$

$$24 \div 3 = 8 \quad \text{Multiplication reverses division.} \quad 8 \times 3 = 24$$

**Complete each number sentence. Then write a number sentence that shows how to reverse each operation.**

1.  $9 \times 6 = \underline{\quad}$

2.  $12 + 14 = \underline{\quad}$

3.  $18 - 7 = \underline{\quad}$

4.  $35 \div 7 = \underline{\quad}$

5.  $20 + 9 = \underline{\quad}$

6.  $24 - 11 = \underline{\quad}$

7.  $48 \div 8 = \underline{\quad}$

8.  $7 \times 9 = \underline{\quad}$

### CHALLENGE

Show how to use an inverse operation to find the missing number in each number sentence. Then find the missing number.

$$15 + \underline{\quad} = 32 \quad \underline{\quad}$$

$$8 \times \underline{\quad} = 88 \quad \underline{\quad}$$

Name: \_\_\_\_\_

Multiplication 0 - 7

# SPEED MULTIPLICATION

$$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$$

Time: \_\_\_\_\_ Score: \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_



## PROPERTIES AND RELATIONSHIPS OF ARITHMETIC OPERATIONS

You can add or multiply numbers in any order.

### Commutative Property:

#### Addition

$$13 + 46 = 46 + 13$$

$$59 = 59$$

#### Multiplication

$$12 \times 3 = 3 \times 12$$

$$36 = 36$$

**Inverse Operations:** Operations that reverse each other.

**Addition and subtraction** are inverse operations.

$$15 + 43 = 58 \quad \text{Subtraction reverses addition.} \quad 58 - 43 = 15$$

$$90 - 17 = 73 \quad \text{Addition reverses subtraction.} \quad 73 + 17 = 90$$

**Multiplication and division** are inverse operations.

$$12 \times 4 = 48 \quad \text{Division reverses multiplication.} \quad 48 \div 4 = 12$$

$$45 \div 3 = 15 \quad \text{Multiplication reverses division.} \quad 15 \times 3 = 45$$

**Find each missing number. Then write the sum or product.**

1.  $38 + 11 = \underline{\quad} + 38$

2.  $9 \times 10 = 10 \times \underline{\quad}$

**Complete each number sentence. Then write a number sentence that shows how to reverse each operation.**

3.  $50 \div 2 = \underline{\quad}$

4.  $54 - 19 = \underline{\quad}$

5.  $12 \times 8 = \underline{\quad}$

6.  $43 + 67 = \underline{\quad}$

### CHALLENGE

Use the number sentence  $768 \div 16 = 48$  to write two related multiplication sentences.



Name: \_\_\_\_\_

Multiplication 0 - 8

**SPEED MULTIPLICATION**

$$\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 3 \\ \hline \end{array}$$

Time: \_\_\_\_\_ Score: \_\_\_\_\_

**PART 3**

Write the two division facts for each number family.

a.  $2 \overline{) 14}$   $\xrightarrow{7}$

\_\_\_\_\_

\_\_\_\_\_

b.  $5 \overline{) 15}$   $\xrightarrow{3}$

\_\_\_\_\_

\_\_\_\_\_

c.  $6 \overline{) 60}$   $\xrightarrow{10}$

\_\_\_\_\_

\_\_\_\_\_

d.  $6 \overline{) 54}$   $\xrightarrow{9}$

\_\_\_\_\_

\_\_\_\_\_

**PART 4**

Write the missing small number to complete the number family.

a.  $6 \overline{) 18}$   $\xrightarrow{\boxed{3}}$

b.  $7 \overline{) 42}$   $\xrightarrow{\boxed{\phantom{000}}}$

c.  $2 \overline{) 12}$   $\xrightarrow{\boxed{\phantom{000}}}$

d.  $3 \overline{) 24}$   $\xrightarrow{\boxed{\phantom{000}}}$

Answers are on page 22.

Name: \_\_\_\_\_

Multiplication 0 - 9

**SPEED MULTIPLICATION**

$$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 0 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 0 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 2 \\ \hline \end{array}$$

Time: \_\_\_\_\_ Score: \_\_\_\_\_

# LESSON 2

## Short Division



### PART 1

Work each division problem.

a. 
$$\begin{array}{r} 6 \text{ + R4} \\ 5 \overline{) 34} \\ \underline{- 30} \\ 4 \end{array}$$

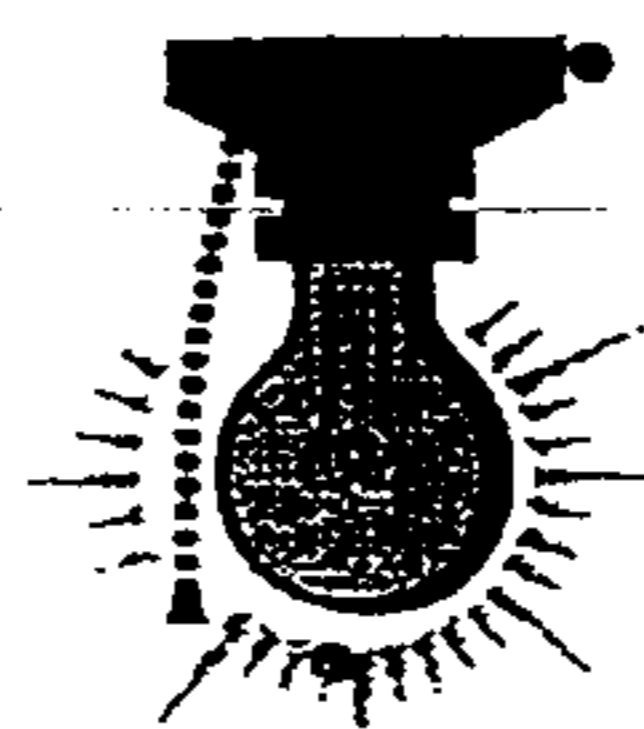
b. 
$$10 \overline{) 28} \text{ + R}$$

c. 
$$2 \overline{) 17} \text{ + R}$$

d. 
$$3 \overline{) 16} \text{ + R}$$

e. 
$$4 \overline{) 17}$$

f. 
$$4 \overline{) 10}$$



Here's how you work it!

19 is not part of a division family for 2's. Find the closest number before 19 that is in a 2's family.

$$2 \overline{) 19}$$

$$2 \overline{) 19} \\ \underline{) 18}$$

It's 18. Write 18 below 19. What number times 2 is 18?

$$2 \overline{) 19} \\ \underline{) 18}$$

It's 9. Write 9 in the answer.

Subtract 18 from 19 to get the remainder. It's 1. Write +R1 next to the 9 in the answer.

$$\begin{array}{r} 9 \text{ +R1} \\ 2 \overline{) 19} \\ \underline{- 18} \\ 1 \end{array}$$

Name: \_\_\_\_\_

Multiplication 0 - 10

# SPEED MULTIPLICATION

$$\begin{array}{r} 5 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 3 \\ \hline \end{array}$$

Time: \_\_\_\_\_ Score: \_\_\_\_\_

**PART 2**

Work each division problem.

a. 
$$\begin{array}{r} 342 \\ 2 \overline{) 684} \end{array}$$

b. 
$$\begin{array}{r} 4 \\ 4 \overline{) 848} \end{array}$$

c. 
$$\begin{array}{r} 2 \\ 2 \overline{) 628} \end{array}$$

**PART 3**

Work each division problem. Watch out for the zero.

a. 
$$\begin{array}{r} 210 \\ 4 \overline{) 840} \end{array}$$

b. 
$$\begin{array}{r} 2 \\ 2 \overline{) 802} \end{array}$$

c. 
$$\begin{array}{r} 3 \\ 3 \overline{) 603} \end{array}$$

**PART 4**

Work each division problem.

a. 
$$\begin{array}{r} 60 \\ 2 \overline{) 120} \end{array}$$

b. 
$$\begin{array}{r} 2 \\ 2 \overline{) 160} \end{array}$$

c. 
$$\begin{array}{r} 2 \\ 2 \overline{) 628} \end{array}$$

d. 
$$\begin{array}{r} 2 \\ 2 \overline{) 106} \end{array}$$

e. 
$$\begin{array}{r} 2 \\ 2 \overline{) 206} \end{array}$$

f. 
$$\begin{array}{r} 4 \\ 4 \overline{) 128} \end{array}$$

**Review**

Write the two division facts for each number family.

a. 
$$\begin{array}{r} 6 \\ 9 \overline{) 54} \end{array}$$

b. 
$$\begin{array}{r} 5 \\ 4 \overline{) 20} \end{array}$$

Answers are on page 24.

Name: \_\_\_\_\_

Multiplication 0 - 11

**SPEED MULTIPLICATION**

$$\begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 0 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 0 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 1 \\ \hline \end{array}$$

Time: \_\_\_\_\_ Score: \_\_\_\_\_

# LESSON

# 4

## More Short Division



### PART 1

Work each division problem. Do the underlining and then write the answer.

a. 
$$\begin{array}{r} 533 \\ 3 \overline{)1599} \end{array}$$

b. 
$$\begin{array}{r} 8164 \\ 4 \overline{)8164} \end{array}$$

c. 
$$\begin{array}{r} 9927 \\ 9 \overline{)9927} \end{array}$$

d. 
$$\begin{array}{r} 669 \\ 3 \overline{)669} \end{array}$$

e. 
$$\begin{array}{r} 4816 \\ 2 \overline{)4816} \end{array}$$

f. 
$$\begin{array}{r} 3515 \\ 5 \overline{)3515} \end{array}$$

### PART 2

Work each division problem.

a. 
$$\begin{array}{r} 803 \\ 3 \overline{)2409} \end{array}$$

b. 
$$\begin{array}{r} 5015 \\ 5 \overline{)5015} \end{array}$$

c. 
$$\begin{array}{r} 3212 \\ 4 \overline{)3212} \end{array}$$

d. 
$$\begin{array}{r} 3015 \\ 3 \overline{)3015} \end{array}$$

e. 
$$\begin{array}{r} 2016 \\ 2 \overline{)2016} \end{array}$$

f. 
$$\begin{array}{r} 1206 \\ 6 \overline{)1206} \end{array}$$

### PART 3

Use this number line to solve these problems.



a.  $22 = 4 \times \underline{\quad} + R \underline{\quad}$

b.  $33 = 4 \times \underline{\quad} + R \underline{\quad}$

c.  $27 = 4 \times \underline{\quad} + R \underline{\quad}$

d.  $18 = 4 \times \underline{\quad} + R \underline{\quad}$

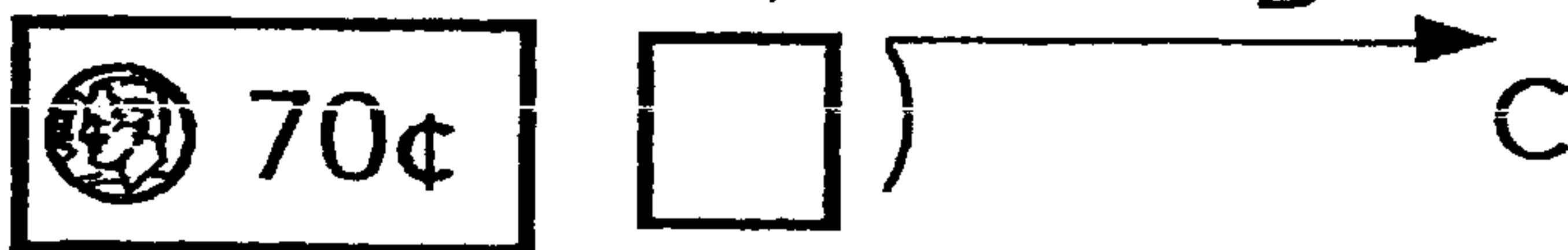
e.  $13 = 4 \times \underline{\quad} + R \underline{\quad}$

f.  $34 = 4 \times \underline{\quad} + R \underline{\quad}$

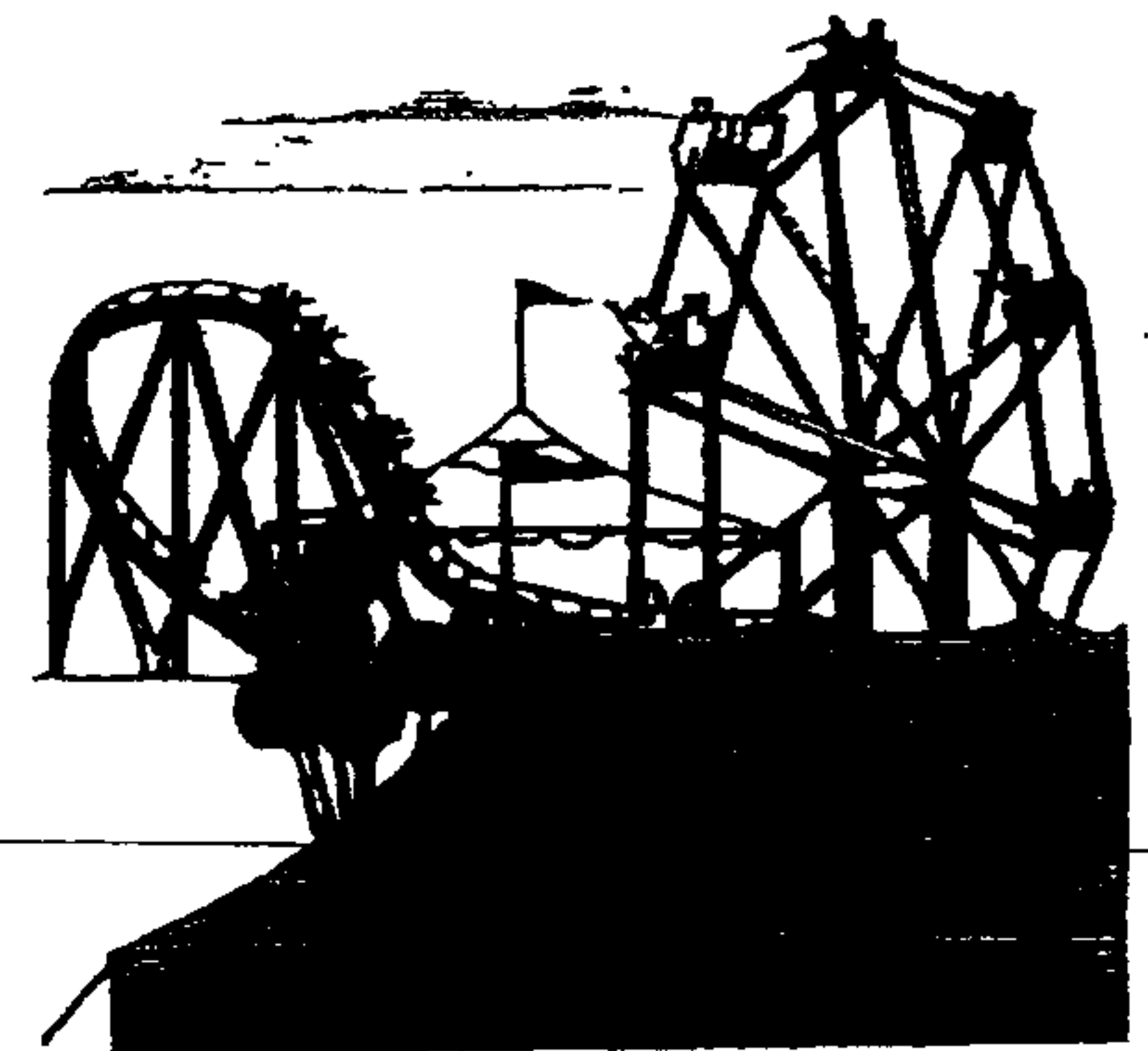


Figure out the answer for each problem.

a.



b. You have 40 cents in nickels. How many nickels do you have?



Mad Math went to a carnival. Answer the following questions.

a. Mad Math counted 27 people riding on the Ferris Wheel. The Ferris wheel was full. Three people were in each car. How many cars did the Ferris Wheel have?



b. Mad Math spent 70 cents in dimes at the carnival. How many dimes did he spend?

c. Mad Math counted 14 people in front of him in the Ferris Wheel line. If the Ferris Wheel picks up 2 people each time it stops, how many times must it stop before Mad Math gets his turn?

Answers are on page 28.

Name: \_\_\_\_\_

Multiplication 0 - 12

# SPEED MULTIPLICATION

$$\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 9 \\ \hline \end{array}$$

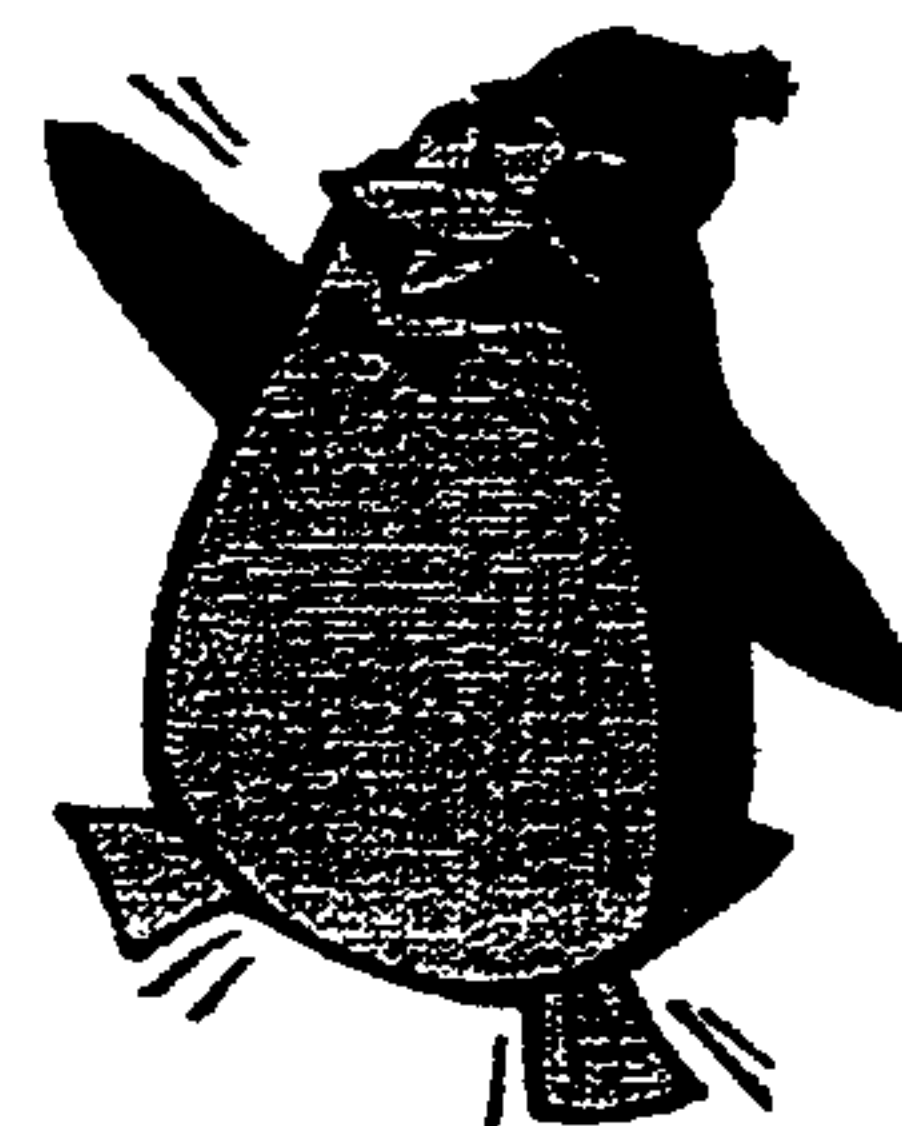
$$\begin{array}{r} 11 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \times 10 \\ \hline \end{array}$$

Time: \_\_\_\_\_ Score: \_\_\_\_\_

# LESSON 6

## Checking Your Answers



### PART 1

Do the multiplication and subtract to figure out the remainder.

$$\begin{array}{r} 34 + R4 \\ 5 \overline{) 174} \\ \underline{- 170} \\ 4 \end{array}$$

$$\begin{array}{r} 18 + R \\ 4 \overline{) 74} \end{array}$$

$$\begin{array}{r} 65 + R \\ \phantom{0} \overline{) 592} \end{array}$$

$$\begin{array}{r} 82 + R \\ 5 \overline{) 414} \end{array}$$

$$\begin{array}{r} 36 + R \\ 7 \overline{) 257} \end{array}$$

$$\begin{array}{r} 63 + R \\ \phantom{0} \overline{) 382} \end{array}$$

### PART 2

Do the multiplication and subtract to find the remainder.

$$\begin{array}{r} 7 + R2 \\ 54 \overline{) 380} \\ \underline{- \phantom{00}} \\ 2 \end{array}$$

$$\begin{array}{r} 4 \\ 35 \overline{) 152} \\ \underline{\phantom{00}} \end{array}$$

$$\begin{array}{r} 6 \\ 29 \overline{) 180} \\ \underline{\phantom{00}} \end{array}$$

**PART 3**

Figure out the remainder for each problem.

$$\begin{array}{r} 8 + R 23 \\ 42 \overline{) 359} \\ \underline{- 336} \end{array}$$

$$\begin{array}{r} 7 \\ 35 \overline{) 253} \\ \underline{\phantom{00}} \end{array}$$

$$\begin{array}{r} 6 \\ 82 \overline{) 499} \\ \underline{\phantom{00}} \end{array}$$

**PART 4**

For each problem, figure out if the answer is too big or too small. Then work the second problem to get the correct answer.

$$\begin{array}{r} 4 \\ 54 \overline{) 185} \\ \underline{216} \end{array}$$

$$\begin{array}{r} 3 + R 23 \\ 54 \overline{) 185} \\ \underline{- 162} \end{array}$$

$$\begin{array}{r} 5 \\ 73 \overline{) 300} \end{array}$$

$$\begin{array}{r} 73 \overline{) 300} \end{array}$$

$$\begin{array}{r} 6 \\ 29 \overline{) 213} \end{array}$$

$$\begin{array}{r} 29 \overline{) 213} \end{array}$$

$$\begin{array}{r} 5 \\ 34 \overline{) 210} \end{array}$$

$$\begin{array}{r} 34 \overline{) 210} \end{array}$$

$$\begin{array}{r} 3 \\ 78 \overline{) 230} \end{array}$$

$$\begin{array}{r} 78 \overline{) 230} \end{array}$$

$$\begin{array}{r} 8 \\ 56 \overline{) 400} \end{array}$$

$$\begin{array}{r} 56 \overline{) 400} \end{array}$$

Answers are on page 32.

**GEOLOGIST'S NOTEBOOK**  
**WHAT EXACTLY ARE MINERALS?**

**Pre-Test/Anticipation Guide**

**Directions: Circle the best answer to the following questions before viewing the program. Don't worry; you may not know all of the answers. The answers will be reviewed following the program.**

1. Minerals are living.

True      False

2. Valuable minerals are distributed evenly around the world.

True      False

3. Minerals are often aggregated, or collected together, with other minerals in a rock.

True      False

---

4. Once minerals are together in a rock, they form new minerals.

True      False

5. Color and luster are two physical properties used to identify a mineral.

True      False

6. Minerals can break apart, or cleave, in a specific way.

True      False

7. Elements are not Earth's basic building blocks.

True      False

---

8. Minerals are made of elements.

True      False

9. Most minerals grow in water or magma.

True      False

10. Minerals grow in unpredictable patterns.

True      False

Vocabulary Word:		
Definition:		
Sentence:		

Vocabulary Word:		
Definition:		
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**GEOLOGIST'S NOTEBOOK**  
**WHAT EXACTLY ARE MINERALS?**

**Discussion Questions**

**Directions: Research and report back to the class. Creatively present the information you have learned. For example, you could create a game, do a dramatization, a news show, PowerPoint® presentation with visuals, design a timeline, or write a story and read it to class.**

1. What are minerals?
2. Why are minerals important to people?
3. Where can geologists find minerals?
4. Why is there not an even distribution of minerals found around the world? For example, why is gold in California but not Illinois?

---

5. How can minerals be separated from the rock of which they are part?
6. How are minerals identified? Be specific.
7. You are a geologist trying to identify two minerals. What should you do if two rocks contain yellow minerals but you know they are different minerals? Be specific.
8. Why did geologists come up with so many ways to identify minerals?

---

9. What are elements?
10. How do elements make minerals?
11. How many kinds of minerals are there? Provide a few examples.
12. Describe a crystal.
13. How do crystals grow?
14. Give examples of minerals used in everyday life.

**GEOLOGIST'S NOTEBOOK**  
**WHAT EXACTLY ARE MINERALS?**

**Identifying Minerals Graphic Organizer**

**Directions:** List the physical properties, define what it means, and include an example of a mineral that demonstrates those properties.

<b>Physical Property</b>	<b>Definition of Physical Property</b>	<b>Example of a mineral with this physical property</b>

<p style="text-align: center;"><b>GEOLOGIST'S NOTEBOOK</b> <b>WHAT EXACTLY ARE MINERALS?</b></p>
--

**Cause and Effect**

**Directions: Match the cause with the correct effect. Write the letter on the line in column two that correctly matches.**

**Column I**

- A) Certain minerals are expensive, such as gold.
- B) Minerals need to be separated out by processing.

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- C) Identifying minerals is challenging.
- D) Testing the physical properties of minerals.
- E) Earth has about a hundred elements.
- F) Our world is so rich with minerals.

---

- G) Minerals are important to everyday living for humans.

**Column II**

- \_\_\_\_\_ Helps geologists identify minerals.
- \_\_\_\_\_ We use table salt, copper, and diamonds.

---

- \_\_\_\_\_ Few have room to grow into large crystals.
- \_\_\_\_\_ Minerals are aggregated with others in rock.
- \_\_\_\_\_ They are deposits of minerals in different places around the world.
- \_\_\_\_\_ There are so many kinds of minerals.

---

- \_\_\_\_\_ There are thousands of chemical combinations of elements that make different minerals.

**GEOLOGIST'S NOTEBOOK**  
**WHAT EXACTLY ARE MINERALS?**

**Video Quiz**

**Directions:** Now that you have learned so much from viewing *What Exactly are Minerals?*, it is now time to test what you have learned. Answer each question by circling the correct response by circling either true or false. Do your best!

1. Minerals are evenly distributed around the world.  
True            False
2. Rocks may be made of two or more minerals.  
True            False
3. Physical properties of minerals include color, hardness, and cleavage.  
True            False

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4. Most minerals are made of two or more elements.  
True            False
5. Minerals grow in an orderly, repeating fashion.  
True            False

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# United States of America

