GOOD YEAR BOOKS Sample Pages

Sample pages from this product are provided for evaluation purposes. The entire product is available for purchase at <u>www.socialstudies.com or www.goodyearbooks.com</u>

> To browse eBook titles, visit http://www.goodyearbooks.com/ebooks.html

To learn more about eBooks, visit our help page at <u>http://www.goodyearbooks.com/ebookshelp.html</u>

For questions, please e-mail <u>access@goodyearbooks.com</u>

Free E-mail Newsletter—Sign up Today!

To learn about new eBook and print titles, professional development resources, and catalogs in the mail, sign up for our monthly e-mail newsletter at <u>http://www.goodyearbooks.com/newsletter/</u>

For more information:

10200 Jefferson Blvd., Box 802, Culver City, CA 90232 Call: 800-421-4246 • Fax: 800-944-5432 (U.S. and Canada) Call: 310-839-2436 • Fax: 310-839-2249 (International)

Copyright notice: Copying of the book or its parts for resale is prohibited.

Contents

- iii Preface
- vi About the Author
- vi Acknowledgments
- xi Correlation Chart

Whole Numbers

- 3 Know Your Bowling Score! Addition of Whole Numbers; Mental Math (Activity, page 149)
- 5 Counting Calories Addition of Whole Numbers; Using a Table
- 7 Presidential Playing Field Subtraction of Whole Numbers (Activity, page 149)
- 9 A Trip to 1776 Addition and Subtraction of Whole Numbers
- 11 Editor for a Day: × and ÷ Facts Multiplication and Division Facts
- **12 A Wall-to-Wall Product** First Solve a Simpler Problem; Multiplication of Whole Numbers
- 13 A Bit of Computing Multiplication of Whole Numbers
- 14 Camp Quo-Tent Division of Whole Numbers
- **16 Stuff You Auto Know about Mileage** Operations with Whole Numbers; Using a Map

17 Formula-Driven Using Formulas with Whole Numbers (Activity, page 150)

Decimals

- 21 *Talking Points* about Decimals I: Addition and Subtraction Decimal Number-Sense Problems
- 23 Can You Make the Change? Using Addition of Decimals to Make Change for a Dollar
- 24 To Life! Subtraction of Decimals; Using a Table
- 26 Take Your Cue from Coupons Addition and Subtraction of Decimals (Activity, page 150)
- 28 Checking Your Checking Account Addition and Subtraction of Decimals
- **30 More Power to You** Multiplication of Decimals; Dividing Decimals by 1000
- 31 *Talking Points* about Decimals II: Multiplication and Division Decimal Number-Sense Problems
- **33 At Any Rate ...** Using Division of Decimals to Find Unit Rates
- 34 Super Sports Statistics I: Baseball and Basketball

Operations with Decimals

- **36 Super Sports Statistics II: Football** *Operations with Decimals*
- 38 Wheels and Deals Operations with Decimals

Fractions

- **41 Take Stock of Stocks** Addition and Subtraction with Like Denominators (Activity, page 150)
- 42 What Do They Have in Common? Problems Involving Least Common Multiple
- 44 Rulers Rule!

Addition with Mixed Numbers; Perimeter

- 45 Mixed Numbers at the Olympics Subtraction with Mixed Numbers
- 47 What's Cooking?

Multiplication with Mixed Numbers (Activity, page 150)

48 Editor for a Day: Fractions

Language Arts Connection: Search for Errors in Mathematics (Fraction Computation) and in English Usage (Activity, page 150)

- 49 It's Out of This World Division with Mixed Numbers
- 51 The Spy Who Mixed Numbers Operations with Mixed Numbers
- **53 In My Estimation ...** Using Estimation to Solve Real-World Problems

Statistics

- 57 Learning about the Mean
- 58 Learning about the Median
- 59 Learning about the Mode
- 60 Finding Averages from a Frequency Table

- 61 Problems That Are Just about Average Real-World Problems with Mean, Median, and Mode (Activity, page
- 63 *Targeting* the Mean Absolute Deviation

Using Line Plots to Help Develop a Measure of Variability

- 67 Where Do You Draw the Line? Making and Using a Dual Line Graph
- 68 Graphs That Should Be Barred Analyzing Misleading Graphs

Probability

151)

71 Spinning into Probability

An Introduction to Probability; Converting Fractions to Decimals (Activity, page 152–154)

72 Chance Problems

Problems Involving Odds and Probability

73 Odds Are ...

Problems Involving Odds and Probability (Activity, page 155)

75 It's Predictable

Multiplication of Fractions and Probability

77 What Are Your Chances for Passing a True-False Quiz by Guessing? Using a Probability Model and a

Simulation to Estimate a Probability

Measurement

81 Monster Math

Using a Ruler and Scale Drawings to Find Map Distances

82 Going to Great *Lengths*

Solving Problems Involving Metric Units of Length

- 84 In What Capacity? Solving Problems Involving Metric Units of Capacity
- 85 A Weighty Matter Solving Problems Involving Metric Units of Mass (Activity, page 155)
- 87 Try These—to a Degree Solving Problems Involving Temperature (Activity, page 155)
- 89 It's about Time Solving Problems Involving Time

Proportion and Percent

93 This Ratio Is Golden

Art Connection: Using the Golden Ratio (Activity, pages 156–157)

94 A Portion of Proportions Using Proportions to Solve Problems

96 A *Model* Way to Solve Percent Problems

Using a Bar Diagram to Help Set Up Proportions to Solve Each of the Three Basic Types of Percent Problems

- 98 Percent Potpourri Finding a Percent of a Number
- 100 Building a *Solid Foundation* on Percents

Solving Problems Involving Percents and Bases

102 Percents That Don't Make Sense Analyzing Situations Involving Incorrect Percents

103 Take Interest in This

Problems Involving Simple Interest; True Annual Percentage Rate

105 Take Even More Interest in This Problems Involving Compound Interest

107 Spread Out Your Spreadsheets

Using a Spreadsheet to Find Compound Interest (Activity, page 158)

109 Choose a Calculation Method

Deciding if Estimation, Mental Math, Paper and Pencil, or a Calculator Should Be Used to Solve a Problem

Geometry

113 What Shape Is He In?

Using Tangrams and Children's Literature to Explore Spatial Concepts (Activity, page 158)

115 Tangrams, Fractions, and Area Using Tangrams to Develop Fraction and Geometry Concepts

116 What's Inside a Rectangle?

Area of a Rectangle, Surface Area of a Rectangular Prism

118 Base Times Height—and You'll Be Right!

Area of a Parallelogram, Triangle, and Trapezoid; Geometric Probability

120 Going Around in *Circles*

Circumference and Area of a Circle

122 Turn Up the Volume

Volume of a Rectangular Prism, Square Pyramid, Cylinder, and Cone (Activity, page 158)

124 Estimation with Area and Volume

Using Estimation to Solve Real-World Geometry Problems, Including Those Involving Irregular-Shaped Figures

126 Hidden Figures

Make a Systematic List to Help Solve a Problem (Activity, page 158)

Integers

- **131 Tackling Integers I** Addition of Integers (Activity, page 159)
- **132 Tackling Integers II** Subtraction of Integers
- **133 Tackling Integers III** Discovering Rules for Adding and Subtracting Integers
- **134 Wind Chill Numbbrrs** Addition and Subtraction of Integers
- 135 Multiplying Two Negatives Is a Plus—Let's Discuss

Using a Real-World Model for Multiplying Integers

136 Positively Negative Operations with Integers

Pre-algebra

•••••

139 Number Tricks

Using Variables to Make Generalizations (Activity, page 159)

141 Inequalities in the Real World

Writing Inequalities and Graphing Their Solutions to Describe Problem Situations

142 Planely Algebra

Interpreting Airline Data from a Scatterplot

144 Getting to the Root of the Problem

Using a Flowchart to Find Square Root (Activity, page 159) 145 Pythagorean Problems Solving Problems Applying the Pythagorean Theorem

147 Upside-Down Calculator Problems

Mathematical Recreation Connection: Solving Problems Where the Upsidedown Calculator Display of the Answer Spells Out a Word Related to the Problem

149 Activities

160 Answer Key

Know Your Bowling Score!

In bowling, you throw 2 balls in each frame, except when you get a *strike*. A *strike* occurs when you knock down all 10 pins on the first throw.

In frame 1 of the game below, you knocked down 6 pins on the first throw and 3 pins on the second throw, so your score for frame 1 is **9.** In frame 2, you knocked down 8 pins on the first throw and 0 pins (shown by the —) on the second throw. Your score in frame 2 is 9 + 8, or **17.**

In frame 3 you knocked down 5 pins on the first throw and the rest of the pins on the second throw. This is called a *spare* (shown by the /). A *spare* counts for 10 pins, plus the number of pins knocked down with the *first* ball in the next frame. Since you knocked down 4 pins on the first throw in frame 4, your score for frame 3 is 17 + 10 + 4, or **31**.



1. Complete the scoring for the game below.

1	2	3	4	5	6	7	8	9	10
6 3 9	8 - 17	5 / 31	4 5	6 /	9 –	- /	26	7 /	54

A *strike* (shown by an X) counts for 10 pins, plus the number of pins you knock down with the next *two* balls. Your score for frame 2 in the game below is 9 + 10 + 7 + 2, or **28**.

2. Complete the scoring for the game below. Note that when you get a spare in the tenth frame, you get one extra throw.

1	2	3	4	5	6	7	8	9	10
9 <u>-</u> 9	28	7 2	6 /	9 –	X	54	- /	X	5 / 9

Counting Calories

A *calorie* is a unit for measuring the amount of energy supplied by food. The table at the right shows the daily calorie needs for people of certain ages and weights.

	Male	s		Female	es
Age	Weight	Calories	Age	Weight	Calories
7–10	62	2,000	7–10	62	2,000
11–14	99	2,500	11–14	101	2,200
15–18	145	3,000	15–18	120	2,200
19–24	160	2,900	19–24	128	2,200

 A 19-year-old man who does very heavy work needs 1,450 calories a day more than his usual amount. How many calories a day does such a man need?

The table below lists how many calories are provided by various foods. Use the table to find daily calorie intakes on the next page.

Bread, Cereal, Rice, and Pasta Group						
Food	Calories					
bagel, plain (1)	200					
bread, wheat (2 slices)	110					
bread, white (2 slices)	126					
cake, plain with frosting (1 slice)	445					
cornflakes, unsweetened (1.1 oz)	110					
cornflakes, sweetened (1.1 oz)	120					
doughnut, iced (1)	210					
macaroni, hot (1 cup)	190					
noodles, cooked (1 cup)	200					
pancakes (3 with syrup)	360					
pie, apple (1 slice)	377					
popcorn, air-popped (1 cup)	30					
tortilla, corn (1)	65					
Meat, Poultry, Fish, Eggs, and	Nuts Group					
bologna (2 slices)	180					
chicken, fried (2 drumsticks)	390					
egg, fried (1)	110					
egg, hard-cooked (1)	75					
fish sticks, frozen, reheated (2)	140					
peanut butter (1 tablespoon)	95					
hamburger (<mark>1</mark> 1b)	334					
roast beef, lean (2.6 oz)	135					
tuna fish, canned in oil (3 oz)	165					
turkey, roasted (5 oz)	240					

Milk, Yogurt, and Cheese Group

Food	Calories
cream cheese (2 tablespoons)	70
ice cream (1 cup)	270
milk, skim (1 cup)	87
milk, 2% (1 cup)	130
milk, whole (1 cup)	166
milk shake (10 oz)	355
yogurt, fruit filled (8 oz)	230
Fruit and Vegetable Grou	р
apple (1)	100
banana (1)	104
carrots, small (2)	50
celery (2 stalks)	14
corn, cooked (1 ear)	85
orange juice (1 cup)	110
potato, baked (1)	98
potatoes, fried (20)	394
salad and dressing	119
Fats, Oils, and Sweets Gr	oup
candy, milk chocolate (1 oz)	145
cola (12 oz)	160
jams and preserves (1 tablespoon)	55
margarine (1 tablespoon)	100

Use the calorie table to find each person's calorie intake for a certain day.

2. Charlie Calorie, age 15, weight 125 lb **3.** Nancy Nutrition, age 13, weight 100 lb

Food	Calories	Food	Calories
Breakfast			Breakfast
doughnut, iced (1)		cornflakes, unsweete	ned (1.1 oz)
pancakes (3 with syrup)		egg, fried (1)	
milk, whole (1 cup)		milk, 2% (1 cup)	
prange juice (1 cup)		banana (1)	
Lunch		orange juice (1 cup)	
hamburger ($\frac{1}{4}$ lb)			Lunch
potatoes, fried (20)		bread, white (2 slices	.)
milk shake (10 oz)		peanut butter (1 table	espoon)
candy, milk chocolate (1 oz)		jam (1 tablespoon)	
Dinner		apple (1)	
skielen frisk (Oslamma tisler)		milk, 2% (1 cup)	
chicken, tried (2 drumsticks)			Dinner
salad and dressing			Dimici
corn, cooked (1 ear)		turkey, roasted (5 oz)	
cola (12 oz)		potato, baked (1)	
pie, apple (1 slice)		margarine (1 tablespo	oon)
popcorn, air-popped (1 cup)		corn, cooked (1 ear)	
TOTAL		carrots, small (2)	
		milk, 2% (1 cup)	
		ice cream (1 cup)	
			TOTAL

- 4. a. Whose calorie intake was more than his or her daily need?_____
 - b. How many calories did that person go over his or her daily need?_____



Presidential Playing Field

The president of the United States is elected by the *electoral college*. States with large populations have more electoral votes than states with small populations.

The candidate who receives the greatest number of popular votes in a state usually gets all of the state's electoral votes. To become president, a candidate must receive a majority (more than half) of the electoral votes. Since 1964 (when Washington, D.C., was added to the electoral college), the total number of electoral votes has been 538.



Electoral Votes for President

- 1. How many more electoral votes does New York (NY) have than New Jersey (NJ)?
- 2. How many fewer electoral votes does Florida (FL) have than Texas (TX)?
- 3. In 1944, California (CA) had only 25 electoral votes. How many electoral votes has it gained since then?
- 4. The six states with the most electoral votes are California. Texas, New York, Florida, Pennsylvania (PA), and Illinois, (IL).
 - a. How many electoral votes do these six states have in all?
 - b. How many electoral votes do the rest of the 44 states and Washington, D.C., have in all?