

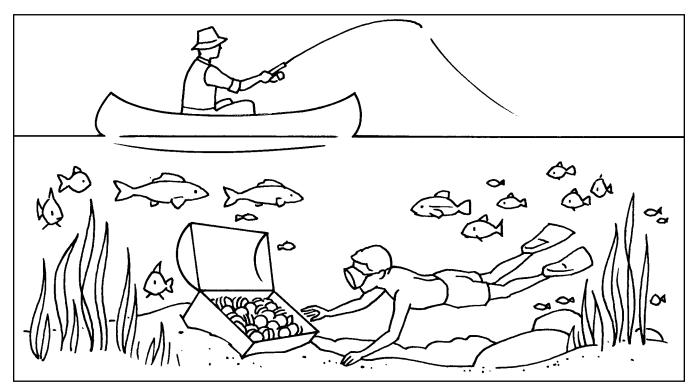
## ••••••••••••••••••• Table of Contents

<b>How to Use This Book</b>
NCTM Standards4
Unit 1
How to Determine Probability5
Practice Identifying Certain and
Impossible Events
Practice Identifying Likely, Unlikely, and
Equally Likely Events7
Practice Making Decisions with Probability 8
Unit 2
How to Show Probability9
Practice Showing Probability with Fractions 10
Practice Showing Probability with Decimals
and Percents
Practice Showing Probability in Three Ways 12
Unit 3
How to Compare Outcomes
Practice Comparing Probabilities14
Practice Multiplying to Determine Probability 15
Practice Drawing a Tree Diagram
or Making a List16
Unit 4
How to Make Predictions with Probability
and Data 17
Practice Making Predictions
with Probability
Practice Making Predictions with Data 19
Practice Making Predictions with Different Data
Unit 5
How to Use Ratios
Practice Showing Ratios in Three Ways $\dots 22$
Practice Calculating Equivalent Ratios 23
Practice Using Ratios to Show Odds24
Unit 6
How to Chart Statistics
Practice Using Ratios to Determine Fairness 26

Practice Using Charts, Data, and Ratios to Determine Fairness
Practice Using Ratios to Show
Large Quantities
Unit 7
How to Calculate Mean and Range
Practice Calculating Mean
Practice Finding the Range and Charting Data
Practice Estimating the Mean and Range 32
Unit 8
How to Average with Median and Mode 33
Practice Finding the Median and Mode 34
Practice Finding the Median and Mode from Graphs
Practice Experimenting to Find the Median and Mode
Unit 9
How to Chart Data to Find Median and Mode
Practice Calculating Median and Mode with Stem-and-Leaf Plots
Practice Calculating Median and Mode Using Frequency Charts
Practice Estimating Median and Mode for Large Quantities
Unit 10
Practice Working with Combinations41
Practice Simulations and Combinations 42
Unit 11 (Brain Teasers)
Outliers
Tricky Averages
Unit 12 (Technology)
Spreadsheet Files
All About Sharks
<b>Answer Key</b>



Hal has gone fishing for the day. There are 7 carp (non-edible), 9 mackerel, 38 trout, and 46 catfish in the lake. Assume he catches one fish at random. While he is fishing, his son Peter goes diving for lost treasures. He reaches into the treasure chest and randomly chooses a coin. In the treasure chest, there are 16 tin, 12 titanium, 10 bronze, 8 copper, 3 silver, and 1 gold coins. Only the gold and titanium coins are still shiny. Only the gold, silver, copper, bronze, and titanium coins are valuable.



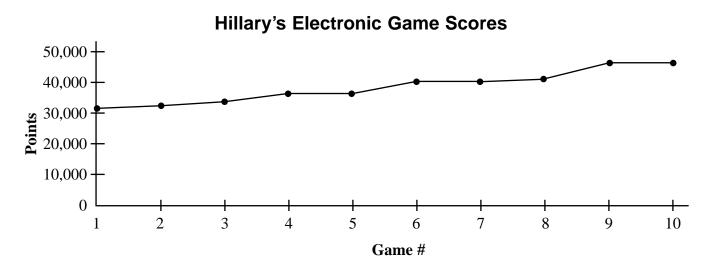
Directions: Use the information on how to show probability as a fraction, decimal, and percent on page 9 to help predict the outcomes below.

	Fraction	Decimal	Percent	
1. Hal catches a catfish.				
2. Hal catches a non-edible fish.				
<b>3.</b> Hal catches a two-syllable fish.				
4. Peter selects the gold coin.				
5. Peter selects a valuable coin.				
6. Peter selects a copper coin.				
7. Which fish is Hal least likely to catch?				
8. Which coin is Peter most likely to grab?				
#2960 How to Work with Probability and Statistics	12	© Teacher Created Resources, In		



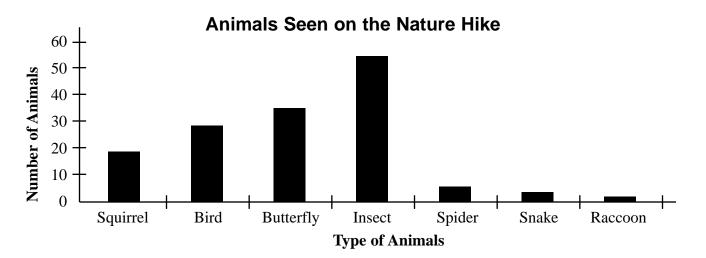
**Directions:** Use the data from the graphs below to answer the questions that follow.

Hillary is very proud of herself when she wins the electronic game that she plays. The line graph below shows her progress as she plays the game again and again.



- 1. How do Hillary's scores compare from game to game?
- 2. Would Hillary's score be likely or unlikely to go up in the next game?\_
- **3.** What numerical value would you give to the probability that Hillary will score over 20,000 points during her next play?

Mrs. Johnson's class is on a nature hike at school. She shared a graph with her students that her previous class had made.



- **4.** Using the information from the above graph, which animal can Mrs. Johnson's class expect to see the most of?
- 5. What numerical value would you give to the probability that the class will see a snake?