Important Concepts . . .

Preview Review

Mathematics Grade 5

W3 - Lesson 4: Statistics and Probability

V5-07

Important Concepts of Grade 5 Mathematics

W1 - Lesson 1 .....Number Sense Numbers 0 to 100 000
W1 - Lesson 2 ..... Exploring Proper Fractions
W1 - Lesson 3 ..... Exploring Decimals
W1 - Lesson 4 .....Numbers With Up to 2 Decimal Places
W1 - Lesson 5 ..... Multiplication
W1 - Quiz
W2 - Lesson 1 ..... Division
W2 - Lesson 2 ..... Collecting Data and Analyzing Patterns
W2 - Lesson 3 .....Estimating and Taking Measurements
W2 - Lesson 4 ..... Perimeter and Area Measurements
W2 - Lesson 5 ..... Metric Measurements
W2 - Quiz
W3 - Lesson 1 ..... Volume, Capacity, Mass, and Time
W3 - Lesson 2 ..... 2-D Shapes and 3-D Objects
W3 - Lesson 3 .....Transformations
W3 - Lesson 4 ..... Statistics and Probability
W3 - Lesson 5 .....Chance and Probability
W3 - Quiz

Materials Required

Protractor
Ruler
Calculator

A textbook is not needed.

This is a stand-alone course.

Mathematics Grade 5
Version 5
Preview/Review W3 - Lesson 4

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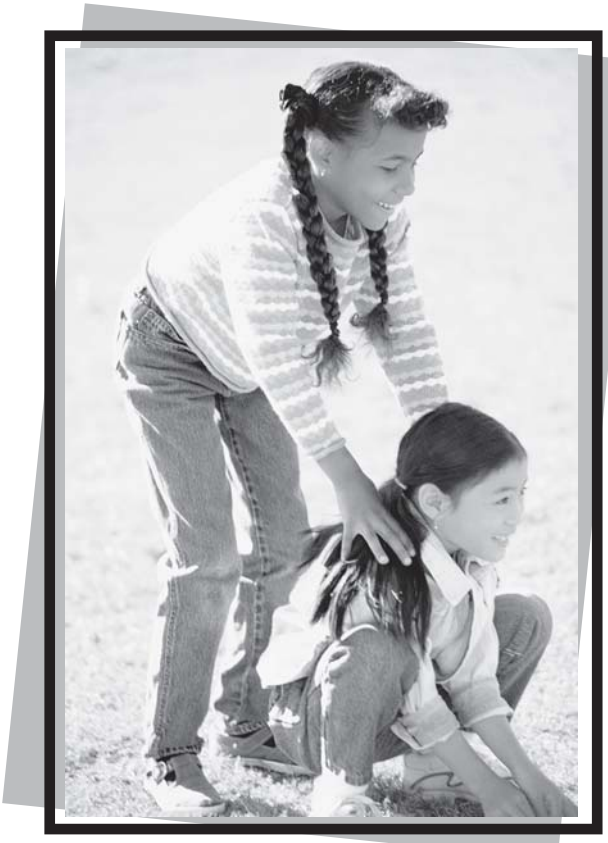
Preview/Review Concepts for Grade Five Mathematics



W3 - Lesson 4: Statistics and Probability

OBJECTIVES

By the end of this lesson, you should

- use various methods to obtain, display, and interpret data
- understand the nature of probability

Glossary of Terms

Broken–line graph: a line graph with broken lines to demonstrate a quantity of change

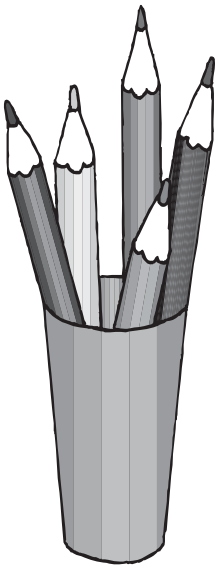
Data: information gathered and analyzed

Frequency: the number of times something happens or occurs

Frequency diagram: a chart for recording collected data

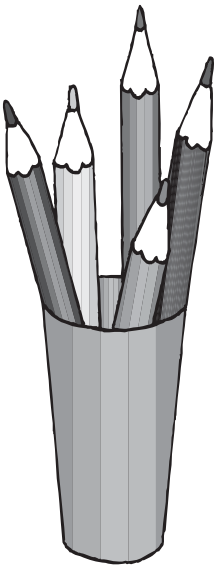
Pictograph: a graph that uses symbols and/or pictures to represent quantity of data

Population: an entire group of people or things for which information is required



Random: not specifically chosen; happens by chance

Sample: a selection of a population for which information is gathered

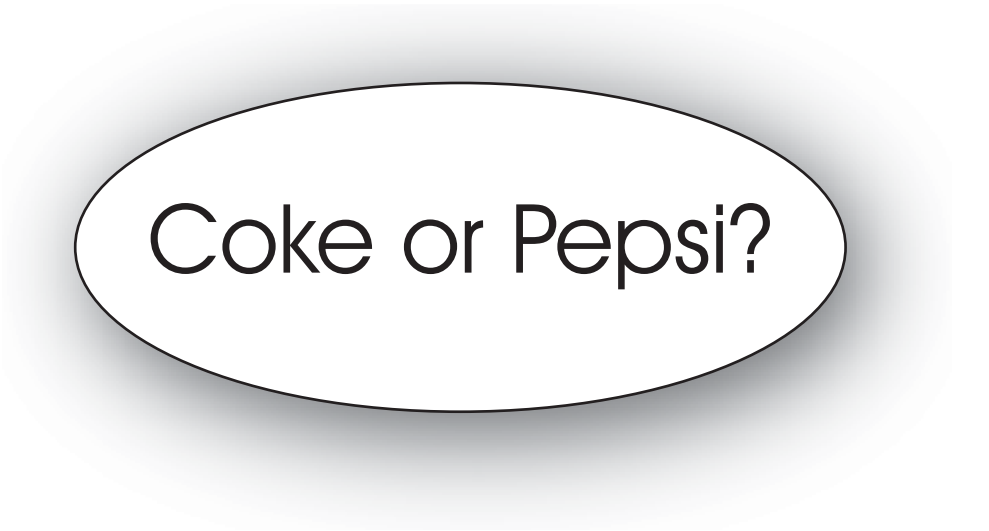


W3 - Lesson 4: Statistics and Probability

Concepts:

- Collection of Data
- Display of Data
- Interpretation of Data

Collection of Data



Suppose you were asked to do an independent study on whether people preferred Coke or Pepsi. Where would you start? Where would you get your information?

First, you need to decide what type of experiment you are going to do. Are you going to ask people their favorite pop? Are you going to do a taste test? Are you going to watch a convenience store to see which pop is sold the most? What about asking Coke and Pepsi how much they sell?

1. As you can see, you may collect the data in many different ways. What way would you choose?

_____

_____

_____

2. Give two reasons this is a good method.

_____

_____

3. Give two reasons this is not a good method.

_____

_____

4. Because you cannot take everyone's opinion, you need to find a sample population. Name three possible sample populations for the Coke or Pepsi question.

_____ _____

_____

5. A small population is only one limit placed on data collectors. What other factors may limit your ability to collect data?

_____ _____

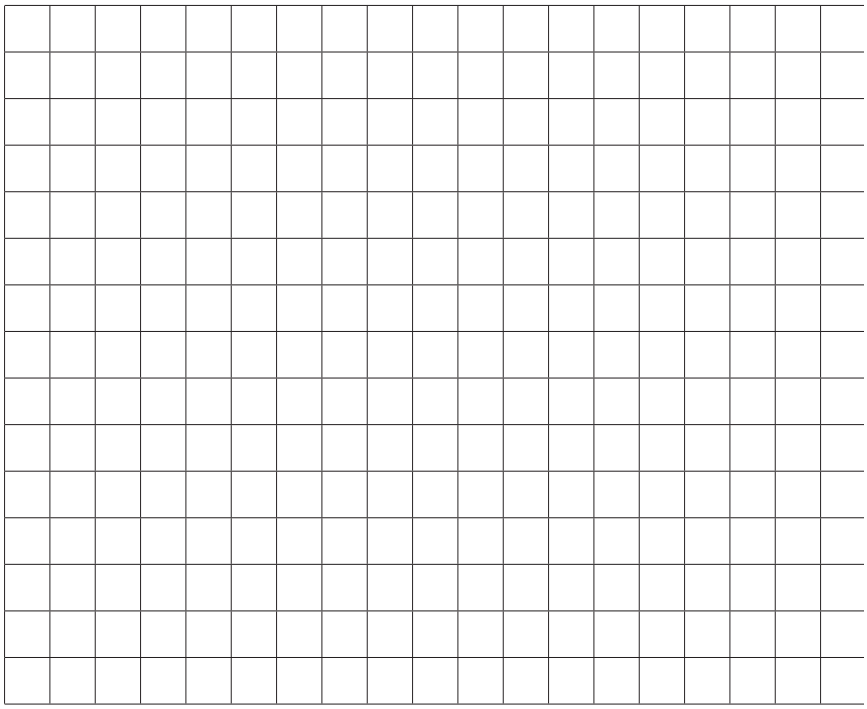
_____

Display of Data

Important data is often lost because it is poorly displayed. Using the information given, input the information on the graphs found on page 5, 6, and 7. Do not forget to label your graphs. You may choose to make a broken-line graph, a pictograph, or a double-bar graph.

Survey - Raise of Hand				
Grade	**Coke**		**Pepsi**	
	Boys	**Girls**	**Boys**	**Girls**
Grade 1	11	3	7	4
Grade 2	3	9	8	7
Grade 3	4	6	13	5
Grade 4	8	7	7	6
Grade 5	12	8	5	3
Grade 6	6	4	7	11

Title: _____

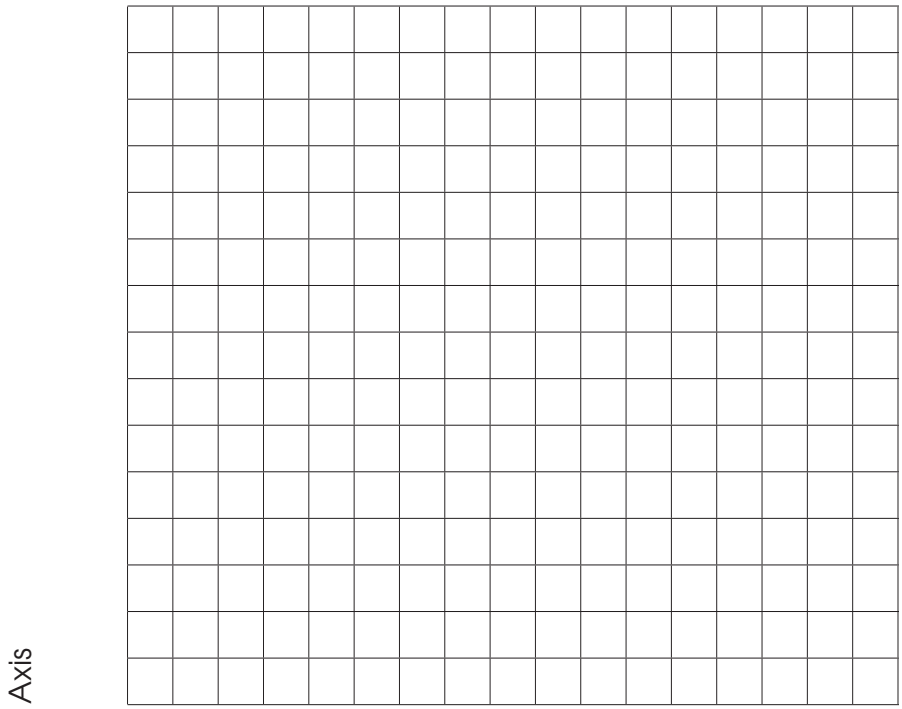


Axis

Axis _____

Amount Each Store Buys		
Convenience Stores	**Coke**	**Pepsi**
Store 1	200	400
Store 2	800	300
Store 3	300	100
Store 4	900	0
Store 5	400	600

Title: _____

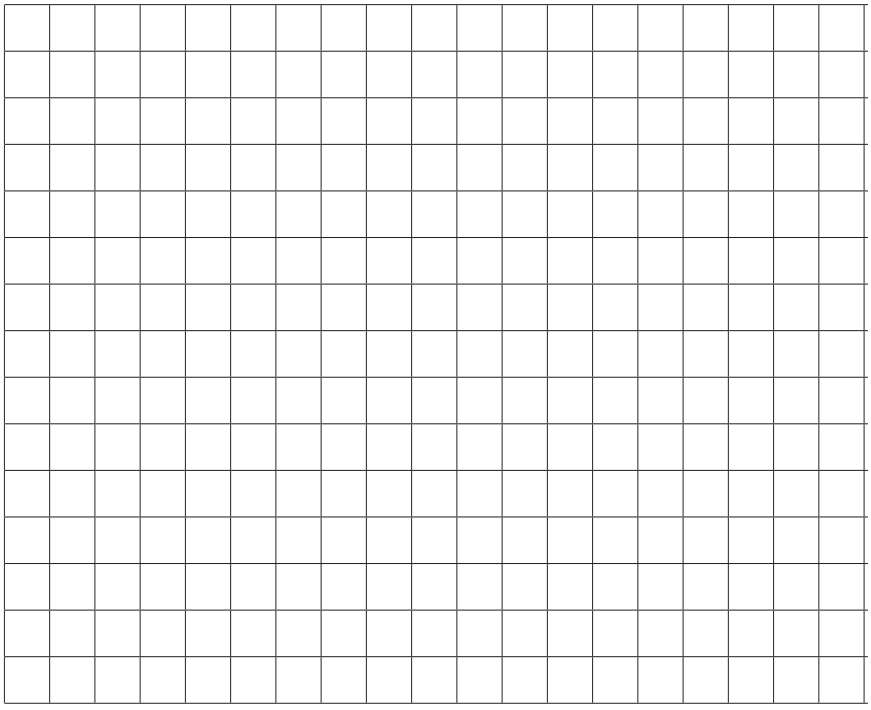


Axis

Axis _____

Pepsi Taste Test Results - Provided by Pepsi		
	Coke	**Pepsi**
Location 1	23	245
Location 2	72	175
Location 3	108	234
Location 4	24	84
Location 5	14	197
Location 6	103	345

Title: _____



Axis

Axis _____

Interpretation of Data

Well, you have collected your data and displayed it. Now, it's time to interpret your data.

1. Do more people prefer Coke or Pepsi?

_____

_____

2. Do you feel this is an accurate study? Explain.

_____

_____

_____

3. Name two ways you could have made this study more fair?

_____

_____

_____

4. Which two graphs show the closest results?

_____

5. One convenience store did not buy any Pepsi. Do you think this is a true reflection about how they feel about Pepsi?

_____

_____

6. How does this affect the results of that data chart?

_____

Sometimes data is corrupted or unable to be used. Add your totals for the convenience stores without including the results of Store 4. Chart your data below.

	First Time Coke	First Time Pepsi	Second Time Coke	Second Time Pepsi
Store 1				
Store 2				
Store 3				
Store 4				
Store 5				
Totals				

If you were to do this analysis again without Store 4, how would your results differ from your first sampling?