

Survey and Statistics

What is Your
Favorite Subject?

How Many
Different
Sports Do You
Play Well?

How Many
Times a Week
Do You Eat
Lunch?



By Nancy L. Wilkinson

Survey and Statistics **Nancy Wilkinson**

About Our Author

Nancy earned her undergraduate degree from the University of Wyoming and her Masters in Education Administration from Arizona State University West. She holds both an Arizona teaching and principal's certificate. With almost 20 years of experience in the field of education, her teaching experience includes both private and public education in grades K-8. She has taught a wide range of subjects including the four core curriculums; Language Arts, Social Studies, Math and Science, in addition to physical education, drama, video technology and Spanish.

After her first child was born, she put away her red apple and began contract labor for companies, which focus on educational needs. She has written content for web sites, created testing and practice guides and most recently served as a question writer for state assessment tests.

Nancy has written nine supplemental material books and eight workshops. She is currently working on her ninth workshop, which focuses on test question writing.

You can view Nancy's work at www.realityeducation.com or by emailing her at nwilkinson@mindspring.com.

Her books and workshops include:

Our Town: Students design their own city complete with a budget and zoning.

Survey and Statistics: A mathematics activity book that analyzes a team survey to create an almanac.

Real World Math Skills: All of the basic life skills rolled up into a fun classroom simulation.

Garbology: Learn about garbage and what it means for our environment through the use of statistics.

Designing a Home: Learn about area and perimeter while designing your own dream home. This unit can be expanded to include learning the costs of building a home.

Treasure Hunt: A mathematics problem solving activity that includes solving problems, which lead to the "treasure."

I Don't Get It! If you have ever had a student tell you "I don't get it," then this is the book for you! Over 80 pages of definitions, examples, tricks and step-by-step instructions.

Mars and Beyond: This unit focuses on the planets and the missions to Mars. Students will learn basic physics such as the electromagnetic spectrum and vital information about the recent landing on Mars and the Mars Global Surveyor. Other activities focus on our planetary system, the galaxy and other space missions.

Money Money Money: Extending beyond the basics of finance, this unit focuses on the history of money, the stock market, printing money, the money cycle, the checkbook, the credit cards, tracing the Dow, the Federal Reserve System, mutual funds, trading money, bonds and planning for retirement.

Building Teams with Self Esteem Workshop - Select from a variety of activities designed to build team spirit as well as self-esteem.

Garbology – The Search for Recycled Trash Workshop - Based on our book, Garbology, this workshop will have you digging in the trash, understanding our environment and seeking out solutions to the increasing amount of trash.

Sexual Harassment, It Could Happen to You Workshop - Protect yourself! What is the legal definition? What steps should be taken if there is a complaint.

Dispute Resolution through Mediation Workshop - How do you settle a dispute? The easiest way is to have a third party help you. This workshop is designed to show you how to use the court mediation process in your own work environment.

Creating a Unit – How to Write a Curriculum Unit Workshop - This workshop will inspire every teacher to throw away the textbook and write a unit. Participants will work in their teams and actually begin writing a unit. The facilitator will work as a guide for resources and ideas.

What is a thematic unit? Workshop - Learn the difference between thematic (interdisciplinary), parallel, and integrated instruction according to the James Beane and Heidi Hayes Jacobs. Participants will outline thematic units and can begin designing parallel curriculum using their own team's scope and sequence.

Using our Books in the Classroom Workshop – This workshop includes an overview of each unit in our math series. Questions are answered on how to set up the Treasure Hunt and tricks of the trade for running each unit successfully.

Treasure Hunt Workshop - There's no sitting down in this workshop! Try to be the first team to solve the problems and win the treasure! Developed by Reality Education, this workshop will provide the participants with all the necessary skills for developing their own Treasure Hunt activity as well as one copy of our book "Treasure Hunt."

Creating Classroom Tests Workshop - Learn the secret to create a multiple-choice test with the same format and techniques used to create the state assessments.

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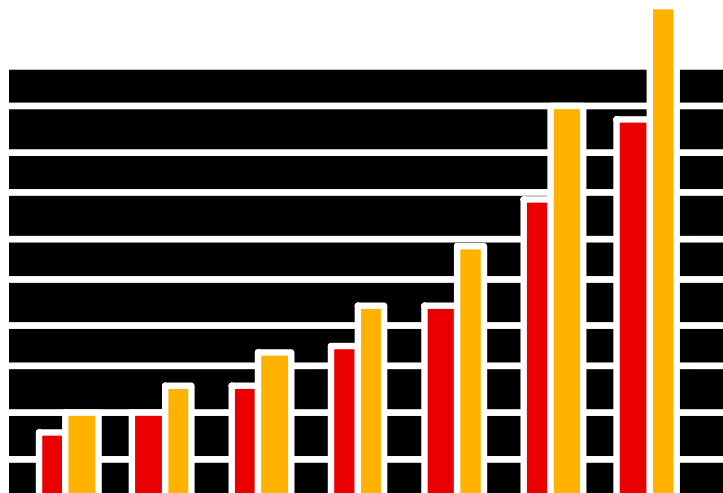
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Preface

Thank you for purchasing this copy of *Survey and Statistics*. When I learned math, we had a textbook and nothing else. We were taught HOW to do the problems, then given a set of 25 problems or so to do as homework. It is easy to learn the motions to complete a task., but to fully master the task, you have to understand WHY.

Fortunately, we have come to the realization that, as educators, we need to build a bridge between the real world and mathematics. When children are able to understand the “why” and “how it fits”, they can understand the concepts more clearly.

Survey and Statistics is an excellent introduction to the new school year. The students fill out a survey with questions that give you an insight to your new students needs and personality. The information from the surveys is analyzed. The final product is a school almanac. The almanacs make a wonderful addition to the school library.

With Survey and Statistics, we have done all of the work for you. Each activity comes with a complete lesson plan with objectives, opening activity, student activity and closure. The worksheets are easy to understand and easy to reproduce. The Statistical Survey Worksheets are used with Lessons 2, 3, 4, 6 and 8. It might be a good idea to collect it at the end of each class period. This Statistical Survey Sheet is found on pages 11-20.

Materials needed for this unit, in addition to the enclosed worksheets, are several graphs from magazines or newspapers.

This unit has been used in several middle school classrooms with great success. We hope you have as much fun with it as we do!

Nancy L. Wilkinson



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Lessons and approximate time needed:

Lesson 1 – Filling Out the Survey (1 day)

Lesson 2 – Organizing the Data (1-day)

Lesson 3 – Representing the Data (2 days)

Lesson 4 – Creating Line Graphs and Charts (1 day)

Lesson 5 – Creating Double Bar Graphs (1 day)

Lesson 6 – Creating Stem and Leaf Plots (1 day)

Lesson 7 – Evaluating Graphs (1-2 days)

Lesson 8 – Mean, Median, Mode and Range (1-4 days)

Lesson 9 – Scatter Plots (1 day)

Lesson 10 – Time Lines (2 days)

Lesson 11 – Discussing Bias and Sample Size (1 day)

Lesson 12 – Final Test (1 day)



Skills

Perimeter and Circumference

Areas of square, rectangle, parallelogram, trapezoid, triangle, and circle.

Scale and proportion

Survey and Statistics
Lesson 1
Filling Out a Survey

Objectives:

- 1) The students will fill out the survey on themselves.
- 2) The students will collect, sort and classify data using the surveys.

Materials Needed:

Survey worksheet Lesson 1
Butcher paper

Opening Activity:

Ask the students what their favorite cereal is. Write the answers on a sheet of butcher paper. (You will want to keep this information) You will want to write down everyone's answer without tallying the responses.

Activity:

- 1) Pass out the survey to the students.
- 2) Go through each question and have the students answer the questions.
- 3) They should turn in the survey when finished.

Closure:

Discuss the questions with the students when everyone is finished.

- A) What did they like or dislike about the sheet?
- B) What were the hardest and easiest questions?
- C) Should other questions be added to the survey?



Survey and Statistics
Lesson 1 Worksheet 1

Name _____ Period _____

Directions: Please fill out each question as carefully as possible. Be sure to write the answers on the line to the left of the question.

- _____ 1. What school did you go to last year?
- _____ 2. How many schools did you attend during elementary?
- _____ 3. How many people live in your house?
- _____ 4. How many children live in your house?
- _____ 5. How many adults live in your house? (Make sure what you wrote in questions 4 and 5 adds up to what you wrote in question 3)
- _____ 6. How many pets do you have in your house?
- _____ 7. Are your parents married, divorce, widowed, or never married? (Pick one only)
- _____ 8. How many brothers do you have?
- _____ 9. How many sisters do you have?
- _____ 10. What is your favorite subject?
- _____ 11. What is your worse subject?
- _____ 12. Do you have any brothers or sisters at this school?
- _____ 13. How many times a week does your family sit down together at the table for dinner?
- _____ 14. How many times a week do you eat breakfast?
- _____ 15. On the average, how many hours of television do you watch a day?
- _____ 16) What kind of grades did you get in math last year? (A, B, C, D, F, 1, 2, 3, 4, 5 – Pick one only)

**Survey and Statistics
Lesson 1 Worksheet 1 Continued**

Name _____ Period _____

- _____ 17) How many days of school did you miss last year?
- _____ 18) On a scale of 1-10, with 10 being the worst, rate how well you behave in school.
- _____ 19) How many states have you lived in during your life?
- _____ 20) What is your favorite type of food? (fast /junk food, Italian, Mexican, Oriental, Seafood, Sweets – pick one)
- _____ 21) What is your favorite type of music (country, rap, rhythm and blues, new-age, retro, hip-hop, pop, rock/heavy metal, Spanish, classical, jazz, alternative, oldies – pick one)?
- _____ 22) Do you like working in a group or by yourself more?
- _____ 23) When you are in a group, do you tend to lead the group, follow or both?
- _____ 24) On a scale of 1-10, how well do you think you can read. (10 being the best.)
- _____ 25) Are you a boy or a girl?

Please write anything else that you would like for me to know about yourself. For example, you have trouble seeing or hearing.
