

After you understand a question and gather data about it, you need to organize the data. That is, you need to mold your bunch of separate bits of information into a single, useful tool for answering your question. This is the sense that justifies using data with a singular verb. But how do we do it? Look at the **Thinking Tip**. Can we break our problem down into smaller pieces that are easier to handle? Sure! Let's start with:

HOW CAN DATA BE DISPLAYED CLEARLY?

That is, how can we show the data to someone in a simple, easy-to-understand way? For example, Display 1.1 shows the NCAA Division 1 women's basketball champions from 1983 to 2004. Is there a better way to present that data?

NCAA Women's Basketball Champions			
Year	Winning College	Year	Winning College
1983	USC	1994	North Carolina
1984	USC	1995	Connecticut
1985	Old Dominion	1996	Tennessee
1986	Texas	1997	Tennessee
1987	Tennessee	1998	Tennessee
1988	Louisiana Tech	1999	Purdue
1989	Tennessee	2000	Connecticut
1990	Stanford	2001	Notre Dame
1991	Tennessee	2002	Connecticut
1992	Stanford	2003	Connecticut
1993	Texas Tech	2004	Connecticut

Display 1.1

In Display 1.1 are 22 observations of *college* and *year*. The years provide one kind of data: numbers. The colleges that won are data in the form of words or labels. These data are not numbers, but we can use numbers to summarize them. Each winning college is a category, a particular kind of result (just as flavors represent the particular kinds of ice cream you might buy). We can count how many years fall into each of these categories. For instance, USC was the champion for two years, 1983 and 1984.

These questions refer to the data in Display 1.1.

1. How many different colleges have won the championship? That's the number of categories in this example.
2. Which college won the most championships?
3. List the winning colleges. Next to each one, write the number of years it has been champion.



Thinking Tip

Ask a simpler question.

When you have a question that is too difficult to answer all at once, break it into smaller and smaller pieces until you find a piece that you think you can answer. Then build back up, piece by piece, to the original question.

