The Mini Page®

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Next Week: Bats!

The Power of Polls

photo by Andres Rodriguez/Dreamstime.com

Mini Fact:
When people are given two or more options, the option listed first is slightly more likely to be chosen than any other option.

We've been hearing a lot about polls as the U.S. presidential election nears. What do polls tell us, and how is the data collected?

The science of **statistics** involves collecting and analyzing **data**, or information, then interpreting and presenting the results. Two common methods of collecting data are **experiments** and **surveys** (or polls).

There have been and there will continue to be many polls before the elections on Nov. 8. These polls help track the latest trends of Americans' voting behaviors and candidate choices.

Selection matters

It takes too much time and money to try to survey all 225 million eligible U.S. voters. Instead, **statisticians** (people who gather and analyze data) get a **sample** (as few as 1,000 or so people) to estimate trends in the population. Scientific opinion polls were started by George Gallup about 80 years ago.

Pollsters care about the **quality** of the sample, not just the **quantity**. They will get more accurate results from a random sample that represents the whole population than from a sample taken only from, say, wealthier Americans.

Wording matters

Look at two different versions of the same question and decide which one is trying to make you answer a certain way:

1. "Don't you agree that pizza tastes better than spinach?"
2. "Which tastes better — pizza or spinach?"

Timing matters

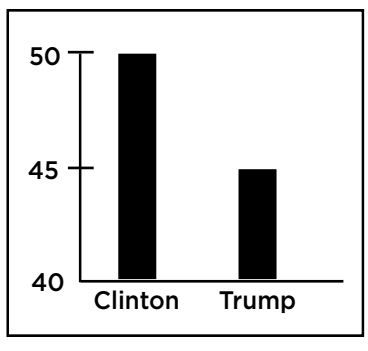
Most surveys are conducted within a window of only a few days. If a survey lasted longer, the last people to respond would have been exposed to news events and candidate remarks that might make them answer differently than if they had been asked at the beginning of the window.

Order matters

Sometimes the order of questions might affect the answers we get. Consider the question "Who do you prefer for president: Donald Trump or Hillary Clinton?" Would your answer be affected if we first asked this question: "Do you think women have equal opportunities to succeed in our country?"

Graphing matters

When you read the results of a poll, make sure they're not misleading. For example, suppose in a poll Clinton gets 50 votes and Trump gets 45, and the numbers are displayed like this:



The numbers 45 and 50 are actually close. But because the graph begins at 40 instead of 0, when you compare the rectangles, it looks as if Clinton has twice the number of votes!

Try your own poll

Suppose you want to know the favorite sport of your classmates. You might give them a survey with choices from the four biggest leagues in the U.S.: basketball, football, baseball and hockey. (You can also add a choice called "Other" in case some people have a favorite sport that is different, such as volleyball or soccer.)

Using the grid below, make a **bar chart** with the results you get from your classmates. For example, if three classmates like baseball the best, you would color in three bricks just above the word "Baseball." After filling in the correct number of bricks in each of the four columns, you will have a visual representation of which sport is most preferred and how close behind the other sports are.

Baseball	Football	Basketball	Hockey

Resources

On the Web:
- bit.ly/1Pu8dE1
- youtu.be/iVeCN6dTvzo

At the library:
- "See How They Run" by Susan E. Goodman
- "Getting the Inside Scoop on Elections" by Martha Searle Halter

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Try 'n' Find

Words that remind us of polling are hidden in this puzzle. Some words are hidden backward or diagonally, and some letters are used twice. See if you can find:

BAR, DATA, ELECTION, ESTIMATE, EXPERIMENT, OPTION, ORDER, POPULATION, QUALITY, QUANTITY, QUESTIONS, RANDOM, RESULTS, SAMPLE, STATISTICS, SURVEY, TIMING, WORDING.

N	E	N	U	N	J	N	Y	E	V	R	U	S	Y	A
N	S	O	H	S	T	A	T	I	S	T	I	C	S	V
O	T	I	T	N	E	M	I	R	E	P	X	E	Y	S
I	I	T	G	N	I	M	I	T	A	T	A	D	T	A
T	M	C	R	E	S	U	L	T	S	H	Q	G	I	M
P	A	E	A	D	G	G	N	I	D	R	O	W	L	P
O	T	L	V	O	R	D	E	R	E	Y	A	U	A	L
L	E	E	Q	U	E	S	T	I	O	N	S	B	U	E
W	H	P	O	P	U	L	A	T	I	O	N	N	Q	K
V	Y	T	I	T	N	A	U	Q	R	A	N	D	O	M

Cook's Corner

Veggies and Tahini-Lemon Yogurt Dip

You'll need:
- 6 ounces low-fat plain yogurt
- 2 tablespoons tahini (sesame paste)
- Juice and zest of 1 lemon
- 1/2 teaspoon ground cumin
- Favorite vegetables (carrots, celery, zucchini, yellow squash, cherry tomatoes, broccoli, jicama or green beans)

What to do:
1. In a medium bowl, whisk together yogurt, tahini, 2 teaspoons lemon juice, 1 teaspoon zest and cumin.
2. Clean and cut vegetables into dipping-size pieces.
3. Serve vegetables with dipping sauce on the side. Serves 4.

Adapted from "The Robin Takes 5 Cookbook for Busy Families" with permission from Andrews McMeel Publishing (andrewsmcmeel.com).

* You'll need an adult's help with this recipe.

Puzzling

Unscramble the words below that remind us of statistics.

oehmtds _____

enubsrm _____

rhgap _____

nrwesas _____

Answers: methods, numbers, graph, answers.

Mini Jokes

Polly: Where do you store the results of surveys?
Peter: In a poll vault!

Eco Note

A Gallup poll from March tells us Americans from all political parties are increasingly concerned about climate change. In fact, 64 percent worry about our environment "a great deal." Poll your family to find out if climate change is a concern for them.

Thank You

The Mini Page thanks Dr. Larry Lesser, professor of mathematics education at the University of Texas at El Paso, and Judah Lesser for help with this issue.

Teachers:

For standards-based activities to accompany this feature, visit:
bbs.amuniversal.com/teaching_guides.html

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