Lesson 13

Designing a Research Project (Part 1)

Step 1: Identify Your Population

- For us, it's seniors at Salem High School.
- Could be the residents of Salem, VA.
- Could be the members of the Boy Scouts of America.
- Could be people that regularly shop at Wal-Mart.

Step 2: What Do You Want to Learn?

- What do you want to know about the population?
- Helps if you find the question personally interesting.

Step 3: Design a Sample

- Often, you can't test the whole population, which is why we design samples.
- It's very important that a sample is random. Or as random as possible.
- Convenience samples can give you skewed results.

Convenience Sample

- Consists only of available members of a population.
- Often leads to bias.

"94% of those surveyed believe that the president is doing a great job!"

Random Sample

- Every member of the population has an equal chance of getting selected.
- Everyone gets assigned a number from a random table (or computer generated ones).
- Those whose corresponding number gets picked, get selected for the sample.

73735	45963	78134	63873
02965	58303	90708	20025
98859	23851	27965	62394
33666	62570	64775	78428
81666	26440	20422	05720
15838	47174	76866	14330
89793	34378	08730	56522
78155	22466	81978	57323
16381	66207	11698	99314
75002	80827	53867	37797
99[illegible]	27601	62686	44711
[illegible]4543	87442	50033	14021
77757	54043	46176	42391
80871	32792	87989	72248
30500	28220	12444	71840

0 1 2 3 4 5 6 7 8 9

Our Random Sample

	A	B	C	D
213	Pellant	Laurel	12	F
214	Peregoy	Cody	12	M
215	Perkins	Brandon	12	M
216	Peters	Alexandria	12	F
217	Peters	Kassidy	12	F
218	Phelps	Danielle	12	F
219	Plympton	Beth	12	F
220	Poindexter	Na'Quan	12	M
221	Pope	Christopher	12	M
222	Price	Evelyn	12	F
223	Price	Zane	12	M
224	Puckett	Randi	12	F
225	Quinn	Nicole	12	F
226	Rakes	Dustin	12	M
227	Ratliff	Benjamin	12	M
228	Ray	Casey	12	M
229	Reed	Coby	12	M
230	Reed	Julia	12	F
231	Reighard	Kyle	12	M
232	Reinhard	Paris Eve	12	F
233	Ribble	Madison	12	F
234	Richards	Grant	12	M
235	Rieflin	Emily	12	F
236	Rigney	Natalie	12	F
237	Saint Jean	Marcelle	12	F
238	Sainz	Miguel	12	M
239	Sampson	Hunter	12	M
240	Sandwith	Hannah	12	F
241	Saunders	Michael	12	M
242	Scro	Connor	12	M
243	Seibert	Chandler	12	M
244	Sexton	Monica	12	F
245	Shafer	Erica	12	F
246	Shell	Rebecca	12	F
247	Shelton	Jordan	12	F

Sheet1 Sheet2 Sheet3

- Start with a list of all seniors that I got from the office. There are 311 of them.
- Find a sample of 40 random seniors.

We <3 Random.org

RANDOM.ORG

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Google™ Custom Search

Search

True Random Number Service

Do you own an iOS or Android device? Check out our new app!

Random Integer Generator

This form allows you to generate random integers. The randomness comes from atmospheric noise, which for many purposes is better than the pseudo-random number algorithms typically used in computer programs.

Part 1: The Integers

Generate 100 random integers (maximum 10,000).

Each integer should have a value between 1 and 100 (both inclusive; limits ±1,000,000,000).

Format in 5 column(s).

Part 2: Go!

Be patient! It may take a little while to generate your numbers...

Get Numbers | Reset Form | Switch to Advanced Mode

Note: The numbers generated with this form will be picked independently of each other (like rolls of a die) and may therefore contain duplicates. There is also the Sequence Generator, which generates randomized sequences (like raffle tickets drawn from a hat) and where each number can only occur once.

To Review

1. Find an interesting question to research.

2. Identify your population.

   Seniors at Salem High School.

3. Get a random sample of your population. 30 members is minimum, but the more, the better.

   We will do 40.


J