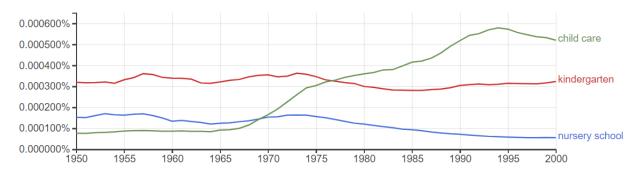
Google Ngram Viewer

Google's Ngram Viewer allows users to search the Google books database for word frequencies over a period of time. The books used are scanned in different languages from public libraries all over the world. Ngram Viewer therefore allows users to search word frequencies in any language over any period of time.

See https://books.google.com/ngrams/info

If you searched in Google Ngram Viewer the following three ngrams from 1950 to 2000: "nursery school" (a 2-gram or bigram), "kindergarten" (a 1-gram or unigram), and "child care" (another bigram), the Google Ngram Viewer will display the following graph where

- 1. The x-axis contains years in increments of 5 years
- 2. The y-axis shows the percentage of all the bigrams contained in the Google sample of books written in English and published in the United States, that are "nursery school" or "child care"? Of all the unigrams, what percentage of them are "kindergarten"?



<u>N-GRAM</u>- "statistical analysis of text or speech content to find n (a number) of some sort of item in the text."

Before Getting Started:

- Words in NGRAMs search are case sensitive (make sure to capitalize proper nouns)
 - o If words are capitalized that should not be, it will only search for words in text where the word is capitalized
- Can analyze words or phrases
- Each item being searched should be separated by a comma (Ex: She wins, He wins, They win)
- The lower the "smoothing level", the more accurate the frequency lines

Step one:

 Have an idea how two or multiple words relate to one another and what a correlation in frequency may prove

Step two:

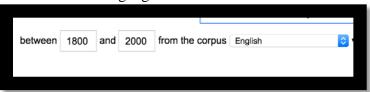
- Type searches of interest into bar, next to where it says "Graph these comma-separated phrases"
- If you would like search to be case insensitive, check the box next to the search bar

• If you would like to put emphasis on one of the words being searched in relation to the other, place an asterisk next to word and a multiplication factor, enclose both word and factor in parenthesis (She wins*2)



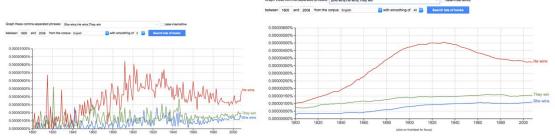
Step three:

- Specify what years you would like the search to operate between
- Select a language



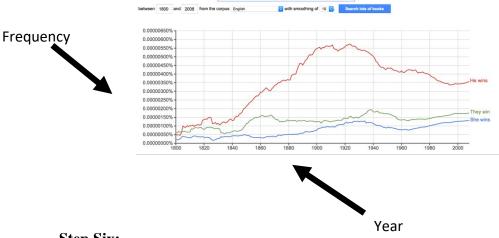
Step four:

- Change the "smoothing"
- Smoothing is how jagged the lines created are
- The lower the smoothing, the more accurate but harder to read



Step Five:

- Click "Search lots of books"
- Evaluate results!



Step Six:

- Make Conclusions!
- What are my data telling me?

•	Use findings as evidence in research or as ideas for new patterns