

# Power Searching Mini Course

## Overview and Instructions

### **To the teacher: About this Course and these Challenges**

*Getting students to use informed search strategies and techniques does not come naturally. Students think they are adept at teaching themselves how to use Google to find the information they need. Research findings do not support this. Students are OK at locating easy-to-find information, but when it comes to complicated questions or questions that don't have simple answers, frustrations arise.*

*The approach taken in this course is to challenge students with assignments that replicate the difficulty of questions that occur in typical academic and work environments.*

*Many of the topics are designed to be “more fun” than the usual assignment, but the nature of the questions is geared to replicate the complexity of research-class tasks.*

*Here's an overview of each challenge assignment:*

### **Challenge 1**



**How many buffalo are there in North American today?**

*Studying bison demographics is not the point of this exercise. The objective is learning how to turn a question into a query. This challenge involves selecting the right type of keywords and reducing the total number of keywords, two highly effective search strategies. Beyond this, the search results contain conflicting answers. Taking the first answer without understanding what one is looking for is almost certain to fail.*

*The value of using challenges to learn is about making mistakes, not just getting right answers. Learning from mistakes is the key to success, therefore students aren't penalized for wrong answers.*

## **Challenge 2**



***Who first claimed that China's Great Wall can be identified from space?***

This question is more complex than the Buffalo Challenge and therefore harder to answer. The problem with this search boils down to signal versus noise. In this case the noise is all about whether the Great Wall can be seen from space. Finding the person who first made this claim is like finding a needle in a haystack.

Locating an answer (and there are several that do not agree) requires not only *keyword* strategy but *search* strategy--looking for better keywords in the search results. Finding better keywords in this way can be very powerful as one is able to home in on information that may initially be obscured by too much noise (irrelevant content).

### Challenge 3



Created by Gan Khoo Lay  
from Nean Project

***How do different groups of people in the United States view the causes of poverty today? Create a query to find differing views.***

The question here is similar to a high school level social studies assignment. This question has both a subject and object that are not easy to express. It would be helpful if there was a solid term for “different groups of people.” “Causes of poverty” isn’t much better.

The pivotal concept in the question is “view.” A different word, “perception,” might be better but that’s not the word students are given. Many times questions aren’t worded as well as they could be. That’s the case here. By eliminating unnecessary terms from the query and finding better keywords in search results, answers may be found.

This challenge is used to assess students’ ability to create effective queries and find better keywords. It’s not about answering the actual question, although that is addressed in the teacher’s guide for the lesson.

### Challenge 4



***What Winter Olympics story did Yahoo feature on its site on 02.20.2002?***

This is a different type of question than the first three. This one can't be answered by Google. When one encounters a need for information that is highly specialized, it calls for a different type of search strategy: locating a specialized search engine.

Google is a good place to start, nonetheless. This challenge involves learning how to search Google for other search engines. Once one is found, the challenge becomes "how do I use this search engine?" Not all search engines work like Google. Learning how to use unfamiliar search engines is part of the objective of Challenge 4.

### **Challenge 5**



***What other companies have trademarked the name LEGO for products that weren't interlocking plastic bricks?***

This challenge combines a "signal to noise" problem with having to find an appropriate search engine. Again, Google can't answer this question. The noise here is oceans of information about LEGO the company drowning out news of other companies that tried to use the LEGO name (intentionally or by accident).

This is a typical market research assignment, the type startups or lawyers need to perform so they don't end up making the same mistake. It involves *investigative* searching which is useful for tracking down information on an unnamed author of a news article and verifying the accuracy of information.

## Challenge 6



**Use keywords found in the ABC News article to locate the title and author of the publication on which this article is based**

The last challenge is another type of investigative challenge. Investigative searches start with *answers*, whereas speculative searches start with *questions*.

This is a two-part assignment. The first part, like the preceding five challenges, is self-paced. The task is to find effective keywords in the news article that lead to the identity of the research article and its author on which the news story is based. This kind of investigative work is necessary if one needs to create a formal citation (assuming they want to use someone else's information in their own report).

Part Two of this challenge may be instructor-led, if desired.

- **Option 1: Self-paced.** The challenge is to find the title and author of the research on stink bombs mentioned in the news article.
- **Option 2: Teach a live session either in person or online.** This involves a live demonstration of techniques to track down the missing citation information led by students or the teacher. If students have struggled with any of the Challenges, holding a group session is highly recommended.

See the Teaching Guide for Power Searching 6.2 for complete instructions.

## Teaching Guides

Each challenge is supported by a Teaching Guide, providing background on the assignment and an explanation of the search

strategies and techniques used. The student materials are included, along with notes on their use.

Each Guide ends with an opportunity for students to upload their answers to Google Classroom. An Answer Key is provided to score students' work.

## **Teaching the Course**

The course is taught via Google Classroom. A course shell without students is available for free with each Classroom or School Subscription. Individual licenses (fee per student) are also available.

Invite students to join the course through Google Classroom.

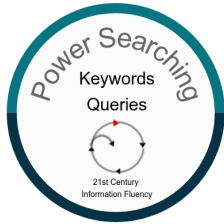
Instruct students to read “Keyword Power Searching” found in the course Introduction.

Decide on your schedule. Each Challenge may be activated individually or all at once. If keeping students all on the “same page” is important, then activate each Challenge as students are ready to move on. Otherwise, open all the Challenges and have students proceed at their own pace. Challenge 6, Part 2 may be taught as a group activity with a demonstration search. If so, set a date for that final session and have students pace themselves accordingly.

Students submit answers to each Challenge which need to be reviewed and scored. Enter scores in the Google Classroom Gradebook.

The Final Quiz is the culminating assignment.

## Final Quiz



The course ends with a quiz that verifies a student's grasp of strategic and technical search skills. Instead of awarding a letter grade, consider presenting an Information Fluency Power Searching digital badge to students who demonstrate information fluency.