What questions need answering?
An SEO perspective

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Introduction: what I'll cover

- Why use Google to help you decide what questions need answering
- What Google uses to rank its results
- Why do Google search engine results pages (SERPs) matter for CCS?
- A bit about information hierarchy
- Some tips on creating accessible content that ranks in Google, including keyword tools

Why use Google to help you decide what questions need answering

Google is the most helpful technology at our fingertips. Where do *you* go when you want to find out more about something?

- The average person makes three or four searches on Google per day
- 92% of all search queries are long-tailed keywords (ie: 'how does carbon capture and storage reduce climate change' rather than simply 'ccs')
- Google Search has a 92.5% global market share! Bing holds just 2.5% of search engine market share. Use Google for research. Don't use Bing.
- Google processes around 5.6 billion searches a day: so it's very sophisticated at understanding user intent around a search query, fetching the most suitable result, and anticipating their next query

Why use Google to help you decide what questions need answering (cont'd) …

- It's useful to use Google for understanding query seeding. For example, if you have predictive search turned on, this is already telling us the most common searches around a particular subject.
- Using Google as a starting point is a great way to learn about *information hierarchy as it relates to lay publics*. For example, if you work in chemical looping, you can see how users start with 'what is chemical looping'. Answering this question is a great starting point to hooking in users so they can learn more about the details, before getting down into why you're researching a particular aspect of chemical looping.

What Google uses to rank its results

Ever wondered why or how certain website or webpages get to position #1 for a Google search result, such as ‘carbon capture and storage technology’?

Google wants to give users the best experience by finding the best answer to their search query via a sophisticated and oft-updated algorithm.

A combination of more than 200 factors control the algorithm, that we can boil down to two broad categories:

- Page-level ranking signals such as a good page user experience, and page-level factors like keyword matching, content length and depth, presence of relevant images, how recently the content was updated and MUCH MORE
- Site-level technical ranking signals for core web vitals such as backlinks from other reputable websites, loading speeds, content architecture/URL structure and MUCH MORE that *you will likely have very little control over* when publishing content on your university’s website

Why do Google Search Engine Results Pages (SERPs) matter to CCS?

Sites that are better optimised for both content and technical factors will then rank higher in SERPs. For example, news is very competitive, so news sites are very heavily optimised to rank highly for any given search query.

However, because they are an authority source, Google is also likely to rank academic websites and published papers along news pages.

CCS is still relatively poorly understood by lay publics: does being confronted by a series of academic papers in the SERPs help that? There is an opportunity here to use more accessible content that ranks, to improve public (and press) education and understanding of CCS!

Why do Google Search Engine Results Pages (SERPs) matter to CCS? (cont'd) …

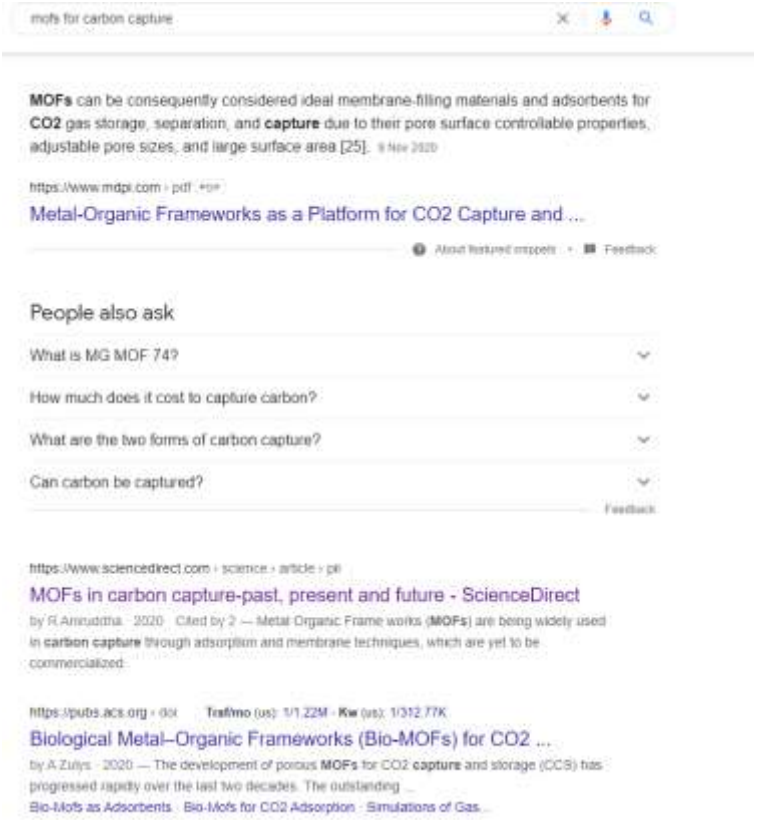
Producing content that explains CCS in more digestible terms, such as a series of webpages and short videos, is our opportunity to rank in Google and so improve public understanding of CCS technologies.

What about video?

Video ranks quickest, and highly, on Google, because it owns YouTube and is easily monetised. YouTube videos are therefore given preferential treatment on the search engine results page. This can be prime real estate for getting your video seen for a longtail CCS research query!

A bit about information hierarchy (cont'd) …

Google can help you understand where users begin in their information searching. First of all, investigate the search engine results for your research area. Do they drop users in the deep end without context? Let's take MOFs (metal organic frameworks):



Eh?
Straight into academic papers: isn't that a bit alienating for lay publics? Great for your publication profile but not great for public accessibility! But look at the 'People also ask' here: isn't there a semantic jump? So these papers are likely ranking to fill a gap: because nobody has written a basic guide to how MOFs are used in CCS.

Wouldn't this benefit from a short video introducing what MOFs are and how they're used for CCS? There's an opportunity to fill that semantic content gap here!

Some tips on creating accessible content that ranks in Google

Having your paper rank highly in Google is great: but what about creating something accessible that ranks as well? Writing accessibly for lay publics is very different to writing an academic paper:

1. Go big or go home

My best tip to getting started is to *think of the big picture of CCS*: zoom out so a user can understand how your research fits into combatting climate change. It sounds really obvious but it's amazing how many researchers don't do it! Have a look at good and bad examples on our core research projects page, for a start … Publishing a blog or page about MOFs without explaining what they are and where they might be used in a real-world scenario for climate change mitigation is fairly meaningless to a lay public. Use layers!

Start big before you get granular. How far back you'll have to go will depend on how far down the rabbithole your research is: will you need to explain "why we need CCS" before you get further into your research? A couple of short sentences from IPCC, IEA and Myles Allen are really useful before you get into the technics!

Some tips on creating accessible content that ranks in Google (cont'd) …

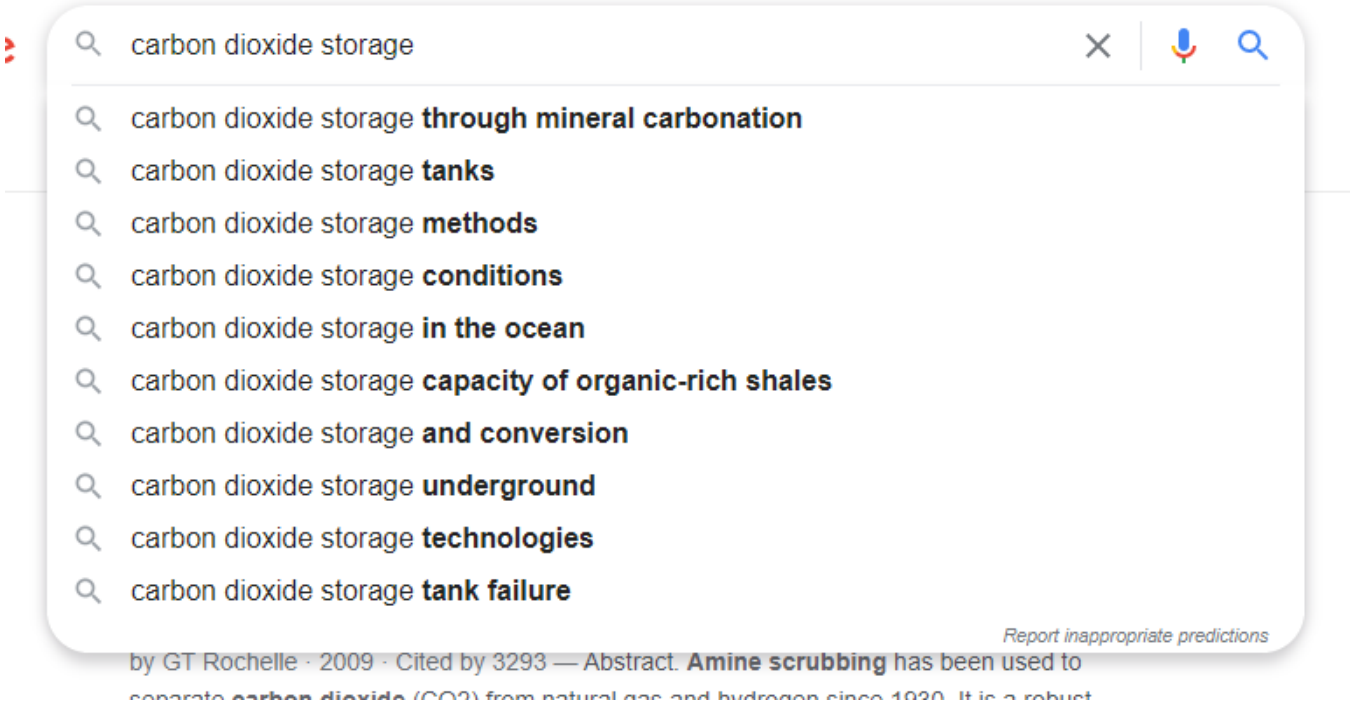
2. Don't forget the middle man: context is everything

On the next level down, think about your research theme: how does your research fit into capture, storage, transport or systems and policy? What is known about your area of research theme outside of CCS?

Google is really helpful here: look at its suggested searches when you're researching your medium-sized picture …

Some tips on creating accessible content that ranks in Google (cont'd) …

Work in storage? Maybe explain that you're investigating one of the possible methods or conditions of storing capture CO2 underground, before you get into more details! The suggested searches here are giving you some big clues on where to start:



Some tips on creating accessible content that ranks in Google (cont'd) …

Work in capture? Explain that you're investigating a method or a technology in carbon capture for a particular industry!

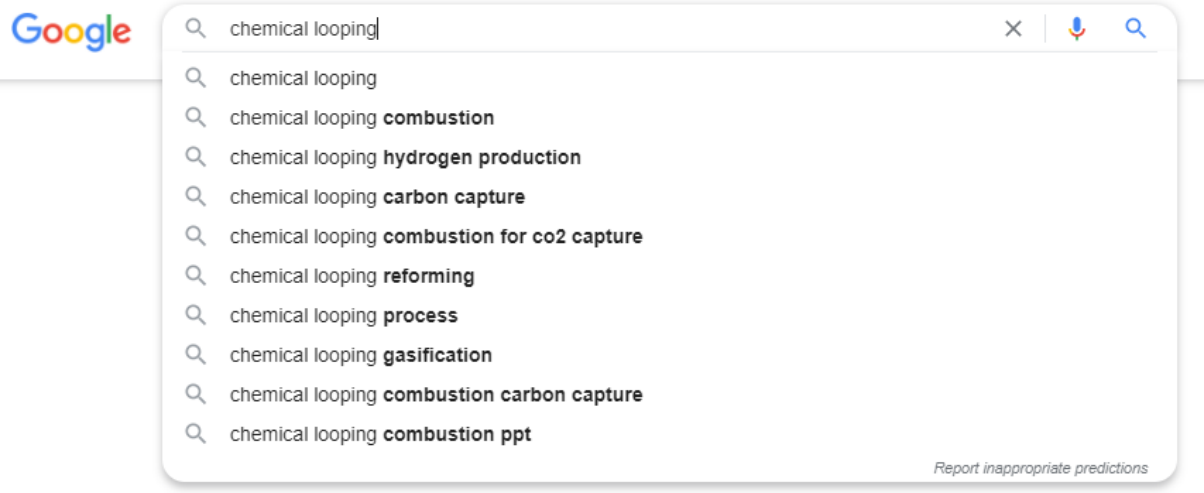
Really basic - but don't forget it!

Some tips on creating accessible content that ranks in Google (cont'd)

3. Drill down

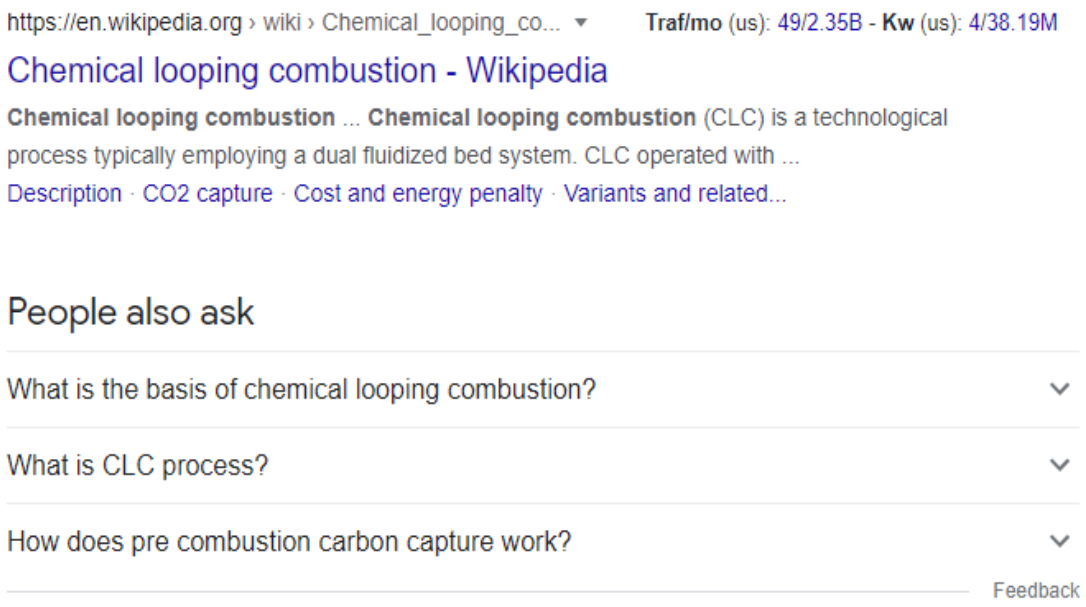
Let's get into your research. You've explained how it fits into the bigger picture but how do you find what specific questions people are asking?

a. Google predicted search – experiment with question words before and after your main keyword



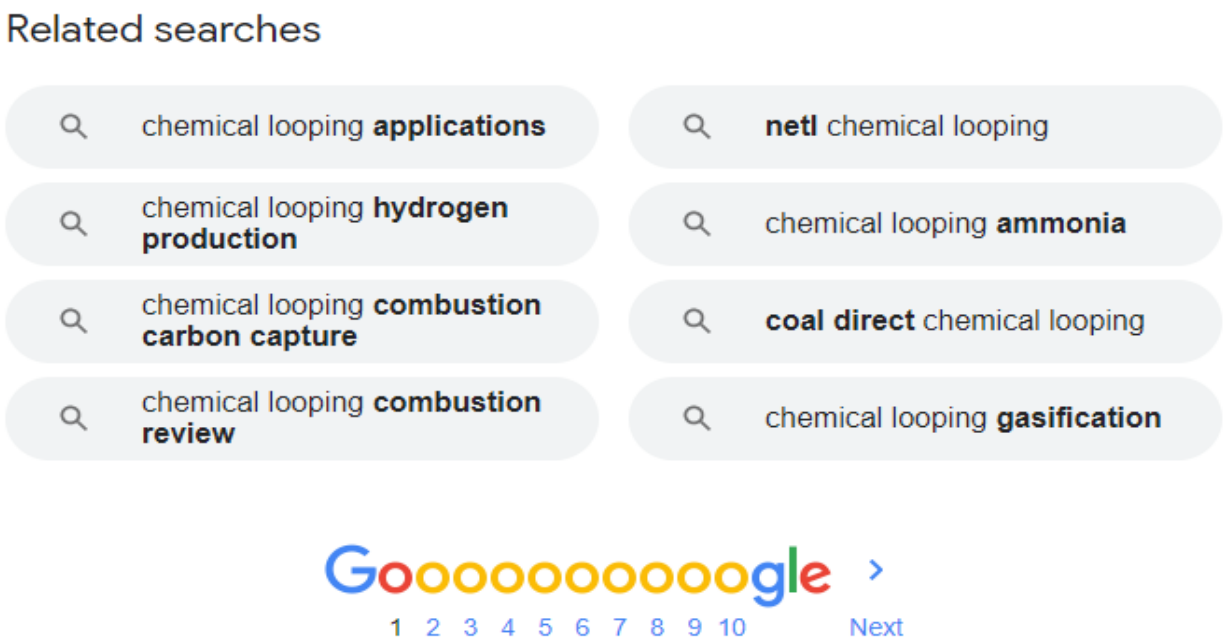
Some tips on creating accessible content that ranks in Google (cont'd)

b. "People also asked" – tip: keep clicking on these questions and Google will generate even more!



Some tips on creating accessible content that ranks in Google (cont'd)

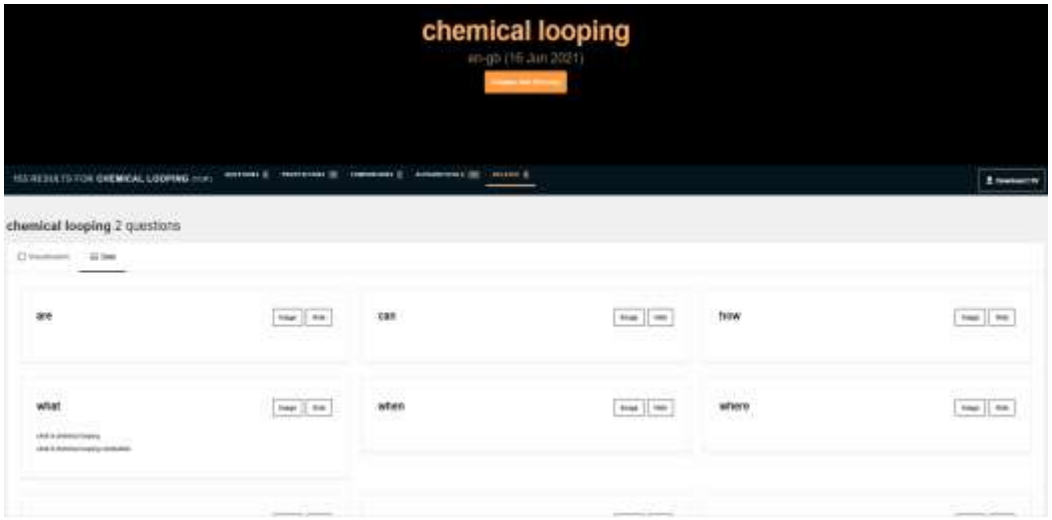
c. Related searches at the bottom of a SERP



Some tips on creating accessible content that ranks in Google (cont'd)

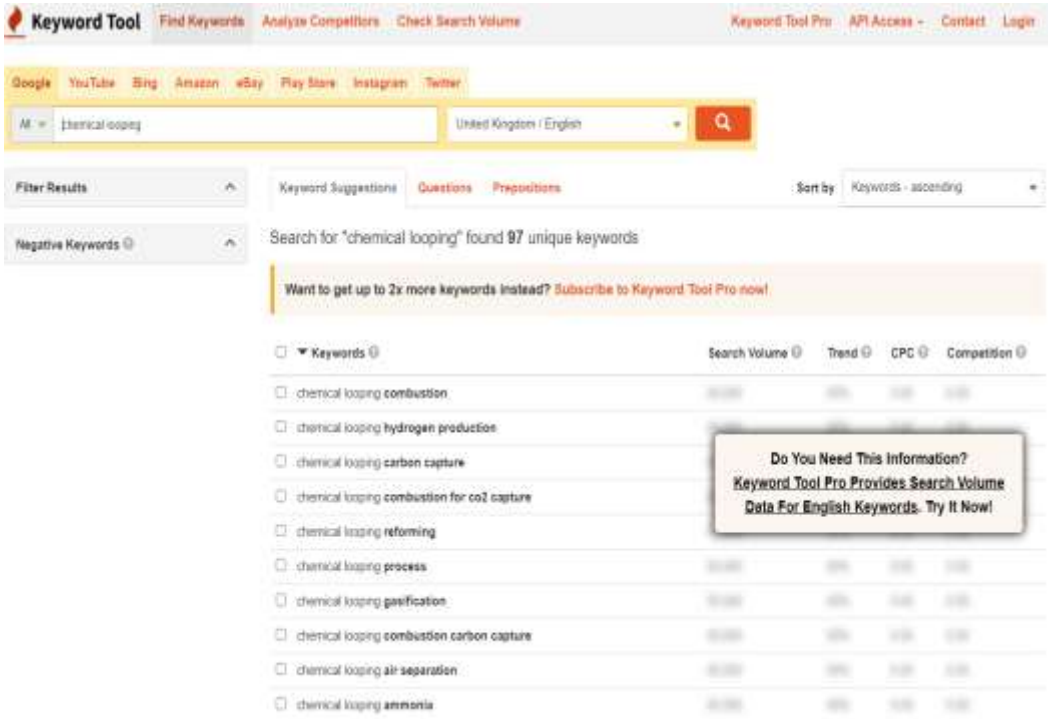
d. Keyword tools! Usually you can get a csv download of your results, for later perusal.
My favourites are:

Answerthepublic.com (switch the display to 'data' instead of the visualisation circles) – the 'related' section here will give you the top related searches. I look at this first before the prepositions and alphabeticals.



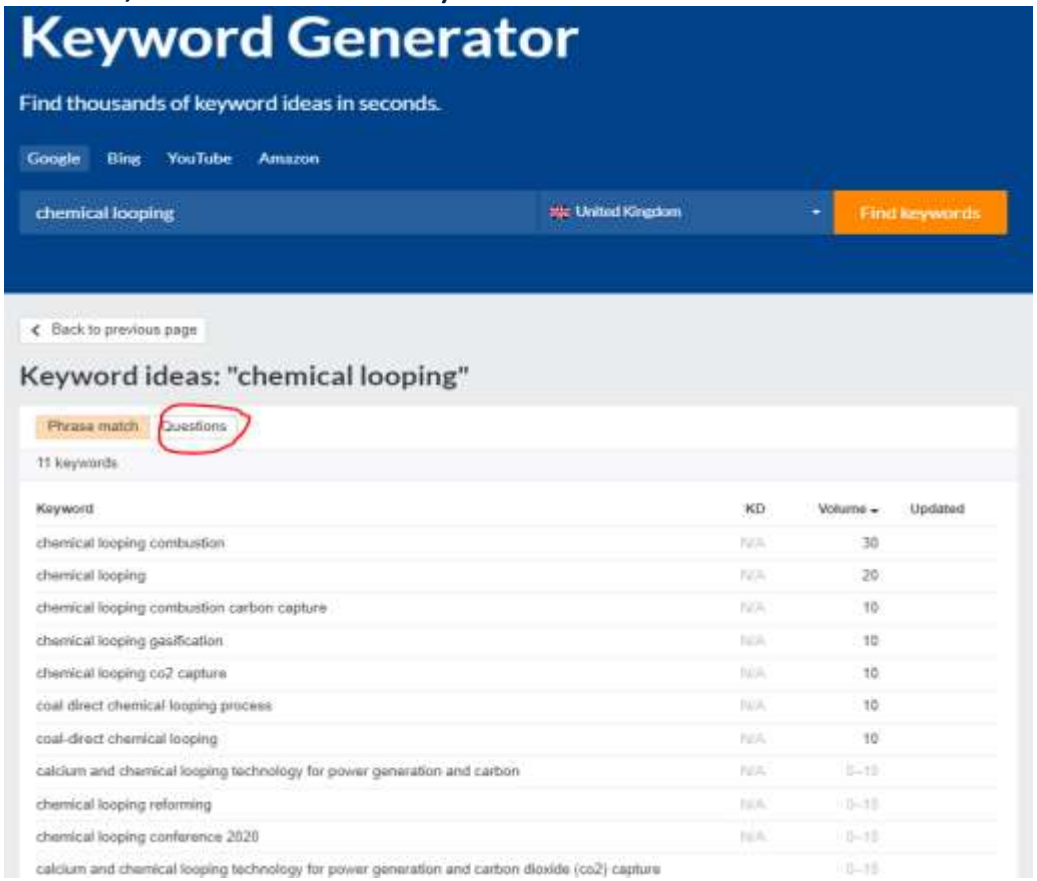
Some tips on creating accessible content that ranks in Google (cont'd)

Keywordtool.io



Some tips on creating accessible content that ranks in Google (cont'd)

Ahrefs keywordgenerator (there's also a tab here for 'questions' – sometimes it's useful, sometimes not)



Conclusion

- Google keyword research can provide you with big clues on the information journey your lay public is on: when they're in learning mode, they may need to start bigger before they understand the details of your research.

- Use their words and phrasing (as suggested by Google and other tools) to answer their questions.

Thank you!

Any questions?

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