1.	Intro slide (animated)	Have you ever tried to find sources
		for a paper but gotten a *'no results' message from the database you're using?
	1 Mil-	What about a *few million results?
		Have you wondered why this keeps happening?
		If so, it's normal to feel frustrated.
		It may be that the search terms you used weren't fine-tuned before you started searching.
2.	Model slide (animated)  Refine  Articles  Start here	This tutorial presents a process for choosing search terms that can help you get better results— <i>faster</i> — whether you search in subject databases, Google, or the library catalog.  There are four steps to the process:
	ldentifying and using search terms	*reading what you have, *identifying search terms, *exploring, *and revising search terms.  You can repeat this process quickly
		throughout your research whenever you get too many results or not enough results from a search.
3.	Try our chart slide (link to pdf)  Make a list  or  Get  chart	While identifying search terms it helps to keep a record of the terms you've tried and where you tried them.
		Jot down a list or try our simple chart.
4.	Keywords (step 1) (animated)  Articles  Subject headings	Throughout this tutorial, I'm going to use the example topic of bipolar disorder in children.
		This tutorial will be most useful if you already have a topic in mind—if you don't have a topic, see the <b>Picking Your Topic</b> <i>is</i> <b>Research</b> tutorial.
		The first step in this process is to *gather the materials you already have.

Commented [RMH1]: I agree with expanding the context to a paper-specific case. I don't think we should specify any particular type of resource since these suggestions should work for any number of kinds of databases and search engines.

Commented [NS2]: I think we need to establish context a little more here, i.e., "have you ever tried to find sources for your paper but gotten no results from your search?" but phrased better than that© do we want to specify what people are searching (databases, etc.)?

**Commented [JW3]:** Maybe we should clarify up front WHO this tutorial is for (i.e., someone who has a topic but needs to find research)?

I do think we should say soething short and sweet here like "if you are having trouble deciding on a topic see X"  $\frac{1}{2} \sum_{i=1}^{n} \frac{1}{2} \sum$ 

Include an image showing where in my article I see keywords listed.

Your materials might be class readings, encyclopedia articles, news items, or anything that cites or references sources.

For example, I might have a chapter in my textbook about childhood psychiatric disorders.

I might also have an article on mood disorders.

Since these items are part of your course readings, you can be confident that they are appropriate.

\*With a few resources that you already know are appropriate, you can start to \*find search terms that you can use to find more resources for your assignment.

As you read the various materials you have, try to find keywords.

Keywords are terms or phrases that you can use to search for information on a topic.

Make a list, highlight, and underline words or phrases that get repeated from resource to resource.

In my example, the textbook calls bipolar disorder in children pediatric bipolar disorder.

I also see this term on Wikipedia, and in my article.

While Wikipedia isn't considered an appropriate source for most academic papers, it *can* be a good tool for identifying keywords and finding references to more reputable sources.

Pediatric bipolar disorder makes sense as a starting search term for my topic: children with bipolar disorder.

My article lists keywords, too, which is great—that makes my job easier.

I can start with keywords I found in my article.

**Commented [NS4]:** They know sources are appropriate because... they were used in class?

**Commented [RMH5]:** Yes—I'll revise to reflect that more clearly

**Commented [NS6]:** I think we should define keyword explicitly here; is their full definition that they get repeated?

Commented [RMH7]: Agreed.

Commented [NS8]: Which is only an appropriate source as a jumping off point? Or could we reference a more legit encyclopedia entry

Commented [RMH9]: I think for this tutorial we should be careful to address what we know students are already doing, rather than pushing too hard toward particular sources. We know that students start with Google searches and Wikipedia and I think it's important to incorporate that here, especially since Wikipedia is a good source for keywords, even if they aren't a good source for final cited resources. My goal in this part of the tutorial was to show that overlap between source types (article, Wikipedia, textbook) is a clear sign that a search term is likely to yield good results. I may add a line about being skeptical of a term that only appears in one source type (e.g. it may be too technical, specific, jargon-y, or controversial).

Commented [JW10]: This also concerned me though I agree we want to incorporate what students already do. So how about adding in here "While Wikipedia is NOT considered an appropriate source for an academic paper, it IS a good tool for identifying keywords and finding references to more reputable sources"

**Commented [RMH11]:** Yes, I can incorporate some visuals that show where I saw these keywords. ⑤

**Commented [NS12]:** Can we get a screenshot of that or can you use some animation to focus on where those keywords appear? (you might already be planning that)

		Since they're in my relevant article, I can be confident that they'll be relevant, too.
		You don't have to use all the
		keywords listed in a source some
		may not be relevant to the specific
		topic of your research question.
		Even if your readings don't list
		keywords, <i>you</i> can identify search terms, just by noticing what terms get used often.
		You should also consider synonyms for the terms you notice.
		For example, you may see the word "child," and decide to include "adolescent," "childhood," and "teenager" as potential search terms.
		If you identify a phrase, like "pediatric bipolar disorder," put it in quotation marks.
		*Jot down your list of search terms and get ready to explore.
5.	Exploration—rationale (animated)	It's important to test the search terms you've identified.
		Test your terms by doing exploratory searching—using the terms you listed, do 1 to 3 quick searches in 2 to 3 databases you've identified.
		You may find some resources that work for your paper, but your main goal is to figure out if your search terms are strong.
		Strong search terms give you relevant results, especially when used in multiple databases.
6.	Exploration—searching  Search Summon using keywords  Contract Managers  Contract Managers  Contract Managers	In my example, I chose "pediatric bipolar disorder" as my main search term because <i>all</i> the resources I already had used the phrase.
	or search a  organism them organism organism them organism o	When I entered the terms in 3 databases (*Google Scholar—which covers a wide range of academic topics, *PsycARTICLES—which cover psychology topics specifically,

Commented [NS13]: How do you know they're relevant?

Commented [JW14]: I'm not sure if this is necessary.

Commented [RMH15]: They aren't synonymous, but I do use them interchangeably because keyword isn't really a noun in this case—it's more about the type of searching. Anything a user enters into a search box is a search term. Usually they are doing a keyword search, but they may not realize it. I'll look at revising this to better reflect the difference. I may just use "search terms" except for when a resource (like a journal article) calls terms "keywords."

**Commented [JW16]:** Here you should definitely say keywords since you used that term before: e.g., "even when your readings don't list KEY WORDS, you can identify potential SEARCH TERMS..."

**Commented [NS17]:** Are we using "keywords" and "search terms" synonymously? Should we make them different or state they're the same

**Commented [NS18]:** LOVE this map and explore metaphor!! However, the arrows are kind of hard to read when they're sideways; could we make the text more straight?

 $\begin{tabular}{ll} \textbf{Commented [RMH19]:} Yes, I think I can do that using InDesign, rather than PP. \\ \end{tabular}$ 

	and *Summon—which searches across many library databases) I got widely varying results.  In Google Scholar I got over 50 thousand results!  In PsychARTICLES I got only 10. However, all of the 10 in PsychARTICLES were relevant to my research topic.  Many of the first results in the Google Scholar were also relevant.  This tells me that I have a strong search term.
	The difference in results is due to each database's coverage: there's a lot more in Google Scholar, so I get more results.  Many of them won't be relevant,
	especially if I continue through pages and pages of results.  I also tried my search terms as a phrase by putting them in quotation marks.
7. Exploration—table  Temps (	As you can see in the table, this reduced the number of results in all databases.  As the *results decreased, though, the relevance increased.
	This is a balancing act and there is no 'perfect' search term for many topics.  These first two preliminary searches
	only took me about 5 minutes.  I searched, scanned the results for relevance, and made a decision about my search terms.
	After initial searching, you may realize that your terms aren't as strong as you need them to be.  The final part of this search process
8. Conclusion	is to revise your list of search terms and test the new list.
8. Conclusion	Your goal at this early research stage is to get search terms that return

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Commented [JW20]: List these in the order you discuss below. I am wondering if you should include a statement about what these databases are and how they're different. I'm unfamiliar with  $% \left( 1\right) =\left( 1\right) \left( 1\right)$ Summon for instance.

Commented [NS21]: This example is really helpful to understanding what is a strong search term

Commented [RMH22]: Yes, we should reorder the table.

The font is the same, but the size is different due to the length of the word. I will see if I can get the look to be more consistent.  $\ensuremath{\mbox{\@olive$ 

Commented [NS23]: Could we order the three databases so that the numbers appear in decreasing order, i.e., google scholar, summon then psych articles. Also this is nitpicky but could we make the font size the same in both of the arrows  $% \left\{ 1\right\} =\left\{ 1\right$ 

Commented [NS24]: Can we remind them what this model is?

Commented [JW25]: How about use "search process" instead of "model"? The word model makes me want to see some sort of visual that is explicitly identified as a model

Commented [RMH26]: Definitely. ©



results relevant to what you have in mind for your research topic.

Don't worry about finding all the articles you need until you're sure your keywords are returning relevant results.

When the \*first 10-20 results in a search are relevant to your research question, you can feel confident that you have strong search terms.

And remember, this initial exploring is \*meant to be quick—if you don't feel like you're getting anywhere, \*ask a librarian for help!

By using known items to identify effective keywords, you can streamline your research process, making it faster and easier to conduct research.

Thank you for watching this tutorial. If you need help with any part of this process, please ask a librarian for help.

Commented [JW27]: Rhea, I like you're explanation here. I think that you need to explicitly address what students' goals should be at this point. In fact, I'm wondering if you should mention these goals at the beginning as well.

**Commented [NS28]:** This expression might be too colloquial but I'm not exactly sure what you mean? Deep into each source or deep into the number of sources you're collecting?

**Commented [NS29]:** Maybe add ",making it faster and easier to conduct research" to pound that into their heads

Commented [RMH30]: Sure! ©