

## Chapter 5: Narrowing the Topic

For many students, having to start with a research question is the biggest difference between how they did research in high school and how they are required to carry out their college research projects. It's a process of working from the outside in: you start with the world of all possible topics (or your assigned topic) and narrow down until you've focused your interest enough to be able to tell precisely what you want to find out instead of only what you want to "write about."

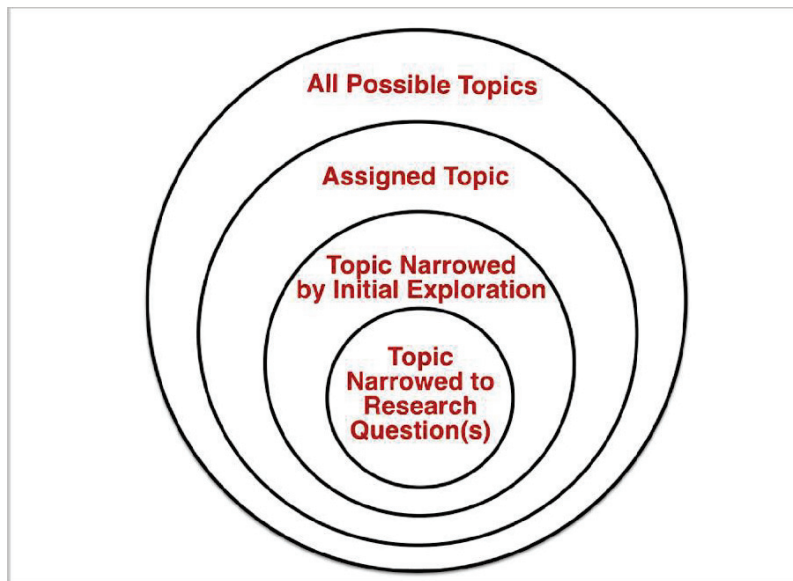
### Process of Narrowing a Topic

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Visualize narrowing a topic as starting with all possible topics and choosing narrower and narrower subsets until you have a specific enough topic to form a research question.

**All Possible Topics** – You'll need to narrow your topic in order to do research effectively. Without specific areas of focus, it will be hard to even know where to begin.

**Assigned Topics** – Ideas about a narrower topic can come from anywhere. Often, a narrower topic boils down to deciding what's interesting to you. One way to get ideas is to read background information in a source like Wikipedia.



**Topic Narrowed by Initial Exploration** – It's wise to do some more reading about that narrower topic to

- a) learn more about it and
- b) learn specialized terms used by professionals and scholars who study it.

**Topic Narrowed to Research Question(s)** – A research question defines exactly what you are trying to find out. It will influence most of the steps you take to conduct the research.

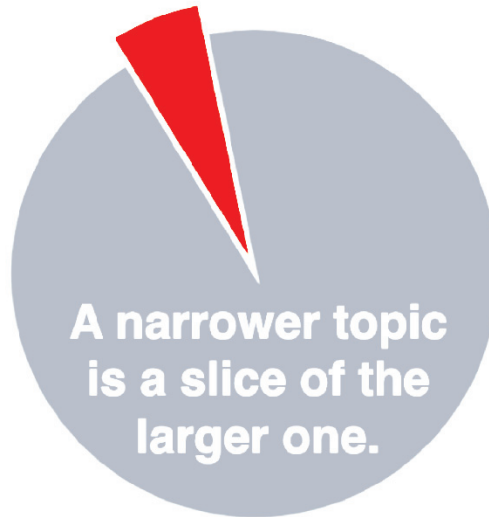
## Why Narrow a Topic?

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Once you have a need for research—say, an assignment—you may need to prowl around a bit online to explore the topic and figure out what you actually want to find out and write about.

For instance, maybe your assignment is to develop a poster about “spring” for an introductory horticulture course. The instructor expects you to narrow that topic to something you are interested in and that is related to your class.

**Another way to view a narrowed topic is as a sliver of the whole topic.**



Ideas about a narrower topic can come from anywhere. In this case, a narrower topic boils down to deciding what’s interesting to you about “spring” that is related to what you’re learning in your horticulture class and small enough to manage in the time you have.

One way to get ideas would be to read about spring in Wikipedia, looking for things that seem interesting and relevant to your class, and then letting one thing lead to another as you keep reading and thinking about likely possibilities that are more narrow than the enormous “spring” topic. (Be sure to pay attention to the references at the bottom of most Wikipedia pages and pursue any that look interesting. Your instructor is not likely to let you cite Wikipedia, but those references may be citable scholarly sources that you could eventually decide to use.)

Or, instead, if it is spring at the time you could start by just looking around, admire the blooming trees on campus, and decide you’d like your poster to be about bud development on your favorites, the crabapple trees.

### Background Reading

It’s wise to do some more reading about that narrower topic once you have it. For one reason, you probably don’t know much about it yet. For another, such reading will help you learn the terms used by

professionals and scholars who have studied your narrower topic. Those terms are certain to be helpful when you're looking for sources later, so jot them down or otherwise remember them.

For instance, if you were going to do research about the treatment for humans with bird flu, this background reading would teach you that professionals and scholars usually use the term avian influenza instead of bird flu when they write about it. (Often, they also use H1N1 or H1N9 to identify the strain.) If you didn't learn that, you would miss the kinds of sources you'll eventually need for your assignment.

Most sources other than journal articles are good sources for this initial reading, including the *New York Times* or other mainstream American news outlets, Wikipedia, encyclopedias for the discipline your topic is in (horticulture for the crabapple bud development topic, for instance), dictionaries for the discipline, and manuals, handbooks, blogs, and web pages that could be relevant.

This initial reading could cause you to narrow your topic further, which is fine because narrower topics lead to greater specificity for what you have to find out. After this upfront work, you're ready to start developing the research question(s) you will try to answer for your assignment.

## Fuel Your Inspiration

It's worth remembering that reading, scanning, looking at, and listening to information resources is very useful during any step of the process to develop research questions. Doing so can jog our memories, give us details that will help us focus, and help us connect disparate information—all of which will help us come up with research questions that we find interesting.

## Regular vs. Research Questions

Most of us look for information to answer questions every day, and we often act on the answers to those questions. Are research questions any different from most of the questions for which we seek information? Yes.

See how they're different by looking over the examples of both kinds below and answering questions about them in the next activity. After you've considered the examples, see the summary of the differences that follows.

### EXAMPLES: Regular vs. Research Questions

**Regular Question:** What time is my movie showing at Harkins on Friday?

**Research Question:** How do "sleeper" films end up having outstanding attendance figures?

**Regular Question:** What can I do about my insomnia?

**Research Question:** How do flights more than 16 hours long affect the reflexes of commercial jet pilots?

<b>Regular Question:</b>	How many children in the U.S. have allergies?
<b>Research Question:</b>	How does his or her country of birth affect a child's chances of developing asthma?
<b>Regular Question:</b>	What year was metformin approved by the U.S. Food and Drug administration?
<b>Research Question:</b>	Why are nanomedicines, such as doxorubicin, worth developing?
<b>Regular Question:</b>	Could citizens register to vote at branches of the Phoenix Public Library in 2012?
<b>Research Question:</b>	How do public libraries in the United States support democracy?
<b>Regular Question:</b>	What is the Whorfian Hypothesis?
<b>Research Question:</b>	Why have linguists cared about the Whorfian hypothesis?
<b>Regular Question:</b>	Where is the Apple, Inc. home office?
<b>Research Question:</b>	Why are Apple's marketing efforts so successful?
<b>Regular Question:</b>	What is Mers?
<b>Research Question:</b>	How could decision making about whether to declare a pandemic be improved?
<b>Regular Question:</b>	Does MLA style recommend the use of generic male pronouns intended to refer to both males and females?
<b>Research Question:</b>	How do age, gender, IQ, and socioeconomic status affect whether students interpret generic male pronouns as referring to both males and females?

## Summary: Regular vs. Research Questions

Research questions cannot be answered by a quick Web search. Answering them involves using more critical thinking than answering regular questions because they seem more debatable. Research questions require more sources of information to answer and, consequently, take more time to answer. They, more often than regular questions, start with the word “how” or “why.”

## Influence of a Research Question

Whether you're developing research questions for your personal life, your work for an employer, or for academic purposes, the process always forces you to figure out exactly:

- What you're interested in finding out.
- What is feasible for you to find out (given your time, money, and access to information sources).

- How you can find it out, including what research methods will be necessary and what information sources will be relevant.
- What kinds of claims you'll be able to make or conclusions you'll be able to draw about what you found out.

For academic purposes, you may have to develop research questions to carry out both large and small assignments. A smaller assignment may be to do research for a class discussion or to, say, write a blog post for a class; larger assignments may have you conduct research and then report it in a lab report, poster, research paper, or article.

For large projects, the research question (or questions) you develop will define or at least heavily influence:

- Your **topic**, in that research questions effectively narrow the topic you've first chosen or been assigned by your instructor.
- What, if any, **hypothesis** you test.
- Which **information sources** are relevant to your project.
- Which **research methods** are appropriate.

What claims you can make or **conclusions** you can come to as a result of your research, including what **thesis statement** you should write for a research paper or what **results section** you should write about the data you collected in your own science or social science study.



Your research question drives your hypothesis, research methods, sources, and your claims or conclusions.

## Influence on Thesis

Within an essay, poster, or research paper, the thesis is the researcher's answer to the research question(s). So as you develop research questions, you are effectively specifying what any thesis in your project will be about. While perhaps many research questions could have come from your original topic, your question states exactly which one(s) your thesis will be answering.

For example, a topic that starts out as “desert symbiosis” could eventually result in a research question that is “how does the diversity of bacteria in the gut of the Sonoran Desert termite contribute to the termite’s survival?” In turn, the researcher’s thesis will answer that particular research question instead of the numerous other questions that could have come from that topic.

It’s all part of a process that leads to greater and greater specificity.

### **TIP: Don’t Make These Mistakes**

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Sometimes students inexperienced at working with research questions confuse them with the search statements they will type into the search box of a search engine or database when looking for sources for their project. Or, they confuse research questions with the thesis statement they will write when they report their research.

## **Influence on Hypothesis**

If you’re doing a study that predicts how variables are related, you’ll have to write at least one hypothesis. The research questions you write will contain the variables that will later appear in your hypothesis(es).

## **Influence on Resources**

You can’t tell whether an information resource is relevant to your research until you know exactly what you’re trying to find out. Since it’s the research questions that define that, it’s they that divide all information sources into two groups: those that are relevant to your research and those that are not—all based on whether each can help you find out what you want to find out and/or report the answer.

## **Influence on Research Methods**

Your research questions will help you figure out what research methods you should use because the questions reflect what your research is intended to do. For instance, if your research question relates to describing a group, survey methods may work well. But they can’t answer cause-and-effect questions.

## **Influence on Claims or Conclusions**

The research questions you write will reflect whether your research is intended to describe a group or situation, to explain or predict outcomes, or to demonstrate a cause and effect relationship(s) among variables. It’s those intentions and how well you carry out the study, including whether you use methods appropriate to the intentions, that will determine what claims or conclusions you can make as a result of your research.

## **Developing the Research Question**

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Because of all their influence, you might worry that research questions are very difficult to develop. Sometimes it can seem that way. But we’ll help you get the hang of it, and, luckily, none of us have to come up with perfect ones right off. It’s more like doing a rough draft and then improving it. That’s why we talk about developing research questions instead of just writing them.

## Steps for Developing a Research Question

The steps for developing a research question, listed below, help you organize your thoughts.

**Step 1:** Pick a topic (or consider the one assigned to you).

**Step 2:** Write a narrower/smaller topic that is related to the first.

**Step 3:** List some potential questions that could logically be asked in relation to the narrow topic.

**Step 4:** Pick the question that you are most interested in.

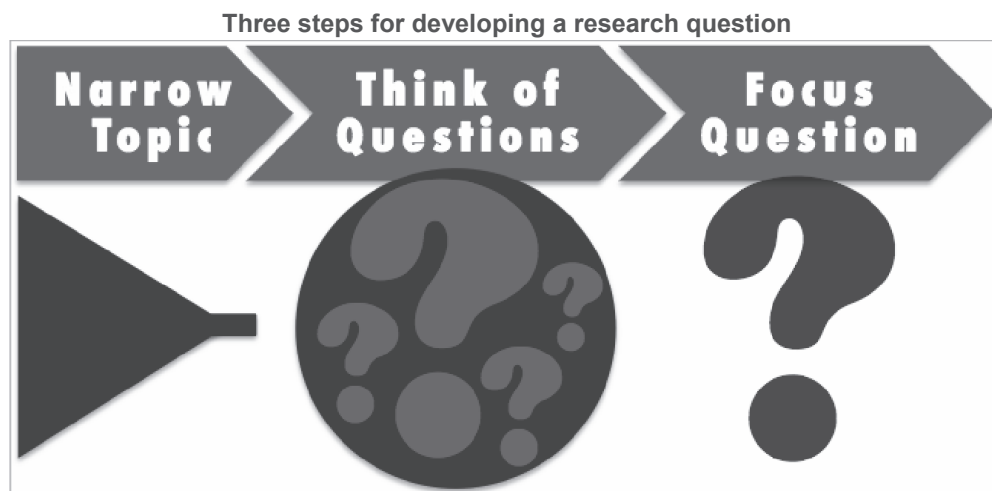
**Step 5:** Change that question you're interested in so that it is more focused.

## Practice

Once you know the order of the steps, only three skills are involved in developing a research question:

- Imagining narrower topics about a larger one,
- Thinking of questions that stem from a narrow topic, and
- Focusing questions to eliminate their vagueness.

Every time you use these skills, it's important to evaluate what you have produced—that's just part of the process of turning rough drafts into more finished products.



Maybe you have a topic in mind, but aren't sure how to form a research questions around it. The trick is to think of a question related to your topic, but not answerable with a quick search. Also, try to be specific so that your research question can be fully answered in the final product for your research assignment.

**ACTIVITY: Thinking of Questions**

For each of the narrow topics below, think of a research question that is logically related to that topic. (Remember that good research questions often, but not always, start with “Why” or “How” because questions that begin that way usually require more analysis.)

Topics:

- U.S. investors’ attitudes about sustainability
- College students’ use of Snapchat
- The character Scout in *To Kill a Mockingbird*
- Nature-inspired nanotechnologies
- Marital therapy

After you think of each research question, evaluate it by asking whether it is

- Logically related to the topic
- In question form
- Not answerable with a quick Google search
- Specific, not vague

Sometimes the first draft of a research question is still too broad, which can make your search for sources more challenging. Refining your question to remove vagueness or to target a specific aspect of the topic can help.

**ACTIVITY: Focusing Questions**

The first draft research questions below are not focused enough. Read them and identify at least one area of vagueness in each. Check your vagueness with what we identified. It’s great if you found more than we did because that can lead to research questions of greater specificity. See the bottom of the page for the answers.

First Drafts of Research Questions:

1. Why have most electric car company start-ups failed?
2. How do crabapple trees develop buds?
3. How has NASA helped America?
4. Why do many first-time elections soon after a country overthrows a dictator result in very conservative elected leaders?
5. How is music composed and performed mostly by African-Americans connected to African-American history?



**ANSWER TO ACTIVITY: Focusing Questions**

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The answers to the “Focusing Questions” Activity:

**Question 1:** Why have most electric car company start-ups failed?

Vagueness: Which companies are we talking about? Worldwide or in a particular country?

**Question 2:** How do crabapple trees develop buds?

Vagueness: There are several kinds of crabapples. Should we talk only about one kind? Does it matter where the crabapple tree lives?

**Question 3:** How has NASA helped America?

Vagueness: NASA has had many projects. Should we should focus on one project they completed? Or projects during a particular time period?

**Question 4:** Why do many first-time elections soon after a country overthrows a dictator result in very conservative elected leaders?

Vagueness: What time period are we talking about? Many dictators have been overthrown and many countries have been involved. Perhaps we should focus on one country or one dictator or one time period.

**Question 5:** How is music composed and performed mostly by African-Americans connected to African-American history?

Vagueness: What kinds of music? Any particular performers and composers? When?