

Worksheet for the Graduate Research Statement

Statement Instructions: "Present an original research topic that you would like to pursue in graduate school. Describe the research idea, your general approach, as well as any unique resources that may be needed for accomplishing the research goal (i.e., access to national facilities or collections, collaborations, overseas work, etc.) You may choose to include important literature citations. Address the potential of the research to advance knowledge and understanding within science as well as the potential for broader impacts on society. The research discussed must be in a field listed in the Solicitation." Source: [NSF GRFP User Guide](#)

Step I. Talk with your mentor(s). Even if you have decided on a research topic, it's a good idea to consult with the experts. Why? Faculty mentors stay informed about recent discoveries, research trends, and emerging issues. They can point you to gaps in the literature, the need for follow up study, and new topics to investigate. Mention that your research topic must have the potential to advance knowledge *and* benefit society.

Step II. Literature Review. Read broadly and synthesize what you learned. Identify 2-4 key findings from the literature that point to a problem you would like to address. Document how the topic can advance knowledge and benefit society. If the topic is interdisciplinary, include references from other disciplines. If possible, use nationally known researchers in the area(s) of study. Record the complete citation.

1st finding:

Citation:

2nd finding:

Citation:

3rd finding:

Citation:

4th finding:

Citation:

Step III. Summarize Preliminary Work. If your research interest stems from work that you and/or your mentor(s) have accomplished previously, summarize the findings - even if preliminary or inconclusive.

Note: If you have published/ presented on your research, list in your citation(s) in the GRFP application.

Note: Be sure to describe your research roles in the *other* GRFP statement. Emphasize what you learned and how your experience has readied you for graduate study. Include independent, collaborative, team, interdisciplinary or international work.

Step IV. Problem Statement. Clearly and succinctly, state a specific, researchable problem that you intend to address. This must be *logically* connected to the results of your literature review.

Step V. Research Question and/or Hypothesis. Although no longer a requirement, you may wish to consider adding a research question or hypothesis if appropriate to your field of study.

Step VI. General Approach (Research Methods). Your lit review should help you identify a general approach to your research topic. Consult with a mentor or a statistician on your methods and methodology. (Reviewers will look for methods that are rigorous *and* appropriate.) List steps below. Add rows as necessary.

1	
2	
3	
4	
5	

Step VII. Identify Unique Resources. Explain how your future program has the lab space, equipment, and supplies (e.g., chemicals, instruments, tools, etc.) that you will need to conduct this research. Will you need funds for field research or travel abroad? (Reference letters should confirm available resources.)

Other considerations for your general approach:

- **Ethics & Compliance.** Have you completed training on RCR (research ethics) or scholarly integrity? As appropriate, how will you protect human subjects and/or adhere to animal welfare regulations?
- **Timeline.** How long will it take you to conduct this study, analyze and report the findings?
- **Evaluation.** How will you monitor your progress toward the study's completion?
- **Limitations & Contingency.** What happens if you experience problems or unexpected results during your study?

Step VIII. Intellectual Merit (IM). You are *required* to address the potential of your research to advance knowledge and understanding within science. To do this, go back to your literature review (Step II). What knowledge gaps did you find? How might researchers in *other* disciplines apply this new knowledge? Include how you will *actively* communicate findings to the scientific community within and across disciplines and industries - - in the US and beyond.

Step IX. Broader Impacts (BI). You are *required* to address the potential of this research for broader impacts on society.

- Reflect on (a) which groups will benefit and (b) how they will benefit. Quantify whenever possible (e.g., magnitude of the problem; how many people; projected cost savings; % growth; % reduction, etc.) Will your research help lead to enhanced infrastructure for research and education?
- What activities can you conduct to involve people from underrepresented groups in your research? Teach diverse public audiences about your research? Will you inform policymakers about the importance of research and/or your area of inquiry? (List specific methods, audiences, venues or technologies you will employ for your proposed BI activities.)

Step X. Write a conclusion. Might you pursue this line of study as a dissertation topic? Might you pursue this this research strand as part of your long range career goals? Could you move into interdisciplinary study? Why should the NSF make an investment in your future? How will you help the agency accomplish its goals?