Encounter a potential research topic. Explore the scientific literature to gain an understanding of the prior studies on the topic.

Identify research questions to be explored. Refine them based on existing theory and research.

Determine the study design needed to answer the research questions. (What do you need - Multiple groups? Repeated measures? Cohorts? Matched pairs?)

Identify how variables will be measured. Do you have categorical variables? Quantitative variables? Both kinds?

Given the study design and kinds of variables, which statistics should be used to answer the reseach questions?