**SLIDE 1:** This tutorial is going to go over the structure and style of scientific writing in an academic context.

**SLIDE 2:** Most scientific papers follow the same basic structure: Introduction, Materials/Methods, Results, and Discussion, often referred to as IMRaD. We will go over each section in detail in the following slides.

**SLIDE 3:** First, the introduction establishes context and reason for performing the study. What are your goals? Part of developing this context might mean incorporating a brief literature review, through which you would demonstrate how your study's objectives relate to research in this area.

**SLIDE 4:** The materials/methods section should detail exactly how your study was conducted. Michael J. Katz, in his book on scientific writing, explains that the methods section should read like a recipe; it should be specific and detailed enough that other researchers could replicate your experiment. So, you want to include data collection procedures, experimental methods, and statistical methods. You should also be clear about what kinds of materials you use—for example, statistical software or bacterial strains. A researcher should be able to read this section and know exactly what they need and what to do to perform your study.

**SLIDE 5:** Next, the results section presents your findings and analysis. It should identify notable patterns in the data and incorporate appropriate tables and figures as needed.

**SLIDE 6:** Finally, the discussion section will conclude your paper. Here, you should reflect on the implications of your findings. Why do these results matter? What do they mean in the context of research already done in this area? This section is an opportunity for you to emphasize the significance of your findings and point to future research directions as well.
SLIDE 7: Now that we’ve covered the structure of scientific writing, we’re going to briefly discuss the writing style. Scientific writing should be both concise and precise. First, it should be straightforward and clear, and avoid wordiness. Don’t use more words than necessary to make your point. Additionally, you should be specific; don’t rely on vague explanations or figurative, flowery language such as metaphors. Make sure your writing is formal and objective; you should not make a claim unless you can point to a source or hard data to back it up. Let’s take a look at some examples of scientific writing.

SLIDE 8: So, here we have three imaginary sentences, but only one is appropriately written for a scientific paper.
1. These findings demonstrate that smoking is bad and tobacco companies are evil. This sentence doesn’t supply evidence for its claims, is too opinionated and informal, and doesn’t say anything about the actual findings.
2. These findings are like a breath of fresh air in a tobacco-clogged street. This sentence sounds nice, but relies too heavily on figurative language, and as with the previous sentence, does not say anything about the findings.
3. These findings demonstrate a positive correlation between packs of cigarettes smoked per day and likelihood of developing lung cancer. While imperfect, this sentence is the only one that specifically and formally outlines the findings without stating unsubstantiated opinion.

SLIDE 9: Included at the end of this tutorial are additional resources on scientific writing that might be helpful as you progress through your studies.