Systems Neuroscience (03-363) Report grading rubric (out of 50 points)

Introduction: **10 points** (including previous work that lead them to ask the question being asked).
      2 points for a clear description of the scientific question asked.
      2 points for the hypothesis or conclusion.
      1-2 points for depth of discussion about significance of the work in the paper.
      Up to 4 points for providing a discussion of the previous research that was done.
            0 points: no background.
            1-2 points: some discuss, but important aspects of the background appear to be misunderstood or
                  ignored.
            3 points: minor conceptual errors are present.
            4 points: a clear, solid background explaining how the authors arrived at their hypothesis

Discussion of 2 experiments: **20 points**. (10 points each) There should be a **_separate section_** for methods, results, and interpretation of each experiment.
Up to 10 points for discussing each experiment (2 experiments should be discussed)
      0-2: An experiment is identified, but the report does not discuss the original authors' interpretation or provide a
            logical connection to the question outlined in the introduction.
      3-4: An experiment is identified, but minimal discussion of the original authors' interpretation or logical
            connection to the question from the introduction is given.
      5-8: An experiment is identified, but its discussion is missing important points.
      9-10: An experiment is fully explored, including direct discussion of how this data relates back to the original
            question or the hypothesis discussed in the introduction.

Discussion of shortcoming: **10 points**.
      1-2: A shortcoming is suggested, but not well explored
      3-4: A shortcoming is identified and some implications are explored. However, the technical aspects are
            partially ignored and/or the broader scientific implications are not well discussed.
      5-8: A shortcoming is clearly identified and technically described; however, the implications for interpretation
            and the overall consequences are only partially explored
      9-10: A shortcoming is fully discussed, including how the implications for interpretation and overall
            consequences impact the potential significance of the work

New experiment: **10 points** for proposing a new idea or experiment that could directly test the model proposed by the student.
1 point for practicality of the experiment,
1 point for describing manipulated variables,
1 point for describing measured variables,
plus up to 2 points for a creative, unique, novel experiment which would provide novel data to meaningfully address the controversy and/or substantially advance understanding of brain function
The remaining 5 points are dependent on a well-articulated, and appropriate hypothesis with clear predictions that are relevant to the question at hand or a model that provides a clear test of the theory proposed.
      0 points: no clear hypothesis, expectations, or advancing model.
      1 point: proposal has seed of idea for experiment, but not concrete or testable.
      2 pts: a hypothesis that begins to test for differences, but expected results are unclear or not well spelled-out
            and/or may have serious conceptual errors, especially errors regarding the logical connection to the
            disease or major question being addressed and/or the model proposed in the introduction.
      3-4 pts: a hypothesis that begins to test for differences, and expected results are clearly spelled out. The answer
            is lacking somewhat in a clear prediction of results to distinguish possibilities or may have minor
            conceptual errors.
      5 pts: a clear hypothesis and a clear prediction for the results of the experiment which cleanly distinguishes
            between possibilities.