According to Dr. Jim Costa, "Any new information that is generated through scientific research must be communicated, or it is all for naught." Scientific reports have a specific format to follow so that the information they convey is easily understandable. This guide will help you generate an effective, professional-looking report. **Scientific reports follow the IMRAD format (Introduction, Methodology, Results, and Discussion).** Keep this in mind when creating your report.

**Introduction**

**Objective:** What exactly are you trying to achieve with this experiment?

**Background:** What important information do readers need to know to understand the experiment? This can include significance of the experiment, principles the experiment demonstrates, previously published research, and definitions of variables and equations used.

**Hypothesis/Research question:** All experiments have a hypothesis or research question. Write a sentence or two that explicitly states this particular experiment's hypothesis/research question.

**Write in both past and present tense.** Use past tense to refer to this particular experiment, but when referring to previously published research works, use the present tense.

**Methodology (materials and methods)**

**Materials:** What materials (chemicals, equipment, flora/fauna, etc.) were used in the experiment?

**Methods:** What was done with these materials during the experiment?

**Write as a narrative.** Do not write this section as a list of steps in the experiment. Use paragraphs to describe what and how materials were used.

**Write in chronological order. Write in past tense. DO NOT include any results in this section.**

**Results**

**Review:** Provide a brief review of the nature of the experiment.

**Data:** What data was obtained? Show the calculations that were performed. Graphs, charts, and tables can be used to present data.

**Write as a narrative.** Do not make this section solely a list of tables, graphs, charts and calculations. Use these in combination with paragraphs to present results. (Ex: "As shown in Figure 1..." or "The tabulated values are listed in Table 1.").

**Write in past tense. DO NOT include any analysis of results in this section.**

**Discussion**

**Review:** Restate the hypothesis or research question.

**Assess results.** Analyze and interpret results. Ask yourself the following questions:

- How did these results compare to expected results?
- How did these results compare to other research investigations' results?
- Was the hypothesis/research question supported?
- What were the sources of error or weakness in the experiment?
- How reliable are your results?
- What is the significance of your results?
- Are additional experiments needed on this hypothesis/research question?

**Write in both past tense and present tense.** Use past tense to refer to this particular experiment, but when referring to previously published research works, use the present tense.

...composed by Krista Schmidt, Reference Librarian, in collaboration with Dr. Bradley Sturgeon, Chemistry and Physics; Barbara Hardie; and Mel Robbins, 2005; University Writing Center; Western Carolina University. Revised by the Writing and Learning Commons, 2012.