

SCIENTIFIC METHOD RUBRIC

WASHINGTON MIDDLE SCHOOL



	Exceeds	Meets	Approaching	Well-Below
Problem (10%)	<ul style="list-style-type: none"> Problem is stated clearly and relates to the topic/ benchmarks. The problem is stated to allow investigation and exploration. Problem is based on student's personal observation and exploration.** 	<ul style="list-style-type: none"> The problem is stated and related to the topic/ benchmarks. The problem is stated to allow investigation and exploration. Problem is based on observation or exploration. 	<ul style="list-style-type: none"> The problem is stated in an unclear manner. The problem does not allow for exploration or investigation. The problem is not based on observation or exploration. 	<ul style="list-style-type: none"> Problem does not relate to the topic/ benchmark.
Research	<ul style="list-style-type: none"> Information comes from at least 3 different sources (Internet, books, journals) Information is related to the topic/ benchmark. Information is cited properly and written in the student's own words. 	<ul style="list-style-type: none"> At least 2 sources of information are used and cited properly. * Information relates to the topic or benchmark. Information is written in the students' own words. 	<ul style="list-style-type: none"> At least 2 sources of information were used. Citation of source are poorly written. * Information somewhat related to the topic and written in the student's own words. 	<ul style="list-style-type: none"> Little or no background information is used. Information is copied from the source. *
Hypothesis	<ul style="list-style-type: none"> Hypothesis is clearly stated using the "If ... then... because format. Hypothesis is testable. Hypothesis is based on observation and research. 	<ul style="list-style-type: none"> Hypothesis is stated using the "If,, then ... because" format. Hypothesis is testable. Hypothesis is based on observation and general knowledge. 	<ul style="list-style-type: none"> Hypothesis does not include "if", "then" or "because" Hypothesis may not be testable. Hypothesis is not based on observation or research. 	<ul style="list-style-type: none"> Hypothesis is missing or unrelated.
Design/ Procedure	<ul style="list-style-type: none"> A detailed description of the variables in the investigation is identified. An experimental control is present. ¹ All materials used in the investigation are listed clearly. Specific amount and size of materials are stated in metric form. The procedure is detailed, clear and stated in a step by step process and can be replicated by others. The procedure directly tests the stated hypothesis. Safety rules are stated and followed. 	<ul style="list-style-type: none"> The variables of the investigation are correctly identified. An experimental control is present. ¹ All material used in the investigation is listed clearly. The procedure is written in a step by step process and could be replicated. The procedure adequately tests the hypothesis. Safety rules are followed. 	<ul style="list-style-type: none"> Variables are stated but not properly identified. List of materials is missing one or more important items. The design has a general relevance to the hypothesis, but may not be replicated. Procedure may result in safety risk and should be revised. 	<ul style="list-style-type: none"> Procedure design has no relevancy to the the hypothesis. Variables and list of materials are incomplete or missing. Safety concerns are not specified or inappropriate to the experiment.

	Exceeds	Meets	Approaching	Well-Below
Data	<ul style="list-style-type: none"> Data is accurate, well organized and clear. Descriptive and proper vocabulary are used to record qualitative data (non-measurable) Tables, drawings, charts and organizers are labeled appropriately. (Title, captions, categories, intervals, etc) 	<ul style="list-style-type: none"> Data is accurate, organized, and clear. Qualitative data is gathered. Tables, charts, drawings and organizers are labeled appropriately but contains minor errors. 	<ul style="list-style-type: none"> Data is poorly organized and presented. Major errors are present on the tables, graphs and drawings. 	<ul style="list-style-type: none"> Data is incomplete and poorly presented and organized. Tables and drawings are poorly done with major flaws or missing.
Analysis	<ul style="list-style-type: none"> Important relationships, patterns and changes are stated based on observation through the investigation. Calculations are clearly laid out and when appropriate, data are correctly graphed and labeled. 	<ul style="list-style-type: none"> Important relationships, patterns and changes are stated based on observation through the investigation. Calculations are clearly laid out and when appropriate, data are correctly graphed and labeled. 	<ul style="list-style-type: none"> The data lacks detail, patterns and relationships are based on misconceptions. 	<ul style="list-style-type: none"> No mention of the relationships and patterns in the data.
Conclusion/ Discussion	<ul style="list-style-type: none"> The outcome of investigation is explained and whether the hypothesis is rejected or accepted based on the data. Graphs, tables and illustrations are clearly explained. Conclusion is fully supported by data, and not an inference. Possible errors, importance of the investigation, practical use, and/ or expansion of the investigation are summarized. 	<ul style="list-style-type: none"> The outcome of the investigation is explained and whether the hypothesis is rejected or accepted based on the data. Graphs and tables are explained in the conclusion. Conclusion is based on data, and some points are based on inference. The importance of the investigation is summarized. 	<ul style="list-style-type: none"> The outcome of the investigation does not adequately relate to the hypothesis. Minimal use data is used to explain results. Student does not demonstrate understanding of purpose of the investigation. 	<ul style="list-style-type: none"> The outcome of the investigation does not relate to the hypothesis. Poor use of data is used to explain the results. Student does not understand the purpose of the investigation.
Format	<ul style="list-style-type: none"> Report is typed, organized and neat Student demonstrates the thinking skills and the mastery of the concept. Format is organized according to the Lab Report Template. 	<ul style="list-style-type: none"> Report is legible, neat and organized. Student demonstrates an understanding of the concept. Format is organized according to the Lab Report Template. 	<ul style="list-style-type: none"> Format lacks neatness and organization. There are frequent flaws in the understanding of the Scientific Process. One or more parts of the Lab Report Template is missing. 	<ul style="list-style-type: none"> Student demonstrates minimal effort. Format has numerous errors in the understanding of the scientific process. Format does not follow the Lab Report Template.

Teacher's Comments: