Middle School Science
PBL Level I Grading Rubric

Name: _____

Class: _____

Component	Excellent = 4 out of 4 criteria (4 pts)	Good (3 pts)	Satisfactory (2 pts)	Needs Work (1 pt)	No Attempt (0 pts)	Total
1. Problem, purpose, and question	✓ The problem can be solved through the process of engineering design or investigated scientifically ✓ The purpose is clearly defined ✓ The question is relevant and grade level appropriate ✓ The question is in a complete sentence and based on science principles					
2. Background research	✓ Provides enough information to establish a detailed framework for the investigation or design ✓ Demonstrates understanding of scientific relationships relevant to the topic ✓ Research findings are reported in clear language, free of spelling or grammar errors. ✓ Research sources are referenced or cited					
3. Investigation Design/Plan	✓ Possible outcome(s) of the testing of variables or prototypes is/are stated, and include reasoning ✓ Reasoning is based on research and scientific facts ✓ There is an adequate number of trials planned to justify a conclusion ✓ For scientific investigations, variables are clearly stated					
4. Materials, and Procedure	✓ Necessary materials and equipment are listed ✓ Step by step process is clearly described ✓ Description of altered/added procedures and reasoning is present ✓ Adequate detail is present so that another person may repeat this work and get similar results					
5. Data & Observations	✓ Data/observation information is detailed and organized in charts or tables with labels (and units) ✓ Diagrams and graphs are created as necessary and have all essential elements (labels, title, etc.) ✓ If any calculations are needed, the formula and reasoning is included ✓ Observations and results are described in detail					
6. Analysis and conclusions	✓ Demonstrates knowledge of content by explaining specific topic related items ✓ Claims are related to the underlying scientific principles ✓ Actual data is used to support inferences and discussion ✓ Evidence includes clear statements of troubleshooting, of what worked and what didn't, and any work refinements as/when appropriate					
7. Application and Extension	✓ Relevance to personal experience discussed (What did I learn?) ✓ Relation to real life is identified (Where do I see this concept in real life?) ✓ Applications of the concept learned (Where can I use this?) ✓ Extension of the concept described (Given this, what is the next step?)					
8. Lab Protocols and Safety	✓ Report submitted on time and as directed ✓ Directions and safe practices were followed ✓ Stations were cleaned and organized ✓ Resources were cared for and conserved					
9. Report Format	✓ Report is written/typed in clear language, and as specified ✓ No/minimal errors in spelling, punctuation, grammar ✓ Details and reasoning are included ✓ Experimentation setup or prototype design sketches are included with labels and explanation.					
10. Presentation Quality and Economy	✓ The presentation product is neat, organized, and creative ✓ Pictures or digital documentation of the work are included and captions are relevant, if present ✓ The story is told with the right amount of detail and does not seem to short or too long ✓ Voice or sound does not overwhelm the presentation					
				Total for Investigation (above points x 2.5)		