Name: Date: Class:

Paper Football Physics – Project Rubric

Category / Rating	3	2	1
Criteria & Constraints	Students identify at least 3 appropriate criteria and constraints given the problem and design challenge.	Students identify 1-2 appropriate criteria and constraints given the problem and design challenge.	Students do not identify any criteria or constraints given the problem and design challenge.
Brainstormed Designs	Students have at least 3 different designs from brainstorming. They provide at least 3 descriptions of the designs and at least 2 reasons for choosing the design and how it satisfies each of the criteria and constraints.	Students have at least 3 designs from brainstorming. They provide less than 3 descriptions of the designs and 1 reason for choosing the design and how it satisfies each of the criteria and constraints.	Students have fewer than 3 designs from brainstorming. They do not describe the designs in the report and do not give reasonsfor choosing the design or how it satisfies the criteria.
Design Description & Discussion	Students provide a sketch and a full breakdown of the designs for their 3 football designs. They explain the reasoning for their different shapes for the footballs.	Students provide a sketch and a breakdown of 2/3 of the football shapes. They also explain some reasoning for their different footballs.	Students provide a sketch of at least one football. Little to no explanation is given, and no explanation is given for how the group produced the shape for the footballs.
Results	Students provide a detailed description of the test and the results. They provide the distance traveled and the velocity of each football.	Students provide most information related to their tests. They give an incomplete description of how the test was performed.	Students provide some results of the test. They do not provide the description of how the test was performed or details on the velocity of the footballs.
Analysis	Students provide detailed analysis of the test results and give reasons and explanations for various design faults, as well as limitations of their design.	Students provide a short analysis of their results, but do not explain the reasoning for the design faults or limitations.	Students do not provide analysis of the results from the experiment or discussion on limitations.
Redesign & Discussion	Students use their results and analysis to redesign their footballs thoughtfully and with purpose. Reasoning for changes is provided and well explained.	Students use their results and analysis to redesign their footballs. Reasoning for changes is not well explained.	Students provide a redesign of their footballs, but do not explain reasons for changes and do not use analysis of results as reasons for changes.
	Total Score [maximum of 18]		