***Roller Coaster Design Score Sheet***

**Coaster Name:**

**Team Members:**

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|  |
| ***CHALLENGE*** | ***JUDGING CRITERIA*** | ***JUDGE’S COMMENTS*** | ***SCORING*** |
| **Height** | ***REQUIREMENTS******CRITERIA**** Highest hill
* 2nd highest hill
* Tallest drop
* Longest drop
 |  | **1 - 10** |
| **Speed** | ***REQUIREMENTS***- Marble shall be able to complete entire track after initial drop***CRITERIA***- Average Speed- Speed at end |  | **1 - 10** |
| **Creativity** | ***REQUIREMENTS***Marble must stay within track design (except for jumps)***CRITERIA***- # inversions |  | **1 - 10** |
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***Roller Coaster Worksheet***

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|  | CALCULATIONS |  |
| **Marble Mass** | **m =** |
| **Highest Hill** | **h =**  |
| **Total Potential Energy***(g* = 9.8 m/s2 = 32.2 ft/s2) | **PE = mgh =**  |
| **Time Trial**(Average of 3 time trials – time it takes marble to complete entire track) | **tavg =** |
| **Distance** | **D =**  |
| **Average Speed** | **vavg = D/t =** |
| **Average Kinetic Energy** | **KE = ½ mv2 =** |
| **Energy Lost** | **PE – KE =**  |
| **Final Speed** | **vf =**  |
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