NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Roller Coaster Rubric

I. Creativity/construction:

50 (2 hills/2 loops/jump) 40 (one component missing) 30 (two components missing)

Optional pulley bonus: \_\_\_\_\_

II. Theme/decorations: must have NAME of coaster and be neatly decorated according to theme

10 above average 6 average 3 little evidence 0 none

III. Layout:

10 rock solid 5 thrown together/messy/poorly constructed

IV. Successful trials DURING presentation:

20 (5 of 7) 16 (4 of 7) 12 (3 of 7) 8 (2 of 7) 4 (1 of 7) 0 (0 of 7)

V. Participation on work days: 10 points per day (5 building days/2 data collection days) \_\_\_\_\_/70

VI. Peer evaluation: your group members will rate your participation and the score will be averaged

\_\_\_\_\_\_\_/10

VII. Blueprint worksheet: complete and turned in \_\_\_\_\_\_/10

VIII. Blueprint: EACH group member is required to create a detailed sketch of the coaster including ALL of the information from the Blueprint worksheet.

|  |  |  |
| --- | --- | --- |
| Title 2 | Length/units 2 | Width of base/units 2 |
| First hill height/units 2 | Height of jump/units 2 | Mass of marble/units 2 |
| Average velocity/ units 2 | PE labeled 2 | KE labeled 2 |
| Newton’s 1st law 2 | Newton’s 3rd law 2 | Centripetal force 2 |
| Amount of PE/units 2 | Amount of KE/units 2 | Momentum/units 2 |
| Overall neatness 5  |  | TOTAL: /35 |

Total: \_\_\_\_\_\_\_\_/215

Each group member must take an active speaking role in the presentation. During the presentation, you will do the following:

1. Explain the construction of your roller coaster.

2. Explain your theme and how you decorated the coaster.

3. Explain any problems you had while building the coaster. \*Decide how you will break up this information so all group members have an active part!

4. Demonstrate the marble running through the coaster 7 times.

5. Be prepared to answer a question using your blueprint. Any information on the blueprint is fair game!! It could be how to calculate something, a definition, a scientific concept; anything!

Presentation tips!

\*Practice as a group BEFORE you present. Be organized and prepared when it is your turn.

\*Stand up straight. Do not lean on the board or the table.

\*Look at your audience. Do not hide behind the coaster or a paper.

\*Speak up! It is no fun to sit in the audience and wonder what the presenter is saying.

\*Speak clearly. Do you want to listen to someone with a mouth full of marbles? No one else does either.

\*Use your project as a visual aid. If you are referring to something on the coaster, point it out!

\*Answer your question with confidence.

\*If you refuse to present or do not participate, you will forfeit those points.

Presentation Rubric:

Eye contact 1

Voice level 1

Posture 1

Question 2 1

Total: \_\_\_\_\_\_\_/5