

BSA Columbia-Montour Council presents the 2023

# 8th Annual Rube Goldberg Challenge®

April 1, 2023

## Machine Scoring Rubric

School/Scout/Youth Group: \_\_\_\_\_  
(Organization Represented)

Team Name: \_\_\_\_\_

Score: \_\_\_\_\_ (max 120)      Level: \_\_\_\_\_  
(Level I: Grades 1-3, Level II: Grades 4-5, Level III: Grades 6-8, Level IV: Grades 9-12)

| CATEGORY                             | JUDGING CRITERIA                    | MAX POINTS | AWARDED POINTS |
|--------------------------------------|-------------------------------------|------------|----------------|
| <b>Communication</b>                 |                                     |            |                |
| Written Report<br>(10 points max)    | Report includes:                    |            |                |
|                                      | • Summary.....                      | .....1     |                |
|                                      | • Table with list of Steps.....     | .....1     |                |
|                                      | • Step-by-step description.....     | .....1     |                |
|                                      | • Diagram.....                      | .....1     |                |
|                                      | • Typed and printed report.....     | .....1     |                |
|                                      | • Well organized.....               | .....0-5   |                |
| Oral Presentation<br>(10 points max) | Presentation includes:              |            |                |
|                                      | • Clear explanation.....            | .....0-5   |                |
|                                      | • Participation by entire team..... | .....5     |                |
| <b>Machine Design</b>                |                                     |            |                |
| Number of Steps<br>(15 points max)   | <b>Level I (grades 1-3):</b>        |            |                |
|                                      | >8 Steps.....                       | .....15    |                |
|                                      | 5-8 Steps.....                      | .....10    |                |
|                                      | <5 Steps.....                       | .....0     | _____          |
|                                      | <b>Level II (grades 4-5):</b>       |            |                |
|                                      | >10 Steps.....                      | .....15    |                |
|                                      | 8-10 Steps.....                     | .....10    |                |
|                                      | <8 Steps.....                       | .....0     | _____          |
|                                      | <b>Level III (grades 6-8):</b>      |            |                |
|                                      | >12 Steps.....                      | .....15    |                |
|                                      | 10-12 Steps.....                    | .....10    |                |
|                                      | <10 Steps.....                      | .....0     | _____          |
|                                      | <b>Level IV (grades 9-12):</b>      |            |                |
| >14 Steps.....                       | .....15                             |            |                |
| 12-14 Steps.....                     | .....10                             |            |                |
| <12 Steps.....                       | .....0                              |            |                |

| CATEGORY   | JUDGING CRITERIA  | MAX POINTS  | AWARDED POINTS |  |
|--|---|-------------|----------------|--|
| <b>Machine Design</b>  |   |             |                |  |
| Number of <i>Unique</i> Simple Machines (10 points max)                              | <b>Level I &amp; Level II (grades 1-5):</b>   |             |                |  |
|  | >5 Simple Machines.....   | 10          | _____          |  |
|  | 3-5 Simple Machines.....  | 5           |                |  |
|  | <3 Simple Machines.....   | 0           |                |  |
|  | <b>Level III &amp; Level IV (grades 6-12):</b>  |             |                |  |
|  | >7 Simple Machines.....   | 10          |                |  |
| 5-7 Simple Machines.....   | 5   |             |                |  |
|  | <5 Simple Machines.....   | 0           |                |  |
| Creativity (5 points max)  | >2 Non-Simple Machines.....   | 5           |                |  |
|  | 1 Non-Simple Machine.....   | 3           |                |  |
|  | 0 non-Simple Machine.....   | 0           |                |  |
| Recycling (5 points max)   | Repurposes everyday items.....  | 0-5         |                |  |
| Artistry (5 points max)  | Artistic elements or themes.....  | 0-5         |                |  |
| Humor (5 points max)   | Funny bone factor (this is a Rube Goldberg machine!).....                                       | 0-5         |                |  |
| <b>Machine Operation</b>   |   |             |                |  |
| # Successful runs (2 runs required) (40 points max)                                  | Both runs successful.....   | 40          |                |  |
|  | One run successful.....   | 20          |                |  |
|  | No runs successful.....   | 0           |                |  |
|  | <b>Note:</b> subtract 2 points for each "assist"  |             |                |  |
| # Assists  | <b>Deduct</b> total number assists (#x2 pts.)   |             | Minus _____    |  |
| Run time/Seconds (10 points max)<br><br><b>Note:</b> only applies to successful runs | <b>Run #1</b>   |             |                |  |
|  | >30 seconds.....  | 5           |                |  |
|  | 10-30 seconds.....  | 3           |                |  |
|  | <10 seconds.....  | 0           |                |  |
|  | <b>Run #2</b>   |             |                |  |
|  | >30 seconds.....  | 5           |                |  |
| 10-30 seconds.....   | 3   |             |                |  |
|  | <10 seconds.....  | 0           |                |  |
| <b>Bonus</b>   |   |             |                |  |
| Machine Operation (5 points OR Zero)   | Machine includes:<br>• An unusual Step (unique among teams in your Level)<br>AND<br>• It works! | .....0 or 5 |                |  |
| <b>JUDGES:</b><br><i>Write total on top of first page</i>                            |   | TOTAL       |                |  |