

Wacky Wonder Works Contest

**Sponsored by the Central/Southwest Chapter
Oklahoma Society of Professional Engineers**

Foreword

The Wacky Wonder Works (WWW) Competition uses modified Rube Goldberg machine contest rules to test student's engineering skills. Please review the current rules below as some have changed from past competitions.

This contest is limited to **four (4) entries per school**. Each entry is a team project; conducted by no more than **six team members**. An individual student may NOT participate on more than one team. Only one entry per team is allowable.

Each school **MUST** complete the Official Entry & Project Description Form found on page 5 and submit it to the OEF office by **Friday, February 14, 2025**. It is critical that all actions are listed. Prizes will be awarded to winning entries from **registered** schools.

IMPORTANT! Only registered entries accompanied by a completed Project Description Form will be permitted to compete.

Design Challenge

Design and build the most complicated mechanical device to achieve a simple objective:

"Feed a Pet".

Example

This example is provided solely to give students an idea of the type of project we anticipate.

"A steel ball rolls down a channel, then trips a lever that activates another action, etc. until the final action feeds a pet."

See clarifications on the challenge listed under item #17 of the Rules.

Materials

Contestants will supply all project materials. John Doddy (email: johnjdoddy@aol.com) will respond to all questions regarding the use of materials or interpretation of the rules.

2025 Wacky Wonder Works Contest – Continued

Rules

1. Prior to competition, create a mechanical machine (designed and assembled entirely by students) that will achieve the design challenge.
2. The machine must be self-contained and must not be larger than three feet in height, two feet in width, and six feet in length.
3. The following items are **NOT** permitted: hazardous materials, explosives, caustic substances, open flames, aerosol sprays, live animals, or any materials that could be construed as unsafe to humans or potentially damaging. Projects containing any of these items will be automatically disqualified.
4. The machine must be safe to the satisfaction of the WWW judges. WWW must approve any questionable items prior to competition.
5. Air filled balloons are permitted providing the balloon remains within the set boundaries of the machine including any slivers/remnants from the balloon.
6. Battery operated devices (low voltage/low current DC devices) are permitted. Only AA, AAA, C, D, 6-volt lantern and 9-volt dry cell batteries are permitted. For example, a small DC motor operated by a 9-volt battery. No electrical devices that pose a safety issue (e.g., high voltage arcs) to operators or others will be permitted.
7. The use of microcontrollers, servos, or small DC motors is allowed.
8. The machine must not express or imply profane, indecent, or lewd expressions.
9. Any loose or flying objects must remain within the set boundaries of the machine. This includes, but is not limited to, drops of water, slivers/remnants of balloon and other “small” objects.
10. Teams are limited to 6 members.
11. The team has a total of 15 minutes to perform the following.
 - a. Set up, adjust, and test their machine. (Note: Most of this can be done prior to the official appointment time.)
 - b. Demonstrate with a measuring tape that their machine meets the dimensional requirements stated in Item 2 of the Rules.
 - c. Make an oral presentation about their machine. This presentation is the students' chance to review how their machine works, the materials & process used for construction, the machine theme if applicable, or anything else the students would like to communicate to the judges. Up to 15 points will be award for the presentation.
 - d. Official Run – up to two attempts. (See Item 13 of the Rules for details.)
12. The machine must complete the task within five minutes. The judges will keep the official time.
13. Once the machine has been activated, students cannot touch any part of their machine until completion of the design challenge. However, if the design challenge is not completed, a second attempt may be initiated. A maximum of only one completed run will be allowed and a maximum of only one restart will be allowed. If the challenge is completed in the initial run, a second run will not be allowed. If a restart is attempted, the second run must be completed within the 15-minute limit.

2025 Wacky Wonder Works Contest – Continued

Rules - Continued

14. Repeated Actions: in certain cases, actions may be repeated (e.g., several balls rolling down a ramp, each ball operating a lever or gate) or action sequences may be repeated (e.g., several strings of dominoes separated by independent action items). A repeated action or repeated action sequence will only be counted the initial three times. Subsequent repeats of this action or action sequence will not be scored but will be allowed.
15. Each team member must be enrolled as a student at their representative school.
16. Participation in the contest implies consent to use contest photographs in local, regional, and national publicity.
17. **Current challenge clarifications:** The following items provide clarification of the design challenge.
 - a. Any pet food (or a something simulating pet food) can be used.
 - b. Any pet food container can be used.
 - c. Per Rule 3, live animals are NOT allowed. [Students are encouraged to be creative with stuff animals, pictures, etc.]
18. Bonus Points: One to two points may be awarded for completing extra tasks and other aspects of the machine design listed below for up to a maximum of 5 bonus points:
 - Multiple foods or servings
 - Uniqueness of pet(s) fed
 - Mechanical complexity
 - Use of everyday items
 - Laugh Barometer (i.e., Funny, whimsical, etc.)
 - Theme or Story
 - Artistry and Construction
 - Absurd Complexity

2025 Wacky Wonder Works Contest – Continued

Procedure, Judging, and Scoring

1. The Official Entry & Project Description Form found on page 5 must be completed and submitted to the OEF office by Friday, February 14, 2025.
2. Competition will run continuously until finished. Judges will determine winners at about 4:00 p.m.
3. Prior to the competition, judges will inspect the machine to determine dimension limits and if materials used are within the rules. Judges will also review the actions listed on the Project Description Form (PDF) with the students.
4. When instructed by the judges, contestants will activate their project to begin the initial run.
5. A project will be judged as successfully completing the design challenge.
6. One point will be awarded for EACH different and distinctive action. Only actions that are different, distinctive, and visible will be scored (e.g., a ball rolling down a channel and just turning a corner would only be counted as one action). See Rule 14 (above) regarding repeated actions or repeated action sequences. Each action eligible for point consideration must be listed on a separate line on the PDF. Every action must have an effect on another action and contribute to achieving the design objective; in order to be counted.
7. All machines that demonstrate a design that can, in principle, achieve the design challenge, will be scored. **Projects completing the design challenge will be ranked higher than those that do not.** For instance, a project that has 20 steps and completes the design challenge will be ranked higher than a project with 30 steps that doesn't complete the design objective. In the event that no projects meet the design challenge, the project with the most successful steps will be declared the winner.
8. The judges will have the authority to interpret all rules. The judges may instigate any additional rules at the time of judging for the purposes of safety.
9. Any challenge to the rules must be made during the appointment time.
10. Do not disassemble the project until instructed to do so by the judges.
11. **DISQUALIFICATION.** In the event that a project is in violation of the rules, the project will be disqualified and not scored. Every effort will be made to make the disqualification notification before the project is disassembled; however, this may not always be possible. The judges reserve the right to disqualify a project after review. If a project is disqualified, it will not be scored.
12. **Decision of judges, during all phases of the competition, is FINAL.** In the event of a tie, prizes will be equally distributed between winning entries.

Prizes & Distribution

Contest winners will be announced on the Engineer Fair web page at www.oef.org. Entries winning prizes will be notified through their teacher of record.

Wacky Wonder Works Official Entry & Project Description Form

PRINT CLEARLY and LEGIBLY

Entry Number: _____ *Assigned by competition sponsor at time of event

School: _____

School Team Number (Schools with more than one entry): _____

Teacher of Record: _____

Names of Students

(1) _____ M ___ F ___

(2) _____ M ___ F ___

(3) _____ M ___ F ___

(4) _____ M ___ F ___

(5) _____ M ___ F ___

(6) _____ M ___ F ___

We hereby certify that the Wacky Wonder Works Project was designed and built ONLY by students from the school listed above and each student listed above contributed to the design and construction of the project.

Signature of Student #1 Above

Signature of Student #2 Above

IMPORTANT: The teacher's classroom listed above will be considered the winning classroom should this entry be judged as one of the winners of the event. If the teacher listed above is not the student's teacher, changes **MUST** be made known to the OEF office **PRIOR** to the entry being turned over to the judges.

Decision of the judges during all phase of the competition is FINAL. In the event of a tie, prize money will be equally distributed between winning entries.

Activity Description in Order of Actions (Print or Type):

- (1) _____
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(If needed, attach additional pages, numbered per the above format)

WWW Scoring Sheet

(For Judges' Use Only)

Entry Number:		
School & School Team #:		
Table/Room Assignment:		
Start Time:		
End Time:		
	Yes	No
Material Compliant?		
Dimension Compliant?		
Overall Time (< 15 min):		
Official Run Time (< 5 min):		
Objective Achieved?		
Number of Actions Completed		

Category	Possible Points	Points Awarded
1-Multiple foods or servings	1	
2-Uniqueness of pet(s) fed	1	
3-Mechanical complexity	1	
4-Use of everyday items	1	
5-Laugh Barometer (i.e., funny, whimsical, etc.)	1	
6-Theme or Story	1	
7-Artistry and Construction	1	
8-Absurd Complexity	1	
9-Other - Explain	1	
Bonus Points Total (Sum of 1 thru 9)	5 MAX	
Presentation	15 MAX	
Points Awarded for Actions (Actions Completed)	0 - ∞	
Total Points	0 - ∞	