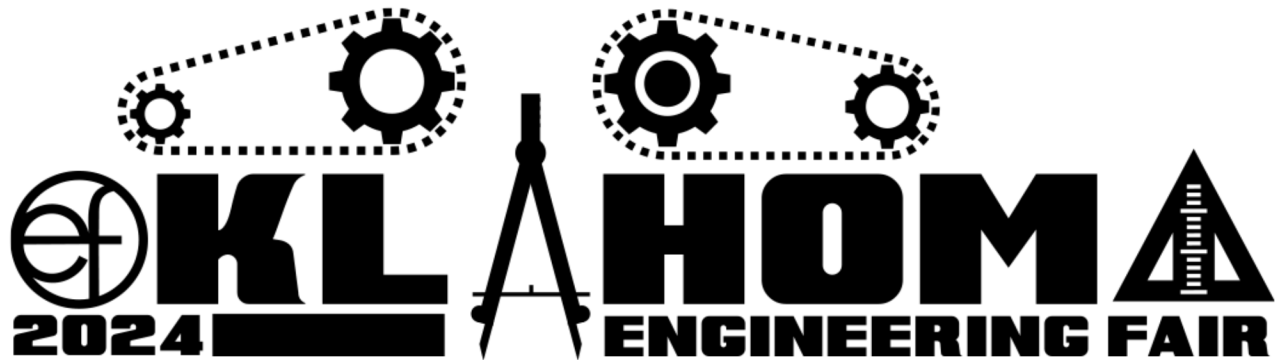


# RUBBER BAND-POWERED VEHICLE RULES

Sponsored by the American Society of Mechanical Engineers, Oklahoma Chapter



## FOREWARD

Each school **MUST** preregister by February 16, 2024, five days prior to the Engineering Fair by visiting <http://www.oef.org/2024-fair-registration>. **This competition is limited to five (5) entries per school.**

To expedite the check-in process, please complete the contest entry form prior to arrival, also found on the OEF website under the Engineering Fair tab. A limited number of entry forms will be available the day of the Engineering Fair. Prizes will be awarded to winning entries from registered schools (entries from unregistered schools will NOT be eligible for prizes).

## DESIGN STATEMENT

Prior to competition, design and build a rubber band-powered vehicle which can carry a one-pound "load" the greatest distance in a straight line.

## MATERIALS and RESTRICTIONS

There are no restrictions on materials, size, weight or number of wheels. However, the only energy source permitted is the elastic energy of **one** rubber band, size #64 (approx. ¼" wide by 3½" long by 1/32" thick).

Commercially assembled vehicles are NOT permitted. However, commercially manufactured components may be used as parts of the vehicle. The "load" will be a 16 oz. box (including contents) of Arm & Hammer Pure Baking Soda (approx. size: 3½" x 4½" x 2").

## OBJECTIVE

To design a wheel-driven vehicle, powered only by **one** rubber band (size specified above), which will transport a one-pound "load" (specified above) the farthest distance (on a level, industrial type, carpeted floor) while remaining within the boundaries of a **3 ft.** wide parallel track (marked off with masking tape). Speed is not a criteria.

# 2024 RUBBER BAND-POWERED VEHICLE CONTEST – CONTINUED



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## **RULES**

1. Only official rubber bands (provided by judges at the Fair) must be used during the competition. The rubber band may NOT be cut and must remain with the vehicle throughout the run (NOTE: rubber band may be dragging from the vehicle at the end of the run).
2. Guard rails or a similar holding device must be part of the design on top of the vehicle to hold the "load" (load supplied by judges at the Fair). The "load" may NOT be tied or strapped to the vehicle (i.e., baking soda box must be easily placed on and removed from the vehicle).
3. Up to three runs will be permitted within a 5-minute time frame. Repairs and adjustments will be permitted between runs.
4. The vehicle must be self-starting (i.e., no pushing, external power starts, etc.). Contestants are permitted to hold the vehicle behind the starting line and simply "let go".
5. Propulsion of the vehicle must be through the wheels (i.e., no propellers, no launching mechanism). Transferring the energy of the rubber band to wheels via gears, fly wheels, etc., is encouraged. No remote control devices are permitted.

## **JUDGING and SCORING**

1. Students will receive a Rubber Band-Powered Vehicle Entry Form (RBPV-EF) at the registration desk. Students must submit this form at the contest registration before Noon. Judges will then inspect the vehicle and assign an entry number indicating student's turn in sequence of competing.
2. All entries must be registered at the contest location between 9:00 a.m. and 12:00 p.m. on Fair day. Competition will run until all registered entries have competed.
3. The vehicle will be inspected and registered at the track area just prior to competition.
4. After each run, distance traveled will be measured and recorded in feet and inches as follows: Starting line to a) the front of the vehicle when it stops; or b) the point vehicle strays outside the 3-ft. wide track; or c) the spot where vehicle drops the "load" or any associated parts.
5. Final score will be the vehicle's best run of up to three attempts allowed during the 5-minute time limit.
6. 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 AND DISTRIBUTION**

Contest winners will be announced on the OEF website at <https://oef.org/2024winners> and on the BAND app, <https://band.us/n/a4ae73s2s3F7v> on or before March 1, 2024.

First, Second and Third place winners will receive medals. The winning classrooms of the First, Second and Third Place entries will receive a cash award, which will be mailed on or before April 1, 2024.