

Practice Tips: Can Race

**Note: DeKalb
Modification!**



RULE MODIFICATIONS:

These apply to the DeKalb 2011 Elementary Tournament.

1. Attempts: Each competitor will have two runs, one immediately after the other. No additional practice runs of any type are allowed on the track. No repairs or modifications are allowed between runs, only rewinding of the rubber band. The rubber band may only be replaced with an identical rubber band if the original breaks.
2. Scoring: Best of two based on distance. In the case of a tie based on distance, the shortest elapsed time for the distance determines the winner.
3. Track dimensions: Our track's width is approximately 2 feet (60 cm). The track's wood sides extend approximately 10 ft (3 m) from the start, but the far end is open-ended. We allow can racers to continue beyond the side rails. We cannot determine the maximum distance to the far wall in advance, but it will exceed 50 ft (16 m).
4. Track materials: Different materials may be used for different sections of the track.
5. Can materials: We accept any round, rigid object as a "can," including traditional metal cans, cardboard cans similar to those used for Pringles potato chips, or plastic cans, including short sections of PVC pipe or other plastics. Racer surfaces may not be modified by the addition of any substance.
6. Lid materials: In addition to plastic lids, we accept "lids" made from cardboard, wood, masonite or other composite wood-like materials, and CDs.
7. Drive mechanism: All cans must be driven by the mechanism described in the Science Olympiad manual.

USEFUL THINGS TO TRY:

Practice with your teacher or at home with a parent.

1. After you make your first can, experiment with different types or lengths of rubber bands. Office Depot and WalMart are good places to look at the different rubber bands available. Does it seem to be more important to have a long rubber band or a thick one?
2. Try making racers with different lengths using a cardboard tube. (It must always fit into the lane described above!) Does it work better to have a short can or a long one?
3. Is the length of the running arm very important? Does it matter how far it extends beyond the can rim? Does it help to have both ends stick out beyond the rim?



USEFUL WORDS TO KNOW: Here are some representative words you should know.

Wheel	Elastic	Acceleration	Traction
Axel	Velocity	Friction	Inertia

USEFUL WEBSITES TO SEE: We verified these in January, 2011.

<http://pbskids.org/zoom/activities/sci/cancar.html>

<http://www.sedl.org/scimath/pasopartners/pdfs/machines.pdf>

<http://mypages.iit.edu/~smile/phma1400.htm>