

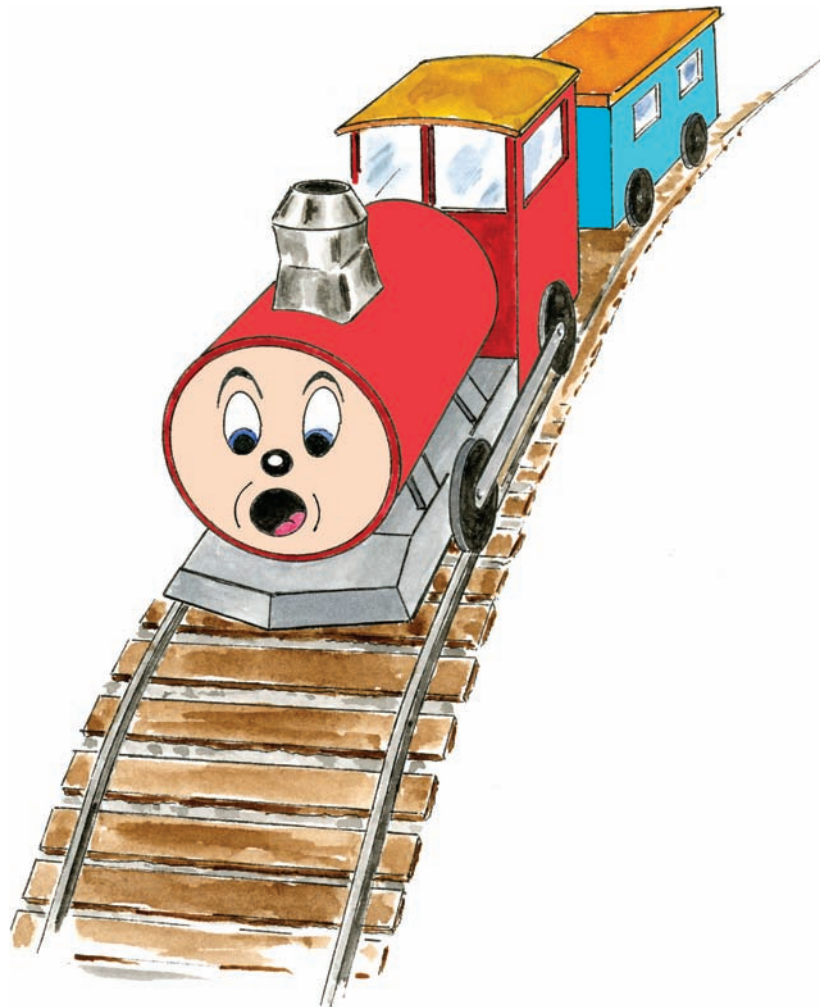


Odyssey of the Mind™

2014-2015

Problem No. 1:

Runaway 'Train'



Runaway “Train”

Problem No. 1: Divisions I, II & III

Introduction

Trains, trolleys, and monorails are types of vehicles that travel on tracks or rails in order to transport people and cargo. When you think Beyond the Box you can start to imagine the many creative challenges that could be attempted by vehicles. They can do much more than simply transport people and cargo from one place to another. In this problem, Odyssey of the Mind teams will create vehicles that will travel on tracks while overcoming obstacles. And remember — if you find your vehicle becoming a “runaway train” you can always get it back on track with creativity, problem-solving, and teamwork!

A. The Problem

The team’s problem is to design, build and operate up to three vehicles that will travel on and be guided by tracks and will also make stops at different stations without coming into contact with anything but the tracks. While traveling between stations, the vehicle(s) must overcome obstacles chosen from a list. The theme of the performance will incorporate the vehicle’s experiences on the track and will include a humorous conductor character that becomes a travel advisor. The final trip will include a victory lap where a vehicle will display a flag or banner.

The **creative emphases** of the problem are on the performance, how the vehicles are propelled and how they overcome the obstacles, the track system, and the flag displayed during the victory lap.

The **Spirit of the Problem** is for the team to design, build and operate up to three vehicles that travel on and are guided by tracks without touching anything else. Four stations will be visited by a vehicle at least once. One or more vehicles will make trips between the stations and overcome obstacles. The theme of the performance will incorporate the vehicle’s experiences on the track and will include a humorous conductor character that will advise travelers during the trips. During its last trip, a vehicle will display a flag or banner during a victory lap.

B. Limitations (Italicized words/terms are defined on Page 5 in the Problem Glossary or in the *2014-2015 Odyssey of the Mind Program Guide*.)

1. **General Rules:** Read the *2014-2015 Odyssey of the Mind Program Guide*. This manual is updated each year and includes basic limitations for solving Odyssey of the Mind problems and the forms required for competition. This problem cannot be solved without referring to the Program Rules section of the guide.
2. **Problem Clarifications:** The *Odyssey of the Mind Program Guide* explains the types of questions about the rules that will be clarified and the ways to submit those questions. General problem clarifications can be accessed at www.odysseyofthemind.com/clarifications/. Problem clarifications after February 15, 2015, will not be answered. CCI may find it necessary to issue clarifications after that date, so continue to check for them after February 15 and before each competition.
3. The time limit for this problem is 8 minutes. Time starts when the Timekeeper says, “Team begin,” and includes setup, Style, and the presentation of the problem solution.
4. The cost limit for this problem is \$145 (U.S.). The combined value of the materials used during the demonstration of the team’s solution, including Style, cannot exceed this amount. The *Odyssey of the Mind Program Guide* explains the cost limit and lists items that are exempt from cost.
5. The team will create an original performance that includes:
 - a. up to three **vehicles** that are designed to travel on and be guided by tracks without touching the floor and will overcome obstacles during their travels.
 - b. one or more **track systems** for the vehicle(s) to travel on.
 - c. **four stations** that the vehicle(s) will enter and depart.
 - d. a **humorous conductor character** that will advise travelers.
 - e. a **flag or banner** that will be displayed during a **victory lap**.
 - f. a **theme** for the presentation that incorporates the experiences of the vehicle(s) during trips.

6. The **vehicle(s)**:
- must be original creations of the team; however, they may include *commercially produced* parts.
 - will travel on one or more tracks and are not allowed to come in contact with anything but the tracks and any required obstacle item when traveling for score. Each time a vehicle travels from one station to the next station it is considered a trip. A vehicle can make as many trips and trip attempts as the team wishes. The vehicle(s) must encounter any of the five selected obstacles.
 - will be guided (steered) by the track system only.
 - if more than one, all will be scored as one for their overall creativity, including propulsion systems.
 - must each fit entirely within a 12" x 18" area. They can be any height.
 - must be safe and not cause harm or damage to the competition site, the judges, the team or anyone in the audience.
7. The **propulsion system(s)** used in the vehicle(s):
- must include at least one energy source that is *self-contained* and does not use AC power. That is, remote control, extension cords plugged into an outlet, etc., are not allowed and all energy sources must travel with the vehicle.
This **required** propulsion system:
 - must complete a **minimum of three** of the five obstacles selected from the list.
 - must be the only source of power for the vehicle completing the three obstacles selected.
 - must fit with the propulsion system within the Measuring Area.
 - can include additional energy sources that do not have to be self-contained and can use AC power if more than one vehicle is used to solve the problem. This **optional** propulsion system:
 - is allowed to use the track as part of the propulsion system. This would be included in the overall scoring for propulsion.
 - can complete a **maximum of two** obstacles selected from the list.
 - is not required. Teams can use all self-contained propulsion systems if they wish.
 - does not need to fit within the Measuring Area if it does not travel with the vehicle (for example, the tracks provide propulsion). The vehicle must fit within the Measuring Area.
8. The **track system**:
- must allow the vehicle(s) to travel to the stations without touching the floor at all times during a trip.
 - may incorporate propulsion to make a vehicle travel that uses an **optional** propulsion system only.
 - can be any shape and configuration the team wishes; it can also be altered during the performance as long as it is not during a trip.
9. The **stations**:
- will be four 2' x 2' taped areas on the competition site. Teams may add items to the stations as they wish.
 - will be stopping points for the vehicle(s) between trips. A vehicle may be stopped any way the team wishes once it enters a station (breaks any plane).
 - must each be visited one time by a vehicle. A vehicle is considered in the station when any part of the vehicle *breaks the plane* of the 2' x 2' taped area. Stations are the only places a vehicle can be touched by a team member when traveling for score without the trip being considered unsuccessful.
10. The **obstacles**:
- must include any five of the following.
 - travel uphill on an incline from one point to another on the same trip. The incline must be a **minimum** of 6 inches in height from start to finish.
 - tow something that also travels on the track and is moved by a vehicle from one station to another.
 - the vehicle comes to a complete stop and starts back up again during a trip.
 - ride above the track and then below the track (or vice versa) when traveling from one station to another.
 - travel over two or more speed bumps in the same trip. Each speed bump must be a minimum of 4" tall and 8" long and cover the entire width of the track that the vehicle travels on.
 - go over something, pass through something, **and** around something in the same trip.
 - switch from traveling forward to reverse then forward again during a trip.
 - span a gap in the track of 2" or more. The vehicle must temporarily lose contact with the track to do so.

- b. can be attempted in any order, but only one obstacle may be completed per trip.
- c. must be completed in full view of the judges and audience.
- d. may be attempted as many times as time allows, but each will be scored only once.
- e. is considered successful if a vehicle departs one station, completes the obstacle, and arrives at a different station without being touched or touching the floor.

11. **Traveling the course:**

- a. will begin at any station – this does not count as visiting that station. A vehicle will leave a station and travel on a track(s) to a different station. On the way it will encounter an obstacle. That vehicle (or another) will depart that station, encounter another obstacle, arrive at a different station, and so on, until all four stations have been visited by a vehicle. The stations can be visited in any order and as many times as the team wishes as long as each station is visited at least once. There will be a sound generated during one of the trips.
- b. The last planned trip will conclude by a vehicle displaying a flag or banner as a victory lap. The victory lap does not mean that a vehicle must travel the entire course; it can take place during its trip to the final station being visited. Attempts to complete failed trips may occur after the victory lap.
- c. If a trip is unsuccessful it may be repeated at any time. It can continue on to the next station or be returned to the station it came from.
- d. If a vehicle touches the floor or anything else on its travels that attempt is over and considered unsuccessful. The trip may be attempted again at any time.

12. The **flag or banner:**

- a. will be displayed by a vehicle at some point during the victory lap.
- b. must be visible to the judges and audience.
- c. is not considered one of the obstacles.

13. The humorous **conductor character:**

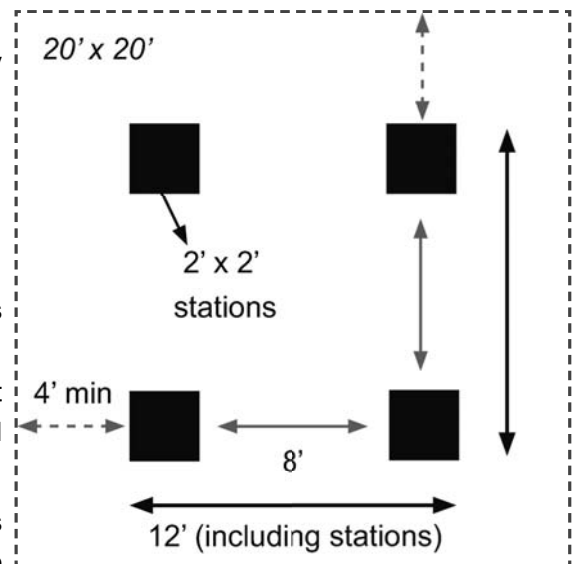
- a. can be *portrayed* in any way.
- b. will advise travelers during the trips; that is, relaying what is happening with the vehicle to others during each trip.

14. The **theme** of the performance can be anything as long as it incorporates what the vehicle(s) are experiencing during trips and the humorous conductor character.

15. The team should present the Staging Area Judge with four copies of the Team's Required List Form found in the forms section of the Members Area at www.odysseyofthemind.com/members/ or four copies of a list on one side of one or two sheets of 8 1/2" x 11" or A4 paper. This list must be hand-printed, typed, or computer generated. It is for reference only. The list must include:

- a. the team's membership name and number, the problem and division.
- b. a brief description of the vehicles and the required propulsion system(s) it uses; as well as any optional propulsion used as explained in B7.
- c. the five obstacles overcome by the vehicle(s) and which vehicle will attempt them if more than one.
- d. the signal the team will use to indicate it has finished presenting its solution.

Figure A: Station Setup



C. Site, Setup and Competition

- 1. The competition area will be a minimum of 20' x 20' (7.3m x 6.1m) with four taped 2' x 2" stations (see Figure A). Each taped area will be 12' apart.
- 2. A three-prong electrical outlet will be available. Teams should bring their own extension cords and adapters, if needed.
- 3. Team members must report to the competition site with all of their props at least 15 minutes before they are scheduled to compete.

4. The Staging Area Judge will direct the team to place its vehicle(s) into a Measuring Area that is 12" x 18". Each vehicle using the required propulsion system must fit within the area along with the propulsion system. For any vehicle using optional propulsion systems, only the required vehicle and any propulsion that travels with it must fit within the Measuring Area. If a vehicle does not fit *completely within an area* and time allows, the judge will give the team time to bring it into specification.
5. At the end of the 8-minute competition period, the Timekeeper will call time and all activity must stop. The team may end before the 8 minutes but it must signal the judges when it is finished.
6. Teams should bring cleaning utensils to clean up any mess. Should a team take an unreasonable amount of time to clean the site, or leave a mess, the judges will assess an Unsportsmanlike Conduct penalty. Others not on the team's roster can help the team clear the site and remove the team's props. The competition area must be left undamaged, and clean and dry for the next team.

D. Scoring

1. Creativity of the overall performance (originality, effectiveness, theme) 1 to 20 points
2. Overall quality of the presentation 1 to 15 points
3. The propulsion system(s) (creativity of design, *functional engineering*, risk taking) 1 to 20 points
4. The track system 2 to 30 points
 - a. Enables the vehicle(s) to travel without touching the floor 0 or 5 points
 - b. Overall creativity of how the track and vehicle(s) work together 1 to 15 points
 - c. Originality of the track(s) 1 to 10 points
5. Each station is visited at least once by a vehicle (0 or 3 per station) 0 or 12 points
6. Overcoming the obstacles 1 to 63 points
 - a. Overall creativity of how the vehicle overcomes obstacles 1 to 13 points
 - b. Obstacles 1 - 5 are completed (0 or 10 each completion) 0 to 50 points
7. The flag/banner display in the victory lap 1 to 10 points
 - a. Is displayed during the last planned trip 0 or 5 points
 - b. Creativity of how the flag relates to theme 1 to 5 points
8. The humorous conductor character 2 to 30 points
 - a. Describes each trip 0 or 5 points
 - b. Humor in its performance 1 to 10 points
 - c. *Effectiveness in the performance* 1 to 15 points

Maximum possible: 200 points

E. Penalties (Deducted from percentaged scores.)

1. "Spirit of the Problem" violation (each offense) -1 to -100 points
 2. Unsportsmanlike conduct (each offense) -1 to -100 points
 3. Incorrect or missing membership sign -1 to -15 points
 4. Outside assistance (each offense) -1 to -100 points
 5. Over cost limit -1 to -100 points
 6. Vehicle and required propulsion system (if applicable) does not fit within the 12" x 18" Measuring Area -5 to -25 points
 7. Obstacle is not from the list in B10a no score for that obstacle whether overcome or not
- Omission of scored problem requirements carries no penalty except loss of score.*

F. Style (Elaboration of the problem solution; use four copies of the Style Form from the *Odyssey of the Mind Program Guide*.)

1. Effectiveness of a sound or sound effect during a trip..... 1 to 10 points
2. *Artistic quality* of one of the station settings 1 to 10 points
3. (Free choice of team) 1 to 10 points
4. (Free choice of team) 1 to 10 points
5. Overall effect of the four Style elements in the performance..... 1 to 10 points

Maximum possible: 50 points

G. Tournament Director Will Provide

1. A 20' x 20' (7.3m x 6.1m) course (larger, if possible) with four 2' x 2' taped stations and a 12" x 18" Measuring Area.
2. A three-prong electrical outlet.
3. A judging team and materials necessary to judge this problem.

NOTE: Contact your Tournament Director for site specifications, such as actual dimensions, floor surface, etc. Do not submit a clarification request for this information.

H. The Team Must Provide

1. Four copies of its Style Form, one Cost Form, one Outside Assistance Form, and all team-specific clarifications.
2. Four copies of the list described in B15.
3. Any necessary extension cords or outlet adapters.
4. Cleanup materials as needed.

I. Problem Glossary (Italicized terms that are not in this Glossary can be found in the *2014-2015 Odyssey of the Mind Program Guide*.)

Track system – a raised, guided system that enables vehicle(s) to travel without touching the floor. The system can be made up of one continuous track or made up of multiple components, but must be elevated off the ground and provide steering for the vehicle(s) via tracks, rails, etc. Vehicles will be propelled either by their own propulsion system, propulsion caused by the tracks, or a combination of both.

Problem by Dr. C. Samuel Micklus and Samuel W. Micklus

© Copyright 2014 — Creative Competitions, Inc.

® *Odyssey of the Mind*, *OotM*, and the Odyssey of the Mind logo are federally registered trademarks of Creative Competitions, Inc.

Creative Competitions, Inc., its licensees, and the problem authors assume no responsibility for damage or injury incurred as a result of attempting to solve this problem.