

# 2003 Long-Term Problems

## **A Scene From Above 2002-2003**

Divisions I, II, III & IV

The team's problem is to design, build and run three small vehicles to transport items from an Orbit Area to an Assembly Station. The items will be added to a three-dimensional representation of a scene of the Earth as viewed from space. As the items are added the scene will change. The scene may be real or imaginary and may be zoomed in to any degree. The team will present a humorous performance about the scene and its changes. The vehicles will be powered in different ways. In addition, one vehicle will carry its energy source while the other two vehicles will travel on the momentum caused by different energy sources. Time limit: 8 min. Cost limit: \$135



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## **The Know-It-All 2002-2003**

Divisions II, III & IV

This technical performance problem requires teams to design and build a character that possesses "artificial intelligence" (A.I.). The A.I. character is believed to be all-knowing, and people come from near and far seeking its wisdom. However, the advice A.I. gives is unrelated to the questions asked. People read into A.I.'s advice and interpret it into brilliant pieces of wisdom. During the performance the A.I. character will speak, move and perform two team-created actions. Time limit: 8 min. Cost limit: \$135 USD.

## **Classics . . . Put a Spin On It 2002-2003**

Divisions I, II, III & IV

The team's problem is to create and present an original performance about the creation of a work of great human achievement, chosen from a given list. The performance will include a scene showing an original reason for the creation of the work. During the performance the team will hold a "spin session" to devise a more acceptable reason for the creation of the work. Ultimately, the spin session generates the reason that is accepted today as fact. The performance will also include a team-made representation of the chosen work. Time limit: 8 min. Cost limit: \$125 USD.

## **Odd Pod Structure 2002-2003**

Divisions I, II, III & IV

This problem requires teams to design and build a structure of balsa wood and glue that will rest on an odd number of team-made pods while holding as much weight as possible. The team must have a minimum of three pods and will be awarded points for the number of pods used. The pods can be made of any material but must measure no more than 2" x 2" x 3/4". The team may place the pods anywhere outside of an 8-inch circle on the tester. Once the structure is placed on the pods, it will be tested by balancing and supporting weights. Time limit: 8 min. Cost limit: \$125 USD.

## **Fooled Ya! 2002-2003**

Divisions I, II & III

The team is to create and present a performance that includes two characters who perform at least five "illusions" that entertain other characters in the performance. One of the illusions will turn out to be not an illusion at all -- it will actually happen! The team will also include a special effect in its performance.

Time limit: 8 min. Cost limit: \$100 USD.

## **Music Lessons 2002-2003**

Primary

In this musical problem, teams will create and perform a song with lyrics that help to teach something. The team will make and play two musical instruments to accompany the song. The team will show how learning the song helps a character in the performance. Time limit: 8 min. Cost limit: \$50 USD.