

## 2009-10 Long-Term Problem Synopses\*

*\*Tentative as of March 25, 2009. All problems have an 8-minute time limit.*

### **Problem 1: Nature Trail'R**

This problem requires teams to design, build and drive a human-powered vehicle and camper that will go on a camping trip. When the vehicle arrives at the Campground, the camper will be disconnected and the vehicle will travel on a team-created Nature Trail. On the Nature Trail, the vehicle will overcome an obstacle, clean up the environment, encounter wildlife, and undergo a repair. The performance will include a character that is in or near the camper that explains the experience as part of its role. *Sponsored by NASA.*

**Divisions I, II, III & IV Cost limit: \$145.**

### **Problem 2: Return to The Gift of Flight**

Teams will make and operate a series of aircraft that will complete a variety of flight plans. The flight plans include flying straight, making a target spin, traveling slowly, dropping something into a target, touching down and taking off, and a mass launch of multiple aircraft. The aircraft in the solution will be made of a variety of materials and will have a variety of power sources. The testing of the aircraft will be presented in a team-created performance that will include a character that serves as a creative "air traffic controller."

**Divisions I, II & III Cost limit: \$145.**

### **Problem 3: Classics . . . Discovered Treasures**

Teams will create and present an original performance that includes the portrayal of the discovery of two archaeological treasures. One portrayal will be a team-created version of the discovery of an actual historical treasure. The other portrayal will be the team's depiction of a modern sculpture or structure that exists today but is discovered in the future. The performance will include an artistic representation of the two discovered treasures and characters that are part of the discovery teams.

**Divisions I, II, III & IV. Cost limit: \$125.**

### **Problem 4: Column Structure**

The problem is to design and build balsa wood columns that will function together to balance and support as much weight as possible. The columns must not be connected to each other in any way. The team will test its Column Structure by placing weights onto it. The team will add weight until its Column Structure breaks or time ends. Bonus score will be awarded for the number of columns used. The team will incorporate the testing of its columns in an original team-created performance.

**Divisions I, II, III & IV. Cost limit: \$145.**

### **Problem 5: Food Court**

The problem is to create and present a humorous performance where a food item is accused of being unhealthy and must defend itself among its food peers. All characters are food items and will include "the accused," "the accuser," a jury that is not portrayed by team members, and additional team-created characters. The jury will reveal its decision to the audience.

**Divisions I, II, III & IV. Cost limit: \$125.**

### **Primary: Surprise Party**

The team is to create and present a humorous performance that includes a Surprise Party for a team-created character. The theme of the party is a surprise because it is being given for something that is not normally celebrated. Partygoers will give three gifts that help symbolize the theme of the party. The performance will also include an original party "noisemaker" that makes an unusual sound instead of a loud sound.

**Grades K-2. Cost limit: \$125.**