



# Cooperative Design Challenges

## DESIGN CHALLENGES FOR YEARS 1- 4

### YOU WILL BE JUDGED ON:

- How far from the ground your flag is, and how long the flagpole remains upright.
- The highest flagpole still standing after all the pole have been measured, will be the winner. The height will be measured from the highest point of the flag to the ground.

### CHALLENGING THREE: RECYCLING STAGE BAND

#### THE TASK

- To play a recognisable tune using instruments made from any or all of these materials: cardboard boxes, plastic drink bottles, aluminium drink cans, rubber bands, bamboo, gravel, sheets of paper - and these may be of any size.
- You are to bring your instrument to the event ready made.

#### YOU WILL BE GIVEN:

- A place on stage to play your tune!

#### CONDITIONS

- Each member of the three (or four) member team must play at least one instrument. The title of the tune must be announced before playing and the group must play for at least two minutes.

#### YOU WILL BE JUDGED ON:

- The standard of the music played and the variety of instruments used. The greater the variety and their contribution to the music, the better.

### Eight Steps To Designing Your Own Challenges

- Start with a problem that requires students to design and build a device in order to solve the problem.
- Specify a list of materials:  
Include only common, easily obtained and cheap materials.
- Specify a time limit:
- Specify the conditions of the problem: Specify exactly what it is that will be judged or measured and what conditions must be met.
- Decide how best to judge the solutions:  
Keep it simple using readily identifiable criteria.
- Include more details after trying it:  
include suggestions for others when trying your challenges.
- Share.

## assessment

### CHOOSE FROM THE FOLLOWING

- were students able to work cooperatively with other members of a group?
- did the students show imagination in creating new sounds from unconventional musical instruments
- did students show 'courage' in advancing solutions to a group problem and being able to communicate these solutions clearly?
- were students able to follow a logical sequence in designing new challenges for others
- was there evidence of creative and imaginative thinking?