SOUNDS OF MUSIC

DESCRIPTION: A two-person team will build two musical instruments, describe the principles behind their operation and perform a given melody and a major scale.

EVENT PARAMETERS: Teams must provide a score of all music to be performed and submit it in notated form at the beginning of their presentation. All music submitted must be written only in **bass** clef. Both team members will participate in the playing of the instruments.

NUMBER OF PARTICIPANTS: 2

APPROXIMATE TIME: 30 minutes Set-up Time 5 minutes

THE COMPETITION:

1. Prior to the competition each team will build two types of musical instruments capable of playing a C major scale based on a 12 tone tempered scale in a range between C3 to C4 (Middle C) or within a fifth above or below that range. Students who play outside of the given range will be ranked behind those who do. Students may also be asked to play the required major scale and a specific note from that scale (e.g., C3) that the judge will test with an electronic tuner for accuracy. No electric or electronic devices, toy or professional instruments or parts of such instruments will be permitted including items such as bells, whistles, mouthpieces, reeds, audiooscillators, etc. The only exception to this exclusion is that strings (instrument or others) of any type are permitted. No electricity may be used. All energy must be generated by the students while playing the instruments.
2. Members of the duet will each play at least one instrument and will be evaluated on range and sound quality. All instruments must be able to be played
3. The students will be asked to describe the principles behind the device and its construction (i.e., How does it make a sound? What determines the pitch of a note? How is volume changed?). This may be done through an oral interview and/or through a written set of questions. Questions about design and construction may also be asked of the team. Students must be able to define or explain basic terminology regarding sound, sound production, and related science terms. These include but are not limited to fundamental elements of wave theory, Bernoulli Effect, acoustics, musical sound perception, and harmonics. No notes, calculators, books, etc. will be allowed.
4. The team will then perform, in any key within the musical range specified and using all of the constructed instruments, the lines of music included on the next page and a duet of their choosing which best shows the capabilities of their instrument. Students will be given a maximum of three (3) minutes to play their duet. Each instrument must be capable of playing the required line as written or it may be transposed into a key adapted to their instrument that stays within a fifth of the original notation.
5. Both instruments must be played during the scoring period.

SOUNDS OF MUSIC (CONT.)

SCORING:

It is important that all scoring is done by the same set of judges (preferably 2-3). If more than one ,person is judging, the average of all judges' scores will be the final score for the team. Judges should have knowledge of both music and the physics of sound.

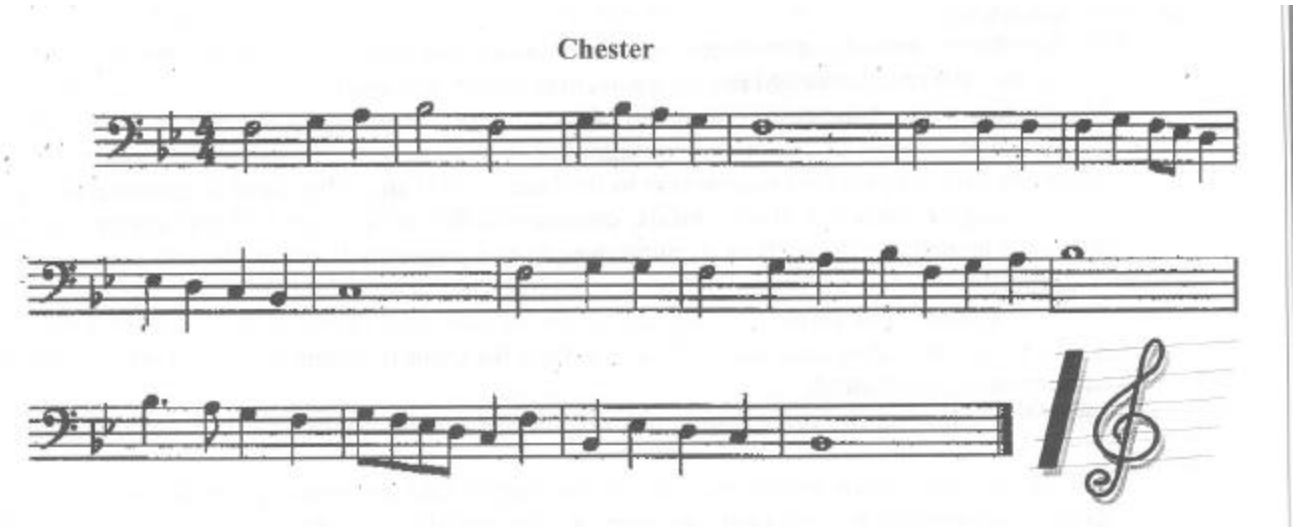
1..Creativity, variety, and workmanship of instruments (30 points)

Originality / creativity (10 points)
Variety (percussion, wind, brass, string, other) (10 points)
Workmanship (appearance, easy to play, durability, etc.) (10 points)

(5 points)Demonstrated range _____ octaves (for instrument #1) ____ steps (5 points)
Sound quality (compared to standard instruments #1) (5 points)
Demonstrated range ____ octaves (for instrument #2) ____ steps (5 points)
Sound quality (compared to standard instruments #2) (5 points)

3. Sound of the ensemble (20 points)

Group Performance points for both "Chester" and a student selected tune will be based on harmony, blend, technique, timbre, suitability of tune for instruments, rhythm, interpretation of music, etc.



4.Knowledge of theoretical basis of instruments (30 points)

Includes: Participation of both team members in explanation of simple mathematical and physical principles of sound. It is suggested that this be done in an interview setting with approximately 4 to 6 pre-selected questions adaptable to various instruments.

Suggested references: Musical Instrument Design by Bart Hopkin, See Sharp Press, 2000, $18.95. Making Simple Musical Instruments by Bart Hopkin, Altamont Press, 1995, $24.95.