Experimental Design
2002 MN State Science Olympiad
Colleen Bizzell, Supervisor

TASK: PARACHUTES

You must conduct an experiment dealing with any aspect of the topic area of parachutes. (Hint: You should do an experiment that gives you numerical data.) You must use at least two of the materials below.. You have 50 minutes to conduct, write up and CLEAN up your experiment. Good Luck!

Your materials:

AT YOUR TABLE:

(12) MARBLES	(2) PAPER NAPKINS	MASKING TAPE
(10) HEX NUTS	(2) NEWSPAPERS	SCISSORS
(1) PLASTIC SHOPPING BAG	(1) SMALL PLASTIC CUP	(1) LARGE PLASTIC CUP
(5) POPSICLE STICKS	(1) WHITE GARBAGE BAG	

AT DISTRIBUTION CENTER: IF YOU BROUGHT THEM:

(¼) BLACK PLASTIC GARBAGE BAG	STRING	RULER
FISHING LINE (2LB AND 6LB)	3"x5" CARDS	TIMER
RUBBERBANDS (ASSORTED SIZES)	PAPER TOWELS	

You may also use as much lined and graph paper as you need to write your report (but only to write the report).

Your write-up must include all of the following parts clearly labeled! (Rubric points are given in parentheses):
1. Statement of Problem (4)
2. Hypothesis with rationale (4)
3. Variables (10)
   Dependent, Independent, Controlled
4. Standard of Comparison (3)
5. Materials and Procedure (8)
6. Qualitative Observations (4)
7. Quantitative Data: including data tables, graphs, and statistics (16)
8. Analysis and Interpretation of Data (10)
9. Possible Experimental Errors (3)
10. Conclusion (4)
11. Recommendation for Further Experimentation (4)

Clean-up:
1. Please discard any materials which you have folded, torn, cut, taped, or in any other way permanently modified. Place all unused items back on your table. Get replacement materials for the items you threw away from the front of the room.
2. Staple and turn in your write-up at the front of the room. ***Make sure your school name and number are on it!!!***
3. You may take this page with you when you finish.

YOU MUST BE COMPLETELY FINISHED WITH YOUR WRITE-UP AND CLEAN-UP PROCEEDURES 50 MINUTES AFTER THE START OF THE ROUND. THIS TIME LIMIT WILL BE   STRICTLY   ENFORCED!!!